

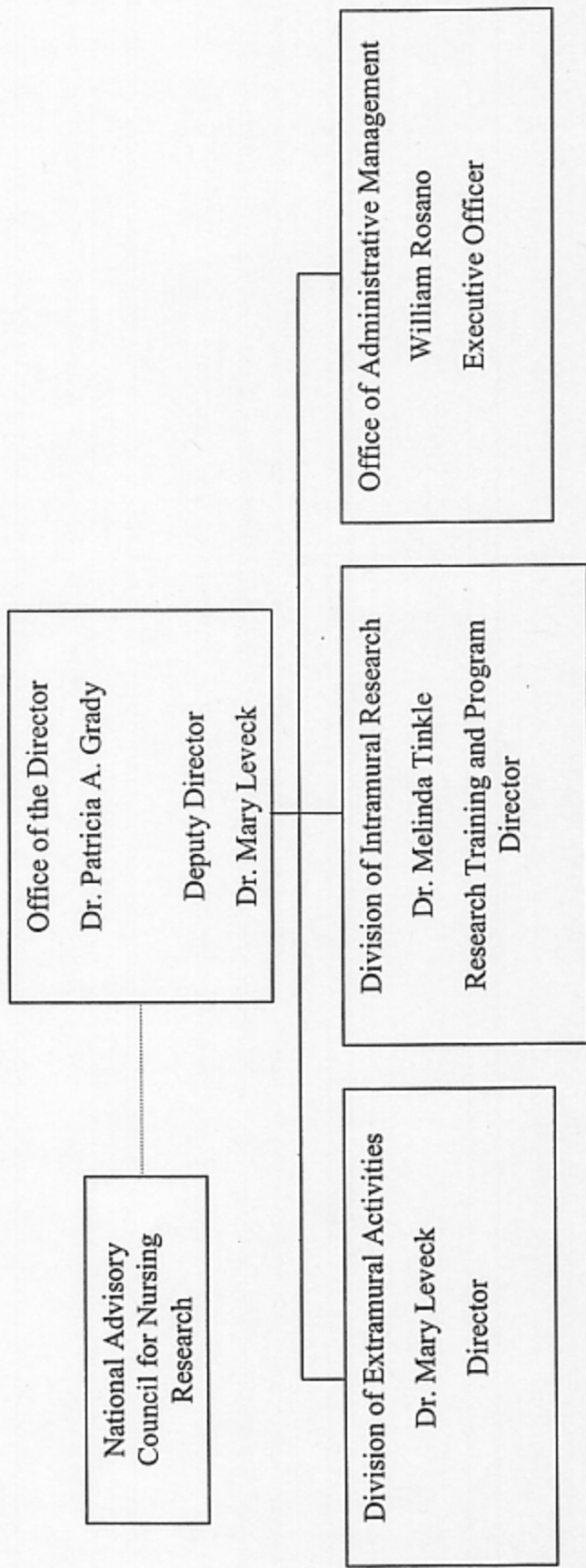
DEPARTMENT OF HEALTH AND HUMAN SERVICES

NATIONAL INSTITUTES OF HEALTH

National Institute of Nursing Research

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National Institutes of Health
National Institute of Nursing Research
Organizational Structure



NATIONAL INSTITUTES OF HEALTH

National Institute of Nursing Research

For carrying out section 301 and title IV of the Public Health Service Act with respect to nursing research, \$134,579,000 .

NINR-3

**National Institutes of Health
National Institute of Nursing Research**

Amounts Available for Obligation ^{1/}

Source of Funding	FY 2003 Amended		
	FY 2002 Actual	President's Budget	FY 2004 Estimate
Appropriation	\$120,451,000	\$129,768,000	\$134,579,000
Enacted Rescissions	(85,000)	(0)	—
Subtotal, Adjusted Appropriation	120,366,000	129,768,000	134,579,000
Real transfer to:			
Other HHS Agencies through Secretary's one-percent transfer authority	(130,000)	(0)	(0)
Comparative transfer from:			
Fogarty International Center for International Services Branch	0	0	0
Comparative transfer to:			
Office of the Director for program changes	(61,000)	(65,000)	(0)
National Institute of Biomedical Imaging and Bioengineering	(0)	(0)	(0)
Subtotal, adjusted budget authority	120,175,000	129,703,000	134,579,000
Unobligated Balance, start of year	0	0	0
Unobligated Balance, end of year	0	0	0
Subtotal, adjusted budget authority	120,175,000	129,703,000	134,579,000
Unobligated balance lapsing	(19,000)	—	—
Total obligations	120,156,000	129,703,000	134,579,000

^{1/} Excludes the following amounts for reimbursable activities carried out by this account:
FY 2002 - \$ 84,000 FY 2003 - \$84,000 FY 2004 - \$84,000

**Justification
National Institute of Nursing Research**

Authorizing Legislation: Section 301 and Title IV of the Public Health Service Act, as amended.
Reauthorizing legislation will be submitted.

Budget Authority:

FY 2002 Actual		FY 2003 Estimate		FY 2004 Estimate		Increase or Decrease	
FTE	BA	FTE	BA	FTE	BA	FTE	BA
43	\$120,175,000	44	\$129,703,000	43	\$134,579,000	- 1	\$4,876,000

This document provides justification for the FY 2004 research activities of the National Institute of Nursing Research (NINR), including HIV/AIDS activities. A more detailed description of NIH-wide fiscal year 2004 HIV/AIDS activities can be found in the NIH section entitled "Office of AIDS Research (OAR).

INTRODUCTION

The National Institute of Nursing Research supports clinical and basic research that provides the science base for the patient care practiced by many health care professionals, including nurses. The research supported by NINR has a broad scope ranging from improving outcomes of newborns to helping those at the end of life. NINR's science improves the quality of clinical care in all settings, from hospital to the home, and extends to the promotion of healthy lifestyles and the reduction of risk for diseases and disability. The outcomes of NINR's science are making a difference in the lives of people in all systems of clinical care. Examples of NINR's research outcomes include: helping people manage pain associated with chronic diseases; developing and testing methods to slow the progression of disease; establishing the relationship between nurse staffing and surgical patient mortality; and achieving healthier lifestyles across all age groups. These and other outcomes enhance patient-centered, cost-effective care that leads to a better quality of life for individuals, their families or caregivers, and the communities in which they live.

Overview: The activities reported below demonstrate the Institute's progress in developing depth of research within a reasonable breadth of inquiry. The story of discovery provides the latest results from many years of work by several teams of investigators. This research has resulted in a body of knowledge to address urinary incontinence, a common condition that affects many people and families, particularly women and the elderly, increasing their disability and reducing their quality of life. The science advances selected for this year represent important contributions in five critical areas of science— improving pulmonary function with respiratory muscle training among those with severe chronic obstructive pulmonary disease; improving

cardiovascular risk among postmenopausal women; helping normal adolescents achieve healthy lifestyles to reduce cardiovascular disease later in life; helping caregivers of people with dementia stay healthy; and improving older adults' quality of life at the end of life.

Initiatives to be undertaken in FY 2004 target important national health concerns: expanding research in self-management of chronic illness to address quality of life; decreasing low birth weight infants among minority populations; enhancing health among minority men; and continuing NINR's leadership in end-of-life research. The nation's nursing shortage is compounded by a shortage of nursing faculty. NINR will continue efforts to increase the workforce of nurse investigators both to conduct important research and to meet the nation's need for nurse faculty. Because many of NINR's research interests intersect those of the other NIH institutes and centers, as well as other public health agencies, collaboration is integral to all of the initiatives.

The NINR intramural program has established a laboratory for symptom management and provides research training for a diverse pool of nurses who have varying skills and experience. One example of research training is the Summer Genetics Institute, which has been offered within NINR's Intramural program for three years. Graduates of this program have been successful at publishing in the scientific literature, submitting research applications which capitalize on their new genetic knowledge, and integrating genetic content into curricula of schools of nursing across the country. For potential investigators, a new training program has been introduced online that has increased the accessibility of high quality information to enhance submission of successful research applications to the NIH.

The Institute continues to have a close working relationship with scientists and clinicians in many disciplines, as well as with those in nursing practice, administration and education. NINR convened a second meeting in 2002 of the National Coalition of Ethnic Minority Nurse Associations (NCEMNA), the coalition of five major national minority nurse organizations. Our meeting addressed strategies for achieving the two overarching goals of Healthy People 2010: to eliminate health disparities and to increase quality and years of healthy life. Seventeen newly funded centers on reducing health disparities have been established. These centers partner research-experienced schools of nursing with minority serving schools of nursing in order both to increase health disparities research and increase the number of minority nurse investigators.

The outcomes of NINR's HIV and AIDS-related research include innovative approaches to complex care problems. Several studies have focused on how to improve quality of life by managing troublesome symptoms experienced by people with AIDS, particularly weight loss, fatigue, loss of appetite, chronic pain, and bone loss and other metabolic changes. Other studies have developed and tested methods that help people with AIDS integrate complex medication regimens into their lives. Some of these methods promise to reduce health care costs by substituting telephone interventions for visits to providers. A number of studies address HIV prevention, especially among adolescents and youth, and among minority youth and women in particular. A newer area of research is the prevention of HIV infection and transmission among older adults. NINR's ongoing studies also are studying the quality of life among children with HIV. Another example of NINR's HIV research program is the mentoring of nursing faculty and nurse-midwives in southern Africa in HIV prevention and HIV-related research activities.

The Story of Discovery describes the evolution of a body of science that can be easily implemented and improves the quality of life of many who live with a disabling and distressing problem.

STORY OF DISCOVERY

Behavioral Techniques Decrease Urinary Incontinence in Women

NIH estimates that at least one out of ten people aged 65 or older suffer from urinary incontinence (UI). Direct costs of treatment for UI in the United States are estimated to exceed \$16.3 billion per year.^{1,2} It is a condition that affects women more than men and ranges from mild leakage to uncontrollable and embarrassing wetting. Regarded as a serious social problem by people with the condition, UI also is a health problem because it can lead to disability and dependency. The problem of UI is under-reported, perhaps because many people with UI pull away from their family and friends and do not seek diagnosis and treatment for their chronic condition. The self-imposed isolation that results may have medical, behavioral, and social consequences.

A series of studies supported by the NINR have outlined the impact of UI on additional diseases or conditions a person might have. One study found that during stroke rehabilitation, patients whose UI persisted throughout their course of rehabilitation showed lower functional status at discharge and made less improvements in their rehabilitation. Another study evaluated stress UI, a common symptom of pelvic muscle dysfunction. For those women who receive gynecologic surgery to treat pelvic muscle dysfunction or other conditions, a behavioral intervention was found helpful in maintaining urinary continence after the surgical treatment. Other studies have shown that behavioral interventions are successful in the control of UI not only in small, defined populations, but also in several larger populations of women.

Older rural women with UI are the latest to experience success with behavioral therapies, according to a recent study. This is particularly important because health care strategies for older adults in urban settings do not always transfer to rural settings, where older women with UI are a particularly vulnerable population. Chronic UI exceeds the capacity of formal and informal resources to maintain older adults in the community, and alternative community-based resources are rare in rural areas. This may explain why rural women with UI are more likely to enter a nursing home than their urban counterparts. The triple combination of a chronic illness, lack of community resources, and old age put older rural women with UI at risk for additional diseases and early death.

There were 178 rural, elderly women with self-reported UI in the above-mentioned study. After an initial screening, the women were randomized into treatment and control groups. A program of interventions for the treatment group included: 1) self-monitoring for caffeine consumption, timing of fluid intake, and bowel regularity; 2) bladder training to increase bladder capacity and decrease frequency of urination; and 3) pelvic muscle exercises with biofeedback to increase muscle control and strength.

Follow-up of the two groups continued every six months for two years. Subjects in the treatment group showed a 61% decrease in urine loss and an improved quality of life. Notably, subjects in the control group experienced an increase in urine loss of 184%, indicating that untreated UI dramatically worsens with time.

These NINR-funded studies show that comparatively inexpensive and highly effective behavioral therapies should be the first line of treatment for most women with UI. After ruling out associated medical conditions that require treatment, behavioral strategies are more effective in reducing UI than pharmacologic and surgical interventions. The behavioral therapies are able to be incorporated into everyday practice by healthcare providers, including nurses. Patients who have received the treatment report improved quality of life and feel “in charge” and empowered by the low-technology approach to a health condition that dramatically affects their lives.

SCIENCE ADVANCES

Substantial growth is reflected in the research knowledge achieved with NINR support in its 16 years of operation. The initiatives and activities described below will ensure that the momentum of generating research findings that make a difference in the health of the public will continue for the foreseeable future.

Inspiratory Muscle Training Improves Pulmonary Function in Patients with Severe COPD.

Chronic obstructive pulmonary disease (COPD) affects an estimated 22 million Americans, half of whom are over 65. COPD is the nation’s fourth leading cause of death and is estimated to be the third by 2020. COPD affects breathing so severely in some patients that shortness of breath retards even ordinary daily activities, such as dressing and washing, in addition to the ability to work, perform household chores, or participate in social activities.

To address this issue, researchers assigned patients who had severe to very severe COPD to an inspiratory muscle training (IMT) group or to a group that received education about COPD and its general medical treatment. IMT is accomplished with a mouthpiece device that gently increases the amount of effort needed to inhale. The device was used five days a week, 30 minutes a day, for 16 weeks. Compared to the education-only group, the high-intensity inspiratory muscle training group showed significantly improved inspiratory muscle strength and respiratory muscle endurance, and a reduction of respiratory symptoms during daily activities. The patients showed that they could follow the training protocol and carry out the intensive training at home without direct supervision by health professionals.

The expressions “Nothing helps” and “This isn’t doing any good” are common among patients with severe COPD. However, their attitudes and beliefs about coping with their disease improve once they know that inspiratory muscle training (IMT) achieves good outcomes. Not only do patients who use IMT have a better quality of life, they also have fewer complications of serious pulmonary disease.

Improving Cardiovascular Risk Among Postmenopausal Women. Cardiovascular disease is the leading cause of death in the U.S. About \$226 billion in direct and indirect costs in 1999 were attributed to heart disease and stroke.³ Even though the overall rate of cardiovascular disease has dropped, that rate has not declined as much for women as for men. Of concern is that two thirds of sudden deaths for women in the large national Framingham cardiovascular risk study occurred with no prior symptoms of the disease, compared to about half of sudden deaths among men.

Many women do not make health-producing lifestyle changes in dietary intake and exercise. Before now, it was not known why obese, postmenopausal women placed on a low-fat diet, such as the American Heart Association (AHA) Step 1 diet, commonly showed subsequent decreases in high-density lipoprotein C (HDL-C), even when they lost weight on low fat diets. Low HDL-C in women is a stronger independent predictor of cardiovascular disease risk than elevated total cholesterol or low-density lipoprotein C (LDL-C). So the research question in this study was how to achieve good weight loss results without decreases in what is called the "good cholesterol" – HDL-C.

After thorough diet instruction, followup visits showed that body weight and dietary fat decreased, as well as saturated fat, cholesterol and LDL-C measurements. These are good outcomes. The big finding, however, was that the decrease in HDL-C, a bad outcome, was not related to changes in amount or type of dietary fat, but was due to the women substituting simple sugars for fat in their diet. The current American Heart Association (AHA) guidelines recommend consuming 55% of energy from carbohydrates, but do not specifically state the ideal level of simple sugar intake.

The huge burden of cardiovascular disease in the U.S. demands that the nation pay attention to obesity, among other risk factors. The present study points to a needed change in current weight loss guidelines: to obtain carbohydrate calories from complex sugars, such as high fiber vegetables and starches, rather than from simple sugars, such as syrups and refined sugar. The study also suggests the need for an examination of the current American food supply that offers an abundance of low-fat and fat-free foods, which nonetheless depend upon simple sugars to improve their flavor. From the results of this study, more specific dietary guidelines can be developed to help postmenopausal women lose weight and at the same time, reduce their cardiovascular risk.

Aerobic Exercise Can Reduce Body Fat and Blood Pressure Gains in Adolescents. From 1991 to 2000, the U.S. prevalence of obesity increased by 61%. By 2000, 49 states fell within the highest two categories of obesity; that is, 27 states had a 15 to 19% obesity rate and 22 states had an obesity rate of 20% or more. The common, long-term health problems of obesity and hypertension are usually associated with adults, but their origins can often be traced to habits that begin in childhood. In addition, coronary artery disease risk factors among youths may be higher in African-Americans than in whites. While regular aerobic exercise can reduce both weight and blood pressure in all age groups, children in elementary and middle school continue to receive limited aerobic activity in their physical education classes.

As part of the Cardiovascular Health in Children and Youth Study (CHIC II), a nurse investigator-led team tested middle school students that participated in a regular eight week

physical education program. These students were primarily rural, and a high proportion were African-American. The students were placed in one of four groups: the control group received their usual health and physical education curriculum; the second group received thirty minutes of aerobic exercise three days per week; the third group received two classroom sessions per week on nutrition, smoking, and exercise and the fourth group received both the exercise and the classroom sessions. Skinfold measures for body fat increased less in the two exercise groups, and blood pressure decreased in all of the three intervention groups, compared to the control group. In addition, students in the combined exercise and classroom group improved their exercise capacity, compared to the other groups.

Results from this eight-week course show that exercise can help control weight and blood pressure in adolescents. While education on the benefits of proper nutrition and activity is important, regular exercise is needed to effect health changes. Given the potential long-term consequences of obesity and hypertension, implementing a regular and consistent aerobic exercise program for school-age children can help reduce a variety of health risks.

Helping Caregivers of People with Dementia Stay Healthy. Alzheimer's disease and other dementias affect at least 4 million people in the U.S. and accounted for \$100 billion of total health care costs in 1997.⁴ About 70% of these patients are cared for at home, which can have a major health impact on the caregiver. Caregivers often have pre-existing chronic health problems on top of new responsibilities. Those who reported emotional strain related to caregiving experienced a 63% increase in mortality risks compared to non-caregivers. It is clear that to attain and maintain their own health, caregivers need education and help in coping with the burden of their role, a role which may include managing problem behaviors, such as aggression or wandering, of the care recipient.

Scientists have developed and tested a Skills Training Program for caregivers of people with dementia. The program included a behavior management component to decrease the frequency of patients' behavioral problems and caregivers' distress related to those problems. A second component was instruction in problem solving skills designed to enhance social support and to help caregivers focus on taking care of themselves. The third component was instruction in making fewer negative assessments of problem behaviors of care recipients. This reframing of care recipient behaviors was designed to help caregivers find meaning and personal gain from caregiving when possible.

In addition to those receiving the Skills Training Program, a control group received "Minimal Support." This meant they were provided with brief supportive phone calls plus written information about caregiving. At the conclusion of the study, caregivers in all groups reported fewer problem behaviors among the care recipients, less distress related to those problems, and more satisfaction with leisure activities. However, white caregivers showed more improvement in the Minimal Support group and African-American caregivers showed greater improvement in the Skills Training group.

This study showed that Skills Training could be implemented in the home and could therefore be accessible to the large number of at-home caregivers of people with dementia. More research needs to be done in this area to help build more interventions that are culturally appropriate for different racial and ethnic groups.

Improving Older Adults' Quality of Life at the End of Life. National surveys have shown that many elderly and terminally ill people in America would prefer to die at home or in a hospice. Common reasons for avoiding institutional care at the end of life include the fear of painful and/or highly technological treatments to extend life, and the desire to maintain personal choice and dignity. However, over half of the deaths among older adults still occur within the hospital setting. New research examined the end-of-life care outcomes of the Program for All-inclusive Care for the Elderly (PACE), a community-based managed care program for Medicare recipients aged 55 and older. The design of PACE promotes continuity and communication between providers and recipients of care, and has a primary goal of enhancing personal control in care at the end of life.

A characteristic of the PACE program is discussion, planning, and implementation of advance directives to document patient preference for end-of-life care, such as cardiopulmonary resuscitation that can prolong life. Researchers examined the records of over 2,000 PACE decedents to determine the settings of their death. In the general elderly population, 20% die at home and 44% die in the hospital. However, among PACE participants those numbers were almost reversed, with 45% dying at home and 21% in the hospital. Nursing home deaths, which make up most of the remainder, were roughly equal in both groups. Terminally ill PACE participants with a do-not-resuscitate order were about 7.5% less likely to die in a hospital. Another unanticipated finding, was that PACE participants with a live-in informal caretaker were 10.3% less likely to die at home than those without a live-in caregiver. Dying at home, therefore, is not the preference for all patients, nor does it always represent an ideal. However, honoring the desires of individuals is an important component of quality of life at the end of life.

Health care for the elderly and for those at the end of life is often fragmented. A good example involves the advance directive. In many cases, hospital staff may not be aware of nor have immediate access to patient records in other institutions regarding care preferences, and the patients' written desires may not be honored. A program such as PACE helps elders both develop an advance directive and maintain continuity of care, thereby increasing the likelihood that their wishes will be followed.

NEW INITIATIVES

NINR will be expanding promising research in the coming year that will not only improve the quality of life and advance the health status of patients and families, but also will increase the knowledge base of many practicing health professionals. As with much of the research supported by NINR, data will emerge about the cost effectiveness of these new initiatives compared to traditional care.

Chronic Illness Self-Management to Improve Quality of Life. NINR will focus on research that addresses new approaches to self-management of chronic diseases, such as high blood pressure and diabetes, and conditions, such as dementia and developmental disabilities. The influence of age, gender and cultural/ethnic factors will be addressed in order to tailor self-management skills to diverse and vulnerable populations: older adults, women, minorities and children. The impact of technological advances on the management of chronic illnesses will also be studied. Outcomes of the studies funded in this initiative are expected to improve the quality

of life of patients and their families, and the ability of individuals to work and participate in common activities of daily life.

End of Life: Bridging Life and Death. Another area of expansion is within NINR's leadership role at NIH in end-of-life research. Research will be supported to develop culturally sensitive interventions for those at the end of life, as well as caregiver support to help caregivers stay healthy. Methods will be designed to improve communication among care providers and families of those who are dying. Spurred by the July 2002 release of the Institute of Medicine's report *When Children Die: Improving Palliative and End-of-Life Care for Children and Their Families*, in mid-2002 NINR announced a new initiative to study end-of-life care for children, which has not received sufficient research attention in the past. The number of studies that address end-of-life issues will be increased in 2004.

Enhancing Health Promotion Among Minority Men: NINR's successes in the area of promoting healthy lifestyles will focus on promoting health among minority men. There is a high mortality rate and shorter life expectancy of minority men compared to all women. NINR's initiative will stimulate research to increase understanding of the factors that influence how minority men make choices that lead to good health across the life cycle. Research will examine such behaviors as smoking, diet and exercise, the influence of families, social networks and communities, as well as stress management skills. Culturally appropriate interventions will be developed to improve the health status of minority men.

Decreasing Low Birth Weight Infants Among Minority Populations. NINR will build on previous research to target prevention of low birth weight babies of minority women. Low birth weight rates for African-Americans, American Indians and Alaska natives are approximately 50% higher than rates for white women. Among Hispanic women, rates for Puerto Rican women are also 50% higher than for white women. A focus will be given to early identification and management of chronic diseases that occur during pregnancy, and management of known risk factors for pregnancy complications (infections, gestational diabetes, previous preterm or low birth weight babies, for example). Maximizing the health of pregnant minority women and their developing babies will reduce the dramatic rates of low birth weight among minorities in the U.S.

OTHER AREAS OF INTEREST

Addressing the Nursing Shortage

A shortage of nurse investigators pre-dates the current national nursing shortage. Recommendations to increase the nation's nurse investigators were included in both the 1994 and the 2000 recommendations of the National Research Council's reports on the nation's needs for biomedical and behavioral research scientists. Since nurse investigators form the backbone of university faculty in schools of nursing across the country, the shortage of nurse investigators compromises the nation's ability to produce adequate numbers of nurses. NINR's investment in research training now includes support for nurses who are in fast-track baccalaureate-to-doctoral programs across the country.

Integrating Genetics with Nursing Research and Practice

Genetic science findings are among the most significant of the last century, including advances in the ability to identify individuals at risk for heritable disease and the potential ability to use genetic information. Nurses in every specialty and in every practice setting, including in the home and community, are integrating this new information into clinical care, from tailoring drug selection based on genotype to educating individuals and families about genetic testing. Nursing research in genetics is needed to ensure that in the midst of the explosion of molecular, biologic, and genetic discoveries, there is sufficient knowledge to support evidence-based clinical nursing practice.

NINR is continuing to support studies related to biological, behavioral and social aspects of genetics. The Summer Genetics Institute (SGI) is NINR's on-campus comprehensive intensive research training program. The faculty of the SGI are engaged in cutting edge genetic research across the NIH campus. The model of the eight week SGI has been evaluated and refined, and has produced graduates from three classes who have been successful in developing research grant applications, making national presentations, and developing publications that are useful in clinical practice and research, and in providing information for the integration of genetic content into curricula of nursing schools.

Diversifying Opportunities in the Nursing Research Infrastructure

The availability of an informed and well prepared research workforce is essential to the development of science upon which health professions base their practice. NINR will continue to increase the nation's numbers of nurse investigators through a variety of methods, including our Centers program, research training mechanisms, and career development awards. The nine NINR-funded Core Centers, for example, have leveraged their funds to extend research and research training opportunities to individuals at each of the core center locations. They are building research relationships with clinical and other laboratory settings that will nourish research into the future. The nine NINR-funded Exploratory Centers are just what developing research programs need to catalyze their own research efforts. In addition, seventeen recently funded Nursing Partnership Centers to Reduce Health Disparities have been created. These centers represent partnerships between research experienced schools of nursing and minority serving university schools of nursing. The Partnership Centers are expected to increase the amount of health disparities research undertaken at the universities, as well as increase the numbers of minority nurse investigators.

NINR will continue to offer research career development awards, including the mentored and mid-career patient-oriented awards, that help individuals obtain research training at various stages of their research careers. Special efforts to provide research training for minority investigators will continue as well, such as the mentored research scientist awards for minority investigators and research supplemental awards for under-represented minorities. NINR will also fund training in an NIH laboratory to prepare investigators to submit independent research applications.

NINR's plans and initiatives are developed in collaboration with scientists and clinicians across the country. Our initiatives are based on an understanding of the relationship between research

and practice, and how changing practice depends not only on dissemination of research findings, but on a systematically built dialogue between researchers and the clinicians who use the research data.

¹Wagner TH, Hu TW. Economic costs of urinary incontinence in 1995. *Urology* 51:355-361, 1998.

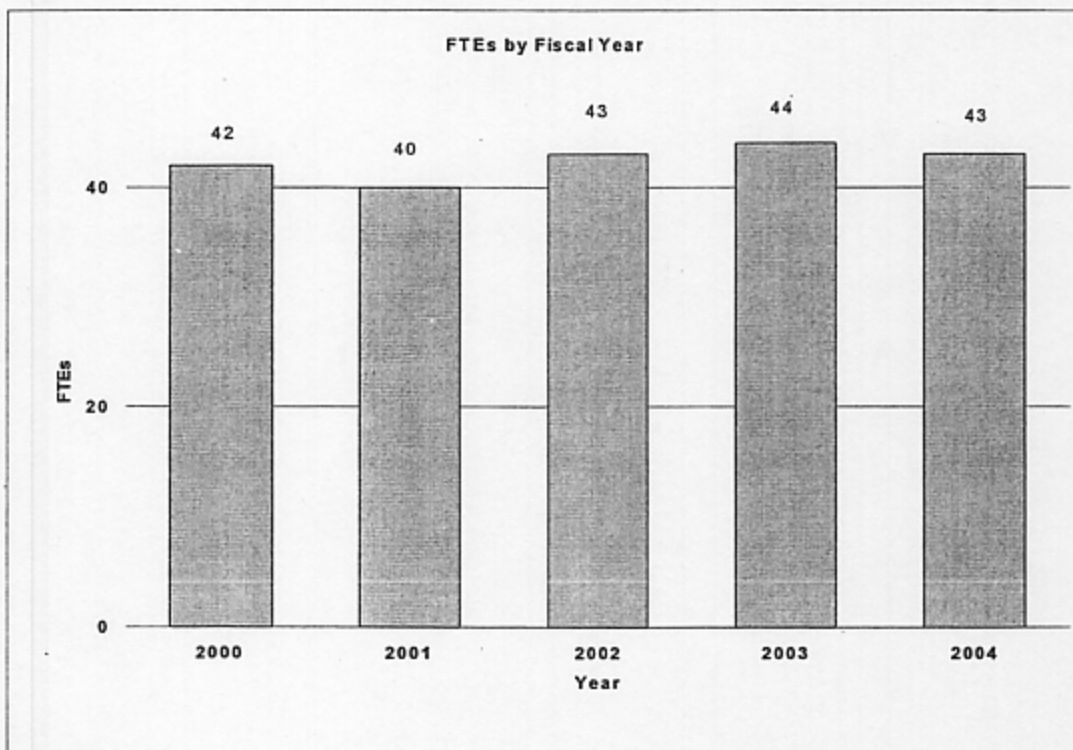
²Wilson L, Brown JS, Shin GP, Luc KO, Subak LL. Annual direct cost of urinary incontinence. *Obstet Gynecol* 98:398-406, 2001.

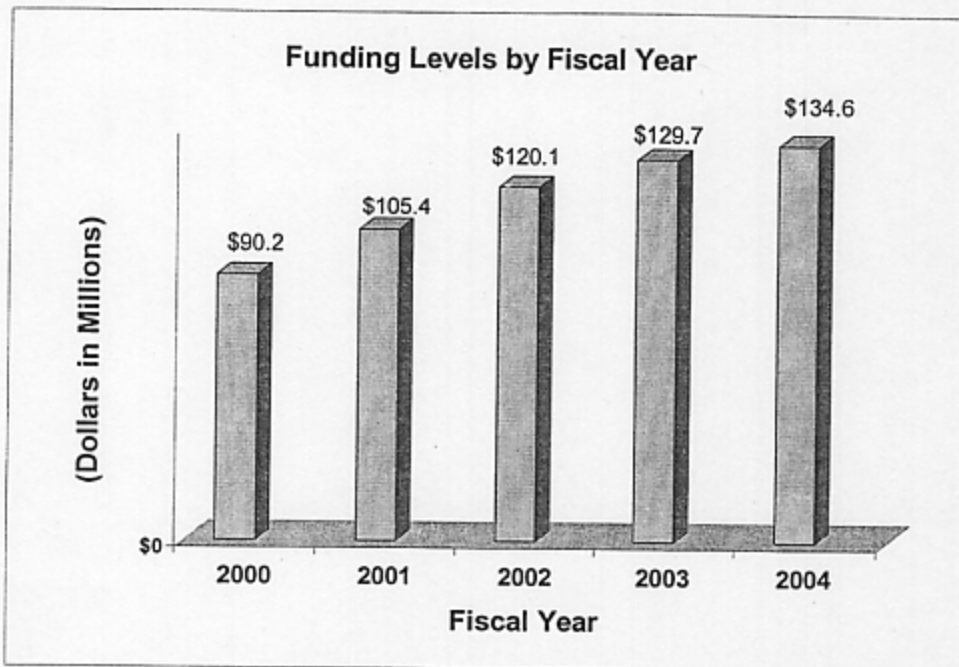
³NIH. Disease-specific Estimates of Direct and Indirect Costs of Illness and NIH Support, Fiscal Year 2000 Update. Table 1: Costs of Illness and NIH Support for Selected Diseases and Conditions. http://www1.od.nih.gov/osp/ospp/pdf/table_1.pdf Accessed December 2, 2002.

⁴Ibid.

Budget Policy

The Fiscal Year 2004 budget request for the NINR is \$134,579,000, including AIDS, an increase of \$4,876,000 and 3.8 percent over the FY 2003 amended President's Budget Request. A five year history of FTEs and Funding Levels for NINR are shown in the graphs below. Note that Fiscal Years 2001 and 2000 FTEs are not comparable for the NIH Human Resources functional consolidation.



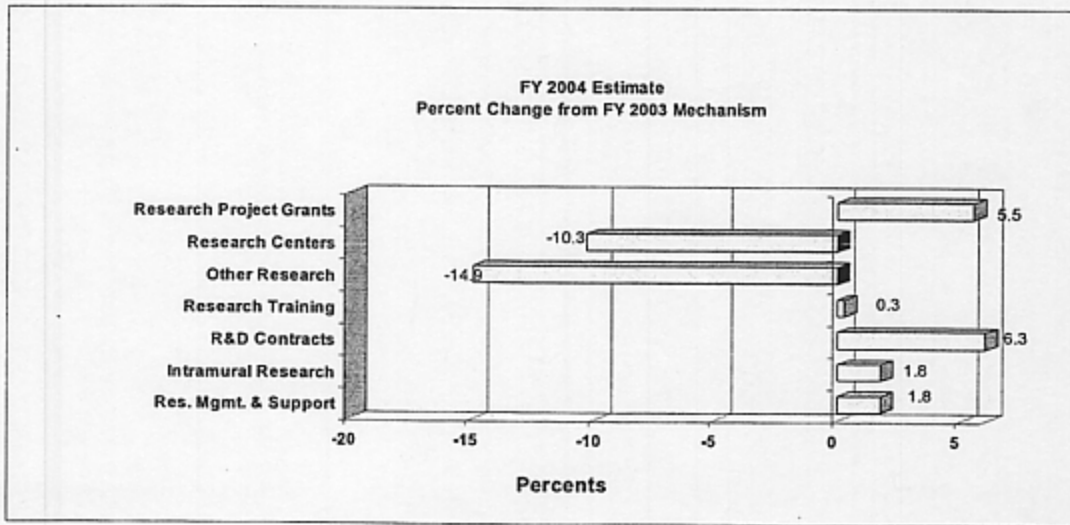
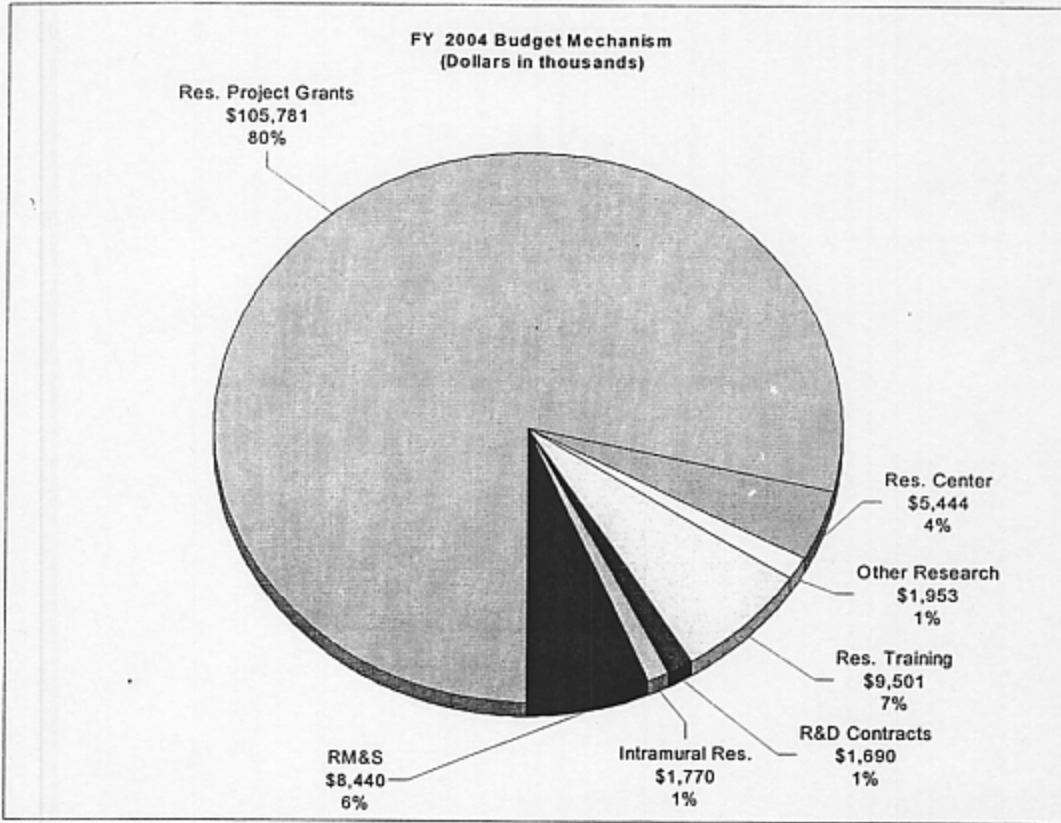


NIH's highest priority is the funding of medical research through research project grants (RPGs). Support for RPGs allows NIH to sustain the scientific momentum of investigator-initiated research while providing new research opportunities. NINR will provide an aggregate average cost increase of 1.0 percent for Research Project Grants (RPGs).

Also in FY 2004, NINR will fully fund 14 R15 Academic Research Enhancement Awards (AREA) \$4,410M. Promises for advancement in medical research are dependent on maintaining the supply of new investigators with new ideas. In the Fiscal Year 2004 request, NINR will support 263 pre- and postdoctoral trainees in full-time training positions, the same number as in FY 2003. Stipend levels for NRSA trainees will increase by 4 percent over Fiscal Year 2003 levels for predoctoral fellows, and from 4 to 1 percent, based on years of experience, for postdoctoral fellows.

The Fiscal Year 2004 request includes funding for 28 research centers, 28 other research grants, including clinical career awards, and 6 R&D contracts to include funds in support of the Best Pharmaceuticals for Children's Act. Intramural Research and Research Management and Support receive increases of 1.8 percent over FY 2003.

The mechanism distribution by dollars and percent change are displayed below:



NATIONAL INSTITUTES OF HEALTH
National Institute of Nursing Research

Budget Mechanism - Total

MECHANISM	FY 2002 Actual		FY 2003 Amended President's Budget		FY 2004 Estimate	
	No.	Amount	No.	Amount	No.	Amount
Research Grants:						
Research Projects:						
Noncompeting	173	\$57,492,000	184	\$67,893,000	210	\$76,696,000
Administrative supplements	(24)	2,061,000	(0)	0	(0)	0
Full funded	0	0	0	0	14	4,410,000
Single year	81	27,152,000	84	29,250,000	61	21,460,000
Subtotal, competing	81	27,152,000	84	29,250,000	75	25,870,000
Subtotal, RPGs	254	86,705,000	268	97,143,000	285	102,566,000
SBIR/STTR	9	2,715,000	10	3,100,000	10	3,215,000
Subtotal, RPGs	263	89,420,000	278	100,243,000	295	105,781,000
Research Centers:						
Specialized/comprehensive	35	6,785,000	31	6,070,000	28	5,444,000
Clinical research	0	0	0	0	0	0
Biotechnology	0	0	0	0	0	0
Comparative medicine	0	0	0	0	0	0
Research Centers in Minority Institutions	0	0	0	0	0	0
Subtotal, Centers	35	6,785,000	31	6,070,000	28	5,444,000
Other Research:						
Research careers	33	2,375,000	29	2,100,000	28	1,953,000
Cancer education	0	0	0	0	0	0
Cooperative clinical research	0	0	0	0	0	0
Biomedical research support	0	368,000	0	0	0	0
Minority biomedical research support	0	0	0	0	0	0
Other	1	684,000	1	195,000	0	0
Subtotal, Other Research	34	3,427,000	30	2,295,000	28	1,953,000
Total Research Grants	332	99,632,000	339	108,608,000	351	113,178,000
Research Training:						
Individual awards	102	2,731,000	105	2,758,000	105	2,786,000
Institutional awards	172	7,035,000	158	6,715,000	158	6,715,000
Total, Training	274	9,766,000	263	9,473,000	263	9,501,000
Research & development contracts (SBIR/STTR)	6 (0)	1,575,000 (0)	6 (0)	1,590,000 (0)	6 (0)	1,690,000 (0)
Intramural research						
Intramural research	3	1,595,000	3	1,739,000	3	1,770,000
Research management and support	40	7,607,000	41	8,293,000	40	8,440,000
Cancer prevention & control	0	0	0	0	0	0
Construction		0		0		0
Total, NINR	43	120,175,000	44	129,703,000	43	134,579,000
(Clinical Trials)		(1,124,000)		(1,180,000)		(1,203,000)

NATIONAL INSTITUTES OF HEALTH
National Institute of Nursing Research

Budget Authority by Activity
(dollars in thousands)

ACTIVITY	FY 2002		FY 2003		FY 2004		Change	
	Actual		Amended President's Budget		Estimate			
	FTEs	Amount	FTEs	Amount	FTEs	Amount	FTEs	Amount
<u>Extramural Research:</u>								
Bio-medical research		\$110,973		\$119,671		\$124,369		\$4,698
Subtotal, Extramural research		110,973		119,671		124,369		4,698
Intramural research	3	1,595	3	1,739	3	1,770	0	31
Res. management & support	40	7,607	41	8,293	40	8,440	(1)	147
Cancer Control & Prevention	0	0	0	0	0	0	0	0
Total	43	120,175	44	129,703	43	134,579	(1)	4,876

**NATIONAL INSTITUTES OF HEALTH
National Institute of Nursing Research**

Summary of Changes

2003 Amended President's Budget		\$129,703,000	
2004 Estimated Budget Authority		134,579,000	
Net change		4,876,000	
CHANGES	2003 Amended President's Budget Base		Change from Base
	FTEs	Budget Authority	FTEs Budget Authority
A. Built-in:			
1. Intramural research:			
a. Within grade increase		\$681,000	\$16,000
b. Annualization of January 2003 pay increase		681,000	6,000
c. January 2004 pay increase		681,000	12,000
d. One extra day of pay		681,000	3,000
e. Payment for centrally furnished services		265,000	5,000
f. Increased cost of laboratory supplies, materials, and other expenses		793,000	13,000
Subtotal			55,000
2. Research Management and Support:			
a. Within grade increase		3,324,000	69,000
b. Annualization of January 2003 pay increase		3,324,000	31,000
c. January 2004 pay increase		3,324,000	61,000
d. One extra day of pay		3,324,000	16,000
e. Payment for centrally furnished services		1,131,000	23,000
f. Increased cost of laboratory supplies, materials, and other expenses		4,696,000	60,000
Subtotal			260,000
Subtotal, Built-in			315,000

**NATIONAL INSTITUTES OF HEALTH
National Institute of Nursing Research**

Summary of Changes--continued

CHANGES	2003 Amended President's Budget Base		Change from Base	
	No.	Amount	No.	Amount
B. Program:				
1. Research project grants:				
a. Noncompeting	184	\$67,893,000	26	\$8,803,000
b. Competing	84	29,250,000	(9)	(3,380,000)
c. SBIR/STTR	10	3,100,000	0	115,000
Total	278	100,243,000	17	5,538,000
2. Research centers	31	6,070,000	(3)	(626,000)
3. Other research	30	2,295,000	(2)	(342,000)
4. Research training	263	9,473,000	0	28,000
5. Research and development contracts	6	1,590,000	6	100,000
Subtotal, extramural				4,698,000
6. Intramural research	<u>FTEs</u> 3	1,739,000	<u>FTEs</u> 0	(24,000)
7. Research management and support	41	8,293,000	(1)	(113,000)
8. Cancer control and prevention	0	0	0	0
9. Construction		0		0
Subtotal, program		129,703,000		4,561,000
Total changes				4,876,000

NATIONAL INSTITUTES OF HEALTH
National Institute of Nursing Research

Budget Authority by Object

	FY 2003 Amended Pres. Budget	FY 2004 Estimate	Increase or Decrease
Total compensable workyears:			
Full-time employment	44	43	(1)
Full-time equivalent of overtime & holiday hours	0	0	0
Average ES salary	\$136,187	\$138,911	\$2,724
Average GM/GS grade	11.4	11.4	0.0
Average GM/GS salary	\$85,292	\$86,998	\$1,706
Average salary, grade established by act of July 1, 1944 (42 U.S.C. 207)	\$0	\$0	\$0
Average salary of ungraded positions	49,920	50,918	998
OBJECT CLASSES	FY 2003 Amended Pres. Budget	FY 2004 Estimate	Increase or Decrease
Personnel Compensation:			
11.1 Full-Time Permanent	\$2,600,000	\$2,650,000	\$50,000
11.3 Other than Full-Time Permanent	500,000	518,000	18,000
11.5 Other Personnel Compensation	30,000	31,000	1,000
11.7 Military Personnel	0	0	0
11.8 Special Personnel Services Payments	120,000	122,000	2,000
Total, Personnel Compensation	3,250,000	3,321,000	71,000
12.1 Civilian Personnel Benefits	755,000	759,000	4,000
12.2 Military Personnel Benefits	0	0	0
13.0 Benefits for Former Personnel	0	0	0
Subtotal, Pay Costs	4,005,000	4,080,000	75,000
21.0 Travel & Transportation of Persons	112,000	117,000	5,000
22.0 Transportation of Things	13,000	13,000	0
23.1 Rental Payments to GSA	0	0	0
23.2 Rental Payments to Others	0	0	0
23.3 Communications, Utilities & Miscellaneous Charges	68,000	71,000	3,000
24.0 Printing & Reproduction	136,000	142,000	6,000
25.1 Consulting Services	39,000	40,000	1,000
25.2 Other Services	809,000	842,000	33,000
25.3 Purchase of Goods & Services from Government Accounts	5,007,000	5,103,000	96,000
25.4 Operation & Maintenance of Facilities	457,000	475,000	18,000
25.5 Research & Development Contracts	46,000	48,000	2,000
25.6 Medical Care	0	0	0
25.7 Operation & Maintenance of Equipment	44,000	46,000	2,000
25.8 Subsistence & Support of Persons	0	0	0
25.0 Subtotal, Other Contractual Services	6,402,000	6,554,000	152,000
26.0 Supplies & Materials	85,000	89,000	4,000
31.0 Equipment	801,000	834,000	33,000
32.0 Land and Structures	0	0	0
33.0 Investments & Loans	0	0	0
41.0 Grants, Subsidies & Contributions	118,081,000	122,679,000	4,598,000
42.0 Insurance Claims & Indemnities	0	0	0
43.0 Interest & Dividends	0	0	0
44.0 Refunds	0	0	0
Subtotal, Non-Pay Costs	125,698,000	130,499,000	4,801,000
Total Budget Authority by Object	129,703,000	134,579,000	4,876,000

National Institute of Nursing Research

Salaries and Expenses

OBJECT CLASSES	FY 2003 Amended Pres. Budget	FY 2004 Estimate	Increase or Decrease
Personnel Compensation:			
Full-Time Permanent (11.1)	\$2,600,000	\$2,650,000	\$50,000
Other Than Full-Time Permanent (11.3)	500,000	518,000	18,000
Other Personnel Compensation (11.5)	30,000	31,000	1,000
Military Personnel (11.7)	0	0	0
Special Personnel Services Payments (11.8)	120,000	122,000	2,000
Total Personnel Compensation (11.9)	3,250,000	3,321,000	71,000
Civilian Personnel Benefits (12.1)	755,000	759,000	4,000
Military Personnel Benefits (12.2)	0	0	0
Benefits to Former Personnel (13.0)	0	0	0
Subtotal, Pay Costs	4,005,000	4,080,000	75,000
Travel (21.0)	112,000	117,000	5,000
Transportation of Things (22.0)	13,000	13,000	0
Rental Payments to Others (23.2)	0	0	0
Communications, Utilities and Miscellaneous Charges (23.3)	68,000	71,000	3,000
Printing and Reproduction (24.0)	136,000	142,000	6,000
Other Contractual Services:			
Advisory and Assistance Services (25.1)	39,000	40,000	1,000
Other Services (25.2)	809,000	842,000	33,000
Purchases from Govt. Accounts (25.3)	5,007,000	5,103,000	96,000
Operation & Maintenance of Facilities (25.4)	457,000	475,000	18,000
Operation & Maintenance of Equipment (25.7)	44,000	46,000	2,000
Subsistence & Support of Persons (25.8)	0	0	0
Subtotal Other Contractual Services	6,356,000	6,506,000	150,000
Supplies and Materials (26.0)	85,000	89,000	4,000
Subtotal, Non-Pay Costs	6,770,000	6,938,000	168,000
Total, Administrative Costs	10,775,000	11,018,000	243,000

NATIONAL INSTITUTES OF HEALTH

National Institute of Nursing Research

SIGNIFICANT ITEMS IN SENATE APPROPRIATIONS COMMITTEE REPORT

The following section represents FY 2003 Congressional requirements for reports and significant items derived from Senate Report 107-216. These actions discussed below are contingent on inclusion of similar language and funding in the final FY 2003 appropriation and related reports. Additional items may be transmitted at a later date as a result of the final Conference report.

Item

Collaboration with NIMH – The Committee acknowledges the long-term mentorship program established by NINR in collaboration with the National Institute of Mental Health to prepare mental health nurses with the skill sets required for competitive research proposals to the NIH. The Committee recommends continued collaboration with NIMH to generate initiatives. (p. 131)

Action Taken or to be taken

NINR is collaborating with NIMH in a mentorship program to prepare mental health nurse researchers. We anticipate that the project will result in more research applications submitted by psychiatric mental health nurses in the future. Separately, NINR has also made publically accessible an online five-hour course available at any time to nurses who want to improve their skills in submitting competitive research proposals. While online they can learn about the entire grants application, review and funding process at NIH. NINR also has continued its long-standing collaborations with NIMH. Together, for example, we have sponsored an initiative in end of life research with dying children and their families. Other initiatives we share with NIMH are in HIV prevention, research on caregivers of people with chronic conditions, and prevention of risky sexual behaviors in adolescents.

Item

Juvenile Diabetes - The Committee is aware of reports of adolescents with juvenile diabetes engaging in behavior that will accelerate damaging complications, such as neglecting to take insulin for purposes of weight loss. The Committee encourages the NINR to increase its attention to adolescents with juvenile diabetes, specifically regarding consequences of the

diseases's psychological impact. In addition, the Committee is aware of the important role that PhD nurses play in research to find cures for diseases such as juvenile diabetes. The Committee encourages the Institute to expand measures to increase the numbers of PhD nurses. (p. 131)

Action Taken or to be taken

NINR anticipates and welcomes research applications that focus on the behavioral components of adolescents with diabetes. In addition, this year NINR published a program announcement that focuses on adolescent health promotion. Research findings from NINR-supported studies are changing clinical care of adolescents with diabetes. For example, teaching coping skills results in better metabolic control and improved quality of life for adolescents with diabetes. Also in terms of psychological impact, NINR's research is evaluating the role of autonomy in adolescents with diabetes, and how quality of life is affected by telehealth instruction about diabetes. NINR continues to devote more than twice the proportion of budget to research training, compared to a typical NIH Institute. That investment is used to support a large number of predoctoral nurses and a smaller number of postdoctoral nurses who are receiving their research training in universities all across the country. NINR plans to continue that investment, especially in light of the nursing faculty shortage which compromises meeting the nation's need for more nurses.

NATIONAL INSTITUTES OF HEALTH
National Institute of Nursing Research

Authorizing Legislation						
PHS Act/ Other Citation	U.S. Code Citation	2003 Amount Authorized	2003 Amended President's Budget	2004 Amount Authorized	2004 Budget Estimate	
Research and Investigation	Section 301	42§241	Indefinite	Indefinite	Indefinite	\$125,078,000
Research	Section 41B	42§285b				
National Research Service Awards	Section 487(d)	42§288	a/	9,473,000	b/	9,501,000
Total, Budget Authority				129,703,000		134,579,000

a/ Amounts authorized by Section 301 and Title IV of the Public Health Act.

b/ Reauthorizing legislation will be submitted.

**NATIONAL INSTITUTES OF HEALTH
National Institute of Nursing Research**

Appropriations History

Fiscal Year	Budget Estimate to Congress	House Allowance	Senate Allowance	Appropriation	1/
1995	2/ \$48,326,000	\$47,971,000	\$48,326,000	\$48,180,000	3/
Rescission				(16,000)	
1996	50,159,000 4/	55,831,000	49,497,000 2/	55,831,000	
Rescission				(17,000)	
1997	51,951,000 2/	45,231,000	53,936,000 2/	59,743,000	4/
1998	55,692,000 2/	56,950,000	59,443,000	48,043,000	
1999	62,229,000 2/5/	68,198,000	69,834,000	69,834,000	
Rescission				(46,000)	
2000	65,335,000 2/	76,204,000	90,000,000	90,000,000	
Rescission				(478,000)	
2001	84,714,000 2/	102,312,000	106,848,000	104,370,000	
Rescission				(20,000)	
2002	117,686,000	116,773,000	125,659,000	120,451,000	
Rescission				(23,000)	
2003	129,768,000				
2004	134,579,000				

1/ Reflects enacted supplementals, rescissions, and reappropriations.

2/ Excludes funds for HIV/AIDS research activities consolidated in the NIH Office of AIDS Research.

3/ Excludes enacted administrative reductions of \$57,000.

4/ Excludes enacted administrative reductions of \$22,000.

5/ Reflects a decrease of \$187,000 for the budget amendment for bioterrorism.

**NATIONAL INSTITUTES OF HEALTH
National Institute of Nursing Research**

Detail of Full-Time Equivalent Employment (FTEs)

OFFICE/DIVISION	FY 2002 Actual	FY 2003 Amended Pres. Budget	FY 2004 Estimate
Office of the Director (includes FTEs from the Office of Science Policy & Public Liaison and the Office of Administrative Management)	20	16	15
Associate Director for Scientific Programs and Division on Extramural Activities	23	25	25
Division of Intramural Research	3	3	3
Total	43	44	43
FTEs supported by funds from Cooperative Research and Development Agreements	(0)	(0)	(0)
FISCAL YEAR	Average GM/GS Grade		
2000	11.0		
2001	11.0		
2002	12.4		
2003	11.4		
2004	11.4		

NATIONAL INSTITUTES OF HEALTH
National Institute of Nursing Research

Detail of Positions

GRADE	FY 2002 Actual	FY 2003 Amended Pres. Budget	FY 2004 Estimate
ES-6			
ES-5			
ES-4	1	1	1
ES-3			
ES-2			
ES-1	1	1	1
Subtotal	2	2	2
Total - ES Salary	\$264,172	\$272,374	\$277,821
GM/GS-15	3	3	3
GM/GS-14	10	12	12
GM/GS-13	4	2	2
GS-12	6	8	8
GS-11	2	1	1
GS-10	1	2	2
GS-9	2	2	2
GS-8	1	1	1
GS-7	5	5	4
GS-6	4		
GS-5			
GS-4			
GS-3	1	1	1
GS-2			
GS-1			
Subtotal	39	37	36
Grades established by Act of July 1, 1944 (42 U.S.C. 207):			
Assistant Surgeon General			
Director Grade			
Senior Grade	1	0	0
Full Grade			
Senior Assistant Grade			
Assistant Grade			
Subtotal	1	0	0
Ungraded	18	18	18
Total permanent positions	40	37	36
Total positions, end of year	60	57	56
Total full-time equivalent (FTE) employment, end of year	43	44	43
Average ES level	ES-4	ES-4	ES-4
Average ES salary	\$132,086	\$136,187	\$138,911
Average GM/GS grade	12.4	11.4	11.4
Average GM/GS salary	\$82,727	\$85,292	\$86,998