

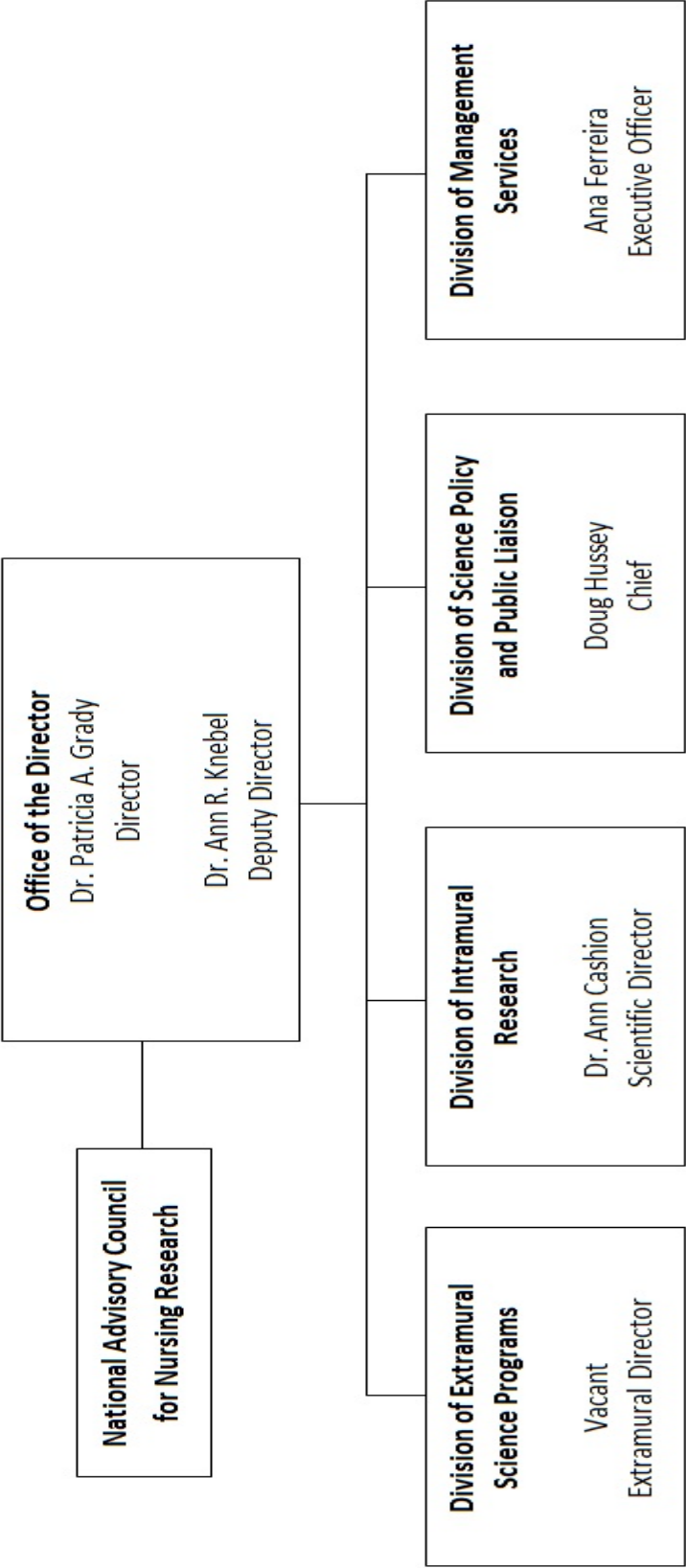
DEPARTMENT OF HEALTH AND HUMAN SERVICES

NATIONAL INSTITUTES OF HEALTH

National Institute of Nursing Research (NINR)

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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 PHS Act with respect to nursing research,
[\$140,517,000]*\$140,452,000.*

NATIONAL INSTITUTES OF HEALTH
National Institute of Nursing Research

Amounts Available for Obligation¹
(Dollars in Thousands)

Source of Funding	FY 2013 Actual	FY 2014 Enacted	FY 2015 President's Budget
Appropriation	\$144,769	\$140,517	\$140,452
Type 1 Diabetes	0	0	0
Rescission	-290	0	0
Sequestration	-7,266	0	0
Subtotal, adjusted appropriation	\$137,213	\$140,517	\$140,452
FY 2013 Secretary's Transfer	-800	0	0
OAR HIV/AIDS Transfers	0	0	0
Comparative transfers to NLM for NCBI and Public Access	-162	-193	0
National Children's Study Transfers	116	0	0
Subtotal, adjusted budget authority	\$136,367	\$140,324	\$140,452
Unobligated balance, start of year	0	0	0
Unobligated balance, end of year	0	0	0
Subtotal, adjusted budget authority	\$136,367	\$140,324	\$140,452
Unobligated balance lapsing	-13	0	0
Total obligations	\$136,354	\$140,324	\$140,452

¹ Excludes the following amounts for reimbursable activities carried out by this account:
FY 2013 - \$0 FY 2014 - \$100 FY 2015 - \$100

NATIONAL INSTITUTES OF HEALTH
National Institute of Nursing Research
Budget Mechanism - Total¹
(Dollars in Thousands)

MECHANISM	FY 2013 Actual		FY 2014 Enacted ²		FY 2015 President's Budget		FY 2015 +/- FY 2014	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount
<u>Research Projects:</u>								
Noncompeting	175	\$68,524	161	\$69,153	164	\$70,588	3	\$1,435
Administrative Supplements	(2)	87	(2)	120	(2)	100		-20
Competing:								
Renewal	3	1,367	3	1,400	3	1,400		
New	50	20,460	51	20,839	46	18,780	-5	-2,059
Supplements	0	0	0	0	0	0		
Subtotal, Competing	53	\$21,827	54	\$22,239	49	\$20,180	-5	-\$2,059
Subtotal, RPGs	228	\$90,438	215	\$91,512	213	\$90,868	-2	-\$644
SBIR/STTR	11	3,310	15	4,604	16	4,775	1	171
Research Project Grants	239	\$93,747	230	\$96,116	229	\$95,643	-1	-\$473
<u>Research Centers:</u>								
Specialized/Comprehensive	9	\$3,516	10	\$3,800	10	\$3,800	0	\$0
Clinical Research	0	0	0	0	0	0	0	0
Biotechnology	0	0	0	0	0	0	0	0
Comparative Medicine	0	0	0	0	0	0	0	0
Research Centers in Minority Institutions	0	0	0	0	0	0	0	0
Research Centers	9	\$3,516	10	\$3,800	10	\$3,800	0	\$0
<u>Other Research:</u>								
Research Careers	29	\$2,840	29	\$2,840	29	\$2,840	0	\$0
Cancer Education	0	0	0	0	0	0	0	0
Cooperative Clinical Research	0	0	0	0	0	0	0	0
Biomedical Research Support	0	0	0	0	0	0	0	0
Minority Biomedical Research Support	0	0	0	0	0	0	0	0
Other	1	2,305	1	2,305	1	2,200	0	-105
Other Research	30	\$5,145	30	\$5,145	30	\$5,040	0	-\$105
Total Research Grants	278	\$102,409	270	\$105,061	269	\$104,483	-1	-\$578
<u>Ruth L. Kirchstein Training Awards:</u>	<u>FTTPs</u>		<u>FTTPs</u>		<u>FTTPs</u>		<u>FTTPs</u>	
Individual Awards	69	\$2,374	69	\$2,422	70	\$2,471	1	\$49
Institutional Awards	141	6,534	141	6,664	142	6,797	1	133
Total Research Training	210	\$8,908	210	\$9,086	212	\$9,268	2	\$182
Research & Develop. Contracts (SBIR/STTR) (non-add)	0 (0)	\$3,869 (22)	0 (0)	\$4,007 (22)	0 (0)	\$4,666 (22)	0 0	\$659
Intramural Research	22	7,617	22	7,845	22	7,923	0	78
Res. Management & Support Res. Management & Support (SBIR Admin) (non-add)	71 (0)	13,564 (0)	71 (0)	13,972 (0)	71 (0)	14,112 (0)	0 0	140
Construction		0		0		0		0
Buildings and Facilities		0		0		0		0
Total, NINR	93	\$136,367	93	\$140,324	93	\$140,452	0	\$128

¹ All items in italics and brackets are non-add entries. FY 2013 and FY 2014 levels are shown on a comparable basis to FY 2015.

² The amounts in the FY 2014 column take into account funding reallocations, and therefore may not add to the total budget authority reflected herein.

Major Changes in the Fiscal Year 2015 President's Budget Request

Major changes by budget mechanism and/or budget activity detail are briefly described below. Note that there may be overlap between budget mechanism and activity detail and these highlights will not sum to the total change for the FY 2015 budget request for NINR, which is \$0.128 million greater than the FY 2014 Enacted level, for a total of \$140.452 million.

Research Project Grants (RPGs: -\$0.473 million; total \$95.643 million):

NINR will continue to support 49 competing RPG awards totaling \$20.180 million in FY 2015, a decrease of 5 awards from FY 2014 Enacted level. 164 noncompeting RPG awards totaling \$70.588 million also will be made in FY 2015, an increase of 3 awards from FY 2014 Enacted level.

NATIONAL INSTITUTES OF HEALTH
National Institute of Nursing Research

Summary of Changes¹

(Dollars in Thousands)

FY 2014 Enacted				\$140,324
FY 2015 President's Budget				\$140,452
Net change				\$128
CHANGES	FY 2015 President's Budget		Change from FY 2014	
	FTEs	Budget Authority	FTEs	Budget Authority
A. Built-in:				
1. Intramural Research:				
a. Annualization of January 2014 pay increase & benefits		\$3,593		\$9
b. January FY 2015 pay increase & benefits		3,593		27
c. Zero more days of pay (n/a for 2015)		3,593		0
d. Differences attributable to change in FTE		3,593		0
e. Payment for centrally furnished services		1,122		19
f. Increased cost of laboratory supplies, materials, other expenses, and non-recurring costs		3,208		7
Subtotal				\$61
2. Research Management and Support:				
a. Annualization of January 2014 pay increase & benefits		\$9,679		\$24
b. January FY 2015 pay increase & benefits		9,679		71
c. Zero more days of pay (n/a for 2015)		9,679		0
d. Differences attributable to change in FTE		9,679		0
e. Payment for centrally furnished services		1,224		20
f. Increased cost of laboratory supplies, materials, other expenses, and non-recurring costs		3,209		0
Subtotal				\$115
Subtotal, Built-in				\$177

NATIONAL INSTITUTES OF HEALTH
National Institute of Nursing Research

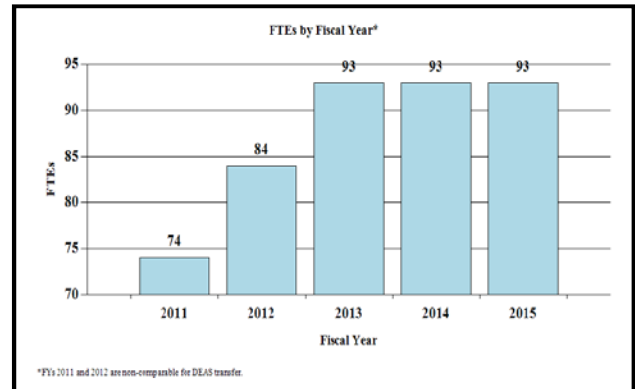
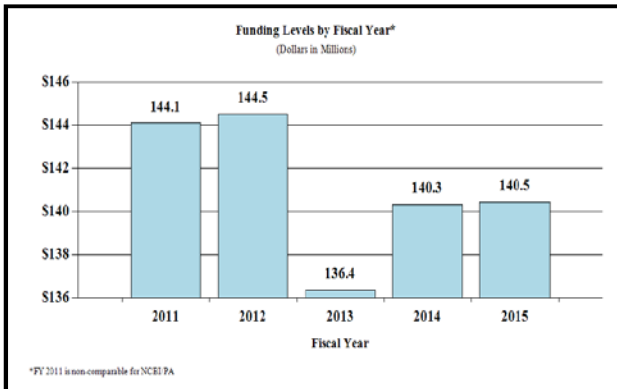
Summary of Changes – Continued¹
(Dollars in Thousands)

CHANGES	FY 2015 President's Budget		Change from FY 2014	
	No.	Amount	No.	Amount
B. Program:				
1. Research Project Grants:				
a. Noncompeting	164	\$70,688	3	\$1,415
b. Competing	49	20,180	-5	-2,059
c. SBIR/STTR	16	4,775	1	171
Subtotal, RPGs	229	\$95,643	-1	-\$473
2. Research Centers	10	\$3,800	0	\$0
3. Other Research	30	5,040	0	-105
4. Research Training	212	9,268	2	182
5. Research and development contracts	0	4,666	0	659
Subtotal, Extramural		\$118,417		\$263
6. Intramural Research	<u>FTEs</u> 22	\$7,923	<u>FTEs</u> 0	\$17
7. Research Management and Support	71	14,112	0	25
8. Construction		0		0
9. Buildings and Facilities		0		0
Subtotal, Program	93	\$140,452	0	\$304
Total changes				\$128

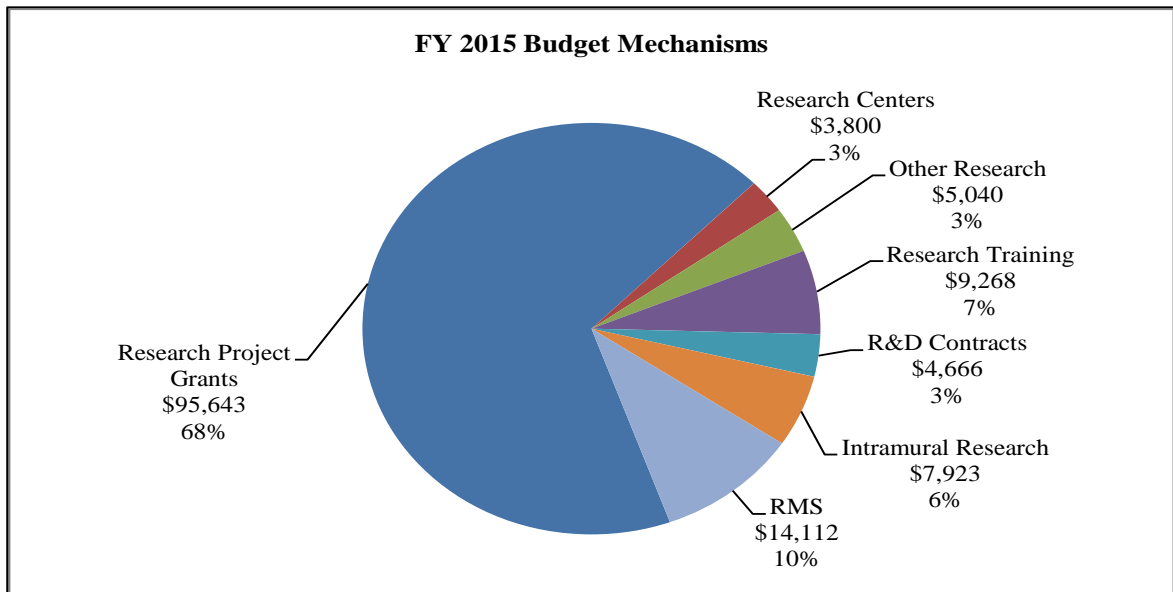
¹ The amounts in the Change from FY 2014 column take into account funding reallocations, and therefore may not add to the net change reflected herein.

Fiscal Year 2015 Budget Graphs

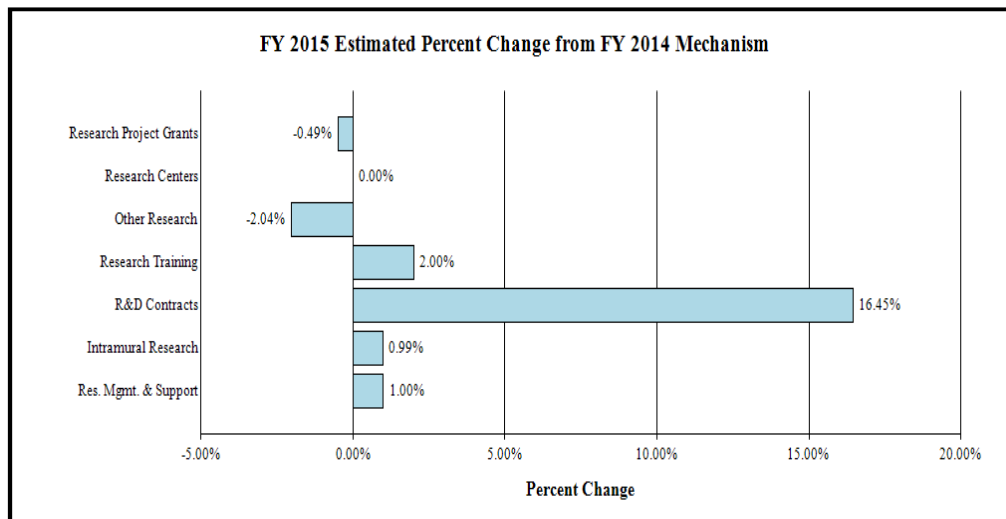
History of Budget Authority and FTEs:



Distribution by Mechanism (dollars in thousands):



Change by Selected Mechanism:



NATIONAL INSTITUTES OF HEALTH National Institute of Nursing Research Budget Authority by Activity¹ (Dollars in Thousands)								
	FY 2013 Actual		FY 2014 Enacted ²		FY 2015 President's Budget		FY 2015 +/- FY 2014	
<u>Extramural Research</u>	<u>FTE</u>	<u>Amount</u>	<u>FTE</u>	<u>Amount</u>	<u>FTE</u>	<u>Amount</u>	<u>FTE</u>	<u>Amount</u>
<u>Detail</u>								
Quality of Life		\$39,980		\$41,011		\$41,103		\$92
Health Promotion and Disease Prevention		40,347		41,386		41,478		92
Investing in Nurse Scientists		12,180		12,494		12,522		28
Innovation		7,384		7,575		7,592		17
Palliative and End-of-Life Care		15,295		15,688		15,722		34
Subtotal, Extramural		\$115,186		\$118,154		\$118,417		\$263
Intramural Research	22	\$7,617	22	\$7,845	22	\$7,923	0	\$78
Research Management & Support	71	\$13,564	71	\$13,972	71	\$14,112	0	\$140
TOTAL	93	\$136,367	93	\$140,324	93	\$140,452	0	\$128

¹ Includes FTEs whose payroll obligations are supported by the NIH Common Fund.

² The amounts in the FY 2014 column take into account funding reallocations and therefore may not add to the total budget authority reflected herein.

NATIONAL INSTITUTES OF HEALTH
National Institute of Nursing Research

Authorizing Legislation

	PHS Act/ Other Citation	U.S. Code Citation	2014 Amount Authorized	FY 2014 Enacted	2015 Amount Authorized	FY 2015 President's Budget
Research and Investigation	Section 301	42§241	Indefinite	\$140,324,000	Indefinite	\$140,452,000
National Institute of Nursing Research	Section 401(a)	42§281	Indefinite		Indefinite	
Total, Budget Authority				\$140,324,000		\$140,452,000

NATIONAL INSTITUTES OF HEALTH
National Institute of Nursing Research

Appropriations History

Fiscal Year	Budget Estimate to Congress	House Allowance	Senate Allowance	Appropriation
2005 Rescission	\$139,198,000	\$139,138,000	\$140,200,000	\$138,198,000 (\$1,126,000)
2006 Rescission	\$138,729,000	\$138,729,000	\$142,549,000	\$138,729,000 (\$1,387,000)
2007 Rescission	\$137,342,000	\$136,550,000	\$137,848,000	\$137,404,000 \$0
2008 Rescission	\$137,800,000	\$139,527,000	\$140,456,000	\$139,920,000 (\$2,244,000)
2009 Rescission Supplemental	\$137,609,000	\$142,336,000	\$141,439,000	\$141,879,000 \$0 \$731,000
2010 Rescission	\$143,749,000	\$146,945,000	\$144,262,000	\$145,660,000 \$0
2011 Rescission	\$150,198,000		\$149,963,000	\$145,660,000 (\$1,278,982)
2012 Rescission	\$148,114,000	\$148,114,000	\$142,755,000	\$145,043,000 (\$274,131)
2013 Rescission Sequestration	\$144,153,000		\$144,590,000	\$144,768,869 (\$289,538) (\$7,266,402)
2014 Rescission	\$146,244,000		\$145,272,000	\$140,517,000 \$0
2015	\$140,452,000			

Justification of Budget Request

National Institute of Nursing Research

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

Budget Authority:

	FY 2013 Actual	FY 2014 Enacted	FY 2015 President's Budget	FY 2015 +/- FY 2014
BA	\$136,366,793	\$140,324,000	\$140,452,000	\$128,000
FTE	93	93	93	0

Program funds are allocated as follows: Competitive Grants/Cooperative Agreements; Contracts; Direct Federal/Intramural and Other.

Director's Overview

For many Americans, the extraordinary discoveries in the health sciences of the past several decades, many of which were supported by NIH funding, have extended the lifespan and turned what were once acute, terminal illnesses, into manageable, long-term conditions. Given these developments, it is critically important that improving the quality of life for those with chronic illness remains a primary focus of health research. Individuals, regardless of their condition or age, should be able to experience a high quality of life, minimally burdened by adverse symptoms, with the ability to successfully manage their own healthcare regimen. Perhaps more importantly, individuals, families, clinicians, and communities should be equipped with evidence-based strategies for maintaining wellness and preventing illness from occurring in the first place.

In focusing on this vision, the National Institute of Nursing Research (NINR) supports clinical and basic research to:

- Build the scientific foundation for clinical practice;
- Explore the mechanisms underlying symptoms and develop personalized treatments that address these mechanisms through symptom science research;
- Enhance wellness in diverse groups through culturally-appropriate interventions designed to prevent illness and promote health;
- Engage individuals as active participants in their own health, especially those with chronic illnesses and conditions through self-management;
- Improve quality of life for patients with advanced and life-limiting illness, as well as their caregivers and families, through evidence-based palliative and end-of-life care;
- Develop new technologies that facilitate self-management, improve clinical care, and lead to better communication, care coordination, and clinical practice; and
- Prepare the next generation of nurse scientists and clinicians to address current and future health challenges and contribute to an innovative, multidisciplinary, and diverse scientific workforce.

NINR-supported investigators continue to make significant progress in improving the knowledge-base across these focus areas. Recent advances include: developing and testing a lifestyle intervention for high school students that significantly improved health behaviors and academic outcomes; finding that using a tracheostomy collar for weaning seriously ill patients from mechanical ventilation significantly outperformed a method that used reduced pressure support supplied via the ventilator; reporting that pain continues to be underdiagnosed and undertreated for hospitalized patients at the end of life, according to an analysis of medical records; and demonstrating that nurse care coordination improves health of frail older adults through enhanced medication self-management.

In FY 2015, NINR plans to build on and enhance a range of activities at the confluence of the Institute's mission and the research vision established by the NIH Director. For instance, NIH's dedication to support today's basic science for tomorrow's breakthroughs intersects with NINR's commitment to advancing the field of symptom science through basic biological and behavioral research. Symptom science focuses on understanding the basic underlying biological and genetic mechanisms of symptoms such as pain, fatigue, and disordered sleep, in order to develop improved strategies to treat and prevent these symptoms. By example, scientists at an NINR-supported research center for the genomics of pain have identified a potential molecular target for addressing chronic pain associated with spinal cord injuries in mouse models.

NINR's focus on symptom science is also consistent with NIH's focus on the development of precision medicine and with the new Big Data Initiative. NINR research contributes to a body of knowledge in symptom science that will make possible personalized and precision approaches to managing symptoms. A recent study identified pro- and anti-inflammatory biomarkers that can predict how different patients experience pain at different stages of breast cancer treatment, and draws a new link between pain and inflammation. In the summer of FY 2014, NINR's annual Symptom Methodologies Boot Camp will focus on Big Data research techniques and methodologies in symptom science. The goal is to create an NINR-supported infrastructure within the field of nursing science to increasingly incorporate Big Data as a means of facilitating clinical research that improves quality of life and quality of care for all populations in the U.S.

The NIH Director's focus on nurturing talent and innovation is reflected strongly in NINR's historical and ongoing commitment to training the next generation of nurse scientists. The nurse scientists of the future will be instrumental to the field of health research by using cutting-edge, interdisciplinary research strategies to continue to advance patient care, quality of life for those with chronic illness, and the prevention of illness across the lifespan. In order to develop a scientific workforce that is innovative, multidisciplinary, and diverse, NINR will continue in FY 2015 to fund training and career development grants and programs for all career levels. These opportunities include the NINR Summer Genetics Institute, and the Graduate Partnerships Program, along with the Symptom Methodologies Boot Camp. NINR's training efforts promote the early entry of nurses into research training programs and recognize the importance of attracting, training, and retaining a diverse cohort of nurse scientists, especially those at the early career stage. NINR's continued support of training spans its entire scientific portfolio through, for example, institutional training grants that support pre- and post-doctoral students' training in health disparities and informatics, genomics, symptom management, and palliative care research, and interdisciplinary training. These

training programs will prepare nurse scientists to meet existing and emerging health care challenges.

In the face of the health and societal challenges that the Nation confronts today, NINR sees a tremendous opportunity to support promising areas of science that will have a significant impact on the health of the Nation in the near future. Building on recent accomplishments and initiatives described below, such as the recently released NINR *Building Momentum* report in end-of-life and palliative care research, and our Innovative Questions initiative to identify new, innovative areas of research through engaging the community, NINR will continue to develop and refine a research portfolio responsive to the critical needs of diverse individuals, families, and communities across the Nation. As the Institute approaches its 30th year at NIH, NINR's research to improve the quality of life, health, and wellness across the lifespan has never been more important or timely.

Overall IC Budget Policy:

Investigator-initiated research projects, support for new investigators, research training, and career development continue to be the Institute's highest priorities. Overall, NINR will maintain a strategic balance between solicitations issued to the extramural community in high-priority areas of research, and funding made available to support investigator-initiated projects. Scientific reviews, with recommendations from the National Advisory Council for Nursing Research, inform the level of recommended support for all research applications. NINR will continue to support new and early stage investigators. Intramural Research and Research Management and Support will receive a one percent increase.

The NINR will support a two percent increase for stipends levels under the Ruth L. Kirschstein National Research Service Award training program. The requested increase will help to sustain the development of a highly qualified biomedical research workforce.

Program Descriptions and Accomplishments

Advancing the Quality of Life: Symptom Management: The NINR program to advance the quality of life focuses on reducing the burdens of chronic and acute conditions through better management of symptoms and illness. This program supports research to better understand the biological mechanisms underlying symptoms of illness, such as pain, fatigue, and disordered sleep, and to develop interventions to manage symptoms across diverse populations and settings. One emphasis of this program is self-management research, which examines strategies to help individuals with chronic illness, and their caregivers, better understand and manage their condition by engaging individuals as active participants in their own health. NINR-supported research helps individuals and their families live with chronic illness by developing effective approaches to self-management. These skills can improve their quality of life while reducing the burden for caregivers and the health care system. Recent studies funded under this program include: a personalized, cognitive-behavioral intervention for patients with advanced cancer to manage a cluster of symptoms, including pain, fatigue, and sleep disturbance; an examination of genetic variants that may contribute to severity of symptoms in African American children and adults with persistent asthma; and an investigation of whether vitamin D supplementation improves depressive symptoms, self-management, and blood pressure in women with type 2 diabetes. In addition to funding independent research projects, NINR also supports Centers of Excellence in symptom science that

bring together interdisciplinary teams of researchers to leverage expertise and resources and advance research on symptoms. NINR currently supports Centers of Excellence focused on topics such as expanding the scope of high quality, innovative research on sleep-related symptoms and understanding emotional distress and cognitive symptoms in chronic illness.

Budget Policy:

The FY 2015 President's Budget request for this program is \$41.103 million, an increase of \$92 thousand or 0.2 percent above the FY 2014 Enacted level. In FY 2015, NINR plans 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.

Program Portrait: Self-Management of Chronic Disease

FY 2014 Level: \$17.3 million

FY 2015 Level: \$17.3 million

Change: \$0.0 million

Chronic diseases are the leading causes of death and disability in the U.S. Nearly 50 percent of U.S. adults are living with one or more chronic illnesses, and over 75 percent of health care costs in the U.S. are at least partially attributable to chronic disease. Symptoms of chronic disease impair quality of life, and have negative impacts for caregivers and communities. Strategies for improving quality of life in the presence of chronic illness are critically needed. NINR supports research on patient-focused self-management programs to engage individuals and families as active participants in maintaining and improving quality of life while living with a chronic condition or multiple chronic conditions. Self-management research encompasses health strategies that allow an individual and their health care provider to adapt treatments to individual circumstances by accounting for social, cultural, economic, and emotional factors that can influence their health and quality of life.

For example, NINR supports research to improve self-management of chronic conditions in children and adolescents. Young people with type 1 diabetes are particularly vulnerable to poor health outcomes as they transition from parent-led disease maintenance throughout childhood to self-maintenance in adolescence and adulthood. NINR-supported scientists recently reported that adolescents who completed both diabetes management education and behavioral intervention programs had higher glycemic control, better quality of life, social acceptance, and lower family stress levels than adolescents who completed only one of these internet-based programs. In another study, recognizing that self-management of symptoms in children usually occurs in family and community settings, NINR-supported researchers are testing ways to improve how children and their parents control symptoms of asthma, including interventions to improve medication adherence and decrease caregiver burden.

NINR also maintains a strong interest in supporting research to improve self-management strategies for individuals with multiple chronic conditions. NINR-supported scientists are examining the use of cellphone and web-based strategies to improve medication adherence in persons with more than one chronic health condition. Researchers are also examining the integration of interactive electronic health records for clinicians and patients to improve safe and effective use of medications for individuals with multiple chronic illnesses who must manage complex medication regimens.

NINR has continued to emphasize self-management of chronic disease through several recently issued funding opportunity announcements on such topics as: managing symptoms in HIV-infected individuals experiencing other conditions; chronic illness self-management in children and adolescents; and, addressing multiple chronic health conditions in primary care. By supporting research to develop patient-focused self-management strategies, NINR seeks to improve the quality of health care and quality of life for individuals, families, and communities.

Health Promotion and Disease Prevention: The Health Promotion and Disease Prevention program promotes long-term health and healthy behaviors and prevents disease across health

conditions, settings, and the lifespan. Research supported under this program seeks to understand the physical, social, behavioral, and environmental causes of illness, assess behaviors that lead to healthy lifestyle choices, and develop evidence-based interventions to promote wellness. One emphasis of this program is the development of culturally-appropriate interventions. Developing interventions that consider the values and health risks of diverse communities allows us to better address health disparities and to improve health outcomes of underserved populations. For example, one current project is using genomics and other types of “omics” research to characterize the naturally occurring bacterial species present in the body, otherwise known as the microbiome, during pregnancy and find new markers of preterm birth. Another project is examining a school nurse-directed weight management program to prevent obesity in elementary school children, including racial/ethnic minority and low income children. Finally, a study supported under this program is testing whether integrating a health intervention into daily activities through cell phone delivery can encourage women to improve long-term maintenance of osteoporosis prevention health behaviors.

Budget Policy:

The FY 2015 President’s Budget request for this program is \$41.478 million, an increase of \$92 thousand or 0.2 percent above the FY 2014 Enacted level. In FY 2015, NINR plans 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.

Palliative and End-of-Life Care: While we have seen dramatic increases in life expectancy in recent decades in the United States, we have also seen an associated rise in the burden of chronic and life-limiting illness. Individuals and their caregivers face challenges in dealing with the physical and psychological burdens of advanced illness and must often make difficult decisions regarding care and quality of life. As the lead NIH Institute for end-of-life research, NINR supports science to assist individuals, families, and health care professionals in managing the symptoms of life-limiting conditions and planning for end-of-life decisions. NINR also recognizes that high-quality, evidence-based palliative care is a critical component of maintaining quality of life at any stage of illness, not just at the end of life. Activities in this area address issues such as: relieving symptoms and suffering, and understanding decision-making by patients, caregivers, and providers. As an example, one project is examining surrogate decision-making by testing an online decision aid for advance care planning to determine whether family caregivers of patients with life threatening illness are better prepared and have better experiences. Other NINR-supported projects are: investigating end-of-life care and service needs of people with HIV/AIDS in southern Appalachian areas; testing a novel over-the-counter topical treatment to promote comfort and improve quality of life for individuals with painful non-healing wounds in a hospice setting; and examining a new, innovative method for managing pain in acutely ill hospitalized palliative care patients who are not able to verbally communicate. NINR also continues to support a palliative care research cooperative, whose goal is to develop an enhanced evidence base for palliative care interventions by bringing together experienced, multidisciplinary investigators from multiple institutions with the goal of facilitating innovative, clinically relevant palliative care research to inform both practice and health policy. In FY 2013, NINR published *Building Momentum: The Science of End-of-Life and Palliative Care. A Review of Research Trends and Funding, 1997-2010*. This report looks at the trends in palliative and end-of-life care research publications over the past 14 years, including information on federal research awards, funding patterns, and the contributions

of public and private investments in this area of science. The key findings of the report, which addresses the 1997 Institute of Medicine recommendations on improving palliative and end-of-life care research, summarize the state of research, identify gaps, and provide a template for future research efforts to address. The report found that, although scientific publications in palliative and end-of-life care have tripled since 1997, there continue to be multiple challenges and opportunities for further research. These opportunities include: addressing the changing demographics of individuals with advanced illness, understanding the needs of individuals with complex and multiple chronic conditions, and the need for research focusing on the unique challenges faced by pediatric populations.

Budget Policy:

The FY 2015 President's Budget request for this program is \$15.722 million, an increase of \$34 thousand or 0.2 percent above the FY 2014 Enacted level. Given the enormous potential and great need for improving the quality of life for persons with life-limiting conditions and their caregivers, NINR plans to expand end-of-life research efforts in FY 2015 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 critical area of research, as part of a balanced program portfolio.

Innovation: By investing in innovation, NINR promotes the development and testing of new technologies and innovative programs to address a wide variety of health care challenges. Innovative technologies play a critical role in advancing health care, and NINR supports research to provide the foundation for developing novel, culturally sensitive interventions that deliver personalized care and real-time health information to patients, families, clinicians, and communities. This program area focuses on the development and implementation of technologies to facilitate decision support; promote symptom management; engage individuals in their own health care; and increase access to health care for underserved populations. One recent technology project is refining and examining effectiveness of a home-based sensor system, which monitors pulse, breathing, and restlessness while sleeping, for older adults in independent housing, and alerts health care providers to potential illness or functional decline so that they can intervene early. NINR also supports innovative research to advance the field of personalized medicine. For example, in one project, researchers are developing a cell phone app that allows patients with chronic musculoskeletal pain and their health care providers to run personalized studies to determine which pain treatment works best for an individual patient.

Budget Policy:

The FY 2015 President's Budget request for this program is \$7.592 million, an increase of \$17 thousand or 0.2 percent above the FY 2014 Enacted level. In FY 2015, 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.

Investing in Nurse Scientists: By investing in training nurse scientists, NINR focuses on preparing the next generation of nurse scientists and clinicians to strengthen the scientific basis for clinical

practice. NINR utilizes a variety of training programs to support nurse scientists throughout their careers and to encourage earlier entry of nurses into research training programs, including trainees from underrepresented backgrounds or in the early stages of their research careers. Training mechanisms include individual and institutional pre- and post-doctoral fellowships and career development awards. One method by which NINR promotes the development of nurse investigators is through participation in the NIH K99/R00 Pathway to Independence program, which provides mentored and independent support for promising postdoctoral scientists. NINR invests in training to support the development of an innovative, multidisciplinary, and diverse workforce of future nursing science faculty members prepared for the challenges of the future.

Budget Policy:

The FY 2015 President's Budget request for this program is \$12.522 million, an increase of \$28 thousand or 0.2 percent above the FY 2014 Enacted level. 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 2015. In FY 2015, NINR plans 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.

Intramural Research Program: The Division of Intramural Research (DIR) at NINR supports cutting-edge research to understand the underlying mechanisms of symptoms associated with a variety of disorders, and to develop clinical interventions to alleviate these symptoms. The DIR program examines the interplay of biological and behavioral determinants of health with particular emphases on: the biological mechanisms of symptoms; the biobehavioral basis for how patients respond to interventions; and, the mechanisms of tissue injury. Within these areas of research focus, DIR scientists examine the molecular and genetic mechanisms underlying: treatment-related fatigue symptoms in cancer patients, individual risk factors for complications following traumatic brain injury, and, chronic gastrointestinal pain and other digestive disorder symptoms. In addition to supporting research, NINR's intramural program also sponsors summer institutes for graduate nursing students and researchers that are designed to equip the next generation of nurse investigators with the research skills for innovative and multidisciplinary research. For example, the Methodologies Boot Camps are intensive courses offered at the NIH each summer to increase knowledge and use of innovative methodologies in research related to symptoms such as pain, fatigue, and sleep. Another summer institute sponsored by NINR, the Summer Genetics Institute (SGI), provides participants with an intensive foundation in molecular genetics for use in research, teaching, and clinical practice. NINR also supports the Graduate Partnerships Program (GPP), an institutional partnership program at universities across the Nation that provides nursing doctoral students with the opportunity to enhance their basic science research and methodology skills through training and mentoring in NIH labs.

Budget Policy:

The FY 2015 President's Budget request for this program is \$7.923 million, an increase of \$78 thousand or 1.0 percent above FY 2014 Enacted level. In FY 2015, this program will build on the recent accomplishments of the IRP, continuing to support innovative research to address the scientific challenges of understanding and managing adverse symptoms-or clusters of symptoms,

along with environmental influences on individual health outcomes. This program will also continue to support important training and career development opportunities for innovative investigators.

Research Management and Support: Research Management and Support (RMS) activities provide administrative, budgetary, logistical, and scientific support in reviewing, awarding, and monitoring 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 2015 President's Budget request for this program is \$14.112 million, an increase of \$140 thousand or 1.0 percent above FY 2014 Enacted level. In FY 2015, 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.

Program Portrait: Innovative Questions to Shape the Future of Nursing Science

FY 2014 Level: \$0.1 million

FY 2015 Level: \$ 1.5 million

Change: \$1.4 million

In developing a research agenda for nursing science, NINR is guided by its Strategic Plan, *Bringing Science to Life*. Under this Plan, NINR continues to support science to promote and improve the health of individuals, families, and communities. Over its nearly 30 year history, NINR has supported critical advances in nursing science in research areas such as symptom science, wellness, self-management, and palliative and end-of-life care, broadening the understanding of health and illness across the lifespan.

In FY 2014, NINR began the next stage in the implementation of its Strategic Plan, through the launch of the NINR Innovative Questions (IQ) Initiative. Inspired by similar, successful efforts at NIH and other grant-making organizations, the IQ Initiative is intended to engage with the scientific community and the public in shaping the future of nursing science. Through the IQ Initiative, NINR is engaging in a dialogue with its stakeholders to encourage creative thinking, identify novel and unanswered scientific questions, promote results-oriented innovative research, and guide NINR-supported science over the next five to ten years.

The IQ Initiative consists of two components: a series of scientific workshops and a public website. The workshops, each one hosted by NINR and focused on a particular topic area, will bring together leaders and experts in nursing science to identify, discuss, and debate new research questions. The public website solicits innovative research questions directly from the scientific community, professional organizations, and members of the general public. Visitors to the website have an opportunity to review and comment on questions submitted by others, and to submit questions of their own. The feedback and questions generated from the workshops and the website will be reviewed by NINR and potentially developed into a series of new research opportunities. The research generated through the IQ Initiative offers the promise of generating the novel knowledge and interventions vital to the advancement of nursing science and health care now and in years to come.

NATIONAL INSTITUTES OF HEALTH National Institute of Nursing Research Budget Authority by Object Class¹ <i>(Dollars in Thousands)</i>			
	FY 2014 Enacted	FY 2015 President's Budget	FY 2015 +/- FY 2014
Total compensable workyears:			
Full-time employment	93	93	0
Full-time equivalent of overtime and holiday hours	0	0	0
Average ES salary	\$0	\$0	\$0
Average GM/GS grade	12.4	12.4	0.0
Average GM/GS salary	\$100	\$101	\$1
Average salary, grade established by act of July 1, 1944 (42 U.S.C. 207)	\$133	\$133	\$0
Average salary of ungraded positions	\$40	\$40	\$0
OBJECT CLASSES	FY 2014 Enacted	FY 2015 President's Budget	FY 2015 +/- FY 2014
Personnel Compensation			
11.1 Full-Time Permanent	\$7,274	\$7,347	\$73
11.3 Other Than Full-Time Permanent	2,135	2,156	21
11.5 Other Personnel Compensation	48	48	0
11.7 Military Personnel	132	133	1
11.8 Special Personnel Services Payments	506	511	5
11.9 Subtotal Personnel Compensation	\$10,095	\$10,195	\$100
12.1 Civilian Personnel Benefits	\$2,900	\$3,001	\$101
12.2 Military Personnel Benefits	75	76	1
13.0 Benefits to Former Personnel	0	0	0
Subtotal Pay Costs	\$13,070	\$13,272	\$202
21.0 Travel & Transportation of Persons	\$141	\$144	\$3
22.0 Transportation of Things	31	31	0
23.1 Rental Payments to GSA	0	0	0
23.2 Rental Payments to Others	27	27	0
23.3 Communications, Utilities & Misc. Charges	100	102	2
24.0 Printing & Reproduction	0	0	0
25.1 Consulting Services	\$107	\$109	\$2
25.2 Other Services	1,057	1,000	-57
25.3 Purchase of goods and services from government accounts	\$11,402	\$11,808	\$406
25.4 Operation & Maintenance of Facilities	\$36	\$36	\$0
25.5 R&D Contracts	0	0	0
25.6 Medical Care	103	107	4
25.7 Operation & Maintenance of Equipment	459	467	8
25.8 Subsistence & Support of Persons	0	0	0
25.0 Subtotal Other Contractual Services	\$13,164	\$13,527	\$363
26.0 Supplies & Materials	\$284	\$289	\$5
31.0 Equipment	560	509	-51
32.0 Land and Structures	0	0	0
33.0 Investments & Loans	0	0	0
41.0 Grants, Subsidies & Contributions	112,947	112,551	-396
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	\$127,254	\$127,180	-\$74
Total Budget Authority by Object Class	\$140,324	\$140,452	\$128

¹ Includes FTEs whose payroll obligations are supported by the NIH Common Fund.

NATIONAL INSTITUTES OF HEALTH
National Institute of Nursing Research

Salaries and Expenses
(Dollars in Thousands)

OBJECT CLASSES	FY 2014 Enacted	FY 2015 President's Budget	FY 2015 +/- FY 2014
Personnel Compensation			
Full-Time Permanent (11.1)	\$7,274	\$7,347	\$73
Other Than Full-Time Permanent (11.3)	2,135	2,156	21
Other Personnel Compensation (11.5)	48	48	0
Military Personnel (11.7)	132	133	1
Special Personnel Services Payments (11.8)	506	511	5
Subtotal Personnel Compensation (11.9)	\$10,095	\$10,195	\$100
Civilian Personnel Benefits (12.1)	\$2,900	\$3,001	\$101
Military Personnel Benefits (12.2)	75	76	1
Benefits to Former Personnel (13.0)	0	0	0
Subtotal Pay Costs	\$13,070	\$13,272	\$202
Travel & Transportation of Persons (21.0)	\$141	\$144	\$3
Transportation of Things (22.0)	31	31	0
Rental Payments to Others (23.2)	27	27	0
Communications, Utilities & Misc. Charges (23.3)	100	102	2
Printing & Reproduction (24.0)	0	0	0
Other Contractual Services:			
Consultant Services (25.1)	107	109	2
Other Services (25.2)	1,057	1,000	-57
Purchases from government accounts (25.3)	7,466	7,230	-236
Operation & Maintenance of Facilities (25.4)	36	36	0
Operation & Maintenance of Equipment (25.7)	459	467	8
Subsistence & Support of Persons (25.8)	0	0	0
Subtotal Other Contractual Services	\$9,125	\$8,842	-\$283
Supplies & Materials (26.0)	\$284	\$289	\$5
Subtotal Non-Pay Costs	\$9,708	\$9,435	-\$273
Total Administrative Costs	\$22,778	\$22,707	-\$71

NATIONAL INSTITUTES OF HEALTH
National Institute of Nursing Research

Detail of Full-Time Equivalent Employment (FTE)

OFFICE/DIVISION	FY 2013 Actual			FY 2014 Est.			FY 2015 Est.		
	Civilian	Military	Total	Civilian	Military	Total	Civilian	Military	Total
Division of Intramural Research Program									
Direct:	20	2	22	20	2	22	20	2	22
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	20	2	22	20	2	22	20	2	22
Division of Scientific Programs									
Direct:	13		13	13		13	13		13
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	13		13	13		13	13		13
Office of Administrative Management									
Direct:	35		35	35		35	35		35
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	35		35	35		35	35		35
Office of Extramural Activities									
Direct:	15	-	15	15	-	15	15	-	15
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	15	-	15	15	-	15	15	-	15
Office of the Director									
Direct:	8		8	8		8	8		8
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	8		8	8		8	8		8
Total	91	2	93	91	2	93	91	2	93
Includes FTEs whose payroll obligations are supported by the NIH Common Fund.									
FTEs supported by funds from Cooperative Research and Development Agreements.	0	0	0	0	0	0	0	0	0
FISCAL YEAR	Average GS Grade								
2011	12.2								
2012	12.2								
2013	12.4								
2014	12.4								
2015	12.4								

NATIONAL INSTITUTES OF HEALTH
National Institute of Nursing Research

Detail of Positions

GRADE	FY 2013 Actual	FY 2014 Enacted	FY 2015 President's Budget
Total, ES Positions	0	0	0
Total, ES Salary	0	0	0
GM/GS-15	9	9	9
GM/GS-14	27	27	27
GM/GS-13	19	19	19
GS-12	11	11	11
GS-11	6	6	6
GS-10	0	0	0
GS-9	2	2	2
GS-8	2	2	2
GS-7	6	6	6
GS-6	1	1	1
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	84	84	84
Grades established by Act of July 1, 1944 (42 U.S.C. 207)	0	0	0
Assistant Surgeon General	0	0	0
Director Grade	0	0	0
Senior Grade	1	1	1
Full Grade	0	0	0
Senior Assistant Grade	1	1	1
Assistant Grade	0	0	0
Subtotal	2	2	2
Ungraded	26	26	26
Total permanent positions	84	84	84
Total positions, end of year	112	112	112
Total full-time equivalent (FTE) employment, end of year	93	93	93
Average ES salary	0	0	0
Average GM/GS grade	12.4	12.4	12.4
Average GM/GS salary	98,771	99,515	100,509

Includes FTEs whose payroll obligations are supported by the NIH Common Fund.