

National Institute of Nursing Research

CONGRESSIONAL JUSTIFICATION
FY 2023

Department of Health and Human Services
National Institutes of Health



National Institute
of Nursing Research

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DEPARTMENT OF HEALTH AND HUMAN SERVICES

NATIONAL INSTITUTES OF HEALTH

National Institute of Nursing Research (NINR)

FY 2023 Budget Table of Contents

Director’s Overview.....	3
NINR Fact Sheet.....	7
Major Changes in the Budget Request.....	9
Budget Mechanism Table	10
Appropriations Language.....	11
Summary of Changes	12
Budget Graphs	13
Organization Chart.....	14
Budget Authority by Activity Table	15
Justification of Budget Request	16
Appropriations History	22
Authorizing Legislation	23
Amounts Available for Obligation.....	24
Budget Authority by Object Class	25
Salaries and Expenses	26
Detail of Full-Time Equivalent Employment (FTE)	27
Detail of Positions.....	28

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Director's Overview

Introduction

The National Institute of Nursing Research (NINR) envisions a Nation in which research empowers nurses to optimize health and advance health equity. Nurses are the backbone of the healthcare system. In our hospitals and clinics, in our schools and workplaces, and in our communities, nurses interact with patients and families more than any other healthcare providers. Nurses met the demands on frontlines globally and have been essential to helping us through the COVID-19 pandemic because nurses know people and people trust nurses. Nurses have long understood that promoting health and well-being means addressing people's needs across clinical and community settings and over the whole life course. It is this unique viewpoint, focusing on the person and not the disease or condition, that forms the foundation of nursing science. Nursing science sees an individual from many perspectives, from the biology of their cells and genes, to their whole self, their family and resources, and the community in which they live.



In bringing these perspectives together, NINR-supported nursing science solves pressing health challenges and informs practice and policy—achieving better health for everyone. NINR seeks to support science that is innovative, uses the most rigorous methods, and has the potential to have the greatest impact on health and well-being by addressing the realities of people's daily lives and living conditions. It reaches populations that experience a disproportionate burden of diseases, and promotes diversity, inclusion, and equity. NINR-funded science focuses on the community, clinical, and policy settings where nurses practice.

A graphic with a purple background and a green border. On the left is a circular logo with a white arrow pointing right, containing the letters "NIH" above "NINR". To the right of the logo is a white text box with a purple border containing the text: "NINR Mission: Leading nursing science to solve pressing health challenges and inform practice and policy, empowering nurses to optimize health and advance health equity – leading to better health for everyone." The graphic has a decorative green arrow pointing right at the top right corner.

NINR Mission: Leading nursing science to solve pressing health challenges and inform practice and policy, empowering nurses to optimize health and advance health equity – leading to better health for everyone.

In FY 2022, NINR will release a strategic plan detailing research goals and its vision for nursing science. The plan builds upon past accomplishments and presents a bold, new research agenda to meet today's health challenges, including the dramatic health inequities brought into sharp focus by the pandemic. NINR has worked extensively with members of the nursing science community and many other stakeholders to develop a comprehensive strategic plan that highlights critical research questions that NINR scientists are best positioned to address. As a living document, the plan will be continuously updated as new challenges emerge.

NIH in a Changing World: Science to Enhance Human Health

The past two years have reminded us of two things: the next unexpected health emergency may be right around the corner, and those less fortunate are likely to be disproportionately affected. Indeed, the COVID-19 pandemic has tragically reminded us of the health disparities that remain in our society. For example, while the pandemic reduced life expectancy for all groups, that reduction was 2-3 times larger for Black and Latino populations.¹ In addition, the national focus on social justice and structural racism have prompted renewed discussions of how to address these issues within the scientific community, and exploration of new approaches science can use to address health disparities.

Given nursing science's multi-level focus on individuals, families, and communities, NINR-supported science is ideally positioned to help achieve health equity. Nursing science examines the upstream factors that contribute to a person's health – the conditions and environments where people are born, live, learn, work, play, worship, and age – and uses the knowledge of these social determinants of health to develop evidence-based solutions for use in clinical and community settings where nurses practice.² A recent report from the National Academy of Medicine (NAM), "The Future of Nursing 2020-2030," makes a compelling case for nursing to assume a leading role in eliminating persistent health inequities given nurses' close interactions with people. Nursing science will be critical for generating the evidence base needed for new interventions that address health inequities and achieve the goals of the NAM report.



Moving forward, NINR will support research that responds to the challenges of a changing world. NINR will seek to expand the reach of our research to projects that have an impact on practice and policy, and that benefit entire populations and communities. NINR-supported science will use nursing's unique perspective to address issues of health inequities head-on – seeking to understand the factors that lead to health inequities, and developing new solutions across clinical and community settings that lead to better health for everyone. Nursing science will also explore the lessons learned from the pandemic and use this knowledge to better prepare for the future. NINR-supported science will continue to emphasize the prevention and management of chronic conditions, as well as the use of technology to improve patient care and health outcomes. Recognizing that future successes in nursing science are dependent on a well-trained, innovative, and diverse workforce, NINR will continue to support training opportunities at institutions across the United States.

¹ Andrasfay T, and Goldman N. Reduction in 2020 US Life Expectancy Due to COVID-19 and the Disproportionate Impact on the Black and Latino Populations. Proc Natl Acad Sci USA. 2021, Feb 2;118(5):e2014746118.

² [health.gov/healthypeople/objectives-and-data/social-determinants-health](https://www.health.gov/healthypeople/objectives-and-data/social-determinants-health)

NINR is also proud to collaborate across NIH, to expand the reach and multi-disciplinary focus of nursing science. NINR is a strong supporter of NIH's UNITE initiative to address structural racism and promote racial equity at NIH and in the scientific community. NINR co-chairs an NIH Common Fund program to support innovative research that, if successful, would have a significant impact on developing and disseminating effective interventions to reduce or eliminate health disparities and advance health equity. In addition, NINR is helping to lead a new effort focused on the social, behavioral, and economic health impacts of COVID-19, and is participating in the development and leadership of a NIH-wide climate change research initiative to understand the potential health benefits of actions to prevent, mitigate, and adapt to climate change, especially in at-risk communities.

Recent NINR Activities

NINR is pursuing new efforts that address current healthcare challenges and train nurse scientists. For example, NINR led an initiative focused on maternal nutrition and pre-pregnancy obesity, and their potential effects on mothers, infants, and children. Another new program examines strategies to improve health outcomes and reduce disparities in rural populations. A third initiative seeks to strengthen the impact of community health workers on the human immunodeficiency virus (HIV) care continuum. In FY 2022, NINR launched a new initiative to develop interventions that use supportive care approaches throughout a pregnancy, such as doulas, patient navigators, or other services, to reduce disparities in severe maternal morbidity and mortality among racial and ethnic minority women.

We have also continued our efforts to support the careers of early-stage investigators through research grants. One of those investigators is refining and testing the CDC's multilevel, 4-pillars transformation intervention to increase human papillomavirus (HPV) vaccination among people living with HIV in Georgia. Another investigator is examining whether a nurse and community health worker-delivered intervention is effective in helping COVID-19 survivors with underlying chronic illnesses and their informal caregivers better manage the patient's condition. Intended specifically for Black COVID-19 survivors and their caregivers, the intervention will focus on overcoming racial and pandemic-related stressors in the context of community and social vulnerability.

Supporting the next generation of nursing scientists continues to be a major focus for NINR. To address not only the challenges of today, but those of the future as well, we need to train scientists that are exceptionally prepared to lead and engage in high-impact science. NINR will implement recommendations from a working group of the National Advisory Council for Nursing Research aimed at strengthening NINR-supported training pathways, and creating a workforce that is innovative, multidisciplinary, and diverse. To that end, NINR supports a range of individual and institutional training opportunities and career development grants. In 2021, NINR's research methodologies bootcamp explored the impact that Artificial Intelligence (AI) has on the evolving healthcare environment and ways in which it can improve the care of all patients and families in an equitable way. Attended by over 700 people from 43 states, the goal of the three-day virtual event was to showcase how AI can improve outcomes and how to avoid unintended consequences of AI that could increase healthcare disparities.

Conclusion

In FY 2023, NINR will support research grants, training awards, and new initiatives focused on implementing the NINR strategic plan. The ultimate goal of these efforts is generating evidence to formulate practice and policy solutions across all clinical and community settings. The work we support will capitalize on nursing's unique, whole-person, contextualized perspective and knowledge of social determinants of health to improve health and reduce health inequities in all settings where nurses practice. We will also continue to build new partnerships across NIH and within the scientific community. The challenges of today present an unprecedented opportunity for nursing science to contribute to a better tomorrow.



ABOUT NINR

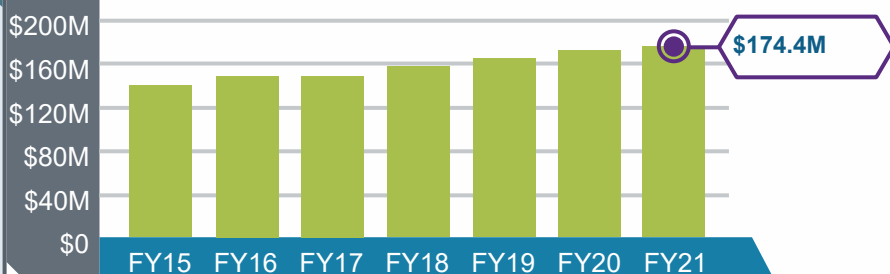
Nurses understand that improving health and well-being means addressing people’s needs across clinical and community settings, and over the whole life course. NINR uses this holistic perspective in leading nursing science to solve pressing health challenges and inform practice and policy, empowering nurses to optimize health and advance health equity – leading to better health for everyone.

Facts and Figures

Total Competing Research Project Grants (FY18-21)*	264
Number of Funded Investigators (FY18-21)*	361
Number of Early Stage Investigator Awards (FY18-21)*	40
Success Rate - Early Stage Investigator Awards (FY18-21)*	21%
Total NINR FTEs (FY 2021)	83

*Data represent 4-year totals

FUNDING HISTORY



FY 2022 CR Funding Level: \$175.0M

FY 2023 President’s Budget Request: \$198.7M

WHY NURSING SCIENCE?

- Nurses are the backbone of the healthcare system. In our hospitals and clinics, in our schools and workplaces, and in our communities, nurses interact with individuals and families more than any other healthcare providers.
- Nursing science sees an individual from many perspectives, from the biology of their cells and genes, to their whole self, their family and resources, and the community in which they live.
- Nursing science examines the upstream factors that contribute to a person’s health – the conditions and environments where people are born, live, learn, work, play, worship, and age – and uses the knowledge of these social determinants of health to develop solutions for use in the clinical and community settings where nurses practice.
- NINR seeks to support science that is innovative, uses the most rigorous methods, and has the potential to have the greatest impact on individual and population health and well-being, by recognizing and addressing the realities of people’s daily lives and living conditions.



Shannon N. Zenk, PhD, MPH, RN, FAAN
NINR Director

Dr. Zenk joined NINR as Director in September 2020. Prior to her arrival, she was a Collegiate

Professor at the University of Illinois Chicago College of Nursing. Her research interests include health disparities, urban food environments, community health solutions, and veterans’ health.

History

In 1986, Public Law 99-158, the Health Research Extension Act of 1985, created the National Center for Nursing Research (NCNR) at NIH. In 1993, NCNR was elevated to an NIH institute (NINR) with the signing of the NIH Revitalization Act.

Clinical Research

Most of NINR’s research **directly involves people**: Over 75 percent of NINR’s funding supports clinical research.

Eliminating Health Disparities

32 percent of NINR’s funding focuses on research to **eliminate health disparities**.

Preventing Chronic Conditions

More than one-third of NINR’s budget supports research on preventing chronic conditions – **helping people stay healthy** and reducing the risk of future illness.

Women’s Health

Nearly 16 percent of NINR’s funding supports science to **improve the health of women**.

Preparing the Next Generation

NINR commits more support to **training and career development**, as a percent of its budget, than nearly any other NIH Institute or Center.

NINR HIGHLIGHTS

COVID-19

Nurses responded heroically to the COVID-19 pandemic, and the nursing science community also rose to the occasion. Some NINR grantees are studying ways to improve COVID-19 testing and prevention across different communities, while others are focused on the long-term impact of the pandemic. One group of researchers in collaboration with African American pastors and church members, developed strategies for improving COVID-19 testing uptake in underserved communities. Another group began a project that will study the effects of the pandemic on children's health, education, and well-being over the next two to four years.

Artificial Intelligence Boot Camp

In 2021, NINR's research methodologies bootcamp, explored the impact of Artificial Intelligence (AI) on the evolving healthcare environment and ways in which it can improve the care of all patients and families in an equitable way. Attended by over 700 people from 43 states, the virtual event showcased how AI can improve outcomes and avoid unintended consequences of AI that could increase health disparities.

NINR Partnerships Across NIH

- NIH Common Fund Initiative: Transformative Research to Address Health Disparities and Advance Health Equity [Co-Chair]
- NIH UNITE Initiative: Ending racism in the biomedical sciences [Health Disparities and NIH Culture & Structure Committees]
- NIH HEAL (Helping to End Addiction Long-term) Initiative [Executive Committee]
- NIH Climate Change and Health initiative [Executive Committee]



FUTURE INITIATIVES

- In FY 2022, NINR is releasing a new strategic plan to guide research and training activities over the next five years. NINR reached out to scientists, policy makers, nurses, and health care workers in the community for invaluable feedback as the plan was developed.
- NINR will support studies under a new initiative to develop Interventions that use supportive care approaches throughout a pregnancy, such as doulas, patient navigators, or other services, to reduce disparities in severe maternal morbidity and mortality among racial and ethnic minority women.
- NINR is planning a new initiative to examine the long-term social impacts of the COVID-19 pandemic on health and health disparities.
- NINR is a strong supporter of efforts across NIH to assess and expand diversity in the scientific workforce. NINR will explore this issue within the nursing science community and establish a working group to explore barriers to diversity that are unique to this community and suggest strategies for overcoming them.



Major Changes in the 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 2023 budget request for NINR, which is \$198.7 million, an increase of \$23.7 million from the FY 2022 CR level. Within the FY 2023 request level, NINR will pursue its highest research priorities through strategic investment and careful stewardship of appropriated funds.

Research Project Grants (RPGs) (+\$21.1 million; total \$140.3 million):

Competing RPGs will increase by 50 grants and \$23.3 million due to the overall \$20.0 million increase in funding to support nursing research focused on racial, ethnic, and socioeconomic health disparities. Non-competing RPGs will increase by 5 grants along with a decrease of \$3.4 million, for a total of \$88.3 million in FY 2023, due to a large cohort of grants completing their performance period.

Budget Mechanism Table

NATIONAL INSTITUTES OF HEALTH

National Institute of Nursing Research

Budget Mechanism *

(Dollars in Thousands)

Mechanism	FY 2021 Final		FY 2022 CR		FY 2023 President's Budget		FY 2023 +/- FY 2022	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount
Research Projects:								
Noncompeting	175	\$83,717	184	\$91,760	189	\$88,336	5	-\$3,425
Administrative Supplements	<i>(12)</i>	\$1,963	<i>(0)</i>	\$44	<i>(3)</i>	\$348	3	\$304
Competing:								
Renewal	2	\$1,297	0	\$0	0	\$0	0	\$0
New	65	\$29,969	45	\$21,000	95	\$44,332	50	\$23,333
Supplements	0	\$0	0	\$0	0	\$0	0	\$0
Subtotal Competing	67	\$31,266	45	\$21,000	95	\$44,332	50	\$23,333
Subtotal, RPGs	242	\$116,946	229	\$112,804	284	\$133,016	55	\$20,212
SBIR/STTR	9	\$5,030	12	\$6,435	13	\$7,307	1	\$872
Research Project Grants	251	\$121,976	241	\$119,239	297	\$140,323	56	\$21,084
Research Centers								
Specialized/Comprehensive	5	\$3,210	5	\$3,211	5	\$3,288	0	\$76
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	5	\$3,210	5	\$3,211	5	\$3,288	0	\$76
Other Research:								
Research Careers	39	\$5,077	39	\$5,078	44	\$5,767	5	\$688
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	\$384	0	\$384	0	\$393	0	\$8
Other	1	\$1,670	1	\$1,670	1	\$1,706	0	\$36
Other Research	40	\$7,131	40	\$7,133	45	\$7,865	5	\$732
Total Research Grants	296	\$132,318	286	\$129,583	347	\$151,476	61	\$21,892
Ruth L. Kirschstein Training Awards:								
Individual Awards	33	\$1,375	33	\$1,394	34	\$1,465	1	\$71
Institutional Awards	101	\$5,666	101	\$5,745	102	\$5,918	1	\$173
Total Research Training	134	\$7,041	134	\$7,140	136	\$7,384	2	\$244
Research & Develop. Contracts	0	\$6,428	0	\$6,679	0	\$7,584	0	\$905
<i>SBIR/STTR (non-add)</i>	<i>(0)</i>	<i>(\$53)</i>	<i>(0)</i>	<i>(\$68)</i>	<i>(0)</i>	<i>(\$78)</i>	<i>(0)</i>	<i>(\$9)</i>
Intramural Research	24	\$11,906	31	\$12,116	31	\$12,374	0	\$258
Res. Management & Support	59	\$16,718	80	\$19,439	80	\$19,853	0	\$414
<i>SBIR Admin. (non-add)</i>	<i>(0)</i>	<i>(\$45)</i>	<i>(0)</i>	<i>(\$58)</i>	<i>(0)</i>	<i>(\$66)</i>	<i>(0)</i>	<i>(\$8)</i>
Construction		\$0		\$0		\$0		\$0
Buildings and Facilities		\$0		\$0		\$0		\$0
Total, NINR	83	\$174,411	111	\$174,957	111	\$198,670	0	\$23,713

* All items in italics and brackets are non-add entries.

Appropriations Language

NATIONAL INSTITUTE OF NURSING RESEARCH

*For carrying out section 301 and title IV of the PHS Act with respect to nursing research,
\$198,670,000.*

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

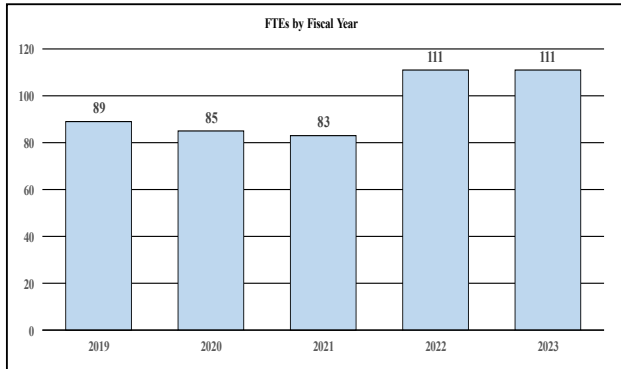
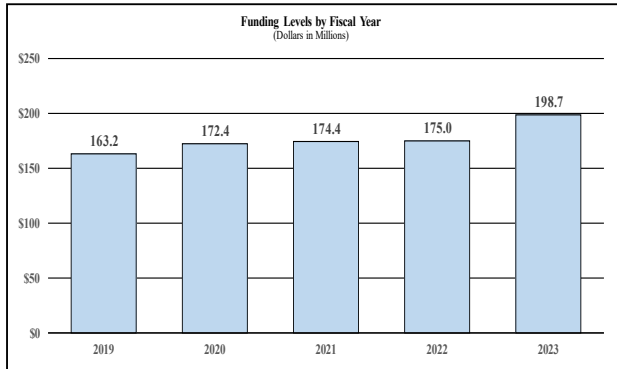
Summary of Changes
(Dollars in Thousands)

FY 2022 CR	\$174,957
FY 2023 President's Budget	\$198,670
Net change	\$23,713

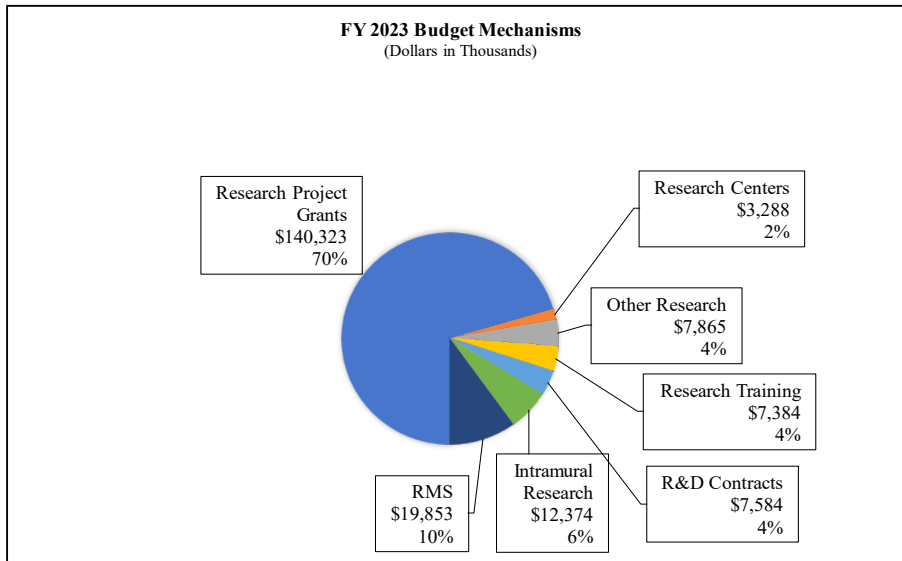
CHANGES	FY 2022 CR		FY 2023 President's Budget		Built-In Change from FY 2022 CR	
	FTEs	Budget Authority	FTEs	Budget Authority	FTEs	Budget Authority
A. Built-in:						
<u>1. Intramural Research:</u>						
a. Annualization of January 2022 pay increase & benefits		\$5,110		\$5,298		\$34
b. January FY 2023 pay increase & benefits		\$5,110		\$5,298		\$173
c. Paid days adjustment		\$5,110		\$5,298		-\$19
d. Differences attributable to change in FTE		\$5,110		\$5,298		\$0
e. Payment for centrally furnished services		\$2,364		\$2,411		\$47
f. Cost of laboratory supplies, materials, other expenses, and non-recurring costs		\$4,642		\$4,665		\$99
Subtotal						\$334
<u>2. Research Management and Support:</u>						
a. Annualization of January 2022 pay increase & benefits		\$13,079		\$13,558		\$87
b. January FY 2023 pay increase & benefits		\$13,079		\$13,558		\$442
c. Paid days adjustment		\$13,079		\$13,558		-\$50
d. Differences attributable to change in FTE		\$13,079		\$13,558		\$0
e. Payment for centrally furnished services		\$1,644		\$1,677		\$33
f. Cost of laboratory supplies, materials, other expenses, and non-recurring costs		\$4,716		\$4,618		\$100
Subtotal						\$612
Subtotal, Built-in						\$946
CHANGES	FY 2022 CR		FY 2023 President's Budget		Program Change from FY 2022 CR	
	No.	Amount	No.	Amount	No.	Amount
B. Program:						
<u>1. Research Project Grants:</u>						
a. Noncompeting	184	\$91,805	189	\$88,684	5	-\$3,121
b. Competing	45	\$21,000	95	\$44,332	50	\$23,333
c. SBIR/STTR	12	\$6,435	13	\$7,307	1	\$872
Subtotal, RPGs	241	\$119,239	297	\$140,323	56	\$21,084
2. Research Centers	5	\$3,211	5	\$3,288	0	\$76
3. Other Research	40	\$7,133	45	\$7,865	5	\$732
4. Research Training	134	\$7,140	136	\$7,384	2	\$244
5. Research and development contracts	0	\$6,679	0	\$7,584	0	\$905
Subtotal, Extramural		\$143,402		\$166,443		\$23,041
6. Intramural Research	31	\$12,116	31	\$12,374	0	-\$76
7. Research Management and Support	80	\$19,439	80	\$19,853	0	-\$199
8. Construction		\$0		\$0		\$0
9. Buildings and Facilities		\$0		\$0		\$0
Subtotal, Program	111	\$174,957	111	\$198,670	0	\$22,767
Total built-in and program changes						\$23,713

Fiscal Year 2023 Budget Graphs

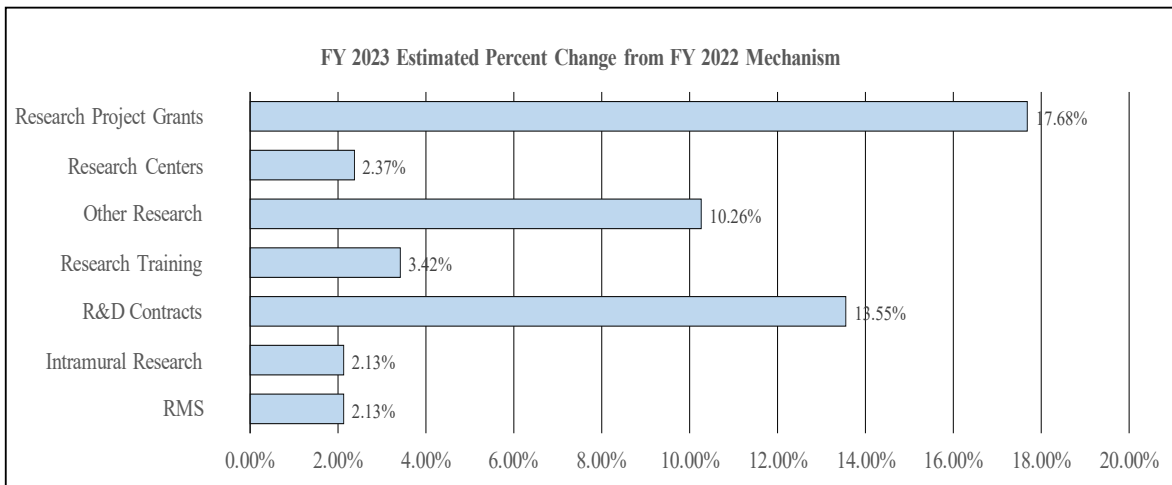
History of Budget Authority and FTEs:



Distribution by Mechanism:

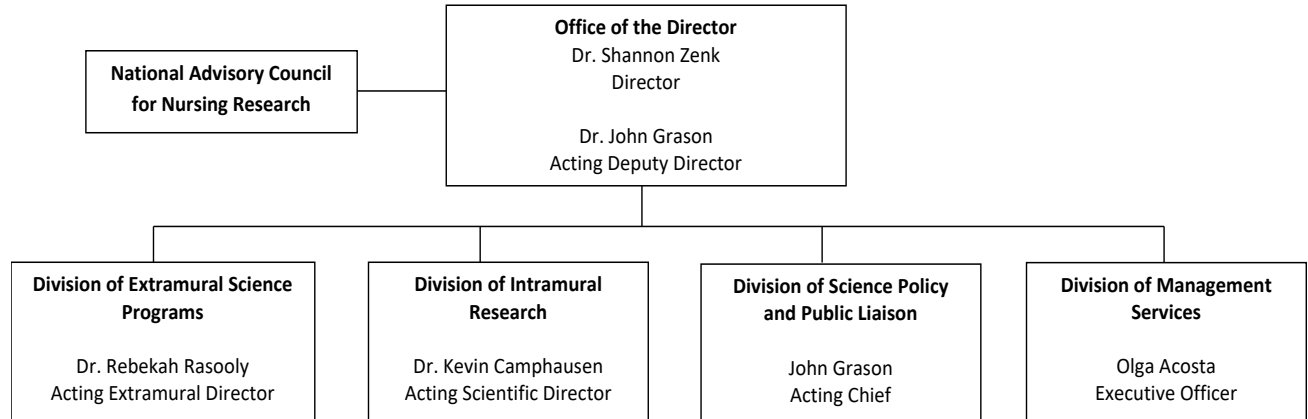


Change by Selected Mechanisms:



Organization Chart

National Institutes of Health National Institute of Nursing Research Organizational Chart



Budget Authority by Activity Table

NATIONAL INSTITUTES OF HEALTH National Institute of Nursing Research

Budget Authority by Activity* (Dollars in Thousands)

	FY 2021 Final		FY 2022 CR		FY 2023 President's Budget		FY 2023 +/- FY 2022 CR	
	<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>Extramural Research</u>								
<u>Detail</u>								
Prevention and Management of Chronic Conditions		\$92,428		\$90,916		\$105,524		\$14,608
Promoting Health Equity and Reducing Health Disparities		\$25,494		\$25,076		\$29,106		\$4,029
Innovation and Technology		\$10,043		\$9,878		\$11,466		\$1,587
Training Nurse Scientists		\$17,823		\$17,531		\$20,348		\$2,817
Subtotal, Extramural		\$145,787		\$143,402		\$166,443		\$23,041
Intramural Research	24	\$11,906	31	\$12,116	31	\$12,374	0	\$258
Research Management & Support	59	\$16,718	80	\$19,439	80	\$19,853	0	\$414
TOTAL	83	\$174,411	111	\$174,957	111	\$198,670	0	\$23,713

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

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 (BA):

	<u>FY 2021 Final</u>	<u>FY 2022 CR</u>	<u>FY 2023 President's Budget</u>	<u>FY 2023 +/- FY 2022</u>
BA	\$174,411,000	\$174,957,000	\$198,670,000	+\$23,713,000
FTE	83	111	111	0

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

Overall Budget Policy: The FY 2023 President's Budget Request for NINR is \$198.7 million, an increase of \$23.7 million or 13.6 percent compared with the FY 2022 CR level. This increase includes \$20.0 million to expand NINR research in the area of health disparities. Investigator-initiated research projects, support for new investigators, research training, and career development continue to be the Institute's highest priorities. Overall, in FY 2023, 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.

Program Descriptions

Promoting Health Equity and Reducing Health Disparities

Where you live determines whether you have access to grocery stores and healthy foods, pharmacies and essential medicine, jobs that pay a living wage, good schools, safe affordable housing, attractive parks and green spaces, and clean air and water. These factors are examples of social determinants of health. They are often a root cause of the persistent health inequities that exist in our society – inequities that have been present for decades, and that were brought into sharp focus during the COVID-19 pandemic.



Nursing science’s whole-person, contextualized perspective on health recognizes that one’s health and well-being is influenced at multiple levels: individual, family, community, environment, and society. This perspective makes this field ideally positioned to develop and implement new strategies to improve prevention, diagnosis, treatment, and care across diverse settings and for diverse populations. A recent study, supported in part by NINR, examined the relationships among multiple social determinants of health factors (income, education, and discrimination), cardiovascular health (body mass index [BMI] and smoking), and depressive symptoms among a sample of young Black mothers. The study found that in young socioeconomically disadvantaged Black mothers, elevated body mass index and perceived



discrimination were significantly associated with higher reported depressive symptoms, an example of the impact of social determinants on health outcomes.³

Another research group reported that in California, among all racial and ethnic groups studied, the highest rate of severe maternal morbidity occurred in Black women, and that the increased rate was not

³ Millender E, Barile JP, R Bagneris J, Harris RM, De Faria L, Wong FY, Crusto CA, Taylor JY. Associations between social determinants of health, perceived discrimination, and body mass index on symptoms of depression among young African American mothers. *Arch Psychiatr Nurs*. 2021 Feb;35(1):94-101. doi: 10.1016/j.apnu.2020.09.014. Epub 2020 Nov 25.

fully explained by differences in the hospitals in which they gave birth, suggesting other factors are at play.⁴ In 2020, partnering with the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development, the National Institute on Minority Health and Health Disparities, the Office of Research on Women’s Health, and the Tribal Health Research Office, NINR hosted a workshop that explored the possibilities of using innovative models of care to reduce inequities in maternal health. As a result of that workshop, in FY 2022, NINR launched a new initiative to develop interventions that use supportive care approaches throughout a pregnancy – such as a doula or patient navigator – to improve maternal health outcomes among racial and ethnic minority women.

One current study is examining whether use of community services among those in need improves COVID-19 health outcomes.⁵ Given COVID-19’s disproportionate impact on minority and underserved communities, this work is vitally important in understanding how we can contribute to health equity during COVID-19 among these populations. In addition, NINR is planning a new initiative to examine the long-term social impacts of the COVID-19 pandemic on health and health disparities. NINR has a long history of supporting research to reduce and eliminate health disparities, and while science has enabled some progress, it is clear that we have a long way to go. In FY 2023, NINR will continue to implement new and expanded research initiatives to promote health equity and reduce health disparities.

Budget Policy: The FY 2023 President’s Budget request for this program is \$29.1 million, an increase of \$4.0 million or 16.1 percent compared to the FY 2022 CR level.

⁴ Mujahid MS, Kan P, Leonard SA, Hailu EM, Wall-Wieler E, Abrams B, Main E, Profit J, Carmichael. Birth Hospital and Racial and Ethnic Differences in Severe Maternal Morbidity in the State of California. *Am J Obstet Gynecol.* 2021 Feb; 224(2):219.e1-219.e15.

⁵ reporter.nih.gov/project-details/10248618

Nursing Science's Response to COVID-19

The World Health Organization (WHO) declared 2020 the *International Year of the Nurse and the Midwife* in honor of the 200th anniversary of the birth of Florence Nightingale. Tragically, that year also marked the beginning of the global COVID-19 pandemic. In no other year was the powerful role of the nurse in the health care system more evident. Almost immediately, nurses and nurse scientists pivoted their clinical work, research, and resources to face the current crisis and to prepare for future threats.

Grantees across NINR's program areas incorporated the COVID-19 response into their research projects. For example, in Chicago, a group of researchers supported in part by NINR, and in collaboration with African American pastors and church members, developed strategies for improving COVID-19 testing in segregated and underserved communities. Similarly, a nurse-led research team providing social needs assessments and referrals for individuals after hospitalization incorporated the pandemic response into their work. Supported by NINR, they developed a pragmatic trial of intensified community referrals to improve general health and COVID-19-related health outcomes.

In New York City, NINR-supported researchers began a project that will study over the next two to four years the effects of the pandemic on children's health, education, and well-being. Another NINR-supported research team has leveraged its existing partnership with community organizations to develop and disseminate culturally congruent and health literate infographics to help in understanding COVID-19 testing results and address vaccine hesitancy and uptake in underserved communities.

It is important that the lessons from the current pandemic guide our planning for the future. NINR is developing a new initiative that will support studies to examine the long-term social impacts of the pandemic on health and health disparities. In addition, NINR will continue to explore partnerships across NIH and other federal agencies to leverage nursing's unique perspective on patient and community experiences during the pandemic to inform practice and policy for years to come.

Prevention and Management of Chronic Conditions



The prevention and management of chronic conditions are fundamental to nursing and have been a focus of nursing science since the establishment of the field. NINR-supported research explores the biopsychosocial, family, community, policy, and system factors that lead to illness. This research takes place across health conditions from obesity to HIV, across the lifespan from before birth to the end of life, across settings from the bedside to community, and across diverse communities and populations. This research area encompasses finding and improving strategies to manage adverse health conditions and their comorbidities, and preferably, to prevent those conditions from happening in the first place. Research studies in this area take place in many settings, from hospitals and clinics, to schools and homes. For example, a recent study found that residential tree canopy cover was associated with lower perceived stress in low-income pregnant women in urban environments who had a history of depression or anxiety, lending further evidence of the benefits of green spaces to health.⁶ Another study provided more evidence that higher patient to nurse staffing ratios in hospitals are associated with increased odds of in-hospital mortality, longer

⁶ Nguemini Tiako MJ, South E, Shannon MM, McCarthy C, Meisel ZF, Elovitz MA, Burris HH. Urban residential tree canopy and perceived stress among pregnant women. *Environ Res.* 2021 Oct;201:111620. doi: 10.1016/j.envres.2021.111620. Epub 2021 Jul 1. PMID: 34216611; PMCID: PMC8485251.

stays in the hospital, and a greater chance of readmission. The study concluded that reducing the number of patients per nurse could save thousands of lives and hundreds of millions of dollars.⁷ A third study tested a program to increase physical activity in underserved, middle school students. The intervention, included in existing afterschool programs, was found to increase the time the students spent on moderate-to-vigorous physical activity. This intervention could serve as a model for developing and implementing similar interventions across various settings.⁸ In FY 2023, NINR will continue its long-standing support of research to prevent and manage chronic conditions, and help individuals live healthier and happier lives.

Budget Policy: The FY 2023 President’s Budget request for this program is \$105.5 million, an increase of \$14.6 million or 16.1 percent compared to the FY 2022 CR level.

Innovation and Technology

The COVID-19 pandemic has highlighted the importance of developing new models of care that allow patients and families to reach providers when travel to a physical office is not possible. NINR has supported the development of numerous strategies for effectively delivering care and monitoring patients in hard-to-reach settings using new technologies. One current study is comparing two digital treatment programs that can be used at home to manage pain. One



program uses a smartphone or computer, while the other uses virtual reality goggles to help the patient build new skills. These two programs will be tested in rural areas in Alabama, California, and Louisiana to determine which strategy is more effective in helping the patients manage pain, and are examples of approaches that can improve access to care for those in rural areas.⁹ Another current study is partnering with community hospitals in rural areas of Alabama, Mississippi, and South Carolina to test the effectiveness of a telehealth-based palliative care consultation intervention for hospitalized older adults with life-limiting illnesses and their families.

This study could serve as a model for delivering effective, culturally relevant palliative care to areas of the United States where such resources are not readily available.¹⁰

Budget Policy: The FY 2023 President’s Budget request for this program is \$11.5 million, an increase of \$1.6 million or 16.1 percent compared to the FY 2022 CR level.

Training Nurse Scientists

In FY 2023, NINR will continue its robust support for developing the next generation of nursing scientists. Given the challenges of today, and knowing that new challenges are always on the

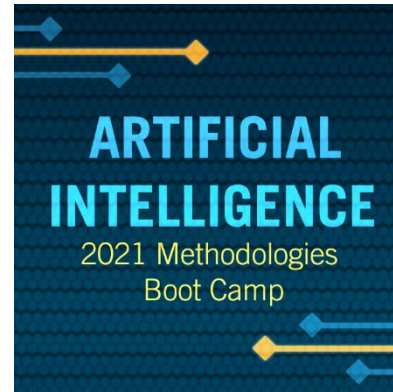
⁷ Lasater KB, Aiken LH, Sloane DM, French R, Anusiewicz CV, Martin B, Reneau K, Alexander M, McHugh MD. Is Hospital Nurse Staffing Legislation in the Public’s Interest?: An Observational Study in New York State. *Med Care.* 2021 May 1;59(5):444-450.

⁸ Zarrett N, Law LH, Wilson DK, Abraczinskas M, Taylor S, Cook BS, Roberts A. Connect through PLAY: a randomized-controlled trial in afterschool programs to increase adolescents’ physical activity. *J Behav Med.* 2021 Jun;44(3):379-391.

⁹ R01-NR019947

¹⁰ R01-NR017181

horizon, it is more important than ever that the nursing scientists of the future are trained to conduct high-impact, innovative, multidisciplinary research aimed at improving health in all communities and settings. To that end, NINR will support training awards such as the Ruth L. Kirschstein National Research Service Awards (NRSAs) and career development (K) awards to assist those scientists beginning their research careers, and to help established investigators pursue new research directions. In 2021, NINR's research methodologies bootcamp explored the impact that AI has on the evolving healthcare environment and ways in which it can improve the care of all patients and families in an equitable way. NINR is also in the process of developing new training initiatives to help nurse scientists expand their research goals to explore topics such as social determinants of health and implementation science. Finally, NINR is a strong supporter of efforts across NIH to assess and expand diversity in the scientific workforce. At the same time, NINR is undertaking an effort to address this issue within the nursing science community, and is establishing a working group to explore barriers to diversity that are unique to this community and suggest strategies for overcoming them.



Budget Policy: The FY 2023 President's Budget request for this program is \$20.3 million, an increase of \$2.8 million or 16.1 percent compared to the FY 2022 CR level.

Intramural Research

NINR's intramural research program conducts science that complements NINR's overall research mission, while leveraging resources unique to the NIH campus in Bethesda, Maryland. It is also a vital resource for training new nursing scientists in cutting edge research methods and collaborative science. The intramural research program is currently focused on increasing its efforts in research that integrate a multilevel understanding of the impact of health determinants, from the community level to the laboratory bench, with areas such as community-based, multilevel, and translational research. Like the rest of NINR's research portfolio, this approach to science takes advantage of nursing science's unique ability to address people's lives and living conditions to improve health and health equity.

Budget Policy: The FY 2023 President's Budget request for this program is \$12.4 million, an increase of \$0.3 million or 2.1 percent compared to the FY 2022 CR level.

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 2023 President's Budget request for this program is \$19.89 million, an increase of \$0.4 million or 2.1 percent compared to the FY 2022 CR level.

Appropriations History

NATIONAL INSTITUTES OF HEALTH National Institute of Nursing Research

Appropriations History

Fiscal Year	Budget Estimate to Congress	House Allowance	Senate Allowance	Appropriation
2014	\$146,244,000		\$145,272,000	\$140,517,000
Rescission				\$0
2015	\$140,452,000			\$140,953,000
Rescission				\$0
2016	\$144,515,000	\$142,701,000	\$147,508,000	\$146,485,000
Rescission				\$0
2017 ¹	\$145,912,000	\$150,008,000	\$151,965,000	\$150,273,000
Rescission				\$0
2018	\$113,688,000	\$152,599,000	\$155,210,000	\$158,033,000
Rescission				\$0
2019	\$145,842,000	\$159,920,000	\$163,076,000	\$162,992,000
Rescission				\$0
2020	\$140,301,000	\$170,958,000	\$172,417,000	\$169,113,000
Rescission				\$0
2021	\$156,804,000	\$170,567,000	\$177,976,000	\$174,957,000
Rescission				\$0
2022	\$199,755,000	\$200,782,000	\$199,595,000	\$174,957,000
Rescission				\$0
2023	\$198,670,000			

¹ Budget Estimate to Congress includes mandatory financing

Authorizing Legislation

NATIONAL INSTITUTES OF HEALTH National Institute of Nursing Research

Authorizing Legislation

	PHS Act/ Other Citation	U.S. Code Citation	2022 Amount Authorized	FY 2022 CR	2023 Amount Authorized	FY 2023 President's Budget
Research and Investigation	Section 301	42§241	Indefinite	\$174,957,000	Indefinite	\$198,670,000
National Institute of Nursing Research	Section 401(a)	42§281	Indefinite		Indefinite	
Total, Budget Authority				\$174,957,000		\$198,670,000

Amounts Available for Obligation

NATIONAL INSTITUTES OF HEALTH

National Institute of Nursing Research

Amounts Available for Obligation ¹

(Dollars in Thousands)

Source of Funding	FY 2021 Final	FY 2022 CR	FY 2023 President's Budget
Appropriation	\$174,957	\$174,957	\$198,670
Secretary's Transfer	-\$525	\$0	\$0
Subtotal, adjusted appropriation	\$174,432	\$174,957	\$198,670
OAR HIV/AIDS Transfers	-\$21	\$0	\$0
Subtotal, adjusted budget authority	\$174,411	\$174,957	\$198,670
Unobligated balance, start of year	\$0	\$0	\$0
Unobligated balance, end of year (carryover)	\$0	\$0	\$0
Subtotal, adjusted budget authority	\$174,411	\$174,957	\$198,670
Unobligated balance lapsing	\$0	\$0	\$0
Total obligations	\$174,411	\$174,957	\$198,670

¹ Excludes the following amounts (in thousands) for reimbursable activities carried out by this account:

FY 2021 - \$825 FY 2022 - \$2,000 FY 2023 - \$2,000

NATIONAL INSTITUTES OF HEALTH
National Institute of Nursing Research

Budget Authority by Object Class¹
(Dollars in Thousands)

	FY 2022 CR	FY 2023 President's Budget	FY 2023 +/- FY 2022
Total compensable workyears:			
Full-time equivalent	111	111	0
Full-time equivalent of overtime and holiday hours	0	0	0
Average ES salary	\$0	\$0	\$0
Average GM/GS grade	13.1	13.1	0.0
Average GM/GS salary	\$131	\$137	\$6
Average salary, Commissioned Corps (42 U.S.C. 207)	\$112	\$117	\$5
Average salary of ungraded positions	\$88	\$92	\$4
OBJECT CLASSES	FY 2022 CR	FY 2023 President's Budget	FY 2023 +/- FY 2022
Personnel Compensation			
11.1 Full-Time Permanent	\$11,060	\$11,474	\$414
11.3 Other Than Full-Time Permanent	\$1,274	\$1,322	\$48
11.5 Other Personnel Compensation	\$399	\$414	\$15
11.7 Military Personnel	\$271	\$282	\$10
11.8 Special Personnel Services Payments	\$619	\$642	\$23
11.9 Subtotal Personnel Compensation	\$13,623	\$14,133	\$510
12.1 Civilian Personnel Benefits	\$4,402	\$4,553	\$151
12.2 Military Personnel Benefits	\$163	\$170	\$6
13.0 Benefits to Former Personnel	\$0	\$0	\$0
Subtotal Pay Costs	\$18,189	\$18,856	\$667
21.0 Travel & Transportation of Persons	\$17	\$18	\$0
22.0 Transportation of Things	\$10	\$10	\$0
23.1 Rental Payments to GSA	\$0	\$0	\$0
23.2 Rental Payments to Others	\$0	\$0	\$0
23.3 Communications, Utilities & Misc. Charges	\$28	\$28	\$1
24.0 Printing & Reproduction	\$0	\$0	\$0
25.1 Consulting Services	\$4,443	\$4,532	\$90
25.2 Other Services	\$1,977	\$1,746	-\$231
25.3 Purchase of Goods and Services from Government Accounts	\$13,133	\$13,891	\$758
25.4 Operation & Maintenance of Facilities	\$3	\$3	\$0
25.5 R&D Contracts	\$723	\$994	\$271
25.6 Medical Care	\$49	\$51	\$2
25.7 Operation & Maintenance of Equipment	\$217	\$222	\$5
25.8 Subsistence & Support of Persons	\$0	\$0	\$0
25.0 Subtotal Other Contractual Services	\$20,545	\$21,440	\$895
26.0 Supplies & Materials	\$394	\$403	\$9
31.0 Equipment	\$250	\$256	\$6
32.0 Land and Structures	\$0	\$0	\$0
33.0 Investments & Loans	\$0	\$0	\$0
41.0 Grants, Subsidies & Contributions	\$135,523	\$157,659	\$22,136
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	\$156,768	\$179,814	\$23,046
Total Budget Authority by Object Class	\$174,957	\$198,670	\$23,713

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 2022 CR	FY 2023 President's Budget	FY 2023 +/- FY 2022
<u>Personnel Compensation</u>			
Full-Time Permanent (11.1)	\$11,060	\$11,474	\$414
Other Than Full-Time Permanent (11.3)	\$1,274	\$1,322	\$48
Other Personnel Compensation (11.5)	\$399	\$414	\$15
Military Personnel (11.7)	\$271	\$282	\$10
Special Personnel Services Payments (11.8)	\$619	\$642	\$23
Subtotal, Personnel Compensation (11.9)	\$13,623	\$14,133	\$510
Civilian Personnel Benefits (12.1)	\$4,402	\$4,553	\$151
Military Personnel Benefits (12.2)	\$163	\$170	\$6
Benefits to Former Personnel (13.0)	\$0	\$0	\$0
Subtotal Pay Costs	\$18,189	\$18,856	\$667
Travel & Transportation of Persons (21.0)	\$17	\$18	\$0
Transportation of Things (22.0)	\$10	\$10	\$0
Rental Payments to Others (23.2)	\$0	\$0	\$0
Communications, Utilities & Misc. Charges (23.3)	\$28	\$28	\$1
Printing & Reproduction (24.0)	\$0	\$0	\$0
<u>Other Contractual Services</u>			
Consultant Services (25.1)	\$4,440	\$4,530	\$90
Other Services (25.2)	\$1,977	\$1,746	-\$231
Purchase of Goods and Services from Government Accounts (25.3)	\$8,584	\$8,757	\$174
Operation & Maintenance of Facilities (25.4)	\$3	\$3	\$0
Operation & Maintenance of Equipment (25.7)	\$217	\$222	\$5
Subsistence & Support of Persons (25.8)	\$0	\$0	\$0
Subtotal Other Contractual Services	\$15,221	\$15,259	\$38
Supplies & Materials (26.0)	\$394	\$403	\$9
Subtotal Non-Pay Costs	\$15,670	\$15,718	\$48
Total Administrative Costs	\$33,860	\$34,574	\$714

Detail of Full-Time Equivalent Employment (FTE)

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

Detail of Full-Time Equivalent Employment (FTE)

Office	FY 2021 Final			FY 2022 CR			FY 2023 President's Budget		
	Civilian	Military	Total	Civilian	Military	Total	Civilian	Military	Total
Division of Intramural Research									
Direct:	21	3	24	28	3	31	28	3	31
Total:	21	3	24	28	3	31	28	3	31
Office of the Director									
Direct:	3	-	3	5	-	5	5	-	5
Total:	3	-	3	5	-	5	5	-	5
Division of Extramural Science Programs									
Direct:	24	-	24	33	-	33	33	-	33
Total:	24	-	24	33	-	33	33	-	33
Division of Science Policy and Public Liaison									
Direct:	12	-	12	15	-	15	15	-	15
Total:	12	-	12	15	-	15	15	-	15
Division of Management Services									
Direct:	20	-	20	27	-	27	27	-	27
Total:	20	-	20	27	-	27	27	-	27
Total	80	3	83	108	3	111	108	3	111
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								
2019	13.0								
2020	13.1								
2021	13.0								
2022	13.1								
2023	13.1								

Detail of Positions

NATIONAL INSTITUTES OF HEALTH National Institute of Nursing Research

Detail of Positions¹

GRADE	FY 2021 Final	FY 2022 CR	FY 2023 President's Budget
Total, ES Positions	0	0	0
Total, ES Salary	\$0	\$0	\$0
General Schedule			
GM/GS-15	11	16	16
GM/GS-14	24	27	27
GM/GS-13	20	23	23
GS-12	13	17	17
GS-11	4	4	4
GS-10	0	0	0
GS-9	0	0	0
GS-8	0	0	0
GS-7	2	3	3
GS-6	1	1	1
GS-5	1	0	0
GS-4	0	0	0
GS-3	0	0	0
GS-2	0	0	0
GS-1	0	0	0
Subtotal	76	91	91
Commissioned Corps (42 U.S.C. 207)			
Assistant Surgeon General	0	0	0
Director Grade	1	1	1
Senior Grade	1	1	1
Full Grade	1	0	0
Senior Assistant Grade	0	0	0
Assistant Grade	0	0	0
Subtotal	3	2	2
Ungraded	15	21	21
Total permanent positions	79	94	94
Total positions, end of year	94	114	114
Total full-time equivalent (FTE) employment, end of year	83	111	111
Average ES salary	\$0	\$0	\$0
Average GM/GS grade	13.0	0.0	0.0
Average GM/GS salary	\$124,928	\$130,689	\$136,701

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