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

May 18-19, 1999

The 38th meeting of the National Advisory Council for Nursing Research (NACNR) was convened on Tuesday, May 18, 1999, at 1:30 p.m., in Conference Room 6C06, Building 31, National Institutes of Health (NIH), Bethesda, Maryland. The meeting was open to the public from 1:30 p.m. until approximately 5:45 p.m. and from 9:00 a.m. until 9:45 a.m. the following day, Wednesday, May 19, 1999. Immediately following the end of the open session, the Advisory Council held a closed session for consideration of grant applications. The closed session continued until adjournment at 1:00 p.m. on the same day. Dr. Patricia A. Grady, Chair of the NACNR, and Director of the National Institute of Nursing Research (NINR) presided over both sessions.

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OPEN SESSION

I. CALL TO ORDER AND OPENING REMARKS

Dr. Grady called the 38th meeting of the NACNR to order, welcoming all Council members, visitors, and staff. She welcomed Ms. Jean Marshall who was reappointed to serve a complete term of office and introduced two new council members:

- **Margarethe Cammermeyer**, PhD, RN, is an advanced nurse practitioner and lecturer/consultant in neuroscience nursing. Dr. Cammermeyer has extensive clinical practice experience and has served in clinical faculty roles in California and Washington. In addition to experience in the Department of Veterans Affairs, she has served in both active and reserve military duty positions. Her areas of research expertise include cognitive functioning in patients with neurological disorders and the effects of obstructive sleep apnea.

- **Carmen J. Portillo**, PhD, RN, FAAN, is an Associate Professor, School of Nursing, University of California, San Francisco. Dr. Portillo has served in national and regional leadership roles in Hispanic health and women's health issues. She currently serves as the President of the National Association of Hispanic Nurses, as well as Educational Coordinator for the Center for HIV/AIDS Research and Clinical Training in Nursing at the University of California, San Francisco. Her areas of expertise include primary prevention of HIV/AIDS, community-based clinical research, and minority health care.

II. COUNCIL PROCEDURES AND RELATED MATTERS

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 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

The minutes of the January 20-21, 1999, meeting of the National Advisory Council for Nursing Research were approved. Dr. Grady noted that, in an effort to expedite placement of the minutes on the Council's Web site, Council members were asked to comment on and approve meeting minutes via electronic mail prior to the current meeting. This new strategy has allowed staff to place the minutes online earlier than the previous practice of approving minutes at the Council meetings.

Dates for Future Council Meetings

Dates for meetings in 1999 through 2001 already have been approved. Proposed meeting dates for the year 2002 were proposed and should be reviewed by Council members for any conflicts.

1999

- September 14 (Tuesday)

2000

- February 1-2 (Tuesday-Wednesday)
- May 23-24 (Tuesday-Wednesday)
- September 12-13 (Tuesday-Wednesday)

2001

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

2002 (Dates are tentative)

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

III. REPORT OF THE DIRECTOR, NINR

Dr. Grady provided an update of NINR-related activities and events since the last council meeting in the following areas: legislative activities, including budget items, research portfolios, and related issues; NINR, NIH, and Council updates; and outreach activities.

Legislative Activities

At House Appropriations Committee Hearings on March 2, 1999, Dr. Grady testified regarding the state of nursing research and NINR's current and future role in nursing research. This testimony described:

- NINR's mission to provide science-based patient care
- Nurse reseachers' roles for the 21st century
- Selected current research advances in chronic illness, health disparities, health promotion and disease prevention, and quality of care and quality of life

Areas of opportunity for FY2000, which build upon past scientific advances, address current needs, and anticipate future health challenges, were presented during the NINR testimony and included the following:

- Adherence to diabetes self-management and symptom management of children with asthma
- Biobehavioral research for effective sleep in health and illness and biobehavioral interventions for adolescents with cystic fibrosis
- Research to enhance end-of-life care and establishing and expanding collaborations with clinical trials networks

Members of Congress posed several questions during the hearing, including questions regarding:

- Research dissemination
- Telehealth for rural populations
- NINR activities in genetics
- The small increase in the NINR budget
- What increased NINR funding would accomplish

These inquiries, and last two items in particular, tied in directly with the release of the President's budget for FY2000 and the NINR's Professional Judgment (PJ) Budget. The President's FY2000 budget, released in February, 1999, provided a 2.1 percent increase in the NIH budget, with an appropriation of $71.730 million for the NINR. The budget requires NIH to continue current activities and pursue new initiatives that exploit genomic discoveries, increase interdisciplinary research, reinvigorate clinical research, and eliminate health disparities.

The institutes were requested by Congress to submit PJ Budgets. By developing and presenting the NINR PJ Budget to members of Congress, NINR had an opportunity to propose what the Nursing Institute would consider an "ideal" budget for FY2000 that would support critical research areas. With a PJ budget of $90.253 million for FY2000, the NINR would be able to fund additional research in enhancing adherence to diabetes self-management behaviors, biobehavioral research for effective sleep in health and illness, studies of the disparities in infant mortality (prevention of low birthweight infants), research into the care of children with asthma, collaborative clinical trials network, and to further infrastructure development. The NINR PJ Budget also identified six "missed opportunities", that is, important research issues that the Nursing Institute would be unable to pursue under the President's approved budget. These missed opportunities include symptom management of cognitive impairment, symptom management of acute pain, women's cardiovascular diseases management, elder care issues, cancer issues (caregiver coping, patient fatigue), and interventions for young people with chronic illnesses.

Research Portfolio and Trends

In this segment of the presentation, Dr. Grady focused on the growth and maturity of and trends in NINR's research portfolio. She also compared NINR's portfolio with those of other institutes and centers (ICs) at the NIH. For FY98, in considering ranking of institutes by mean cost of RPG (Research Project Grants) Awards (R01, P01, R35, R29, R37, R03, R21, R55, U01, U19, P42, R15; training and career awards not included), the NIH mean grant cost was $277 million, with the NINR at $267 million. The mean range for essentially all ICs was $226 to $316 million; at the higher end was the Human Genome Institute (NHGRI) at $607 million. The mean cost of R01 budgets across NIH in FY98 was $262 million; for NINR, the mean R01 award was $332 million, second only to NHGRI, but in the general range of mean R01 awards of the National Institute on Drug Abuse (NIDA), the National Institute of Mental Health (NIMH), and the National Institute on Alcohol Abuse and Alcoholism (NIAAA), all of which have extensive clinical research portfolios. Dr. Grady then outlined some of the characteristics of both NINR and NIH R01s. Specifically, the relatively higher cost of R01s at NINR appears to be due to personnel costs. For all NIH R01s, the mean personnel cost is 65 percent of total direct costs (TDCs), whereas a sample of NINR R01s indicated that the mean personnel cost is 79 percent of TDCs. About one-third of these personnel costs are due to professional on-site staff, including Principal Investigators (PIs), with the remainder for technical consultants, such as nurse consultants and statisticians. Dr. Grady noted that about one-third of the R01s sampled had consortium costs (for multicenter trials). The clinical nature of NINR-funded R01 research, relative to research of other institutes and centers, thus likely contributes to the higher overall and personnel costs of NINR's awards.

Dr. Grady outlined other NIH sources of funding for nursing research, which, for FY98, totaled approximately $4.621 million. The largest component of this funding pool is the Academic Research Enhancement Award (AREA) grant program, allocated through the Office of the

Director; the $1.7 million in this program is the second highest within NIH and is analogous to the R03 small grant program provided by some ICs. Applications for AREA grants are accepted three times during the year; grants run for 2 – 3 years and are renewable.

NINR received additional funds from the Office for Research on Women's Health (ORWH) and the Office of Research on Minority Health (ORMH), to support nursing research projects. Other Institutes, Centers, and Offices at NIH contributed approximately $1 million in co-funding support with NINR. NINR funds were also obtained through Shannon Awards which support small start-up projects and from the Office of Behavioral and Social Sciences Research (OBSSR).

Dr. Grady also reported, that over in the past 5 years, grant application submissions have generally increased annually. This growth, and growth in the pool of nurse researchers, is expected to continue as the number of new doctoral programs and postdoctoral fellows, critical for academic positions, increases. These trends are in contrast with the overall NIH experience, which demonstrates a plateau or slight decreases in grant applications. In an effort to stimulate further research, a variety of NINR program announcements (PAs) have been issued since January 1999: low birthweight in minority populations, which is supported by NINR and two other Institutes; trans-NIH academic research enhancement awards (AREA R15); research on ethical issues in human studies; clinical interventions for managing the symptoms of stroke, as a follow up to prior NINR research; research on care at the end-of-life; and abstinence and HIV/STD prevention for youth.

For more information on NINR programs and projects and issues related to nursing research, visit the NINR Web site at www.nih.gov/ninr.

NIH Updates

The first meeting of the NIH Council of Representatives (COPR) was held on April 21, 1999. Dr. Melanie Dreher is a member of the COPR and participated in the meeting. The second NIH issue update regarded Freedom of Information Act (FOIA) provisions in the 1999 Omnibus Appropriations Law. These provisions would extend FOIA to require Federal awarding agencies to ensure that all data produced under an award be made available to the public under FOIA. This issue, which was discussed at the prior Council meeting, has raised extensive concerns and questions within the scientific community. As Dr. Grady reported, the Office of Management and Budget (OMB), which was directed by Congress to amend FOIA to include this new provision, received some 10,000 comments on the proposed rule. A copy of the comments sent to OMB by NIH on April 5, 1999, can be found at www.nih.gov/grants/policy/a110/nih-cmts.html.

Outreach Activities

NINR's outreach efforts take a variety of forms, including attendance at and participation in meetings, collaborations with other research and professional organizations, and development and promotion of its own programs. Several outreach activities or organizations in or with which NINR has participated since the last Council meeting were cited.

- Dr. Grady made a presentation at the University of Maryland School of Law's Law and Health Care Program titled, "Caring for the Dying: The Importance of Nursing". Two articles developed from that presentation are in press. Dr. Grady also testified on "End-of-Life Research: Directions for the Future", at a meeting of the Institute of Medicine, National Academy of Sciences. These presentations and publications will contribute further to research investigating end-of-life issues.

NINR staff made presentations at the four regional research society meetings where the strategic plan was provided to obtain feedback from the community. NINR staff activities across the NIH have included active participation in the NIH Diabetes Research Working Group, NIH Child Abuse and Neglect Technical Assistance Workshop, Early Childhood Advisory Panel (with SAMHSA), NIH Bioengineering Consortium, and Interagency Coordinating Committee on Fetal Alcohol Syndrome.

Other meetings and associations with NINR staff participation included Association of Women's Health, Obstetric, and Neonatal Nurses, American Association of State Colleges and Universities, American Lung Association/American Thoracic Society, American Society for Microbiology, Preventing and Managing Chronic Illness Conference, Society for Neuroscience: Neuroscience 2000 -A New Era of Discovery, National Coalition of Ethnic Nursing Associations, National Nursing Research Roundtable, Tri-Council for Nursing, American Association of Colleges of Nursing, Oncology Nursing Society, The Science of Brain Disease Symposium, and the Society for Behavioral Medicine.

Dr. Grady also reported that the NINR's Fourth Annual Research Training Program, "Research Training: Developing Nurse Scientists", will run July 20-23, 1999. The program will include 40 participants who were selected by lottery from 246 applicants.

NINR and Council Updates

Dr. Grady made several announcements regarding NACNR and NINR updates, appointments, and awards. New NINR staff and appointments included:

- Dr. Carole Hudgings has been appointed Chief of the Office of Extramural Programs.
- Dr. Marla Stevens-Riley has been appointed to the Intramural Program.
- Mr. William Rosano has been named Executive Officer.

The following awards and recognitions were cited:

- Dr. Hilary Sigmon received the Secretary's Award for Distinguished Service for her work on the Asthma Initiative Working Group.
- NINR earned the Combined Federal Campaign (CFC) Chairman's and Leadership Awards in recognition of the Institute's efforts in bringing in the largest increase in NIH contributions to the CFC in recent years.
- Dr. Sue Donaldson was appointed to the National Institute on Arthritis and Musculoskeletal Diseases (NIAMS) Advisory Committee.
- Dr. Fay Whitney is now serving on the Advisory Council of the National Center for Medical Rehabilitation Research.

Dr. Grady extended congratulations to those cited.

IV. GETTING THE MESSAGE TO THE PUBLIC

NINR has had two recent press releases announced in cooperation with colleges and universities. The first one on February 17, 1999 was authored by Dr. Mary Naylor, Dr. Dorothy Brooten, and others at the University of Pennsylvania and published in *The Journal of the American Medical Association* (*JAMA).* The research paper provided evidence that transitional nursing care provided by advanced practice nurses reduces the need for rehospitalization and saves taxpayers' money. A second press release on May 7, 1999 highlighted a research paper in the journal *Pain,* by Dr. Marion Good at Case Western Reserve. NINR staff member, Mr. Dan O'Neal, Chief of the Office of Science Policy and Public Liaison and NINR's Public Liaison, is available to assist other researchers in disseminating information regarding their research efforts and results.

Dr. Mary Naylor, associate professor at the University of Pennsylvania School of Nursing (SON), and Ms. Susan Greenbaum, Director of the school's Media Relations Office, described results of a study that appeared in the February 17, 1999, issue of *JAMA*, and outlined strategies used to disseminate the results and implications of the study. They also discussed some of the hurdles and issues of concern faced before, during, and after publication of the study. In brief, the randomized controlled trial conducted by Dr. Naylor and her colleagues found a marked reduction in hospital readmissions in the six months after hospital discharge among elderly patients who received transitional care (comprehensive discharge planning and home follow-up) from a gerontological advanced practice nurse when compared with elderly patients who received routine care. During this same period, total post-discharge acute care costs for the intervention group were approximately $600,000 lower (a mean of $3000 per patient) than the costs for the control group. The potential financial savings to Medicare and other providers of health care to the elderly are notable.

In her presentation, Dr. Naylor noted that the dissemination efforts involved staff from the University of Pennsylvania (the research team plus the school's Media Relations Office) and NINR (Dr. Hilary Sigmon, Ms. Linda Cook, and Mr. Dan O'Neal). Planning for dissemination focused on the following: choosing the vehicle(s) through which the study results would be delivered; defining the nature of the message(s) to be released; identifying key target audiences; and establishing a timeline for dissemination of information.

Once the article was accepted by *JAMA*, Dr. Naylor and her colleagues were assured that reaching the larger scientific community would be a success. The team was encouraged further when the journal editors decided to showcase the article through an accompanying editorial. The next step involved identifying other target groups including health professionals, the general public, and policy makers and venues through which to deliver the study's message-television, newspapers, radio, magazines, and the Internet. With a 2-month advance notice before publication, the team began to plan its strategy for dissemination. In a joint effort, the staff of both the School of Nursing and NINR developed a press release using a flexible template that could be adapted as needed. The joint press release would be delivered to health reporters and wire services across the country; staff also identified individual writers to whom they could make personal pitches about the study. NINR would distribute the press release electronically throughout the government and to news and health-based services over the Internet. In addition, the study results would be featured in *JAMA*'s weekly press release, which is sent to some 2,000 journalists worldwide. The selection of this article as *JAMA's* radio feature story for that week greatly facilitated the dissemination effort.

The team then moved to shape a message, aimed at the public, that would be provided primarily through interviews with Dr. Naylor as well as other researchers who contributed to the study. The underlying goal was to communicate the meaning of this work to consumers of health care. The message included buzz words, such as APN (advanced practice nurse) as the "brokers of care" or "point person for care"; specific talking points; cases studies, which have emotional appeal; and timely features, specifically as related to the Congressional Medicare Bipartisan Committee. Approximately one week before publication, Dr. Naylor completed the JAMA radio interview; requests for interviews from Internet reporters followed. One day prior to publication, Dr. Naylor gave an interview with *Philadelphia Inquirer* reporter Michael Vitez, and on the day of release of the article in *JAMA*, the story was on the front page of the *Inquirer*. Ultimately, the story received wide and varied coverage and was carried on National Public Radio (NPR) and other radio feeds; national wire services (Reuters, Knight-Rider); newspapers; Internet news and health services; and several nursing, medicine, and health care publications.

Some of the desired outcomes of this effort were to increase awareness about:

- Needs of hospitalized elders and their caregivers.

- Contributions of APNs in the care of vulnerable populations. APNs involved in the study often participated in interviews and were mentioned in the press and in the case studies.
- Need for policy change. On the strength of the evidence in the study, Dr. Naylor and others were able to introduce the potential benefits of transitional care at the local, state, and national levels.
- Importance of nursing research to the health of the public.

Dr. Naylor reported that the response to the dissemination effort has been very gratifying. Several providers and health care systems are exploring adopting this model. The work has been presented to the Health Care Financing Administration for consideration as best practice for their national demonstration effort. The National Alzheimer's Association has expressed interest in testing this model with cognitively impaired elders. On the University's campus, the results of study were shared with the University's Science Coalition, which, in turn, should assist in obtaining continued Federal support at the school for science and nursing research.

Subsequent analysis of the results and outcome of publication of the study, in conjunction with the coordinated dissemination efforts, revealed that the team was most successful in reaching the scientific community, health-care providers and insurers, and policy makers; outreach to the general public was less successful. The keys to the success of these dissemination efforts, beyond publication of the study in a major medical journal, were preparation, planning, and collaboration. For example, Dr. Naylor and Ms. Greenbaum each put in approximately 40 to 50 hours over several weeks speaking with reporters and other interested parties. They accepted all offers for interviews, and practiced how to present the message to the different target groups. To reach a broader audience, however, researchers, journals, journal editors, and public relations staff must become more aggressive. For the nursing community, part of that effort includes developing relationships with reporters.

V. STRATEGIC PLANNING FOR THE 21ST CENTURY

Dr. Grady noted that NINR began its process for developing a strategic plan for the new millennium last fall, with the Council taking a leadership role in this effort. Council members and NINR staff participating in this activity developed a draft planning document, which was provided in Council notebooks and discussed during the open session. Dr. Kathleen Buckwalter and Dr. Steven Finkler, Council discussants in the Planning Work Group, led the discussion of the most recent draft of the strategic plan (http://www.nih.gov/ninr/strategicplan.htm).

Dr. Buckwalter identified three areas to address in the next draft of the plan. First, the strategic plan should clearly outline the operating principles of NINR as an organization embedded within the larger NIH. The introductory material also should describe the trends seen in NINR's research portfolios (e.g., increase in grant applications and postdoctoral fellows) and how those trends impact budget and shape NINR's place in the NIH. Second, Dr. Buckwalter believed the

strategic plan should identify measurable outcome indicators of NINR's progress as it moves through the next 5 to 10 years and strives to meet its goals. For example, if one goal is to see the number of R01 grants increase by a certain percentage or number annually, then NINR should track that data to benchmark its progress in meeting that goal. Such measures or indicators can be very specific (e.g., defined by population cohort, by population, rural versus urban, etc.). Dr. Buckwalter's third suggestion was to identify areas of focus that introduce innovations in nursing research and build distinction in the field and for NINR. In other words, as the community moves through the millennium, a primary goal of strategic planning should be to position the NINR by identifying its unique approach to health care. That concept, or new image, may present the NINR as the Institute that treats the whole person over the lifespan. Thus, a larger goal of the strategic planning would involve creating an image of NINR as *"the* place for clinical care". The plan can provide the nursing research community with an opportunity to better articulate NINR's past and current accomplishments in tandem with new directions and innovations.

Dr. Finkler continued the discussion by suggesting that the plan could be strengthened by translating research advances into real-life advances in public health. In addition, the plan should convey that NINR not only evaluates but also supports and funds a wide variety of research projects. Through this discussion, the plan could point to the Institute's interest in having researchers include analysis of the cost effectiveness of their scientific advances in their research. Dr. Finkler suggested moving the text from page 2 of the current draft, found under the section titled, "Visions for the Future", to the front of the document to better capture the nature of nursing research and the NINR. He also suggested that the next draft clarify that the bulleted points under the objectives are simply examples that likely will be updated as appropriate. Finally, Dr. Finkler agreed with Dr. Buckwalter's comments regarding identifying, committing to, and then tracking progress toward meeting specific goals on an annual or regular basis over a 5- or 10-year period.

Following these comments, the discussion was opened to the full Council and attendees. Some of the comments, suggestions, and questions raised included:

- Promoting NINR as an institute key to clinical research at NIH.

- Weaving concepts distinct to nursing through the plan's background, goals, and objectives, for example, that nursing care transcends age and that nursing care and nurse researchers are on the "front lines" of end-of-life and palliative care.

- Describing the cost-effectiveness of conducting nursing research, in relation to the financial impact of care, would strengthen the document.

- Identifying the target audience(s) for the plan and gearing the text of the plan toward those audiences. For a broader audience, the report should provide clear, tangible, descriptive examples. The NINR may be interested in developing two reports, an internal document to guide the Institute and a second external or community report to reach a larger audience.

- Incorporating or developing target progress indicators and outcomes measures. Evaluation processes also should be incorporated into the plan. These will serve as methods of determining where NINR is now, where the Institute is going, how it will arrive, and when (or whether) it arrived.

- Incorporating a community health component in the plan. One way this component could be incorporated is through continued population-based research.

- Clearly stating in Goal 3 (Communicate and disseminate research findings) that it is NINR research findings that are to be disseminated.

- Stating in general, and specifically under goal 2, that the emphasis of the plan should be to achieve a higher level of distinction for NINR. Defining new strategic directions for the next 5 years should take priority over maintaining current status. It may be helpful to determine where the NINR wants to be in 5 years, then work backwards to define the steps to achieve those goals.

- Insuring that the plan avoid being too ambitious; better to focus on two to three research directives, projects, or concepts within which the NINR can excel.

- Providing that the vision of the plan encompass NINR's goals and incorporate dissemination and translation of research findings, including outreach to nursing journals and mainstream media and providing for multiple trainings of new and established nurse researchers.

Dr. Grady called for continued input from the communities. In an effort to facilitate input into the strategic plan, NINR has established a separate e-mail address. Suggestions, comments, or questions regarding the strategic plan should be submitted to NINR at info@ninr.nih.gov.

VI. NINR HIGH BUDGET APPLICATIONS

Council members Dr. Ellen Rudy and Dr. Dorothy Brooten led the discussion regarding NINR's increased average size of grant budgets and the increase in applications needing special consideration by council for high budgets (defined as all applications with direct costs greater

than $350,000 per year, and applications whose total costs exceed $500,000 per year). In opening this discussion, Dr. Rudy noted that NIH and NINR, as the stewards of public money and of the science conducted using those monies, must find a balance between these two interests.

At this point, NINR developmentally is young but has a growing and well-seasoned cadre of researchers and a research portfolio that includes multisite clinical trials, which are very expensive. That approximately 75 percent of NINR research funding is already committed to ongoing projects provides evidence of the maturity of the NINR research portfolio. In turn, some 25 percent of funds are available yearly for new projects; historically, this pool of money could fund about 53 new starts. NINR also is heavily invested in training. Last year NINR had the lowest budget increase of any institute at the NIH but one of the highest mean costs per R01 award. With this background, and an increasing number of applications being submitted to NINR, the primary question guiding the discussion during the Council meeting was:

- Recognizing the financial constraints facing NINR, should any consideration be given to limiting the level of funding for R01 grants?

This question was balanced with the points that placing limits on the level of funding:

- May inhibit large-scale grants
- May inhibit NINR's ability to realize an investment return on large successful studies for which we funded the initial projects if we consistently transfer high budget applications to other institutes for funding
- May shift research focus toward small, local studies
- Could push investigators to look elsewhere for funding
- Could lead to broader distribution of funding among a larger number of investigators and thus feed the science through this mechanism.

Council members recognized that advising which applications to fund has become an increasingly complex process in which consideration of scientific merit independent of budget may no longer be realistic. The Council needs to discuss the impact of funding even a small number of well-designed high budget applications on the larger research pool; specifically, what research projects of interest to NINR and the nursing research community are being sacrificed, and what is the projected yield, in terms of science and public good, of one or two high budget studies in comparison with that of several smaller projects? As part of this discussion, Dr. Brooten pointed out that one award of $6 to $8 million (generally for a 4-plus year multicenter trial) would eliminate funding of about six other smaller R01s.

Some of the points made during the discussion included:

- Reiteration of the problems surrounding funding of multisite versus single site projects, balancing science and substance with the costs and potential yield to the public, and considering the relatively high personnel costs associated with NINR-funded R01s.

- Do study sections conduct an adequate assessment of budgets? Do reviewers consider the budget in conjunction with "yield" but independent of score? Should the Council define a set of more specific criteria for review of high budget proposals? For example, could a new role for the Council include an assessment of the appropriateness of the budget with respect to the proposed project? Should proposals be assigned or ranked according to program relevance and cost (e.g., high-cost proposal with low program relevance). Some Council members suggested that NINR staff rank proposals according to NINR program relevance. If new criteria or guidance for review of applications is developed, these guidelines should be provided prospectively to researchers writing proposals. Further, new areas or criteria for review could be incorporated into the strategic plan.

- Some strategies used in the past by other Institutes and Centers facing similar growing pains and financial constraints included implementing 10 to 30 percent across-the-board cuts, imposing caps on individual projects, capping the total number of awards or funds to an individual PI, or using a combination of these methods. Most of these strategies were abandoned or reversed as additional funds became available.

- Identifying the factors that drive the costs of high-end proposals should continue.

- NINR should have the study sections provide Council with comments on proposal budgets and then consider having Council review application/proposal budgets in relation to (a) the science and (b) the potential for the proposed work to move science forward.

A recommendation was put forth for NINR staff to identify for Council members high-cost proposals with low program relevance when such proposals are presented for review at Council meetings. A motion to vote on the recommendation was made, and seconded. The Council voted, and results of the vote failed to move the recommendation forward. Continued thought and attention is needed on this topic.

VII. NINR RESEARCH ACTIVITIES: IMPROVING PREGNANCY OUTCOMES

Dr. Cara Krulewitch, NINR Program Director, provided an overview of NINR's Perinatal and Reproductive Health Portfolio and its activities. The portfolio is divided into two primary areas

of research, one on women, pregnancy/reproductive experiences, and outcomes; and another on infants, including infant development, nursing concerns, and parenting. The presentation focused on the first of these two parts.

NINR studies supported in this area are clustered into three general categories: adolescent pregnancies, maximizing pregnancy outcomes and reducing/preventing complications, and nursing care delivery for pregnant and postpartum women. In collaboration with the National Institute on Child Health and Development (NICHD), the NINR issued a program announcement (PA) on prevention of low birthweight in 1991. Dr. Krulewitch noted that many of the results and concepts presented during her talk were in response to that announcement. Key research findings to date include:

- Studies have developed a comprehensive model of low birthweight and identified a relationship between physical abuse and pregnancy outcome.
- Another study evaluating the effects of prescriptive bed rest during pregnancy found significant psychological and physical side effects after treatment.
- An innovative NINR-funded study has demonstrated that a "buddy" system of peer support during pregnancy augments smoking cessation interventions in pregnant adolescents.
- Both current and prior NINR-funded research has shown that consistent, intensive telephone contact and the use of APNs are cost effective in minimizing ante-partum hospitalizations and complications such as low birthweight and preterm delivery.
- Another NINR-supported study demonstrated that social support interventions led to a decrease in low birthweight babies born to African-American women.
- NINR-funded research has found that urinary incontinence during pregnancy can be minimized through the use of preventive pelvic muscle exercises.
- Recent research has found that women who spontaneously pushed during delivery were at lower risk for perineal lacerations or need for episiotomy than women who were directed to push during contractions.
- An NINR-funded program of basic research is seeking to understand the regulatory mechanisms related to plasma volume changes that occur in early pregnancy-information that could prove crucial to defining the underlying mechanisms of preeclampsia in correlation to reductions in plasma volume.
- Studies have shown that, within the first month after delivery, first-time mothers experienced significantly more fatigue than women after their second or later deliveries.
- A study of teen pregnancy shows that a mastery modeling peer support group nursing intervention reduces current pregnancy complications as well as subsequent pregnancies.
- An intervention that augments traditional public health nursing with a unique combination of preparation for parenthood classes, maternal-fetal interactive classes,

home visits, and social supports holds promise as a community-based intervention to maximize outcomes for both mother and child.

Dr. Krulewitch continued her presentation by reviewing selected ongoing studies in the portfolio and highlighting new research initiatives and future directions. Of particular note is the recently release PA-99-045 “Low Birth Weight in Minority Populations published by NINR and collaborating institutes.

VIII. PREDICTION OF PREGNANCY OUTCOMES

Dr. Mary Ann Curry, Grace Phelps Distinguished Professor at the Oregon Health Sciences University School of Nursing, presented results of NINR-funded study titled "Biopsychosocial Model to Predict Low Birthweight and Adverse Pregnancy Outcomes". Dr. Curry first provided background on the "state of the science" regarding low birthweight babies. She noted that the incidence of low birthweight babies has increased slightly in the past year. Currently, approximately 6.5 percent of white babies are of low birthweight, compared with 6.4 percent last year; twice as many African-American babies -13 percent- now fall into that category, which is the same rate as last year. Low birthweight technically is defined as weighing less than 2,500 grams (approximately 5.5 pounds) at birth, although today, some medical centers are caring for babies weighing as little as 1 pound and, on occasion, less.

Consequences to the low birthweight baby can be numerous and far-reaching, including multiple long-term handicaps and high costs of neonatal intensive care. Recent epidemiologic evidence indicates that low infant birthweight correlates with adult-onset coronary artery disease, hypertension, stroke, and diabetes. Even babies who are merely small at birth, including those weighing up to 6 or even 7 pounds, also are at increased risk for elevated blood pressure and abnormal oral glucose responses during childhood, suggesting an intrauterine effect rather than an environmental effect after delivery. The current hypothesis for these associations, which are derived from epidemiologic studies, is that the fetus may be programmed *in utero* as a result of (1) inadequate maternal diet and/or (2) inadequate placental flow, a result of either or both increased maternal catecholamines or stress. Dr. Curry pointed out that a large body of evidence now supports the critical role of proper nutrition during pregnancy, particularly for protein intake and several specific nutrients, not simply caloric intake and weight gain.

Historically, research had identified several other determinants of low birthweight, including low socioeconomic status (SES) and maternal age extremes (teens and women over 35). Studies of the interplay between race and low birthweight suggest that low birthweight in the African-American population is not genetically determined. Additional data indicate that foreign-born blacks, Puerto Ricans, and Mexican women are at lower risk of having a low birthweight baby than are American-born women of those ethnic or racial backgrounds. These findings suggest that acculturation adversely affects fetal growth. And across studies, college-educated African-

American women are twice as likely as college-educated white women to have a low birthweight baby.

Three other factors described by Dr. Curry included prenatal care, substance abuse, and diet/nutrition. Data show that, for prenatal care, the more and the earlier the visits to the health-care provider, the better. Research shows strong associations between tobacco, alcohol, and drug use and low birthweight. It is important for practitioners to understand why a pregnant woman is using one or more of these substances and to make an attempt to remove the underlying stressors. Regarding the role of nutrition and fetal outcome, evidence clearly shows that a well-balanced diet, including adequate amounts of protein, is key to a positive outcome, especially among women smokers, who have higher nutritional needs than nonsmokers.

Overall, Dr. Curry concluded, attaining a positive fetal outcome is a combination of culture, lifestyle, habits, safety, and access to food and prenatal care. When applying psychosocial stress models to pregnancy outcomes, with a focus on low birthweight, the evaluation shows a physiological component that affects birthweight directly. This component includes increased catecholamines, decreased placental perfusion, altered immune function, and an increased risk of infection. In general although the findings are situation- and population-specific, Dr. Curry noted that interpersonal relationships clearly are important to pregnancy outcome, as are linkages to health care, good nutrition and prenatal care, low stress, and strong family and partner support. She emphasized that, in her team's experience, the type of support and interventions available, provided, or developed, must be individualized to the population being served.

Data from Dr. Curry's prospective study of 1,937 low-income women followed from early pregnancy to delivery revealed an association between stress and the 11 items identified by Dr. Curry and her team. These stressors included financial worries, other money worries, problems related to family, having to move, recent loss of a loved one, current pregnancy, current abuse (sexual, emotional, or physical), problems with alcohol or other drugs, work problems, and feeling generally overloaded or overwhelmed. Women with high stress had a greater incidence of history of preterm birth, a high rate of smoking, low partner support, and low self-esteem; 50 percent also reported some form of abuse. For Caucasian women, the researchers found a bivariate relationship between high stress and low mean birthweight. The results of Dr. Curry's studies have had a far-reaching impact in Oregon in that more than 95 percent of providers in the State now include these 11 stressors on the uniform prenatal record.

The record also includes three abuse screening questions regarding physical and sexual abuse in the past year, and since the pregnancy began. Results indicate that, for the sample as a whole and for adult women, report of any abuse was associated with low birthweight, when compared with no reported abuse ($p < .05$). The rate of low birthweight babies was elevated among abused teens, but this was not statistically significant. When her data is combined with another study (Parker, 1997) resulting in approximately 2,300 subjects, poor obstetrical history and substance use were significantly correlated to birthweight. The researchers also found important distinctions

between African Americans and whites among the various risk categories. For example, the correlation between alcohol use, drug use, or smoking and low birthweight was much higher (0.40) for African-American women than for white women (0.17). The researchers speculate that physical or sexual abuse leads to, or is strongly associated with, substance abuse. Further, prior physical or sexual abuse, along with prior substance abuse, would help explain previous low birthweight babies and poor obstetrical history. Thus, Dr. Curry suggested that poor obstetrical history could serve as a proxy for a social variable.

In outlining the major gaps in predicting pregnancy outcome, Dr. Curry pointed to the lack of clinically relevant, culturally sensitive and appropriate stress measures; the need for physiological markers associated with stress; the importance of identifying critical developmental stages most sensitive to maternal nutrition and stress; and the role of developing and implementing study designs that simultaneously account for the contributions of all these factors and variables to pregnancy outcome. Interventions should focus on reducing stress, improving diet and nutrition, and selecting other variables that are relevant to women's lives (e.g., depression; the importance of the emergency room as a "safe haven" for many pregnant women who are abused). Such interventions should combine or partner public health nursing and the private sector. Dr. Curry closed her presentation with an idea from another outreach program that brought success: providing laundry facilities at the clinic led the women to the clinic, and to improved care. Such innovative thinking "outside the box" can translate into truly positive outcomes.

In response to several questions, Dr. Curry noted that approximately 20 percent of the 1,937 women in the first study were African American, in contrast with 2 percent across the state; that Medicaid managed care is taking culturally relevant and sensitive care from local clinics; that public health clinics have been very responsive to the abuse screening questions; and that a next step is to evaluate how well private physicians are screening for these factors.

IX. CLOSING REMARKS

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, US Code, and Section 10(d) of the Federal Advisory Committee Act, as amended (5, USC 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.

X. REVIEW OF APPLICATIONS

The members of the National Advisory Council for Nursing Research considered 127 research and training grant applications requesting $87,731,338 in total costs. The Council recommended 85 applications with a total cost of $63,159,506.

XI. OTHER ITEMS FOR CLOSED SESSION

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

XI. ADJOURNMENT

The thirty-eighth meeting of the NACNR was adjourned at 1:00 p.m. on May 19, 1999.

CERTIFICATION

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

_____ _____

Patricia A. Grady, PhD, RN, FAAN
Chair
National Advisory Council for NursingResearch

Mary D. Leveck, PhD, RN
Executive Secretary

MEMBERS PRESENT

Dr. Patricia A. Grady, Chair
Dr. Dorothy Brooten
Dr. Kathleen C. Buckwalter
Dr. Margarethe Cammermeyer
Dr. Betty Ferrell
Dr. Steven Finkler
Dr. Mi Ja Kim
Dr. Judith LaRosa
Dr. Ada M. Lindsey
Ms. Jean Marshall
Dr. Curtis L. Patton
Dr. Carmen Portillo
Dr. Ellen B. Rudy

Ms. Sarah J. Sanford
Dr. Paulette Cournoyer, ex officio
LCDR Sandra Cupples, ex officio
Dr. Mary D. Leveck, Executive Secretary

Members Absent:
Dr. Richard Behrman
Mr. Gene A. Blumenreich

MEMBERS OF THE PUBLIC PRESENT

Ms. Mary Cerny, Scientific Consulting Group, Inc.
Ms. Barbara A. Cross, University of Virginia
Dr. Mary Ann Curry, Oregon Health Sciences University
Dr. Linda Davis, University of Alabama at Birmingham
Ms. Emily Drake, University of Virginia
Ms. Susan Greenbaum, University of Pennsylvania
Dr. Sharron Guillett, Tri-Service Nursing Research Program
G. Brockwel Heylin, American Association of Colleges of Nursing
Dr. Mary Naylor, University of Pennsylvania
Dr. Barbara Parker, University of Virginia
Ms. Angela L. Sharpe, Consortium of Social Science Associations
Dr. Barbara Smith, University of Alabama at Birmingham
Ms. Beth White, University of Virginia

FEDERAL EMPLOYEES PRESENT
Dr. Nell Armstrong, NINR/NIH
Mr. Jeff Carow, NINR/NIH
Ms. Colette Carter, NINR/NIH
Ms. Janet Craigie, NHLBI/NIH
Ms. Linda Cook, NINR/NIH
Ms. Marianne Glass Duffy, NINR/NIH
Ms. Robin Gruber, NINR/NIH
Dr. Karin Helmers, NINR/NIH
Dr. Carole Hudgings, NINR/NIH
Dr.. Ann Knebel, NINR/CC Nursing
Dr. Cara Krulewitch, NINR/NIH
Dr. Jane Lunney, NINR/NIH
Dr. Susan Mattson, NINR/NIH
Dr. Gertrude McFarland, CSR/OER
Mr. Eddie Rivera, NINR/NIH
Mr. Daniel O'Neal, NINR/NIH
Dr. Janice Phillips, NINR/NIH

Dr. Hilary Sigmon, NINR/NIH
Ms. Arlene Simmons, NINR/NIH
Mr. Mark Waldo, NINR/NIH
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ROSTER

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