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National Institute of Nursing Research

INTRODUCTION

The National Institute of Nursing Research (NINR) supports clinical and basic research to establish a scientific basis for the care of individuals across the life span—from management of patients during illness and recovery to reduction of risks for disease and disability, promotion of a healthy lifestyle, promotion of quality of life in those with chronic illness, and care for individuals at the end of life. This research may also include families within a community context. According to its broad mandate, the Institute seeks to

- understand and ease the symptoms of acute and chronic illness;
- prevent or delay the onset of disease or disability or slow its progression;
- find effective approaches to achieving and sustaining good health; and
- improve the clinical settings in which care is provided.

Nursing research involves clinical care in a variety of settings, including the home and the community, in addition to more traditional health care sites. NINR's research extends to problems encountered by patients, families, and caregivers. It also focuses on the special needs of at-risk and underserved populations, with an emphasis on health disparities. These efforts are crucial in the creation of scientific advances and their translation into cost-effective health care that does not compromise quality.

NINR accomplishes its mission by supporting grants to universities and other research organizations, as well as by conducting intramural research at laboratories in Bethesda, Maryland. The research fosters interdisciplinary collaborations to ensure a comprehensive approach to research on health promotion, illness, and disabling conditions. This approach is especially relevant in research on

- long-term care for older adults;
- the special needs of women across the life span;
- bioethical issues related to genetic testing and counseling;
- biobehavioral aspects of managing the prevention and treatment of infectious diseases;
- optimum care at the end of life; and
- environmental influences on risk factors related to chronic illnesses.

NINR research includes all age groups and is based on appropriate gender and minority representation.

The Institute's intramural investigations, with an interdisciplinary, patient-focused approach to human health and illness, are particularly suited to the research environment on the campus of the National Institutes of Health. The unique clinical research facilities offer diverse opportunities for professional exchange and collaboration on questions related to patient care and quality of life. These studies also provide training opportunities that acquaint scientists with the research issues and clinical strategies used by investigators in nursing research.

In addition, NINR supports comprehensive research training and career development programs to prepare individuals with requisite skills to conduct nursing research in an interdisciplinary setting.

SUMMARY OF INTERNATIONAL PROGRAMS AND ACTIVITIES

Extramural Programs

Grants

An NINR-supported grantee is conducting field research in Matlab, Bangladesh, on a public health intervention to prevent or reduce the incidence of cholera in areas where people must depend on groundwater after natural disasters such as flooding. The research involves a simple filtration method that uses widely available sari cloth to filter household water. The intervention is based on earlier studies that found sari cloth effective in reducing the number of plankton associated with *Vibrio cholerae* in surface water to below the infectious level that causes cholera. Investigators are evaluating the effective use of the technique by villagers, including whether the number of *V. cholerae* cells in water and the incidence of cholera are reduced.

This grantee has also gathered data to develop a cholera prediction model that can provide early warnings of conditions favorable to cholera outbreaks. Investigators used data from a remote sensing satellite for the Bay of Bengal and compared the information with data on cholera cases throughout Bangladesh over a 4-year period. Their findings revealed annual correlations in the spring and the fall between climate conditions and cholera outbreaks. Higher temperatures on the surface of the sea, for example, are conducive to increased proliferation of plankton that feeds the cholera-causing bacterium *V. cholerae*. Higher sea surface may indicate movement of plankton-laden water inland where it can infect humans. This climate–cholera linkage could produce an easier, more cost-effective way to predict and protect against cholera epidemics. Current methods involve infrequent collection of water samples by research ships, which is both time consuming and expensive.

Another NINR grant involves a 10-site, randomized, control study in Canada and the United States. The research is designed to reduce the unacceptably high rates of birth by cesarean section in these two countries. Earlier studies conducted on a smaller scale showed that the amount of "labor support" by caregivers during active labor can influence cesarean delivery rates and other adverse events related to childbirth. The elements of labor support being studied include companionship, attention to emotional needs, and comfort. The researchers are evaluating the effect of two types of nursing care on women in labor—continuous support and the usual intermittent nursing care. They are comparing the effects of these types of care on rates of cesarean delivery

and forceps delivery and requirements for pain reduction, particularly for administration of epidural anesthesia. Cost-effectiveness is also being addressed. The findings will also contribute knowledge about the effectiveness of labor support for a variety of events related to childbirth, such as prolonged hospital stay and postpartum depression. The results of this study are expected to inform policy decisions about the staffing of hospital delivery suites.

A research project supported by NINR addresses hospital restructuring, which is widespread in Europe and the United States. The study provides the opportunity to evaluate restructuring modifications and recommend changes to improve health care for hospitalized patients. There is little scientific evidence on the best approaches to restructuring hospitals or the effect of specific approaches on outcome for patients. This research involves hospitals in Canada, England, Scotland, and the United States, which are in different stages of restructuring. Investigators are evaluating the effects of organizational changes, including variations in nurse staffing, on patient outcomes. Also under study are the effects of nurses' personal control over nursing practice and their interactions with physicians. The investigators are also analyzing hospital mortality rates, complication rates, and rates of unsuccessful resuscitation, as well as organizational barriers to timely use of critical clinical interventions.

NINR funds U.S. training fellowships for four predoctoral students performing relevant dissertation research. These studies involve

- ascertaining the prevalence and mental and physical health outcomes of domestic violence in Chinese women in China and the United States;
- testing a hypothesis that chronic infection with the hepatitis C virus is a risk factor for development of B-cell non-Hodgkin's lymphoma, in collaboration with the National Cancer Institute of Egypt;
- improving infant nutrition to prevent stunting of growth and nutritional deficiencies in Trujillo, Peru; and
- understanding and management of cancer, including therapeutic options and cultural variables in Peruvian Amazonia.

Training

By funding two trainees, NINR collaborates with the AIDS (acquired immunodeficiency syndrome) International Research Training Program of the John E. Fogarty International Center for Advanced Study in the Health Sciences, National Institutes of Health. One trainee, at the University of Illinois, Chicago, participates in a program to build long-term scientific expertise to help address the AIDS epidemic in Chile, Indonesia, and Malawi. The other, at the University of Alabama, Birmingham, is involved in a program to prevent perinatal transmission of human immunodeficiency virus (HIV) in Lusaka, Zambia.

International Visitors

NINR hosted visiting scholars and researchers involved in enhancing the educational and research activities of their institutions and briefed them on NINR-supported research programs and the programs of other nursing organizations, such as the Agency for Healthcare Research and Quality. Visitors included the following:

- a registered nurse from the Saitama Cancer Center, Japan, who was seeking information about nursing research in the United States;
- the program leader and head of the WHO Collaboration Center in Tygerberg, South Africa, representing the Medical Research Council's Chronic Disease of Lifestyle Program, who discussed research partnerships to study predictors of obesity in preadolescent girls and measurement of physical activity in older adults; and
- the head of coordination and development for the Nursing Research Centre, Madrid, Spain, who discussed collaboration with research activities in the United States.