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IMPLEMENTATION OF PROGRAM PRIORITIES

The purpose of developing a long-range plan for nursing research is to focus a portion of the resources for such research into areas of study that target critical issues confronting society, health care, and nursing. The priority setting component, the National Nursing Research Agenda (NNRA), is designed to guide decisions about resource allocation to promote depth in research in the chosen areas. The priorities developed through the NNRA, elaborated by the recommendations of the Priority Expert Panels (PEPs), are implemented through the extramural program of the National Center for Nursing Research (NCNR), the intramural program, or both.

To understand the implementation of the priority recommendations, it is necessary to understand the organization of the NCNR and its programs, the mechanisms of extramural and intramural support used by it, methods of information dissemination to potential applicants about NCNR's areas of special research interest, and the system of grant application review.

Organization of NCNR Programs

The scientific program of the NCNR has two major components, namely, the extramural program and the intramural program.

Extramural Program

The extramural program, which supports investigations by scientists outside of NIH, is organized into three research emphasis branches: Health Promotion and Disease Prevention, Acute and Chronic Illness, and Nursing Systems. The nature of these three branches reflects nursing's orientation toward health promotion and disease prevention, the care of individuals and their families who are experiencing acute and chronic illness, and the impact of the system within which nurses function on the quality of care nurses provide. The branches are deliberately broad to encompass the breadth of content in research grant applications that may be submitted by the extramural community. The NCNR does not wish to prematurely limit nursing's areas of science.

Health Promotion and Disease Prevention. Health promotion research focuses on nursing approaches to improving the general health of individuals, families, and communities. Health Promotion includes ways to promote wellness and to decrease the vulnerability of individuals and families to illness and disability. Disease prevention research, on the other hand, focuses on a particular illness, injury, or disability and on ways to intercept the onset of such problems.

Acute and Chronic Illness. This program supports research on the human responses to acute and chronic illness, injury, and disability. It addresses biological and behavioral factors that contribute to these conditions, as well as their interrelationships; ways to improve, mitigate, or remedy these conditions; and ways to assist individuals to live with and cope with such conditions.

Nursing Systems. Research in this area examines: the clinical practice environment in which health care is provided; factors underlying the process of nursing care; relationships among aspects of clinical practice; and the influence of that practice on outcomes of care. It includes such diverse

investigations as promising approaches to strengthening quality of care, nursing informatics, structuring nursing care delivery, technology assessment, and ethical issues in clinical practice.

Intramural Program

The intramural program supports investigations by nurse scientists on the NCNR staff. This program, which is relatively new, focuses in its initial phase on one of the priorities identified by the NNRA: HIV Infection--Prevention and Care. Although the program is still small, it has enhanced its resources and the significance of its work through collaboration with several other NIH intramural programs, namely the National Institute on Allergy and Infectious Diseases, the National Heart, Lung, and Blood Institute, and the National Institute on Aging. Several studies are in progress, including studies of nutritional requirements of HIV/AIDS patients, health-related quality of life in HIV/AIDS patients, and myopathy in HIV/AIDS patients.

The recommendations of several of the PEPs are expected to influence significantly the future development of the intramural program. For example, the recommendations of the Symptom Management Subpanel on Pain will be highly relevant to the intramural program.

Mechanisms of Extramural Support

To enhance and accelerate the development and maintenance of a community of nurse researchers committed to scientific excellence, the NCNR supports individuals who are beginning research training, as well as those continuing their research career development.

The NCNR believes that achieving excellence in science requires a commitment to research training and career development across the entire career of a nurse scientist. For that reason, the NCNR's research training, career development, and research awards are designed to form a continuum of support that potentially covers a large portion of an individual's research career. The order in which individuals apply for these awards is purposely flexible, depending on each person's needs, qualifications, and stage of career development. At junctures along the scientific career path, an investigator can choose from various research training, career development, and research support options, as described below. This pattern is designed to augment an individual's skills and to enhance an individual's qualifications for funding in the highly competi- tive biomedical and behavioral research world. To implement the NNRA and other NCNR priorities, virtually any funding mechanism can be used.

Research Training: National Research Service Awards

National Research Service Awards (NRSA) enable scientists to be trained to conduct independent nursing research and to collaborate in interdisciplinary research through individual and institutional fellowships. There are four mechanisms of support.

Individual NRSA Predoctoral Fellowship (F31). These awards are available to registered nurses for supervised research training by a sponsor while the nurse is enrolled in a program leading to a doctoral degree in areas related to the NCNR mission.

Individual NRSA Postdoctoral Fellowship (F32). Postdoctoral fellowships support training in areas related to the NCNR mission for individuals with a Ph.D. or equivalent degree. Applicants must have a sponsor and must identify a research project for full-time study.

Institutional NRSA (T32). These research training grants are awarded to domestic schools of nursing to provide full-time predoctoral and/or postdoctoral research training in a specified area of

research. Recipient schools must show training potential, that is, an established research record and demonstrated interdisciplinary linkages.

NRSA Senior Fellowship (F33). These awards support nurse investigators generally with at least seven years of relevant research experience beyond the doctoral degree. These awards enable investigators to take time from regular professional activities to make major changes in the direction of their research careers, to broaden their scientific backgrounds, to acquire new research capabilities, and to expand their command of an allied research field.

Career Development Awards

Career development awards allow nurse scientists to enhance their research career through additional research experience under the guidance of a sponsor. Such awards allow investigators to increase research time while reducing, for a few years, the responsibilities of teaching and clinical practice. Two mechanisms are in place.

Academic Investigator Award (AIA) - Nursing (K07). These three-to-five-year awards are designed for junior faculty members, generally four to six years beyond the doctorate, who have demonstrated research potential. They allow promising nursing faculty to take time from administrative and teaching duties to establish research programs and mature into independent investigators.

Clinical Investigator Award (CIA) - Nursing (K08). These awards enable nurses with a doctoral degree and with a strong clinical practice background to become independent scientists. Awardees work under a sponsor at an NIH-supported Center program or in a General Clinical Research Center (GCRC) funded by the NIH National Center for Research Resources (NCRR).

Extramural Research

NIH has developed different mechanisms to allow investigators to apply for funds for different types of research projects. Each mechanism embodies a specific purpose or is directed to a specific group of potential applicants. For example, there are grants for small and large projects, for experienced and inexperienced investigators, for individuals in nonprofit institutions and in small business, and for single studies and multiple studies around a single theme.

Applicants interested in submitting a research grant application, either unsolicited or in response to an announced priority area, must decide what mechanism is most suitable for their particular situation. Mechanisms used by NCNR are briefly described below.

Research Project Grant (Traditional) (R01). These grants are made to an institution, on behalf of an experienced principal investigator, for research focused on a single scientific objective in the investigator's area of interest and competence.

Small Grant (R03). These awards provide support for empirically-based small-scale or feasibility studies or pilot projects, but to date NCNR has allowed use of this mechanism only for studies in bioethics and clinical decision making and for studies at the interface of nursing and biology. These awards are generally made only in response to a specific announcement.

Academic Research Enhancement Award (AREA) (R15). These awards are intended to stimulate research by faculty members in educational institutions that have not been major participants in NIH programs. They are designed to support feasibility studies and other small-scale research projects.

First Independent Research Support and Transition Award (FIRST) (R29). These grants are

intended to support the first independent investigative efforts of an individual and are designed to facilitate the transition to the traditional NIH research project grant (R01).

Small Business Innovation Research Award (SBIR) (R43/R44). These grants are for small businesses with the technological expertise to contribute to the NIH research and development mission. Proposed research must have the potential to lead to commercial products or services.

Program Project Grant (PO1). These grants support a broad, multidisciplinary research program with a specific major objective or theme. They are designed to add depth to the science base. A program director oversees the efforts of a number of investigators who conduct discrete research subprojects contributing to the overall research objective. The component research projects must be at the level of R01s.

Cooperative Agreement (U01). These awards are available only when a request for application (RFA) in the NIH Guide for Grants and Contracts, a weekly NIH publication, cites the cooperative agreement mechanism. The cooperative agreement differs from a traditional research grant in that it provides for more extensive federal program staff participation in project activities than does the traditional research grant. Federal program staff may provide advice, coordination, and other program action, but may not dominate the relationship. The RFA indicates a specific area of research needed and describes the nature of the partnership between NIH and the awardee.

Research Centers. NCNR presently funds two types of Research Centers, but applications are accepted only when a call for such applications is specifically announced.

> ***Exploratory Center (P20).*** These grants are designed to enable institutions with a small amount of ongoing research to strengthen their research capabilities, increase productivity, and generate new research through formal interdisciplinary collaborative efforts. They support pilot or feasibility studies, core or shared resources, and integration of activities with other relevant research endeavors. The intent is to increase significantly the research momentum of the grantee institution.
>
> ***Specialized Center (P50).*** These grants support the creation of an interdisciplinary collaborative research program among established investigators in a specific area of basic and/or clinical nursing research. They provide for the integration of a group of related projects and encourage the development of new research projects. They enhance the environment for research training and career development, as well as the depth of the science in the specified area.

Contracts. Although contracts are a mechanism for funding some types of research, the NCNR does not now use this mechanism.

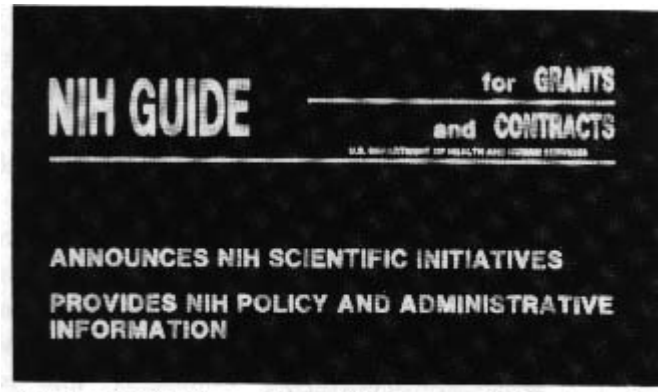
Methods of Dissemination of Extramural Research Initiatives

The NCNR disseminates information about the NNRA priorities and PEP panel recommendations to a number of audiences both inside and beyond NIH. In addition to members of the nursing profession, non-nurse scientists, government officials, and the general public are interested in, and need to know about, nursing research. Information about the research initiatives to implement the NNRA priorities is disseminated in both formal and informal ways.

Formal Methods

On the formal level, all new initiatives at the NIH, including those of the NCNR, are announced in

the NIH Guide for Grants and Contracts. Two types of announcements in this weekly NIH publication, namely requests for applications (RFAs) and program announcements (PAs), are relevant.



All new initiatives at the NIH are published in the NIH Guide for Grants and Contracts.

RFAs. An RFA is an invitation to submit an application for a research grant or cooperative agreement in response to an initiative in a well-defined scientific area. There is a single designated submission date for a one-time competition, with specific funds set aside.

PAs. A PA describes a new initiative or updates an ongoing research interest. No funds are set aside for applications invited in response to such announcements, but the significance of such research is underscored by the formal program announcement.

Informal Methods

On the informal level, NCNR staff interact and communicate with investigators as a natural and ongoing part of their daily activities. Through such informal interactions, as well as through more structured presentations at professional meetings-- such as speeches, symposia, and exhibits-- information about the NCNR's programs, priorities, and related announcements is given wide circulation.

Dissemination of NNRA Information

Staff of the NCNR develop announcements (PAs and RFAs) to implement a PEP's recommendation (s) based on the PEP's draft or final report. The announcement not only will describe the area of interest and its relevance to the PEP recommendation but also will specify the type of award anticipated, such as training, small grant, or research center. In many cases, such announcements may be jointly sponsored and developed in collaboration with staff of other interested NIH institutes or centers or with staff from other interested government research programs.

In developing such an announcement, staff have to make thoughtful choices among the multiple recommendations usually embedded in the PEP's report. Should the call for applications be broad or narrow? Should it cover an entire report chapter or a single recommendation? For example, should the announcement cover all recommendations about the physiological aspects of nursing care for HIV/AIDS patients reported by that panel? Or should it cover only a single recommendation, such as the recommendation which deals with "... strategies to effectively manage physical symptoms associated with HIV infection .... ?"

Furthermore, staff have to make judgments, either with or without PEP guidance, regarding the adequacy of the cadre of nurse researchers who are sufficiently well prepared in the area under consideration to respond by submitting high-quality applications. If the cadre of nurse scientists is seen to be inadequate, it may be necessary to stimulate research training in the area, for example by soliciting applications for National Research Service Awards.

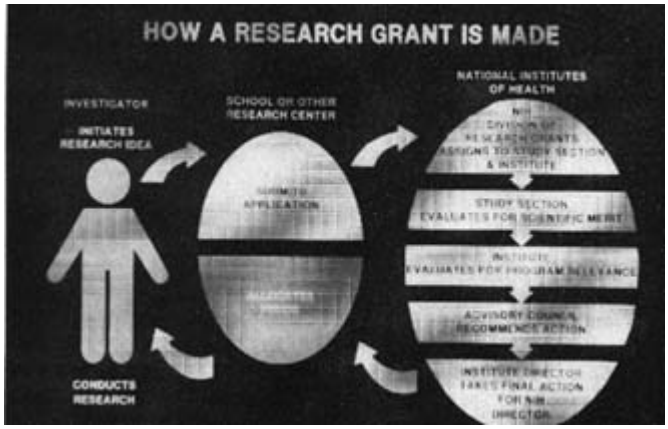
Publication of NNRA information in guest editorials and staff papers in professional journals is another useful mode of dissemination.

Grant Application Review Procedures

All competing applications are received by the NIH Division of Research Grants (DRG), whose staff refer applications for two crucial review functions.

The first referral is to an appropriate initial review group or IRG (also called a study section) for scientific and technical merit review. IRGs have 15 to 20 primarily nonfederal senior scientists chosen for their expertise in the IRG's area of interest who meet three times a year to review applications.

The second referral is to an institute or center for second-level review by their National Advisory Council, and for staff follow-up and funding as indicated. The Council review focuses on policy and program relevance of applications judged to be highly meritorious by the initial review group. Members of National Advisory Councils are also primarily nonfederal research experts, but include other prominent health professionals and members of the public with interest in the ICD's area of concern. There are three possible paths from submission of an application to final recommendation. Applications submitted in response to a PA enter the usual peer review process with all other competing research grant applications submitted at regular intervals three times a year. Similarly, applications for research training enter the training review process, also three times a year. Applications submitted in response to an RFA enter a special review process for only that RFA.



The Nursing Research Study Section, Division of Research Grants, NIH, 1989.

The first level of review of nursing research grant applications is usually carried out by the Nursing

Research Study Section, administratively located in the DRG.

For most applications, the second level of review is by the NACNR. In making recommendations for funding to the NCNR Director, both the peer IRG and the advisory council consider the priorities and initiatives specified by the NCNR, including the initiatives resulting from the NNRA effort. The initial review of applications submitted in response to an RFA is by an NCNR review committee that is specially constituted for the expertise needed for the particular RFA. The second level of review is the same as for all other nursing research grant applications, namely, the NACNR.

Applications to support research training and career development are reviewed by the NCNR's Nursing Science Review Committee, which has a composition similar to the IRG for nursing research. The second level of review is by the Advisory Council, except for individual fellowship applications, which are reviewed by NCNR's Executive Review Group. The latter differs from the Advisory Council in that members are usually senior government nurse scientists.

Summary

Research funded by the NCNR in both its extramural and intramural programs reflects both its long-range plan and the creativity of scientists engaged in nursing research. The processes described here for implementation of the NNRA support interaction between NCNR staff and the research community to do significant research on the critical issues confronting society, health care, and nursing.

Given the complexity of nursing practice, multidisciplinary perspectives are required in nursing research, and, therefore, one of the major initiatives of the NCNR is collaboration. In fact, multiple opportunities for collaboration are generated by interacting with colleagues in diverse disciplines engaged in various types of basic and clinical research. NCNR staff actively seek out such collaboration. Furthermore, as described in Chapter 2, each PEP is deliberately structured to include scientists from disciplines other than nursing, as well as representatives from other government research programs that have interests in issues addressed by the PEP in question.

The National Advisory Council for Nursing Research, 1993.

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