Spring Science Workgroup:
Increasing Nursing Postdoctoral Opportunities in Rare Diseases

Minutes of Meeting
May 1-2, 2000

The meeting of the National Institute of Nursing Research (NINR) Spring Science Work Group on Increasing Nursing Postdoctoral Opportunities in Rare Diseases was convened on May 1-2, 2000, in Bethesda, Maryland. In accordance with Public Law 92-463, the meeting was open to the public from 5:00 to 7:00 p.m. on May 1 and from 8:00 a.m. to adjournment at 3:30 p.m. on May 2. Dr. Patricia A. Grady and Dr. Hilary D. Sigmon presided as chairs.

WORK GROUP MEMBERS PRESENT

David F. Dinges, PhD; Susan Gennaro, DSN, RN, FAAN; Margaret Grey, PhD, CPNP, FAAN; Joanne S. Harrell, PhD, RN, FAAN; Donna Hathaway, PhD, RN, FAAN; Margaret M. Heitkemper, PhD, RN, FAAN; Martha N. Hill, PhD, RN, FAAN; Curtis L. Patton, PhD; Ellen Rudy, PhD, RN, FAAN; Toni Tripp-Reimer, PhD, RN, FAAN; Lorraine Walker, EdD, RN, FAAN

FEDERAL EMPLOYEE WORK GROUP MEMBERS PRESENT

Patricia A. Grady, PhD, RN, FAAN (Chair); Hilary D. Sigmon, PhD, RN (Chair); Bettie J. Graham, PhD (NHGRI); Walter Schaffer, PhD (OD)

OPEN MEETING

I. Call to Order

Dr. Grady called the meeting to order and welcomed the participants. The charge to the work group was to identify ways to increase postdoctoral opportunities for nurse researchers in areas affected by rare diseases. The work group considered the gaps and strengths in postdoctoral education currently and suggested strategies and collaborative approaches for future NINR initiatives in postdoctoral research training to effect symptoms and secondary disease prevention in those persons with rare diseases.

II. Discussion of Research Training Needs

The National Institutes of Health (NIH) has the largest research training program of any Federal agency. Currently each year, the NIH provides research training support for approximately 15,000 pre- and postdoctoral trainees through the National Research Service Award (NRSA) program, approximately 7,000 individuals through supplements to NIH research grants, and approximately 2,400 recipients of career development awards. As part of the NIH, the NINR supports most of the postdoctoral training for nurse researchers in the United States. Between Fiscal Years (FY) 1986 and 1999, the NINR funded a total of 549 postdoctoral trainees, for an average of about 50 per year. The NINR also supports predoctoral training at a ratio of about three predoctoral trainees for every one postdoctoral trainee.

NINR and other NIH components utilize a variety of mechanisms in different ways to support training and career development. Individual and institutional training and fellowship programs are supported through NRSA mechanisms (T32, F31, F32, F33), and career development (K) awards are used for postdoctoral training, transition to independent research, and mid-career retooling. Support for short-term training also

is available. Nurse researchers can apply for specific awards from the NINR or other NIH components. A recent evaluation of research training NIH-wide demonstrates that the programs are effective, based on a range of outcome measures. NINR data for FY 1986-2000 show that individuals who complete an NINR-supported postdoctoral training or career development award programs (F32 or K award) are more likely to be successful in subsequently obtaining NIH research project grants than are individuals who do not receive NINR training.

Yet, nurse researchers are not taking full advantage of existing opportunities for postdoctoral training and career development, and the "pipeline" of postdoctoral nurse researchers needs to be strengthened to meet the growing need for nurse scientists in biomedical and behavioral research in the 21st century. PIs for institutional training grants report that a number of postdoctoral training positions in NINR-supported institutional training programs remain unfilled each year, and many predoctoral trainees do not continue on into postdoctoral programs. Key problems and issues pertinent to the training of nurse scientists include the older age of nurse researchers (the average age of doctoral graduates in nursing is 45-48, with their first NIH research grant awarded at age 52); the difficulty of moving to different locations or institutions for training; the high prevalence of part-time PhD training; the individuality and variability of the postdoctoral experience; the lack of emphasis on research in many nursing schools; and the need for more high-quality mentors and dedicated, committed trainees.

The work group suggested a number of strategies and collaborative approaches to strengthen postdoctoral training opportunities for nurse researchers. These suggestions represent hallmarks of a successful research training program that not only increases the number of postdoctoral graduates, but also, and importantly, retains and enhances the quality of graduates and their research. Suggested strategies are summarized below under six topic headings.

Recruitment - "Get Them Early."

Develop activities and initiatives to promote a synergy of recruitment. To stimulate interest in research careers, build on the success of NINR and NIH summer research training programs by offering short-term (summer, semester) research training to undergraduate students, beginning at the end of the first college year and continuing in subsequent years at the NIH or local institutions. Tie these short-term, for-credit courses to continuing World Wide Web-based training programs throughout the year. Provide seed monies for cross-university programs and regional summer research camps. Inform students, deans, and career counselors about the opportunities for research and postdoctoral research training. Tailor information on the NINR and NIH websites to specific users, including NINR data on the success of postdoctoral trainees and direct links to institutional T32 training programs. Encourage regional recruitment of postdoctoral investigators and faculty. Explore ways to attract individuals from other fields into nursing research (e.g., through the leadership of nurse researchers in professional organizations).

Retention - "Create a Culture of Postdocs."

Advertise the importance of postdoctoral research training for developing a research career, beginning in the first semester of predoctoral study. Refine and analyze NINR data on research training awards to clarify problems and issues pertinent to nursing researchers. Convene NINR postdoctoral investigators annually to network and exchange information, and report NINR data on postdoctoral training annually at national and regional gatherings of nurse researchers. Organize annual regional and national research conferences to give visibility to postdoctoral candidates and investigators, offer opportunities for networking and cross-fertilization among research areas, and host job fairs. Foster competition among postdoctoral candidates and investigators to retain and enhance the quality of research. Promote research tracks at nursing schools.

Mentoring - "Provide Socialization and Support."

Promote B.S.-to-PhD programs, and combine training and mentoring at all levels (undergraduate, predoctoral, postdoctoral) within one program. Seek out individuals dedicated and committed to research, and encourage these individuals to assume responsibility for developing their research careers. Counsel students about career choices and options appropriate for them. Match mentors and trainees in terms of research interests. Develop and offer a 6-week program of "survival skills" for individuals interested in science careers; include grant writing and rebuttal procedures in this course. Emphasize high-quality, committed, lifelong mentoring to support the transitions and professional development of postdoctoral investigators. Disseminate information about available training mechanisms and resources from the NINR-NIH, NIH, and non-NIH funding sources. Establish a consortium of NINR-supported postdoctoral trainees, mentors, research faculty, and center awardees. Encourage networking among nurse researchers and with non-nurse scientists.

Mechanisms - "Be Flexible."

Maintain a wide range of mechanisms of support, and assure flexibility in the duration and dollar amount of research training awards. Adopt a faster application-to-award process (e.g., utilizing website submission and review) for certain mechanisms and procedures (e.g., F32s, research grant supplements, progress reports). Combine available pre- and postdoctoral training positions into a competitive pool of resources that institutions could utilize as appropriate (including, for example, short-term training for postdoctoral investigators and faculty). Encourage creative and flexible use of K awards [e.g., the Mentored Research Scientist Development Award (K01), the Career Transition Award (K22), and the Patient-Oriented Research Awards (K23, K24)] for postdoctoral training, transition to independent research, and mid-career retooling. Consider increasing or eliminating the salary caps on K awards, consistent with the needs of nursing research. Explore development of additional transition or bridging awards for research training leading to independent research. Continue support for long-term (3-4 years) minority supplements, and consider expanding use of these supplements for nonminority pre- and postdoctoral individuals. To facilitate multidisciplinary research, encourage nurse researchers to apply for research training awards offered by other NIH components, and make NINR training awards available to non-nurses. Continue cofunding pre- and postdoctoral training with other NIH components, and explore creative ways of cofunding this training with nursing institutions, nongovernmental organizations (e.g., foundations), and industry. Encourage research training collaborations in specific fields, not disciplines.

Science Gaps - "Customize Training."

Customize training mechanisms and programs to meet the true needs and gaps in nursing science. Areas of need specific to rare diseases include genetics research, quality-of-life studies across population groups, cross-disciplinary research, clinical trials, evaluation of care delivery and health outcomes). Make NINR objectives clear to applicants and reviewers. Encourage study sections to adopt a broader perspective in the review of applications in these areas. Fund meritorious innovative projects as pilot projects. To promote cross-disciplinary research, continue to facilitate communication and collaboration among nurse researchers and between nurse researchers and other scientists extramurally and immerse pre- and postdoctoral individuals in collaborative research environments.

Evaluation - "Define Outcomes and Deliverables."

Identify and apply appropriate, modifiable generic and specific outcome measures for pre- and postdoctoral trainees and training programs (F31, F32, T32), with the aim of facilitating trainees' transition into independent research. Match outcomes and deliverables to science area, training needs, and individuals programs. Include a clear statement of requirements and outcomes among the evaluation criteria for applicants. Require and follow up on indicators of progress in annual detailed progress reports from grantees. Ensure that trainees can write research grant proposals and can present and publish research results. For competing renewals, require applicants to demonstrate progress and innovative research.

The meeting was adjourned at 3:30 p.m. on May 2, 2000.