

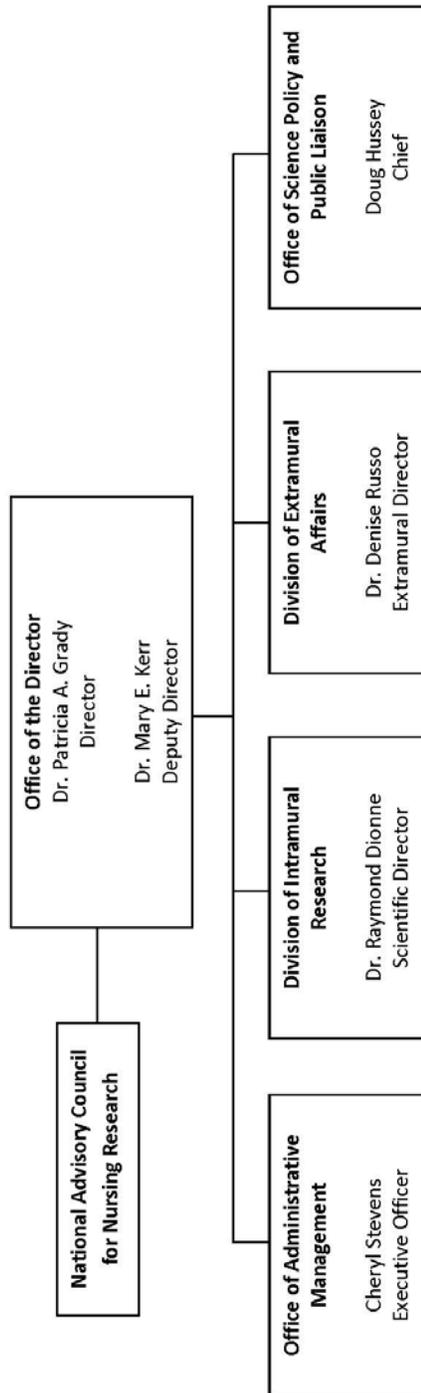
DEPARTMENT OF HEALTH AND HUMAN SERVICES

NATIONAL INSTITUTES OF HEALTH

National Institute of Nursing Research (NINR)

<u>FY 2011 Budget</u>	<u>Page No.</u>
Organization chart.....	2
Appropriation language	3
Amounts available for obligation	4
Budget mechanism table.....	5
Budget authority by program	6
Major changes in budget request	7
Summary of changes	8
Budget graphs.....	10
Justification narrative.....	11
Budget authority by object.....	20
Salaries and expenses	21
Authorizing legislation	22
Appropriations history.....	23
Detail of full-time equivalent employment (FTE).....	24
Detail of positions	25
New positions requested	26

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



National Institutes of Health
National Institute of Nursing Research

For carrying out section 301 and title IV of the Public Health Services Act with respect to Nursing Research [\$145,600,000], \$150,198,000 (Public Law 111-117, Consolidated Appropriations Act, 2010).

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

Amounts Available for Obligation 1/

Source of Funding	FY 2009 Actual	FY 2010 Enacted	FY 2011 PB
Appropriation	\$141,879,000	\$145,660,000	\$150,198,000
Type 1 Diabetes	0	0	0
Rescission	0	0	0
Supplemental	0	0	0
Subtotal, adjusted appropriation	141,879,000	145,660,000	150,198,000
Real transfer under Director's one-percent transfer authority (GEI)	-216,000	0	0
Real transfer to the Global Fund to fight HIV/AIDS, Malaria and Tuberculosis	0	0	0
Comparative transfer to/from (specify)	-45,000	-60,000	0
Comparative transfer under Director's one-percent transfer authority (GEI)	216,000	0	0
Comparative transfer to the Global Fund to fight HIV/AIDS, Malaria and Tuberculosis	0	0	0
Comparative transfer from DHHS for Autism	0	0	0
Subtotal, adjusted budget authority	141,834,000	145,600,000	150,198,000
Unobligated balance, start of year	0	0	0
Unobligated balance, end of year	0	0	0
Subtotal, adjusted budget authority	141,834,000	145,600,000	150,198,000
Unobligated balance lapsing	-3,000	0	0
Total obligations	141,831,000	145,600,000	150,198,000

1/ Excludes the following amounts for reimbursable activities carried out by this account:

FY 2009 - \$0 FY 2010 - \$0 FY 2011 - \$0

National Institute of Nursing Research

(Dollars in Thousands)

Budget Mechanism - Total

MECHANISM	FY 2009 Actual		FY 2009 Recovery Act Actual		FY 2010 Recovery Act Estimated		FY 2010 Enacted		FY 2011 PB		Change	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount
Research Grants:												
Research Projects:												
Noncompeting	179	\$69,783	0	\$0	31	\$11,059	180	\$77,475	180	\$79,837	0	\$2,362
Administrative supplements	(8)	492	(17)	934	(21)	1,960	(8)	492	(8)	492	0	0
Competing:												
Renewal	10	4,162	0	0	0	0	8	3,112	8	3,154	0	42
New	70	26,169	37	13,239	9	3,697	59	22,951	59	23,263	0	312
Supplements	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal, competing	80	30,331	37	13,239	40	14,756	67	26,063	67	26,417	0	354
Subtotal, RPGs	259	100,606	37	14,173	40	16,716	247	104,030	247	106,746	0	2,716
SBI/STTR	9	3,394	0	0	0	0	9	3,494	9	3,606	0	112
Subtotal, RPGs	268	104,000	37	14,173	40	16,716	256	107,524	256	110,352	0	2,828
Research Centers:												
Specialized/comprehensive	15	5,238	4	3,143	2	1,315	16	5,317	16	5,419	0	102
Clinical research	0	0	0	0	0	0	0	0	0	0	0	0
Biotechnology	0	0	0	0	0	0	0	0	0	0	0	0
Comparative medicine	0	0	0	0	0	0	0	0	0	0	0	0
Research Centers in Minority Institutions	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal, Centers	15	5,238	4	3,143	2	1,315	16	5,317	16	5,419	0	102
Other Research:												
Research careers	32	3,281	0	0	0	0	33	3,331	34	3,431	1	100
Cancer education	0	0	0	0	0	0	0	0	0	0	0	0
Cooperative clinical research	0	0	0	0	0	0	0	0	0	0	0	0
Biomedical research support	0	0	0	0	0	0	0	0	0	0	0	0
Minority biomedical research support	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	300	0	0	0	0	0	200	0	0	0	-200
Subtotal, Other Research	32	3,581	0	0	0	0	33	3,531	34	3,431	1	-100
Total Research Grants	315	112,819	41	17,316	63	18,031	305	116,372	306	119,202	1	2,830
Research Training:												
Individual awards	78	2,530	0	0	0	0	78	2,530	78	2,682	0	152
Institutional awards	148	6,466	0	0	0	0	148	6,466	148	6,854	0	388
Total, Training	226	8,996	0	0	0	0	226	8,996	226	9,536	0	540
Research & development contracts (SBI/STTR)	0	3,999	0	0	0	0	0	3,960	0	4,462	0	502
	(0)	(6)	(0)	(0)	(0)	(0)	(0)	(6)	(0)	(6)	(0)	(0)
Intramural research:												
Intramural research	12	4,827	0	179	0	0	12	4,899	14	5,056	2	157
Research management and support	45	11,193	0	150	0	201	39	11,373	39	11,942	0	569
Construction	0	0	0	0	0	0	0	0	0	0	0	0
Buildings and Facilities	0	0	0	0	0	0	0	0	0	0	0	0
Total, NINR	57	141,834	0	17,645	0	18,232	51	145,600	53	150,198	2	4,598

NATIONAL INSTITUTES OF HEALTH
National Institute of Nursing Research
BA by Program
(Dollars in thousands)

<u>Extramural Research</u> Detail:	FY 2007 Actual		FY 2008 Actual		FY 2009 Actual		FY 2009 Comparable		FY 2010 Enacted		FY 2011 PB		Change	
	FTEs	Amount	FTEs	Amount	FTEs	Amount	FTEs	Amount	FTEs	Amount	FTEs	Amount	FTEs	Amount
Self-Management, Symptom Management, and Caregiving		\$43,548		\$42,847		\$42,130		\$42,201		\$43,380		\$44,678		1,298
Health Promotion and Disease Prevention		38,155		40,073		41,064		41,134		42,283		43,549		1,266
Research Capacity Development		20,348		19,432		19,137		19,169		19,704		20,294		590
Technology Integration		10,939		10,368		11,638		11,658		11,984		12,343		359
End-of-Life		11,490		11,502		11,632		11,652		11,977		12,336		359
Subtotal, Extramural		124,480		124,222		125,601		125,814		129,328		133,200		3,872
Intramural research	10	3,348	9	3,854	12	4,827	12	4,827	12	4,899	14	5,056	2	157
Res. management & support	30	9,360	34	9,914	45	11,235	45	11,193	39	11,373	39	11,942	0	569
TOTAL	40	137,188	43	137,990	57	141,663	57	141,834	51	145,600	53	150,198	2	4,598

Includes FTEs which are reimbursed from the NIH Roadmap for Medical Research

Major Changes in the Fiscal year 2011 Budget Request

Major changes by budget mechanism and/or budget activity are briefly described below. Note that there may be overlap between budget mechanism and activity and these highlights will not sum to the total change for the FY 2011 budget request for NINR, which is \$4.598 million more than the FY 2010 enacted level, for a total of \$150.198 million.

Research Project Grants (RPGs; +\$2.716 million; total \$106.746 million): NINR will continue to maintain the number of competing RPGs—67 awards in FY 2011, approximately the same number as in FY 2010. About 180 noncompeting RPG awards, totaling \$79.837 million will be made in FY 2011.

NATIONAL INSTITUTES OF HEALTH
National Institute of Nursing Research
Summary of Changes

FY 2010 estimate		\$145,600,000	
FY 2011 estimated budget authority		150,198,000	
Net change		4,598,000	
CHANGES	2010 Current		
	Estimate Base	Change from Base	
	Budget	FTEs	Budget
	Authority		Authority
FTEs			Authority
A. Built-in:			
1. Intramural research:			
a. Annualization of January			
	2010 pay increase	\$1,919,000	\$12,000
b. January FY 2011 pay increase			
		1,919,000	20,000
c. Zero less days of pay (n/a for 2011)			
		1,919,000	0
d. Payment for centrally furnished services			
		682,000	14,000
e. Increased cost of laboratory supplies, materials, and other expenses			
		2,298,000	38,000
Subtotal			84,000
2. Research management and support:			
a. Annualization of January			
	2010 pay increase	\$6,360,000	\$38,000
b. January FY 2011 pay increase			
		6,360,000	67,000
c. Zero less days of pay (n/a for 2011)			
		6,360,000	0
d. Payment for centrally furnished services			
		1,276,000	26,000
e. Increased cost of laboratory supplies, materials, and other expenses			
		3,737,000	63,000
Subtotal			194,000
Subtotal, Built-in			278,000

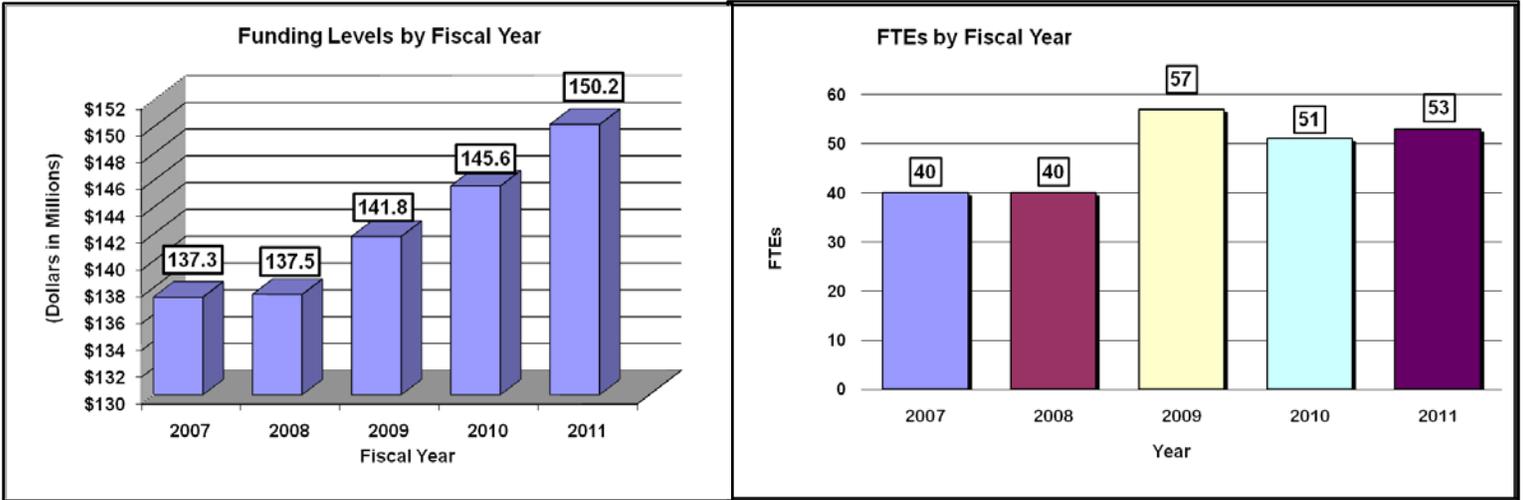
**NATIONAL INSTITUTES OF HEALTH
National Institute of Nursing Research**

Summary of Changes--continued

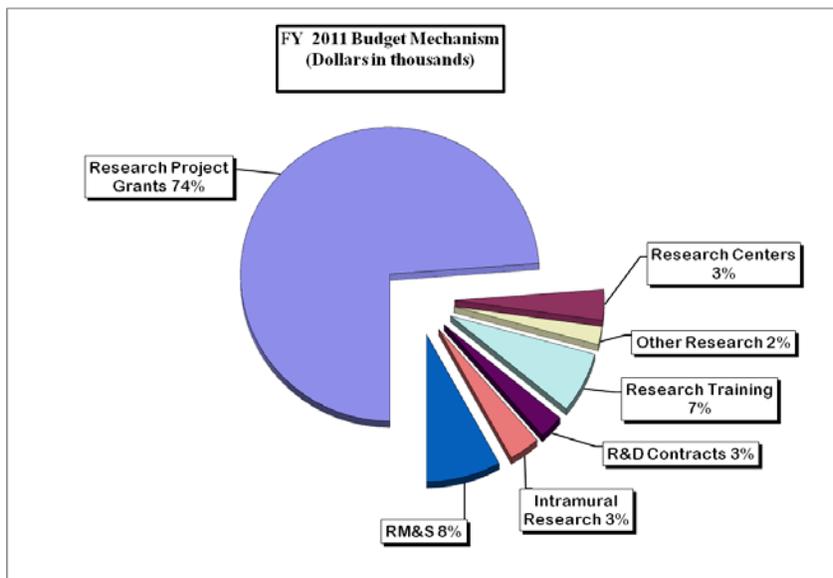
CHANGES	2010 Current Estimate Base		Change from Base	
	No.	Amount	No.	Amount
B. Program:				
1. Research project grants:				
a. Noncompeting	180	\$77,967,000	0	\$2,362,000
b. Competing	67	26,063,000	0	354,000
c. SBIR/STTR	9	3,494,000	0	112,000
Total	256	107,524,000	0	2,828,000
2. Research centers	16	5,317,000	0	102,000
3. Other research	33	3,531,000	1	(100,000)
4. Research training	226	8,996,000	0	540,000
5. Research and development contracts	0	3,960,000	0	502,000
Subtotal, extramural				3,872,000
6. Intramural research	12	4,899,000	2	73,000
7. Research management and support	39	11,373,000	0	375,000
8. Construction		0		0
9. Buildings and Facilities		0		0
Subtotal, program		145,600,000		4,320,000
Total changes	51		2	4,598,000

Fiscal Year 2010 Budget Graphs

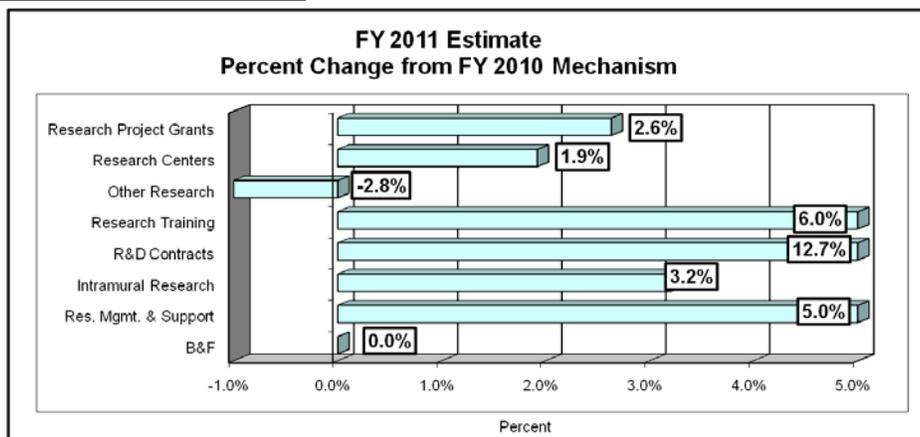
History of Budget Authority and FTEs:



Distribution by Mechanism:



Change by Selected Mechanism:



Justification
National Institute of Nursing Research

Authorizing Legislation: Section 301 and title IV of the Public Health Service Act, as amended.

Budget Authority:

FY 2009 Actual		FY 2010 Estimate		FY 2011 Estimate		Increase or Decrease	
<u>FTE</u>	<u>BA</u>	<u>FTE</u>	<u>BA</u>	<u>FTE</u>	<u>BA</u>	<u>FTE</u>	<u>BA</u>
57	\$141,854,000	51	\$145,600,000	53	\$150,198,000	+2	\$4,598,000

This document provides justification for the Fiscal Year (FY) 2011 activities of the National Institute of Nursing Research (NINR), including HIV/AIDS activities. Details of the FY 2011 HIV/AIDS activities are in the “Office of AIDS Research (OAR)” Section of the Overview. Details on the Common Fund are located in the Overview, Volume One. Program funds are allocated as follows: Competitive Grants/Cooperative Agreements; Contracts; Direct Federal/Intramural and Other.

DIRECTOR’S OVERVIEW

The National Institute of Nursing Research (NINR) supports clinical and basic research to build the scientific foundation for clinical practice, prevent disease and disability, manage and eliminate symptoms caused by illness, and enhance end-of-life and palliative care. The Institute’s scientific focus spans multiple disciplines and unites the biological and behavioral sciences to better understand the complex interactions between the physiological factors of health and disease and an individual’s knowledge, beliefs, and behavior. NINR’s focus on science that spans the full disease spectrum and all stages of life enables the Institute to explore and address some of the most important challenges affecting the health of the American people. These issues include:

- Improving management of chronic illness, including in persons with co-morbid conditions;
- Developing new strategies for preventive health that are culturally relevant at a time of increasing ethnic, racial, and cultural diversity, and in the face of persistent health disparities;
- Enhancing our ability to translate emerging patient management technologies into clinical practice and home- and community-based use, and;
- Developing the future research and clinical workforce at a time of increased demand across numerous sectors of the health care system.

Confronting these challenges requires shifting to a patient management paradigm that is increasingly person-centered rather than disease-oriented, focuses on preventing the development of chronic illness rather than treating it, and supports the person as an active participant in his or her own health. The science supported by NINR advances this emerging model of health care.

Advancing the Goals of the NIH

Given the patient-centered focus of its science, as well as its strategic emphasis on improving clinical practice, NINR research has long sought to translate studies on new interventions into standard practice. Among the strategies employed by NINR investigators to bridge the research-to-practice gap is the involvement of the community in the design and implementation of studies, known as community-based participatory research, or CBPR. Recently, CBPR has been used by NINR investigators in developing and testing new programs to: improve asthma management in low-income communities; reduce HIV-risk behaviors in vulnerable populations; and, promote weight management for children in primary school settings.

NINR's support of research empowers patients to manage their own care, prevents the development of long-term chronic illness, and establishes the evidence-base for more effective clinical practice positions NINR investigators to make significant contributions to many of the changes that will occur in the health care system in the coming years. In 2004, an NINR-supported researcher reported on a new program that partnered an interdisciplinary group of caregivers with older heart failure patients to ease their transition from clinical to home care. In a randomized clinical trial, the program was successful in reducing re-hospitalization rates for this high-risk group of patients; in addition, it reduced total costs by about 38 percent or \$3,500 per patient.

A fundamental part of NINR's mission is developing the next generation of scientists. To support continued advancements in science and improvements in health, it is essential that the scientific workforce of the future be innovative, multidisciplinary, and diverse. NINR training programs are designed to achieve this vision. For example, the NINR Summer Genetics Institute (SGI) is an intensive summer training program that provides graduate students and faculty with a foundation in molecular genetics to enhance their research and clinical practice. Along with supporting numerous other pre- and post-doctoral research opportunities, NINR also participates in the NIH Graduate Partnerships Program (GPP), a doctoral fellowship training program that coordinates training and funding for doctoral students attending schools of nursing with established NINR-supported training programs. Another program, the K22 Career Transition Award, funds postdoctoral research in two phases: an intramural phase at NIH, and an extramural phase to aid the transition to tenure-track research and faculty positions. In addition, the BNC Fellowship, supported by the Bravewell Collaborative, NINR, and the NIH Clinical Center, trains individuals on how to address key issues in integrative health research. Finally, many NINR-trained scientists will also serve as faculty in schools of

nursing, responsible for educating future nurses that are vital to improving patient health and the effectiveness of the Nation's health care.

Broadly, NINR will continue to support innovative studies in research areas highlighted in its strategic plan, including: self-management, symptom management, and caregiving; health promotion and disease prevention; research capacity development; and, technology integration. In addition, NINR will advance its leadership in end-of-life research efforts at NIH through its newly-established Office of Research on End-of-Life Science and Palliative Care, Investigator Training, and Education. NINR also has begun the process of formulating its next strategic plan, scheduled for release in early FY 2012. Input from stakeholders from across the research, academic, and health care communities, trans-NIH planning and priority setting processes such as the NIH Roadmap, Neuroscience Blueprint, and Pain Consortium, and public health concerns will continue to shape the future directions of NINR research. In FY 2011, NINR will continue to improve the health of the American people by supporting scientific discovery and fostering the development of the next generation of scientists.

Overall Budget Policy: Investigator-initiated research projects, supporting new investigators, research training, and career development continue to be the Institute's highest priorities. The NINR will follow the NIH Budget policy for RPGs in FY 2010, which is to provide a 2 percent inflationary increase in noncompeting awards and a 2 percent inflationary increase in the average cost for competing RPGs. NINR evaluates investigator-initiated grant applications for all research programs. Scientific reviews are conducted, and the results are presented to the National Advisory Council for Nursing Research to determine the level of recommended support for the application, if any. The level of support provided for Institute-initiated projects is also evaluated. The Institute maintains a balance between solicitations issued to the extramural community and funding made available to support investigator-initiated projects. Intramural Research and an increase of 3.2 percent and Research Management and Support received a 5 percent increase to help offset the cost of pay and other associated costs. NINR will continue to support new investigators and to maintain the number of competing RPGs.

Funds are included in R&D contracts to support several trans-NIH initiatives, such as the Therapies for Rare and Neglected Diseases program (TRND), the Basic Behavioral and Social Sciences Opportunity Network (OppNet), and support for a new synchrotron at the Brookhaven National Laboratory, as well as increased support for other HHS agencies through the program evaluation set-aside

FY 2011 JUSTIFICATION BY ACTIVITY DETAIL

Program Descriptions and Accomplishments

Self-Management, Symptom Management, and Caregiving

Improving the quality of life of individuals in clinical, home, and community settings is a fundamental part of NINR's mission. NINR studies quality of life as a continuum composed of three key elements: self-management, symptom management, and caregiving. The Self-Management, Symptom Management, and Caregiving program addresses the challenges of short- and long-term management of symptoms resulting from disease and disability by supporting research to: enhance the individual's role in managing disease; manage debilitating symptoms; and improve health outcomes for individuals and caregivers. For example, given the millions of Americans who suffer from pain, there is need for research to explore the biological, genetic, and behavioral mechanisms that underlie acute and chronic pain. To build on past advances in this area, NINR recently renewed, under the auspices of the NIH Pain Consortium, a promising initiative to explore the mechanisms and management of acute and chronic pain. Other recent efforts in this program include studies to explore: novel approaches to improving self-management of diabetes in minority and underserved populations; interventions to reduce fatigue in cancer patients; and, the biological mechanisms of pain in premature infants. In addition, NINR currently sponsors an initiative to explore the biobehavioral interactions between co-occurring symptoms in patients with cancer or immune disorders.

Budget Policy: The FY 2011 budget estimate for this program is \$44.678 million, an increase of \$1.298 million or 3 percent above the FY 2010 estimate. NINR plans in FY 2011 to continue to address the many challenges and opportunities that exist in the areas of self-management, symptom management, and caregiving as part of a strategically balanced research portfolio. A potential topic of exploration is the genomics of symptom management.

Health Promotion and Disease Prevention

The Health Promotion and Disease Prevention (HPDP) program studies the key biological, behavioral, and social factors that promote health and healthy behaviors and prevent the development of disease to achieve long-term, positive health outcomes in individuals of all ages. Research supported under this activity seeks scientific discoveries of health predictors and prevention strategies across conditions, diseases, and settings, often focusing on minority and/or underserved communities. Under this broad scope of research, efforts range from promoting behavioral changes in individuals and evaluating health risks in diverse communities to assessing issues of patient safety. NINR currently sponsors an initiative to support the integration of behavioral and sociocultural research to prevent HIV transmission and infection. Another current initiative focuses on health promotion in racial and ethnic minority males, a population that continues to experience disparate health outcomes. Recent research projects under the HPDP program include studies to: test the effectiveness of an online intervention to promote bone health and prevent osteoporosis; understand the

biobehavioral mechanisms underlying preterm birth in minority women; and, develop an intervention to promote physical activity in Latinas.

Budget Policy: The FY 2011 budget estimate for this program is \$43.549 million, an increase of \$1.266 million or 3 percent above the FY 2010 estimate. NINR plans in FY 2011 to continue to address the many challenges and opportunities that exist in the areas of health promotion and disease prevention as part of a strategically balanced research portfolio. A potential research initiative would examine the neurobehavioral genetics of health behaviors.

Research Capacity Development

Through its Research Capacity Development program, NINR emphasizes research training and career development to cultivate the next generation of nurse scientists, as well as other biobehavioral researchers whose work advances nursing science. Under this program, NINR supports graduate and post-graduate research fellowships and career development awards, including awards to trainees from under-represented and disadvantaged backgrounds. These programs provide the next generation of scientists with the necessary, interdisciplinary education and research skills that will enable them to further expand the evidence-base for clinical practice, improve quality of life for those with chronic illness, and support preventative health. This research provides the scientific evidence to support many of the reforms that will take place in the health care system in the coming years. For example, NINR supports investigators under the NIH K99/R00 Pathway to Independence (PI) program, in which promising postdoctoral scientists receive both mentored and independent research support for up to five years. Research projects currently underway include studies exploring genetic contributions to diabetes, bone disease and coronary heart disease. Collectively, NINR training activities address the national shortage of nurses by contributing to the development of the nursing faculty needed to teach and mentor individuals entering the field.

Budget Policy: The FY 2011 budget estimate for this program is \$20.294 million, an increase of \$590 thousand or 3 percent above the FY 2010 estimate. This proposed level of funding will allow NINR to cover its current commitments as well as allow new training grants to be awarded in FY 2011. NINR plans in FY 2011 to continue its commitment to developing the next generation of investigators and enhance overall research capacity in strategically important areas of research as part of a balanced program portfolio. These efforts will continue to include awards to encourage earlier entry into research careers and to expand the interdisciplinary backgrounds of new investigators.

Technology Integration

The Technology Integration program builds on previous accomplishments and seizes opportunities to employ new technologies (e.g., genomics and nanotechnology) that improve self-management, short- and long-term symptom monitoring, and the application of telehealth. Continuing its focus on adapting existing or developing new technologies, NINR-supported science links underserved populations with available resources to sustain healthy lifestyles and eliminate health disparities. Current activities

include: developing devices to facilitate clinical decision support for care providers in hospitals and clinics; creating software modules that assist patients with making decisions on advanced care planning; assessing potential web-based and digital technologies for improving patient-provider communications; and designing and testing next-generation, shared ventilation systems for responding to pandemic influenza needs.

Budget Policy: The FY 2011 budget estimate for this program is \$12.343 million, an increase of \$359 thousand or 3 percent above the FY 2010 estimate. In FY 2011, NINR plans to continue supporting research on the use and development of novel technologies that address current and future clinical care and patient management needs, and their incorporation into standard practice. This level of funding will allow NINR to cover current commitments and fund additional awards in this emerging area of research as part of a balanced portfolio. A research initiative in FY 2011 could examine the use of new technologies in promoting healthy behaviors.

End-of-Life

The End-of-Life research program applies interdisciplinary biological, behavioral, and social science strategies to advance understanding of the challenges of a life-threatening illness with respect to the needs of the individual and their caregivers. The program explores the dynamic interactions of various factors that influence end-of-life and palliative care, and develops interventions to optimize patient and caregiver quality of life across care settings and cultural contexts. Specific research topics and activities include: improving awareness and relief of pain, suffering, and distressing symptoms through effective palliative care; understanding and facilitating decision-making by patients, caregivers, and providers, including through the use of advance directives; promoting wellness and self-management of symptoms through meaningful health activities; and developing new investigators in this area of science. Across all of these activities, end-of-life and palliative care research addresses the cultural, spiritual, setting, age, and disease-specific factors that make each person's experience with life-threatening illness unique. In FY 2009, NINR released a new funding announcement-- Interventions to Improve Palliative Care at the End of Life--calling for research to improve palliative care and enhance the quality of life for dying patients and their caregivers. Projects under this initiative investigate such topics as palliation in various populations and settings, as well as end-of-life care in complex organizations.

Budget Policy: The FY 2011 budget estimate for this program is \$12.336 million, an increase of \$359 thousand or 3 percent above the FY 2010 estimate. Given the potential and need for improving the quality of life of dying patients and their caregivers, NINR plans to expand end-of-life research efforts in FY 2011 to build upon continuing accomplishments in this program area. The proposed level of funding will allow NINR to support existing commitments and fund additional awards in this area of research, as part of a balanced program portfolio. Efforts in FY 2011 could focus on improving patient-provider communication in end-of-life care and building research capacity in palliative care and end-of-life research.

Portrait of a Program: Enhancing the End of Life and Palliative Care through Research

FY 2010 Level: \$11.977 million

FY 2011 Level: \$12.336 million

Change: \$.359 million

The life expectancy of the American people has reached a historic high, but along with increased life expectancy comes an increase in the number of people living with, and dying from, debilitating illnesses. There is an urgent need for ways to improve quality of life for those with life-limiting conditions through evidence-based palliative and end-of-life care. In 1997, the Director of NIH designated NINR as the lead NIH Institute for end-of-life research, providing an important opportunity for nursing science to lead the way in this crucial area. In the ensuing years, NINR has sponsored numerous research initiatives to advance the field of end-of-life and palliative care science.

The Institute maintains a broad, transdisciplinary research portfolio in end-of-life and palliative care that extends across the human life span and focuses on building evidentiary knowledge to improve health care practice and increase public understanding of these important issues. NINR investigators recently published studies that: tested interventions that effectively reduced stress in caregivers of family members with life-limiting illness; reported on a program that successfully converted hospice patients' end-of-life treatment preferences into physician orders; and described organizational factors that influence the quality of hospice care in assisted-living facilities. In addition, an emerging area of research focuses on the development of new health information technologies and biomedical innovations to better understand and improve end-of-life care.

In 2009, NINR established the NINR Office of Research on End-of-Life Science and Palliative Care, Investigator Training, and Education (OEPC) to coordinate research efforts in these critical areas of science. The Institute also published a brochure entitled "Palliative Care: The Relief You Need when You're Experiencing the Symptoms of Serious Illness" that explores the benefits of palliative care and answers common questions. The brochure is available at www.ninr.nih.gov. In FY 2011, NINR will continue to build research capacity and support efforts to develop effective intervention strategies for end-of-life and palliative care.

Intramural Research Program

The Intramural Research Program (IRP) supports research to understand the underlying biological mechanisms of a range of symptoms, their effect on patients, and how patients respond to interventions. Recent scientific efforts include evaluating the efficacy of novel interventions for managing symptoms associated with cancer treatment, and exploring the molecular and genetic mechanisms that influence an individual's response to analgesic treatment for acute pain. The IRP also supports research training opportunities through programs such as the NINR Career Transition Award, the NINR Summer Genetics Institute, and by participating in the NIH Graduate Partnerships Program. In FY 2009, the NINR participated in two new interdisciplinary research collaborations. The BNC Fellowship, supported by the Bravewell Collaborative, in collaboration with NINR and the NIH Clinical Center, trains individuals to address key issues in integrative medicine research and encourages multi-disciplinary collaboration to optimize health and healing for individuals and society. The Center for Neuroscience and Regenerative Medicine (CNRM) is a joint initiative between NIH and the U.S. Department of Defense with a mission to discover methods

to better intervene and prevent the long-term consequences resulting from traumatic brain injury. NINR is responsible for oversight of the CNRM Biomarkers Program, two of the nine currently approved Biomarkers projects, and patient recruitment.

Budget Policy: The FY 2011 budget estimate for this program is \$5.056 million, an increase of \$157 thousand or 3.2 percent above the FY 2010 estimate. In FY 2011, this program will build on the recent accomplishments of the IRP and continue to support innovative research to address the scientific challenges of understanding and managing adverse symptoms such as acute and chronic pain. This program will also continue to support important training and career development opportunities for innovative investigators.

Portrait of a Program: Advancing the Science of Symptom Research through Genetics

FY 2010 Level: \$4.899 million
FY 2011 Level: \$5.056 million
Change: \$. 157 million

It is difficult to overstate the impact that rapid advances in genetics research have had across the biomedical and behavioral sciences, and the science supported by NINR is no exception. Across the Nation, NINR-supported investigators are using genetics research and tools to discover: biological markers that indicate an individual's susceptibility to adverse symptoms such as pain; identify molecular targets for new drug therapies to manage illnesses and symptoms; and understand individual variations in ability to recover from the symptoms of events such as traumatic brain injury. Incorporating genetics methodology into research on symptom management has been a priority for the Institute for many years, given the NINR's ongoing strategic focus of expanding biobehavioral research. For example, since 2000 the NINR Intramural Research Program (IRP) has sponsored the NINR Summer Genetics Institute (SGI). This intensive summer training program provides graduate students and faculty with a foundation in molecular genetics to enhance their research and clinical practice. SGI graduates number more than 180, and are successfully building programs of research in genetics related to nursing; disseminating findings through publications; and integrating genetics content in nursing school curricula across the country. In addition, researchers from the NINR IRP continue to publish important research findings that integrate comparative studies of variations in genetics, biomarkers and personal characteristics to understand individual variations in responses to analgesic treatments for acute and chronic pain. Finally, a recently launched study from an NINR-supported extramural investigator is using advanced genetic techniques to discover genes associated with the development of oral mucositis, a painful condition experienced by many cancer patients undergoing chemotherapy. This research could help identify patients at the greatest risk for developing mucositis and allow clinicians to tailor dosages to potentially spare cancer patients from developing this debilitating condition.

Research Management and Support

Research Management and Support (RMS) activities provide administrative, budgetary, logistical, and scientific support in the review, award, and monitoring of research grants, training awards and research and development contracts. The functions of RMS also encompass strategic planning, coordination, and evaluation of the Institute's programs, as well as communication and coordination with other federal agencies, Congress, and the public.

Budget Policy: The FY 2011 budget estimate for this program is \$11.942 million, an increase of \$569 thousand or 5 percent above the FY 2010 estimate. In FY 2011, NINR plans to continue addressing the challenges and opportunities that exist in strategically managing a research portfolio that addresses areas of science critical to public health.

Portrait of a Program: Recovery Act Implementation

Recovery Act Funding: \$35.877 million

In FY 2009, NINR received \$35.9 million under the Recovery Act. Of this amount, \$17.6 million was obligated in FY 2009 and \$18.3 million will be obligated in FY 2010. Much of this funding supports innovative new research projects deemed capable of making significant advances with two years of funding provided by the Recovery Act. Some of this funding augments existing projects to potentially accelerate progress or expand the initial scope of research. All funds support areas of science central to the NINR mission, including: enhancing palliative care and end-of-life research; improving the translation of research to practice; and advancing knowledge on the management of symptoms. In addition, NINR's Recovery Act funds support the development of the scientific workforce through summer research experiences for new scientists, faculty development opportunities, and the promotion of interdisciplinary research partnerships.

Under the NIH's "Grand Opportunity" initiative supported by the Recovery Act, NINR also supports research to foster creative discoveries that will accelerate advancements to the 'science of health.' The 'science of health' is the pursuit of knowledge about health that centers on the nature and behavior of living systems interacting with their environments to promote healthy lifestyles, extend quality and years of life, and reduce or eliminate illness, disability, and health disparities. For example, under this program, one NINR-supported study addresses oral mucositis, a painful symptom experienced by many cancer patients undergoing chemotherapy due to their immune-compromised state. Mucositis presents as redness and/or ulcerative sores in the soft tissues of the mouth and can significantly impair chewing and swallowing. Using advanced genetic techniques, this study could yield a precise mucositis-predictive model that could effectively identify patients according to their risk for severe mucositis. This knowledge could allow health care providers to monitor and individually tailor doses of chemotherapeutic agents to potentially spare at-risk patients the development of this debilitating adverse symptom.

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

Budget Authority by Object

	FY 2010 Enacted	FY 2011 PB	Increase or Decrease	Percent Change
Total compensable workyears:				
Full-time employment	51	53	2	3.9
Full-time equivalent of overtime and holiday hours	0	0	0	0.0
Average ES salary	\$0	\$0	\$0	0.0
Average GM/GS grade	12.2	12.2	0.0	0.0
Average GM/GS salary	\$89,184	\$90,789	\$1,605	1.8
Average salary, grade established by act of July 1, 1944 (42 U.S.C. 207)	\$51,984	\$57,910	\$5,926	11.4
Average salary of ungraded positions	121,257	125,015	3,758	3.1
OBJECT CLASSES	FY 2010 Estimate	FY 2011 Estimate	Increase or Decrease	Percent Change
Personnel Compensation:				
11.1 Full-time permanent	\$4,497,000	\$4,267,000	(\$230,000)	-5.1
11.3 Other than full-time permanent	1,193,000	1,123,000	(70,000)	-5.9
11.5 Other personnel compensation	264,000	250,000	(14,000)	-5.3
11.7 Military personnel	149,000	139,000	(10,000)	-6.7
11.8 Special personnel services payments	514,000	480,000	(34,000)	-6.6
Total, Personnel Compensation	6,617,000	6,259,000	(358,000)	-5.4
12.0 Personnel benefits	1,599,000	1,514,000	(85,000)	-5.3
12.2 Military personnel benefits	63,000	59,000	(4,000)	-6.3
13.0 Benefits for former personnel	0	0	0	0.0
Subtotal, Pay Costs	8,279,000	7,832,000	(447,000)	-5.4
21.0 Travel and transportation of persons	194,000	243,000	49,000	25.3
22.0 Transportation of things	12,000	15,000	3,000	25.0
23.1 Rental payments to GSA	0	0	0	0.0
23.2 Rental payments to others	103,000	117,000	14,000	13.6
23.3 Communications, utilities and miscellaneous charges	69,000	89,000	20,000	29.0
24.0 Printing and reproduction	33,000	42,000	9,000	27.3
25.1 Consulting services	50,000	64,000	14,000	28.0
25.2 Other services	1,662,000	2,047,000	385,000	23.2
25.3 Purchase of goods and services from government accounts	8,779,000	9,475,000	696,000	7.9
25.4 Operation and maintenance of facilities	107,000	139,000	32,000	29.9
25.5 Research and development contracts	66,000	355,000	289,000	437.9
25.6 Medical care	0	0	0	0.0
25.7 Operation and maintenance of equipment	59,000	72,000	13,000	22.0
25.8 Subsistence and support of persons	0	0	0	0.0
25.0 Subtotal, Other Contractual Services	10,723,000	12,152,000	1,429,000	13.3
26.0 Supplies and materials	259,000	301,000	42,000	16.2
31.0 Equipment	560,000	669,000	109,000	19.5
32.0 Land and structures	0	0	0	0.0
33.0 Investments and loans	0	0	0	0.0
41.0 Grants, subsidies and contributions	125,368,000	128,738,000	3,370,000	2.7
42.0 Insurance claims and indemnities	0	0	0	0.0
43.0 Interest and dividends	0	0	0	0.0
44.0 Refunds	0	0	0	0.0
Subtotal, Non-Pay Costs	137,321,000	142,366,000	5,045,000	3.7
Total Budget Authority by Object	145,600,000	150,198,000	4,598,000	3.2

Includes FTEs which are reimbursed from the NIH Roadmap for Medical Research

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

Salaries and Expenses

OBJECT CLASSES	FY 2010 Enacted	FY 2011 PB	Increase or Decrease	Percent Change
Personnel Compensation:				
Full-time permanent (11.1)	\$4,497,000	\$4,267,000	(\$230,000)	-5.1
Other than full-time permanent (11.3)	1,193,000	1,123,000	(70,000)	-5.9
Other personnel compensation (11.5)	264,000	250,000	(14,000)	-5.3
Military personnel (11.7)	149,000	139,000	(10,000)	-6.7
Special personnel services payments (11.8)	514,000	480,000	(34,000)	-6.6
Total Personnel Compensation (11.9)	6,617,000	6,259,000	(358,000)	-5.4
Civilian personnel benefits (12.1)	1,599,000	1,514,000	(85,000)	-5.3
Military personnel benefits (12.2)	63,000	59,000	(4,000)	-6.3
Benefits to former personnel (13.0)	0	0	0	0.0
Subtotal, Pay Costs	8,279,000	7,832,000	(447,000)	-5.4
Travel (21.0)	194,000	243,000	49,000	25.3
Transportation of things (22.0)	12,000	15,000	3,000	25.0
Rental payments to others (23.2)	103,000	117,000	14,000	13.6
Communications, utilities and miscellaneous charges (23.3)	69,000	89,000	20,000	29.0
Printing and reproduction (24.0)	33,000	42,000	9,000	27.3
Other Contractual Services:				
Advisory and assistance services (25.1)	50,000	64,000	14,000	28.0
Other services (25.2)	1,662,000	2,047,000	385,000	23.2
Purchases from government accounts (25.3)	4,920,000	5,408,000	488,000	9.9
Operation and maintenance of facilities (25.4)	107,000	139,000	32,000	29.9
Operation and maintenance of equipment (25.5)	59,000	72,000	13,000	22.0
Subsistence and support of persons (25.8)	0	0	0	0.0
Subtotal Other Contractual Services	6,798,000	7,730,000	932,000	13.7
Supplies and materials (26.0)	259,000	301,000	42,000	16.2
Subtotal, Non-Pay Costs	7,468,000	8,537,000	1,069,000	14.3
Total, Administrative Costs	15,747,000	16,369,000	622,000	3.9

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

Authorizing Legislation

	PHS Act/ Other Citation	U.S. Code Citation	2010 Amount Authorized	FY 2010 Estimate	2011 Amount Authorized	FY 2011 PB
Research and Investigation	Section 301	42§241	Indefinite		Indefinite	
National Institute of Nursing Research	Section 402(a)	42§281	Indefinite	\$145,600,000	Indefinite	\$150,198,000
Total, Budget Authority				145,600,000		150,198,000

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

Appropriations History

Fiscal Year	Budget Estimate to Congress	House Allowance	Senate Allowance	Appropriation
2002	117,686,000	116,773,000	125,659,000	120,451,000
Rescission				(23,000)
2003	129,768,000	131,438,000	131,438,000	131,438,000
Rescission				(854,000)
2004	134,579,000	134,579,000	135,579,000	135,555,000
Rescission				(831,000)
2005	139,198,000	139,198,000	140,200,000	138,198,000
Rescission				(1,126,000)
2006	138,729,000	138,729,000	142,549,000	138,729,000
Rescission				(1,387,000)
2007	137,342,000	136,550,000	137,848,000	137,404,000
Rescission				0
2008	137,800,000	139,527,000	140,456,000	139,920,000
Rescission				(2,244,000)
Supplemental				
2009	137,609,000	142,336,000	141,439,000	141,879,000
Rescission				0
2010	143,749,000	146,945,000	144,262,000	145,660,000
Rescission				0
2011	150,198,000			

1/ Reflects enacted supplementals, rescissions, and reappropriations.

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

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

Details of Full-Time Equivalent Employment (FTEs)

OFFICE/DIVISION	FY 2009 Actual	FY 2010 Enacted	FY 2011 PB
Office of the Director	5	5	5
Office of Administrative Management	13	13	13
Division of Intramural Research	12	12	14
Office of the Associate Direct for Scientific Programs	27	21	21
Total	57	51	53
Includes FTEs which are reimbursed from the NIH Roadmap for Medical Research			
FTEs supported by funds from Cooperative Research and Development Agreements			
	(0)	(0)	(0)
FISCAL YEAR	Average GM/GS Grade		
2007	12.2		
2008	12.2		
2009	12.1		
2010	12.2		
2011	12.2		

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

Detail of Positions

GRADE	FY 2009 Actual	FY 2010 Enacted	FY 2011 PB
Total, ES Positions	0	0	0
Total, ES Salary	0	0	0
GM/GS-15	5	5	5
GM/GS-14	20	16	18
GM/GS-13	8	6	6
GS-12	6	7	7
GS-11	2	3	3
GS-10	1	3	3
GS-9	11	7	7
GS-8	1	0	0
GS-7	1	1	1
GS-6	1	2	2
GS-5	0	0	0
GS-4	1	1	1
GS-3	0	0	0
GS-2	0	0	0
GS-1	0	0	0
Subtotal	57	51	53
Grades established by Act of July 1, 1944 (42 U.S.C. 207):			
Assistant Surgeon General	0	0	0
Director Grade	0	0	0
Senior Grade	1	1	1
Full Grade	0	0	0
Senior Assistant Grade	0	0	0
Assistant Grade	0	0	0
Subtotal	1	1	1
Ungraded	18	18	18
Total permanent positions	61	61	61
Total positions, end of year	80	80	80
Total full-time equivalent (FTE) employment, end of year	57	51	53
Average ES salary	0	0	0
Average GM/GS grade	12.1	12.2	12.2
Average GM/GS salary	90,148	89,184	90,789

Includes FTEs which are reimbursed from the NIH Roadmap for Medical Research.

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

New Positions Requested

	FY 2011		
	Grade	Number	Annual Salary
Clinical Director	AD - 680	1	\$86,800
Special Assistant to Director	GS - 15	1	123,758
Total Requested		2	\$210,558