

DEPARTMENT OF HEALTH AND HUMAN SERVICES
NATIONAL INSTITUTES OF HEALTH

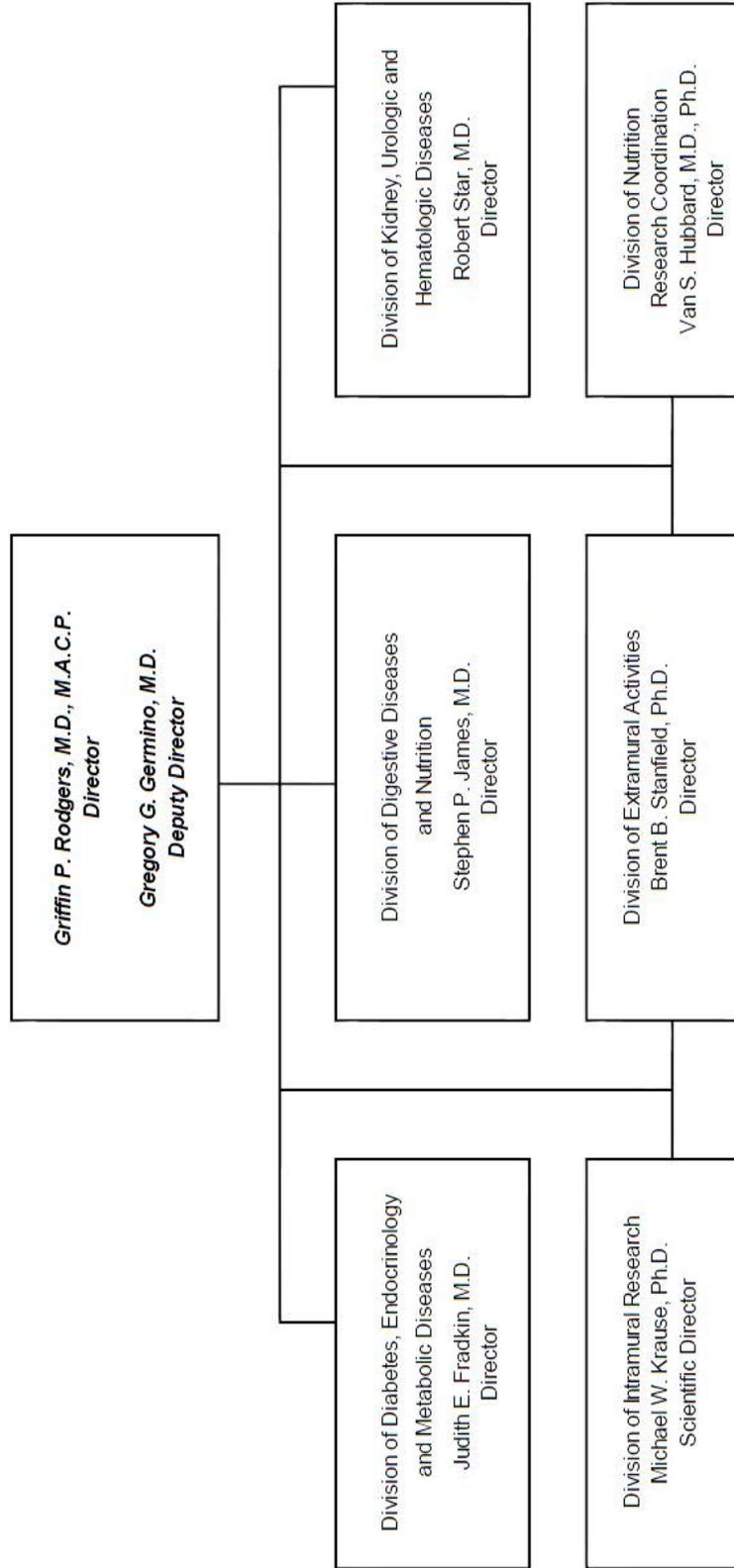
National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)

<u>FY 2015 Budget</u>	<u>Page No.</u>
Organization Chart.....	2
Appropriation Language.....	3
Amounts Available for Obligation.....	4
Budget Mechanism Table.....	5
Budget Mechanism Table – Type 1 Diabetes.....	6
Major Changes in Budget Request.....	7
Summary of Changes.....	9
Budget Graphs.....	11
Budget Authority by Activity.....	12
Authorizing Legislation.....	13
Appropriations History.....	14
Justification of Budget Request.....	15
Budget Authority by Object Class.....	26
Salaries and Expenses.....	27
Detail of Full-Time Equivalent Employment (FTE).....	28
Detail of Positions.....	29

NATIONAL INSTITUTES OF HEALTH

National Institute of Diabetes and Digestive and Kidney Diseases

Organization Structure



NATIONAL INSTITUTES OF HEALTH

National Institute of Diabetes and Digestive and Kidney Diseases

For carrying out section 301 and title IV of the PHS Act with respect to diabetes and digestive and kidney disease, **【\$1,744,274,000】***\$1,743,336,000*.

NATIONAL INSTITUTES OF HEALTH
National Institute of Diabetes and Digestive and Kidney Diseases

Amounts Available for Obligation¹
(Dollars in Thousands)

Source of Funding	FY 2013 Actual	FY 2014 Enacted	FY 2015 President's Budget
Appropriation	\$1,797,044	\$1,744,274	\$1,743,336
Rescission	-3,594	0	0
Sequestration	-90,199	0	0
Mandatory Appropriation: ²			
Type 1 Diabetes	150,000	150,000	150,000
Sequestration	-7,650	-10,800	0
Subtotal, adjusted appropriation	\$1,845,601	\$1,883,474	\$1,893,336
FY 2013 Secretary's Transfer	-9,936	0	0
OAR HIV/AIDS Transfers	0	0	0
Comparative transfers to NLM for NCBI and Public Access	-2,012	-2,400	0
National Children's Study Transfers	1,444	0	0
Subtotal, adjusted budget authority	\$1,835,097	\$1,881,074	\$1,893,336
Unobligated balance lapsing	-82	0	0
Total obligations	\$1,835,015	\$1,881,074	\$1,893,336

¹ Excludes actual or estimated amounts for reimbursable activities associated with this account in each fiscal year: FY 2013 - \$2,871 FY 2014 - \$4,000 FY 2015 - \$4,000

² Type 1 Diabetes Special Statutory Authority in Accordance with P.L. 111-309, P.L. 112-240 and proposed reauthorization for FY 2015.

NATIONAL INSTITUTES OF HEALTH
National Institute of Diabetes and Digestive and Kidney Diseases
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	1,953	\$810,510	1,748	\$793,451	1,716	\$794,952	-32	\$1,501
Administrative Supplements	(148)	12,556	(148)	12,500	(148)	12,500	(0)	0
Competing:								
Renewal	193	92,878	225	111,651	223	110,486	-2	-1,165
New	357	135,439	417	162,844	406	158,443	-11	-4,401
Supplements	0	0	0	0	0	0	0	0
Subtotal, Competing	550	\$228,316	642	\$274,495	629	\$268,929	-13	-\$5,566
Subtotal, RPGs	2,503	\$1,051,383	2,390	\$1,080,446	2,345	\$1,076,381	-45	-\$4,065
SBIR/STTR	98	43,760	107	46,110	111	48,014	4	1,904
Research Project Grants	2,601	\$1,095,143	2,497	\$1,126,556	2,456	\$1,124,395	-41	-\$2,161
<u>Research Centers:</u>								
Specialized/Comprehensive	93	\$99,854	95	\$101,853	95	\$102,353	0	\$500
Clinical Research	0	0	0	0	0	0	0	0
Biotechnology	0	0	0	0	0	0	0	0
Comparative Medicine	0	522	0	531	0	531	0	0
Research Centers in Minority Institutions	0	0	0	0	0	0	0	0
Research Centers	93	\$100,376	95	\$102,384	95	\$102,884	0	\$500
<u>Other Research:</u>								
Research Careers	489	\$72,449	494	\$73,725	494	\$73,725	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	117	0	117	0	117	0	0
Other	102	45,107	103	46,435	103	46,452	0	17
Other Research	591	\$117,673	597	\$120,277	597	\$120,294	0	\$17
Total Research Grants	3,285	\$1,313,192	3,189	\$1,349,217	3,148	\$1,347,573	-41	-\$1,644
<u>Ruth L. Kirchstein Training Awards:</u>	<u>FTEPs</u>		<u>FTEPs</u>		<u>FTEPs</u>		<u>FTEPs</u>	
Individual Awards	250	\$11,566	256	\$11,798	252	\$12,048	-4	\$250
Institutional Awards	821	43,934	837	44,790	830	45,990	-7	1,200
Total Research Training	1,071	\$55,500	1,093	\$56,588	1,082	\$58,038	-11	\$1,450
Research & Develop. Contracts	137	\$87,697	141	\$89,974	141	\$93,592	0	\$3,618
<i>(SBIR/STTR) (non-add)</i>	<i>(2)</i>	<i>(317)</i>	<i>(3)</i>	<i>(560)</i>	<i>(3)</i>	<i>(575)</i>	<i>(0)</i>	<i>(15)</i>
Intramural Research	327	172,476	327	175,926	327	177,685	0	1,759
Res. Management & Support	303	63,882	303	65,790	303	66,448	0	658
<i>Res. Management & Support (SBIR Admin) (non-add)</i>	<i>(0)</i>	<i>(0)</i>	<i>(10)</i>	<i>(917)</i>	<i>(10)</i>	<i>(917)</i>	<i>(0)</i>	<i>(0)</i>
Construction		0		0		0		0
Buildings and Facilities		0		0		0		0
Total, NIDDK	630	\$1,692,747	630	\$1,741,874	630	\$1,743,336	0	\$1,462

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.

NATIONAL INSTITUTES OF HEALTH
Type 1 Diabetes
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	30	\$37,858	1	\$14,634	14	\$18,248	13	\$3,614
Administrative Supplements	(2)	135	(2)	135	(2)	135	(0)	0
<u>Competing:</u>								
Renewal	6	29,021	10	35,310	4	17,062	-6	-18,248
New	23	64,858	26	78,536	37	103,884	11	25,348
Supplements	0	0	0	0	0	0	0	0
Subtotal, Competing	29	\$93,879	36	\$113,846	41	\$120,946	5	\$7,100
Subtotal, RPGs	59	\$131,872	37	\$128,615	55	\$139,329	18	\$10,714
SBIR/STTR	17	4,438	18	4,500	18	4,581	0	81
Research Project Grants	76	\$136,310	55	\$133,115	73	\$143,910	18	\$10,795
<u>Research Centers:</u>								
Specialized/Comprehensive	0	\$0	0	\$0	0	\$0	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	0	\$0	0	\$0	0	\$0	0	\$0
<u>Other Research:</u>								
Research Careers	6	\$2,745	6	\$2,647	6	\$2,647	0	\$0
Cancer Education	0	0	0	0	0	0	0	0
Cooperative Clinical Research	0	1,930	0	2,000	0	2,000	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	1,037	1	1,078	1	1,078	0	0
Other Research	7	\$5,712	7	\$5,725	7	\$5,725	0	\$0
Total Research Grants	83	\$142,022	62	\$138,840	80	\$149,635	18	\$10,795
<u>Ruth L Kirchstein Training Awards:</u>								
Individual Awards	0	\$0	0	\$0	0	\$0	0	\$0
Institutional Awards	6	328	6	360	6	365	0	5
Total Research Training	6	\$328	6	\$360	6	\$365	0	\$5
Research & Develop. Contracts	0	\$0	0	\$0	0	\$0	0	\$0
<i>(SBIR/STTR) (non-add)</i>	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Intramural Research	0	0	0	0	0	0	0	0
Res. Management & Support	0	0	0	0	0	0	0	0
<i>Res. Management & Support (SBIR Admin) (non-add)</i>	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Construction	0	0	0	0	0	0	0	0
Buildings and Facilities	0	0	0	0	0	0	0	0
Total, T1D	0	\$142,350	0	\$139,200	0	\$150,000	0	\$10,800

¹ All items in italics and brackets are non-add entries.

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 mechanisms and activity detail and these highlights will not sum to the total change for the FY 2015 President's Budget for NIDDK, which is \$12.262 million more than the FY 2014 Enacted level, for a total of \$1,893.336 million.

Research Project Grants (RPGs; +\$8.634 million; total \$1,268.305 million):

NIDDK will continue to support competing RPGs—670 awards in FY 2015. About 1,730 noncompeting RPGs, totaling \$825.835 million, will also be made in FY 2015.

Type 2 Diabetes Genetic Exploration by Next-generation sequencing in multi-Ethnic Samples (T2D-GENES; +\$5.500 million; total \$5.500 million):

T2D-GENES will continue to discover genes responsible for type 2 diabetes and to aggregate results in a webportal to facilitate public access. This next phase will concentrate on non-coding variants and on functional studies.

Diabetes Prevention Program Outcomes Study Long Term Follow-up (DPPOS; +\$8.500 million; total \$8.500 million):

This initiative will follow the DPP cohort to assess whether there are CVD benefits of early initiation of metformin treatment in individuals who have pre-diabetes versus waiting to begin metformin until needed for treatment of diabetes.

Treatment Options for Type 2 Diabetes in Adolescents and Youth phase 2 (TODAY2; +\$8.300 million; total \$8.300 million):

TODAY2 is a long-term observational follow-up of youth recruited to the TODAY trial to document the clinical course of type 2 diabetes that occurs at a young age, particularly the development of vascular complications and the risk factor for those complications, and determine predictors of glycemic control and the development of co-morbidities.

Chronic Pancreatitis Clinical Research Network (CPCRN) or Consortium for the Study of Chronic Pancreatitis (CSCP) (+\$3.500 million; total \$3.500 million):

This new initiative proposes to form a collaborative network of centers across the country dedicated to developing a registry of patients with pancreatitis, in order to conduct clinical studies and establish a biorepository of samples.

Preserve and Improve Bladder Health for Women (+\$4.000 million; total \$4.000 million):

This new initiative will further identify and establish modifiable risk factors important for the development of urinary incontinence or lower urinary tract symptoms in women.

Repairing and Building Nephrons—a Grand Challenge (+\$3.000 million; total \$3.000 million):

This new initiative will coordinate and support studies that will culminate in the ability to generate or repair nephrons that can function within the kidney.

Fostering Career Development Through Use of Archived Data and Samples from the Chronic Kidney Disease in Children (CKiD) and Chronic Renal Insufficiency Cohort (CRIC) Studies (+\$0.500 million; total \$0.500 million):

This new initiative seeks to increase the size of the pool of investigators focused on pediatric and adult chronic kidney disease.

NATIONAL INSTITUTES OF HEALTH
National Institute of Diabetes and Digestive and Kidney Diseases

Summary of Changes¹

(Dollars in Thousands)

FY 2014 Enacted				\$1,741,874
FY 2015 President's Budget				\$1,743,336
Net change				\$1,462
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		\$69,749		\$222
b. January FY 2015 pay increase & benefits		69,749		667
c. Zero more days of pay (n/a for 2015)		69,749		0
d. Differences attributable to change in FTE		69,749		0
e. Payment for centrally furnished services		28,916		0
f. Increased cost of laboratory supplies, materials, other expenses, and non-recurring costs		79,020		870
Subtotal				\$1,759
2. Research Management and Support:				
a. Annualization of January 2014 pay increase & benefits		\$40,444		\$132
b. January FY 2015 pay increase & benefits		40,444		397
c. Zero more days of pay (n/a for 2015)		40,444		0
d. Differences attributable to change in FTE		40,444		0
e. Payment for centrally furnished services		1,555		0
f. Increased cost of laboratory supplies, materials, other expenses, and non-recurring costs		24,449		129
Subtotal				\$658
Subtotal, Built-in				\$2,417

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.

NATIONAL INSTITUTES OF HEALTH
National Institute of Diabetes and Digestive and Kidney Diseases

Summary of Changes - Continued¹

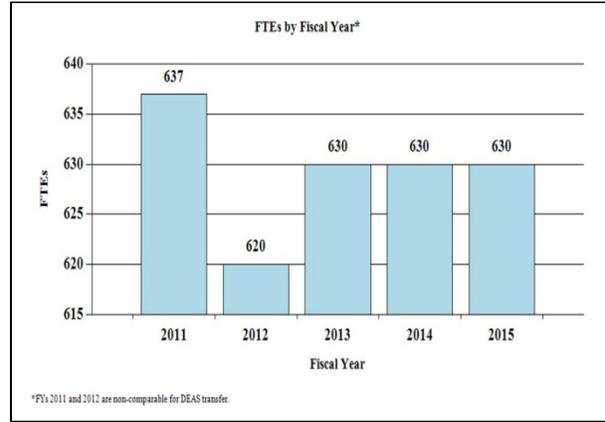
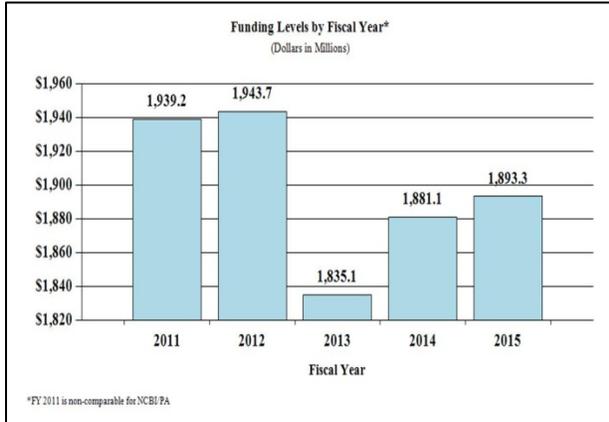
(Dollars in Thousands)

CHANGES	FY 2015 President's Budget		Change from FY 2014	
	No.	Amount	No.	Amount
B. Program:				
1. Research Project Grants:				
a. Noncompeting	1,716	\$807,452	-32	\$1,501
b. Competing	629	268,929	-13	-5,566
c. SBIR/STTR	111	48,014	4	1,904
Subtotal, RPGs	2,456	\$1,124,395	-41	-\$2,161
2. Research Centers	95	\$102,884	0	\$500
3. Other Research	597	120,294	0	17
4. Research Training	1,082	58,038	-11	1,450
5. Research and development contracts	141	93,592	0	3,618
Subtotal, Extramural		\$1,499,203		\$3,424
6. Intramural Research	<u>FTEs</u> 327	\$177,685	<u>FTEs</u> 0	\$0
7. Research Management and Support	303	66,448	0	0
8. Construction		0		0
9. Buildings and Facilities		0		0
Subtotal, Program	630	\$1,743,336	0	\$3,424
Total changes				\$1,462

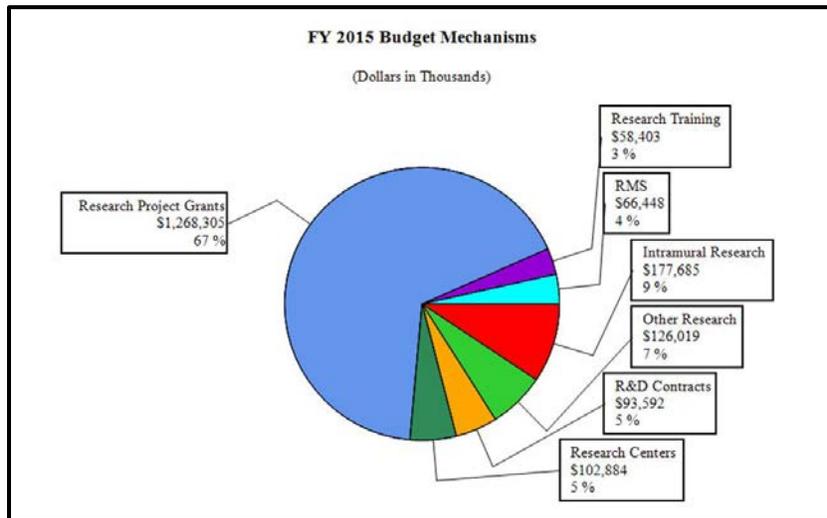
¹ The amounts in the Change from FY 2014 column take into account funding reallocations, and therefore may not add to the net change reflected herein.

Fiscal Year 2015 Budget Graphs

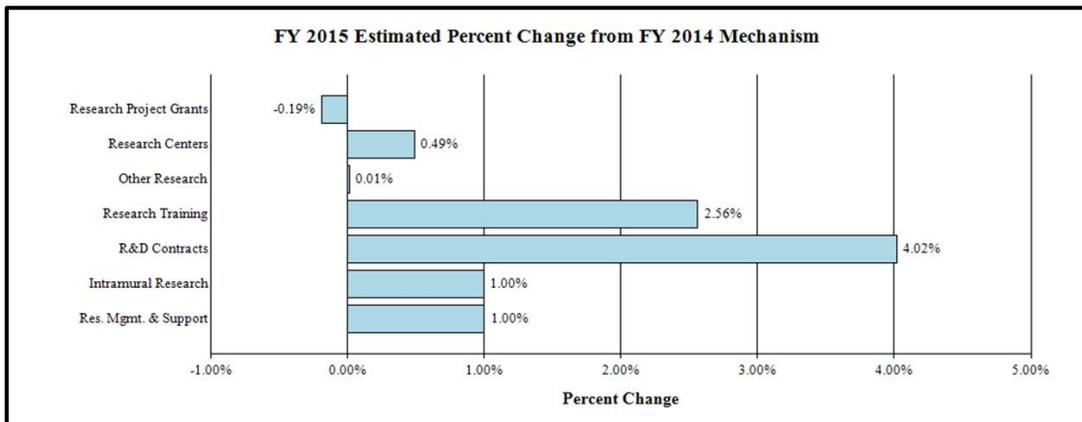
History of Budget Authority and FTEs:



Distribution by Mechanism:



Change by Mechanism:



NATIONAL INSTITUTES OF HEALTH
National Institute of Diabetes and Digestive and Kidney Diseases

Budget Authority by Activity¹
(Dollars in Thousands)

	FY 2013 Actual		FY 2014 Enacted ²		FY 2015 President's Budget		FY 2015 +/- FY 2014	
	<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>								
Diabetes, Endocrinology, and Metabolic Diseases		\$598,224		\$613,269		\$614,673		\$1,404
Digestive Diseases and Nutrition		456,006		463,692		464,753		1,061
Kidney, Urologic, and Hematologic Diseases		402,159		418,818		419,777		959
Type 1 Diabetes ³		142,350		139,200		150,000		10,800
Subtotal, Extramural		\$1,598,739		\$1,634,979		\$1,649,203		\$14,224
Intramural Research	327	\$172,476	327	\$175,926	327	\$177,685	0	\$1,759
Research Management & Support	303	\$63,882	303	\$65,790	303	\$66,448	0	\$658
TOTAL	630	\$1,835,097	630	\$1,881,074	630	\$1,893,336	0	\$12,262

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.

³ Mandatory Appropriation for the Special Statutory Authority for Type 1 Diabetes Research in Accordance with P.L. 111-309, P.L. 112-240 and proposed reauthorization for FY 2015.

NATIONAL INSTITUTES OF HEALTH
National Institute of Diabetes and Digestive and Kidney Diseases

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		Indefinite	
National Institute of Diabetes and Digestive and Kidney Diseases	Section 401(a)	42§281	Indefinite	\$1,881,074,000	Indefinite	\$1,893,336,000
Total, Budget Authority				\$1,881,074,000		\$1,893,336,000

NATIONAL INSTITUTES OF HEALTH
National Institute of Diabetes and Digestive and Kidney Diseases

Appropriations History

Fiscal Year	Budget Estimate to Congress	House Allowance	Senate Allowance	Appropriation
2005 Rescission	\$1,876,196,000	\$1,876,196,000	\$1,889,100,000	\$1,863,584,000 (\$14,112,000)
2006 Rescission	\$1,872,146,000	\$1,872,146,000	\$1,917,919,000	\$1,854,925,000 (\$17,221,000)
2007 Rescission	\$1,844,298,000	\$1,844,298,000	\$1,857,753,000	\$1,855,868,000 \$0
2008 Rescission Supplemental	\$1,858,045,000	\$1,881,893,000	\$1,897,784,000	\$1,855,868,000 \$0 \$9,077,000
2009 Rescission	\$1,858,487,000	\$1,767,071,000	\$1,755,881,000	\$1,911,338,000 \$0
2010 Rescission	\$1,931,494,000	\$1,974,251,000	\$1,940,518,000	\$1,958,100,000 \$0
2011 Rescission	\$2,007,589,000		\$2,004,674,000	\$1,958,100,000 (\$15,876,196)
2012 Rescission	\$1,987,957,000	\$1,987,957,000	\$1,922,045,000	\$1,950,447,000 (\$3,402,845)
2013 Rescission Sequestration	\$1,942,107,000		\$1,947,539,000	\$1,947,044,155 (\$3,594,088) (\$97,849,260)
2014 Rescission Sequestration	\$1,961,786,000		\$1,949,745,000	\$1,894,274,000 \$0 (\$10,800,000)
2015	\$1,893,336,000			

Justification of Budget Request

National Institute of Diabetes and Digestive and Kidney Diseases

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

Budget Authority (BA):

	FY 2013 Actual	FY 2014 Enacted	FY 2015 President's Budget	FY 2015 +/- FY 2014
Labor/HHS	\$1,692,747,067	\$1,741,874,000	\$1,743,336,000	+\$1,462,000
Type 1 Diabetes	<u>\$142,350,000</u>	<u>\$139,200,000</u>	<u>\$150,000,000</u>	<u>+\$10,800,000</u>
BA	\$1,835,097,067	\$1,881,074,000	\$1,893,336,000	+\$12,262,000
FTEs	630	630	630	0

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

Director's Overview

The mission of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) is to support and conduct research to combat diabetes and other endocrine and metabolic diseases, liver and other digestive diseases, nutritional disorders, obesity, and kidney, urologic, and hematologic diseases. These diseases are chronic, common, costly, and consequential for patients, their families, and our Nation. Diabetes afflicts an estimated 25.8 million people in the U.S., greatly increasing the risk for many serious complications, such as heart disease and kidney failure.¹ Estimates of chronic kidney disease (CKD) show that more than 23 million Americans are affected, and over 590,000 have irreversible kidney failure.² Many urologic diseases are also highly prevalent.³ Digestive diseases account for an estimated 104.7 million visits to ambulatory care centers and 13.5 million hospitalizations per year.⁴ Obesity affects approximately one-third of U.S. adults and about 17 percent of children

¹ Centers for Disease Control and Prevention. *National diabetes fact sheet: national estimates and general information on diabetes and prediabetes in the United States, 2011*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2011.

² Levey AS, et al. *Ann Intern Med* 150: 604-612, 2009.; U.S. Renal Data System, *USRDS 2011 Annual Data Report: Atlas of Chronic Kidney Disease and End-Stage Renal Disease in the United States*, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD, 2011.

³ NIDDK, NIH/DHHS. *Kidney and urologic diseases statistics* (<http://kidney.niddk.nih.gov/statistics/>), 2010.

⁴ Everhart Je, editor. *The burden of digestive diseases in the United States*. US Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases. Washington, DC: US Government Printing Office, 2008; NIH Publication No. 09-6443.

and adolescents.⁵ Obesity is a strong risk factor for type 2 diabetes, nonalcoholic steatohepatitis (NASH), and many other diseases. Cystic fibrosis and other genetic diseases within NIDDK's purview are less widespread, but still devastating in their impacts. Building on emerging opportunities from past research investments, NIDDK will continue to pursue basic, clinical, and translational research; research training and career development; and health information dissemination, with continued focus on preserving balance in its investigator-initiated research portfolio.

Theme 1: Today's Basic Science for Tomorrow's Breakthroughs

In 2015, NIDDK will continue supporting multidisciplinary projects studying the gut microbiome (collection of microorganisms including bacteria), broadly addressing: 1) autoimmune diseases such as type 1 diabetes, celiac disease, inflammatory bowel diseases, autoimmune liver diseases, and some forms of chronic kidney disease; and 2) metabolic conditions including obesity, type 2 diabetes, and NASH. Recently, NIDDK-supported basic research uncovered new knowledge and developed tools, such as stem cell technologies, necessary to treat and prevent disease. A recent study in mice, baboons, and human volunteers showed that a drug called meloxicam significantly increased the number of blood stem cells and their descendant hematopoietic progenitor cells (HPCs) entering the circulation for the purpose of transplantation.⁶ Researchers have gained new molecular insights into the stem cell-based regeneration of damaged intestinal tissue.⁷ NIDDK's Intestinal Stem Cell Consortium has been renewed to further support this important research area. Scientists recently identified a hormone, betatrophin, that promotes proliferation of insulin-producing beta cells in the pancreas, unlocking a potential new therapeutic approach for treatment of diabetes.⁸ A new combination of drugs was found to stabilize an aberrant form of CFTR, the protein that is defective in cystic fibrosis.⁹ A recent study of young twin pairs in Malawi revealed that gut microbes may play an important role in causing severe malnutrition in children that persists in spite of nutritional interventions.¹⁰ New research has better defined human brown adipose (fat) tissue in the neck, and has further elucidated the role of bone morphogenetic proteins as molecular signals regulating brown fat physiology.¹¹

Theme 2: Precision Medicine

In 2015, NIDDK will continue to support trials to optimize treatments for people with or at risk of type 2 diabetes, including the Glycemic Reduction Approaches in Diabetes: A Comparative Effectiveness (GRADE) study; Restoring Insulin Secretion (RISE) Consortium; and the Vitamin D to Prevent Type 2 Diabetes (D2d) study. To foster artificial pancreas technologies, NIDDK supported research for small businesses to develop innovative technologies; for human studies; and for device development. NIDDK also oversaw a joint NIH-FDA-JDRF Workshop on Innovation Towards an Artificial Pancreas on April 9-10, 2013. NIDDK IBD Genetics Consortium researchers have made significant advances in the identification of genetic risk factors involved in the development of Crohn's disease and ulcerative colitis. NIDDK will

⁵ Flegal KM, et al. *JAMA* 303: 235-241, 2010.; Ogden CL, et al. *JAMA* 303: 242-249, 2010.

⁶ Hoggatt J, et al. *Nature* 495: 365-369, 2013.

⁷ Miyoshi H, et al. *Science* 338: 108-113, 2012.

⁸ Yi P, et al. *Cell* 153: 747-758, 2013.

⁹ Okiyonedo T, et al. *Nat Chem Biol* 9: 444-454, 2013.

¹⁰ Smith MI, et al. *Science* 339: 548-554, 2013.

¹¹ Cypess AM, et al. *Nat Med* 19(5):635-9, 2013; Schulz TJ, et al. *Nature* 495(7441):379-83, 2013.

continue to support the Multidisciplinary Approach to the Study of Chronic Pelvic Pain (MAPP) Research Network, which aims to determine if people with IC/PBS and CP/CPD fall into subgroups that may suffer from different causes and require different treatments. NIDDK will continue to expand the Drug-Induced Liver Injury Network (DILIN) to better understand liver toxicities due to prescription and nonprescription drugs, herbal and dietary supplements in a diverse demographic background and a wide geographic distribution.

Theme 3: Big Opportunities in Big Data

In 2015, NIDDK will fund studies that combine multiple large-scale analyses of human microbiota (e.g., genomics, transcriptomics, proteomics) to determine how alteration in certain microorganisms may trigger the development of diseases, such as inflammatory bowel disease. NIDDK's The Environmental Determinants of Diabetes in the Young (TEDDY) study has collected more than two million specimens (DNA, RNA, serum and plasma, cells and other samples) from newborns at risk for autoimmunity and type 1 diabetes (T1D), and the data and samples will be made widely available to researchers worldwide to identify potential triggers of T1D. NIDDK will expand its support of the Genitourinary Developmental Molecular Anatomy Project (GUDMAP)—a consortium that will produce a high-quality molecular anatomy of the mammalian urogenital tract—to include large-scale, comprehensive gene and protein expression datasets that will be used to define the molecular anatomy of the pain receptor systems in the developing urinary tract and pelvic region.

Theme 4: Nurturing Talent and Innovation

NIDDK will continue to fund Research Centers, which support long-term multidisciplinary research programs. The goals of these programs include recruiting new talent, promoting the development of skills necessary to initiate and sustain an independent and innovative research career, and establishing educational enrichment programs to train researchers to more effectively utilize available resources. In addition, NIDDK-funded Centers provide education and training through summer research programs for high school, undergraduate, and medical students, and "year out" programs, in which medical students interrupt their formal coursework to conduct biomedical research. To bring new investigators to type 1 diabetes research, NIDDK will continue to fund training and career development programs to support and develop pediatric endocrinologists, behavioral scientists, and bioengineers in careers in diabetes research.

Overall Budget Policy:

The FY 2015 President's Budget request for NIDDK is \$1,893.336 million, an increase of \$12.262 million or 0.7 percent above the FY 2014 Enacted level. Of this increase, \$10.800 million is related to the mandatory appropriation for the Special Statutory Funding Program for Type 1 Diabetes Research, which is proposed for reauthorization in FY 2015 at \$150.000 million. NIDDK has targeted a portion of funds for competing research project grants to support high-priority projects outside the payline, including awards to new and early-stage investigators. NIDDK also seeks to balance support for solicitations to the extramural community and funding for investigator-initiated projects. In FY 2015, NIDDK will support new investigators on R01 equivalent awards at success rates equal to those of established investigators submitting new R01 equivalent applications. Support for The Ruth L. Kirschstein NRSA training mechanism will be increased by \$1.455 million to cover the cost of increased stipends. This increase is consistent

with 42 USC 288(b)(5), which anticipates periodic adjustments in stipends "to reflect increases in the cost of living." In FY 2015, NIDDK anticipates significant renovations and upkeep to the operation and maintenance of facilities.

Program Descriptions and Accomplishments

Diabetes, Endocrinology, and Metabolic Diseases: The objectives of this program are to increase understanding of diabetes and other endocrine and metabolic disorders and to develop and test prevention and treatment strategies. The program supports basic, clinical, and translational research, as well as research training, in areas that include type 1 and type 2 diabetes, cystic fibrosis, obesity, energy balance, and endocrinology. Knowledge from this research is communicated to patients, health professionals, and the public through the National Diabetes Information Clearinghouse and the National Diabetes Education Program.

Recent NIDDK-supported research has made important contributions to the treatment and prevention of diseases such as diabetes, as well as those associated with endocrine system and metabolism. The National Diabetes Education Program's Guiding Principles were developed as a resource for health care professionals in the management of diabetes. NIDDK provided support for the NIH Consensus Development Conference on Diagnosing Gestational Diabetes Mellitus, which was held in March 2013, to provide healthcare providers, patients, and the general public with a responsible assessment of currently available data on diagnosing gestational diabetes mellitus. The TODAY (Treatment Options for type 2 Diabetes in Adolescents and Youth) study recently reported data on insulin resistance and secretion that suggest early and rapid deterioration of beta cell function in youth with type 2 diabetes compared with data published on adults with newly diagnosed type 2 diabetes. These data suggest the need to intervene aggressively and early in youth.¹² Scientists from the SEARCH for Diabetes in Youth CVD Study found that both heart rate variability and carotid artery wall thickness are altered in youth with type 1 diabetes.¹³ The DPP/DPPOS completed data collection and analysis of 10 years of follow-up on DPP participants. The follow-up data are being used to examine the effect of lifestyle change on the development of micro- and macro-vascular complications of type 2 diabetes. Researchers have identified a new class of genes called "long non-coding RNAs" that play a role in maturation of pancreatic insulin-producing beta cells and may be involved in diabetes.¹⁴ Recent studies have further clarified the role of brain signaling in aging and metabolic disease, and suggest that reducing inflammation in the brain may reduce the signs of aging and age-related disease.¹⁵ Studies in mice suggest that the antidiabetic drug metformin suppresses glucagon signaling, leading to reduced blood glucose levels.¹⁶

¹² TODAY Study Group. *Diabetes Care* 36:1749-1757, 2013.

¹³ Jaiswal M, et al. *Diabetes Care* 36: 157-162, 2013; Urbina EM et al. *Diabetes Care* 36: 2597-2599, 2013.

¹⁴ Morán I, et al. *Cell Metab* 16: 435-448, 2012.

¹⁵ Zhang G, et al. Hypothalamic programming of systemic ageing involving IKK- β , NF- κ B and GnRH. *Nature* 497: 211-218, 2013.; Li J, Yizhe T, Cai D. IKK β /NF- κ B disrupts adult hypothalamic neural stem cells to mediate a neurodegenerative mechanism of dietary obesity and pre-diabetes. *Nat Cell Biol* 14: 999-1012, 2012.

¹⁶ Miller RA, et al. Biguanides suppress hepatic glucagon signalling by decreasing production of cyclic AMP. *Nature* 494: 256-260, 2013.

Program Portrait: NIDDK Artificial Pancreas Program

FY 2014 Level: \$23.3 million

FY 2015 Level: \$37.0 million

Change: +\$13.7 million

Type 1 diabetes develops when the body loses its ability to produce the hormone insulin because the body's own immune system targets and destroys pancreatic beta cells as part of an autoimmune attack. As a result, people with type 1 diabetes—or the parents of young children with the disease—must do the work of the lost beta cells: monitoring their food intake and physical activity; frequently monitoring their blood glucose levels; and administering insulin through injections or an insulin pump in order to manage their blood glucose levels. The use of an “artificial pancreas,” devices that can fully automate blood glucose sensing and insulin administration, would relieve some of this burden for people with type 1 diabetes. For decades, NIDDK has supported a wide range of artificial pancreas-related research. For example, all the current continuous glucose monitoring technology on the market—technology that is key to many efforts to develop an artificial pancreas—benefitted from NIDDK support early in development. Currently, NIDDK is supporting promising clinical studies, small business efforts (via the Small Business Innovation Research and Small Business Technology Transfer programs), and other research to advance artificial pancreas systems. Importantly, the NIDDK is also working with the Food and Drug Administration (FDA) and the Juvenile Diabetes Research Foundation (JDRF), the lead health advocacy group for type 1 diabetes, to help overcome research and regulatory challenges so that safe and effective artificial pancreas systems can be moved swiftly to market. In April 2013, the FDA, NIH, and JDRF together convened the “Workshop on Innovation Towards an Artificial Pancreas” to discuss clinical testing of current systems and development of novel components for glucose sensing, insulin delivery, and integration—i.e., “closing the loop” between dynamic measurement of glucose levels and automatic delivery of appropriate doses of insulin.

Budget Policy:

The FY 2015 President's Budget estimate for this program is \$614.673 million, an increase of \$1.404 million or 0.2 percent above the FY 2014 Enacted level. With FY 2015 resources, NIDDK will continue major diabetes clinical trials and encourage and support development of major new investigator-initiated clinical studies. FY 2015 funds will also support research capitalizing on new opportunities to identify diabetes risk genes in minority populations, to advance progress toward developing new therapeutic approaches, and to support comparative effectiveness research. NIDDK will also continue to fund translational research in FY 2015 and support health information dissemination activities to bring scientific discoveries in diabetes and obesity to real-world medical practice and other community settings. In FY 2015, NIDDK will continue an initiative encouraging collaborative, multidisciplinary research teams to work on complex biomedical problems in diabetes, endocrinology, and metabolic diseases. NIDDK will also continue funding for research centers to advance research relevant to diabetes and to cystic fibrosis and other genetic metabolic diseases. NIDDK plans for FY 2015 include capitalizing on new findings relevant to brown fat and gestational diabetes and pursuing other efforts as part of an overall balanced research program.

Digestive Diseases and Nutrition: The objectives of this program are to increase understanding of digestive diseases, nutrition, and obesity, and to develop and test strategies for disease prevention and treatment. This program supports basic, clinical, and translational research, as well as research training, encompassing fundamental studies of the digestive system; disease-

targeted research involving the esophagus, stomach, small intestine, large intestine and anorectum, liver and biliary system, and pancreas; studies relevant to nutrition; and research on obesity. Insights gleaned from scientific efforts are communicated to patients, health professionals, and the public through NIDDK's National Digestive Diseases Information Clearinghouse and Weight-control Information Network.

In 2015, the Institute will continue to support a number of programs aimed at improving treatment and prevention of diseases associated with the digestive system. NIDDK supports the Hepatitis B Research Network, which is testing treatments in at-risk populations, such as Asian Americans and Pacific Islanders. ChiLDREN, a network conducting studies on severe forms of childhood liver injury, includes studies of natural history and a clinical trial of a new therapy, as well as attention to liver disease associated with cystic fibrosis. The Nonalcoholic Steatohepatitis Clinical Research Network will continue to complete clinical trials in adults and children, and collect biospecimens and data. NIDDK supports the Gastrointestinal Stem Cell Consortium to improve understanding of intestinal biology and function, and aid therapeutic development through research on gastrointestinal progenitor cells. A free source of evidence-based information for health care professionals and for researchers studying liver injury associated with prescription and over-the-counter drugs, herbals, and dietary supplements is available from the NIH (<http://www.livertox.nih.gov>). Recent research has revealed additional variants in human genes associated with Crohn's disease and ulcerative colitis, two chronic inflammatory bowel diseases (IBD) that affect the small and large intestines; the number of variants now stands at over 160.¹⁷ NIDDK will also manage a Human Microbiome Project related to assessing gut microbial populations in people with IBD.

¹⁷ Jostins L, et al. *Nature* 491: 119-124, 2012; Rivas MA, et al. *Nat Genet* 43:1066-1073, 2011.

Program Portrait: The Human Microbiome Project

FY 2014 Level: \$2.2 million

FY 2015 Level: \$2.2 million

Change: \$0.0 million

The NIH Human Microbiome Project (HMP), managed by the National Human Genome Research Institute in partnership with NIDDK and other NIH Institutes and Centers, supports research that continues to add to the understanding of microbial influences on human health and disease, including in inflammatory bowel disease (IBD) and its impact on pediatric and adult patients. NIDDK is supporting a new project through the HMP that will integrate many different types of measurements of gut microbes as they change within IBD patients over time. This project will profile the gut microbiome along with the genetics and activity of the human host to provide insight into how the microbiome interacts with the human body in patients with IBD, which may help advance understanding of how IBD develops and ultimately may be useful for informing new disease detection, prevention, and treatment strategies in children and adults. Recent NIDDK-supported advances have shed light on the microbiome's role in the progression of various diseases. For example, scientists reported that the bacterial species *Bacteroides fragilis* interacts with the immune system to suppress IBD in mice. In addition, new research has uncovered a surprising link between the gut microbe *Escherichia coli* and colon cancer in mice. A study of young twin pairs in Malawi has shown that gut microbes may play an important role in causing severe malnutrition in children that persists in spite of nutritional interventions. Together, these insights could lay the foundation for research exploring possible new microbiome-based therapeutic approaches for IBD, as well as a range of other health conditions.

Budget Policy:

The FY 2015 President's Budget estimate for this program is \$464.753 million, an increase of \$1.061 million or 0.2 percent above the FY 2014 Enacted level. In FY 2015, NIDDK will continue major clinical research networks to help understand and treat liver diseases, including hepatitis B and nonalcoholic steatohepatitis. Among its obesity-related efforts in FY 2015, NIDDK will support major ongoing observational studies to assess the health risks and benefits of weight-loss surgery in extremely obese adults and adolescents. NIDDK will also use FY 2015 funds to support Digestive Diseases Research Core Centers, and to sustain a consortium that is conducting cutting-edge genetic research on inflammatory bowel diseases. Research on intestinal stem cells that can benefit a variety of digestive diseases will continue in FY 2015, along with other efforts as part of an overall balanced research program.

Kidney, Urologic, and Hematologic Diseases: The objectives of this program are to increase the understanding of diseases and disorders of the kidneys, urinary tract, and blood (hematologic), and to develop and test prevention and treatment strategies. Basic, clinical, and translational research, as well as research training, is supported in the areas of chronic kidney disease (CKD), diabetic kidney disease, end-stage renal disease (ESRD or kidney failure), polycystic kidney disease, and many other kidney diseases; urinary incontinence, benign prostatic hyperplasia, interstitial cystitis/painful bladder syndrome, stones, impotence, congenital urologic disorders, and urinary tract infections; and disorders of the blood and blood-forming organs, including sickle cell disease, Cooley's anemia, hemochromatosis, and the anemia of inflammation and of chronic disease.

Glomerular disease is the third leading cause of ESRD in the U.S., after diabetes and hypertension. In 2014, NIDDK will establish a Glomerular Disease Cohort to conduct translational and clinical research that promotes therapeutic development for glomerular diseases. Expanded in 2014, the Symptoms of Lower Urinary Tract Dysfunction Research Network will support a cooperative research network to improve measurement of symptoms in both men and women to advance clinical studies. In FY 2014, the NIDDK will hold a major multi-disciplinary scientific symposium and pursue additional efforts to develop a long-term, novel research program focused on improving women's health through prevention of lower urinary tract symptoms. To continue the Multidisciplinary Approach to the Study of Chronic Pelvic Pain (MAPP) research network's important efforts, the NIDDK recently issued several solicitations to support renewal and enhancement of this multi-center Network for a second 5 year funding cycle beginning in FY 2014. The Institute's Chronic Renal Insufficiency Cohort (CRIC) Study recently was extended for an additional 5 years, which will allow for the examination in much greater detail of the broad range of illnesses experienced by people with chronic kidney disease. Science-based information is communicated to patients, health professionals, and the public through NIDDK's National Kidney and Urologic Diseases Information Clearinghouse and National Kidney Disease Education Program (NKDEP).

Program Portrait: The GenitoUrinary Development Molecular Anatomy Project (GUDMAP)

FY 2014 Level: \$1.7 million

FY 2015 Level: \$1.7 million

Change: \$0.0 million

The perception of chronic pain in the region of the pelvis or urogenital floor is a defining feature of urologic chronic pelvic pain syndromes (UCPPS). Despite intense study, the underlying etiology and pathophysiology of disease, as well as risk factors for development of disease, remain unclear and no generally effective clinical therapeutics exist for UCPPS patients. The research groups of the GenitoUrinary Development Molecular Anatomy Project (GUDMAP) consortium are charged with the task of producing a high-quality molecular anatomy of the mammalian urogenital tract (UGT) through development and maturation. The components of GUDMAP, intended to provide resources that support research on the kidney and UGT, include: 1) determining developmental origins of the cell types during UGT development and the molecular hallmarks of those cells; 2) generating novel mouse strains in which specific cell types of particular interest can be identified within the organ by a specific marker, while enabling easy genetic manipulation of the cell types of interest; and 3) annotating, collating, and promptly releasing the resulting information at regular intervals, before publication, through a database that is accessed through a Web portal. Over the past several years, a wide range of these and other resources have been developed by GUDMAP and are currently available to the research community. Recently, NIDDK expanded the focus of GUDMAP to include characterization of nociceptors (pain receptors) within the UGT to better understand the underlying basis for chronic pain in the lower urinary tract and the pelvic region. The long term goal of these nociceptor projects (termed nGUDMAP) is to provide the research community fundamental knowledge of nociceptors and associated cell types necessary to develop strategies to reduce nociceptor activity or block their input to the central nervous system in order to attenuate or relieve the sensation of pain, greatly improving quality of life for people suffering from UCPPS.

Budget Policy:

The FY 2015 President's Budget estimate for this program is \$419.777 million, an increase of \$0.959 million or 0.2 percent above the FY 2014 Enacted level. In FY 2015, NIDDK will continue support for ongoing major clinical studies of CKD in adults and children and fund new research to identify and validate biomarkers and risk assessment tools for patients with this condition. NIDDK also plans to continue to sponsor planning grants to conduct translational research on the effectiveness of interventions shown in clinical trials to prevent, treat, and manage CKD, and will continue to sponsor studies to improve adherence to medical therapy in adolescents with CKD. In FY 2015, NIDDK will continue studies to improve measurements of outcomes in lower urinary tract disorders of the prostate and urinary bladder. NIDDK will continue treatment trials for polycystic kidney disease (HALT-PKD study) and continue support for the Consortium for Radiologic Imaging Studies of polycystic kidney disease (PKD); results of these studies will help to define measures of kidney disease progression. Centers focused on kidney, urologic, and hematologic research will receive continued funding, as will research on acute kidney injury and a study of arteriovenous fistulas. NIDDK will also continue support for the Systolic Blood Pressure Intervention Trial (led by NHLBI) and for other efforts as part of an overall balanced research portfolio.

Special Statutory Funding Program for Type 1 Diabetes Research: Complementing efforts of the Diabetes, Endocrinology, and Metabolic Disease program, the Special Program's goal is to foster improved treatment, prevention, and cure of type 1 diabetes, and its complications through basic, clinical, and translational research around six scientific goals: 1) identifying genetic and environmental causes of type 1 diabetes (\$12.5 million); 2) preventing or reversing the disease (\$22 million); 3) developing cell replacement therapy (\$35 million); 4) improving management and care (\$25 million); 5) preventing or reducing diabetes complications (\$47.5 million); and 6) attracting new talent and applying new technologies to research (\$8 million) (FY 2015 estimate dollars). Although focused on type 1 diabetes, aspects of this research are relevant to other autoimmune disorders, as well as type 2 diabetes. Both type 1 and type 2 diabetes share impaired function of insulin-producing beta cells of the pancreas along with potential complications, such as heart disease, stroke, blindness, kidney failure, nerve damage, and lower limb amputations. In 2013, NIDDK funded a new clinical trial testing the ability of the drug allopurinol to preserve kidney function in people with type 1 diabetes, and another trial testing the ability of a behavioral intervention to improve diabetes outcomes in youth with the disease. NIDDK supported small business research to advance progress toward an artificial pancreas; funded new studies to test artificial pancreas technologies in people; and supported new research to develop novel components that can be utilized in portable and automated artificial pancreas system. NIDDK also leveraged past investments in clinical research by supporting ancillary studies using archived clinical samples.

Budget Policy:

The FY 2015 President's Budget request for the Special Statutory Funding Program for Type 1 Diabetes Research is proposed for reauthorization at \$150.000 million. NIDDK administers the program, but because of its trans-HHS nature, the resources are disbursed among multiple NIH Institutes and Centers as well as CDC. Among ongoing efforts that will continue with FY 2015 funds are trials to test approaches to prevent or slow the onset of the disease (\$13 million); epidemiological research defining incidence and prevalence of diabetes in American youth

(\$12.5 million); and trials testing approaches to prevent or treat diabetic eye disease (\$2 million). FY 2015 funds will also support new and ongoing fundamental research to uncover the etiology and pathogenesis of type 1 diabetes (\$9 million), and research on human beta cells and studies in animal models toward the goal of developing cell replacement therapies (\$35 million). New and ongoing research on development of artificial pancreas technologies will continue in FY 2015, including clinical, behavioral, and physiological studies testing current novel closed-loop systems (\$15 million), as well as research conducted by small businesses and academic investigators to develop new therapeutics and monitoring technologies for type 1 diabetes (\$14 million). FY2015 funds will also support new clinical trials and fundamental research in diabetes complications toward identifying improved strategies for prevention and treatment (\$45.5 million). FY 2015 funds will also foster research and early career development for pediatric endocrinologists, behavioral scientists, and bioengineers studying new approaches to treat, prevent, and cure type 1 diabetes (\$4 million).

Intramural Research: The objective of the Institute's Intramural Research Program (IRP) is to conduct basic, translational, and clinical biomedical research related to diabetes and other endocrine and metabolic diseases; digestive diseases, including liver diseases and nutritional disorders; obesity; kidney diseases; and hematologic diseases. Intramural research is conducted in the Institute's laboratories and clinical facilities in Bethesda, Maryland, as well as in Phoenix, Arizona, where a long-standing research relationship with the Pima Indians in the region, who have the highest rate of diabetes in the world, has led to important scientific advances in type 2 diabetes and obesity. Research training is also an integral component of the IRP. The NIDDK IRP is using genome-wide association studies on large cohorts of Native Americans to identify genes linked to increased risk for diabetes, including a gene accounting for 4% of the risk for this disease among the Gila River Indian Community.¹⁸ NIDDK IRP research applied novel biochemistry and structural methods to examine fibril structures associated with brain tissue of patients afflicted with Alzheimer's disease.¹⁹ Other IRP research determined how certain cell surface receptors could be stimulated to provide protection against diabetes in mice,²⁰ uncovered a process central to deployment of cell membrane proteins in pathogenic bacteria,²¹ and explored the efficacy of treatments aimed to limit the damage to kidneys among patients with diabetes.²²

Budget Policy:

The FY 2015 President's Budget estimate for this program is \$177.685 million or 1.0 percent above the FY 2014 Enacted level. With FY 2015 funds, the NIDDK IRP will continue a broad spectrum of research studies to strengthen understanding of basic biology and disease mechanism, and evaluate potential therapeutics approaches. For example, in FY 2015, intramural scientists will continue research on obesity in the trans-NIH Metabolic Clinical Research Unit, as well as research relevant to diabetes; digestive diseases, including liver disease; kidney disease; and hematologic disease. The program will also continue to support research training.

¹⁸ Hanson RL, et al. *Diabetes* 62: 2984-2991, 2013.

¹⁹ Lu J-X, et al. *Cell* 154: 1257-1268, 2013.

²⁰ Jain S, et al. *J Clin Invest* 123: 1750-1762, 2013.

²¹ Noinaj N, et al. *Nature* 501: 385-390, 2013.

²² Weil EJ, et al. *Diabetes* 62: 3224-3231, 2013

Research Management and Support (RMS): RMS activities provide administrative, budgetary, logistical, and scientific support in the review, award, and monitoring of research grants, training awards, and research and development contracts. RMS functions also encompass strategic planning, coordination, and evaluation of the Institute's programs, regulatory compliance, international coordination, and liaison with other federal agencies, Congress, and the public. Through RMS activities, NIDDK continues to administratively support meritorious basic, clinical, and translational research and research training efforts, and also continues its health information dissemination and education/outreach activities. Additionally, NIDDK continues its strategic planning, evaluation, among other necessary related activities.

Budget Policy:

The FY 2015 President's Budget estimate for RMS is \$66.448 million or 1.0 percent above the FY 2014 Enacted level. NIDDK will continue effective research management and support so as to deploy research resources to the most meritorious and promising areas, and to communicate research opportunities and findings to investigators, health professionals, and the public.

NATIONAL INSTITUTES OF HEALTH
National Institute of Diabetes and Digestive and Kidney Diseases

Budget Authority by Object Class¹
(Dollars in Thousands)

	FY 2014 Enacted	FY 2015 President's Budget	FY 2015 +/- FY 2014
Total compensable workyears:			
Full-time employment	630	630	0
Full-time equivalent of overtime and holiday hours	1	1	0
Average ES salary	\$167	\$168	\$1
Average GM/GS grade	12.0	12.0	0.0
Average GM/GS salary	\$98	\$99	\$1
Average salary, grade established by act of July 1, 1944 (42 U.S.C. 207)	\$103	\$104	\$1
Average salary of ungraded positions	\$140	\$141	\$1
OBJECT CLASSES	FY 2014 Enacted	FY 2015 President's Budget	FY 2015 +/- FY 2014
11.1 Personnel Compensation	-	-	-
11.1 Full-Time Permanent	\$37,214	\$37,586	\$372
11.3 Other Than Full-Time Permanent	32,648	32,975	327
11.5 Other Personnel Compensation	1,048	1,059	11
11.7 Military Personnel	1,802	1,820	18
11.8 Special Personnel Services Payments	12,691	12,818	127
11.9 Subtotal Personnel Compensation	\$85,403	\$86,258	\$855
12.1 Civilian Personnel Benefits	\$21,975	\$22,524	\$549
12.2 Military Personnel Benefits	1,397	1,411	14
13.0 Benefits to Former Personnel	0	0	0
Subtotal Pay Costs	\$108,775	\$110,193	\$1,418
21.0 Travel & Transportation of Persons	\$2,335	\$2,306	-\$29
22.0 Transportation of Things	191	191	0
23.1 Rental Payments to GSA	7	7	0
23.2 Rental Payments to Others	0	0	0
23.3 Communications, Utilities & Misc. Charges	1,504	1,504	0
24.0 Printing & Reproduction	300	180	-120
25.1 Consulting Services	2,685	2,685	0
25.2 Other Services	13,974	13,905	-69
25.3 Purchase of goods and services from government accounts	168,955	170,859	1,904
25.4 Operation & Maintenance of Facilities	1,311	3,728	2,417
25.5 R&D Contracts	29,091	27,323	-1,768
25.6 Medical Care	890	890	0
25.7 Operation & Maintenance of Equipment	4,811	4,811	0
25.8 Subsistence & Support of Persons	0	0	0
25.0 Subtotal Other Contractual Services	\$221,717	\$224,201	\$2,484
26.0 Supplies & Materials	\$12,436	\$12,436	\$0
31.0 Equipment	6,205	6,205	0
32.0 Land and Structures	0	0	0
33.0 Investments & Loans	0	0	0
41.0 Grants, Subsidies & Contributions	1,388,402	1,386,111	-2,291
42.0 Insurance Claims & Indemnities	0	0	0
43.0 Interest & Dividends	2	2	0
44.0 Refunds	0	0	0
Subtotal Non-Pay Costs	\$1,633,099	\$1,633,143	\$44
Total Budget Authority by Object Class	\$1,741,874	\$1,743,336	\$1,462

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

NATIONAL INSTITUTES OF HEALTH
National Institute of Diabetes and Digestive and Kidney Diseases

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)	\$37,214	\$37,586	\$372
Other Than Full-Time Permanent (11.3)	32,648	32,975	327
Other Personnel Compensation (11.5)	1,048	1,059	11
Military Personnel (11.7)	1,802	1,820	18
Special Personnel Services Payments (11.8)	12,691	12,818	127
Subtotal Personnel Compensation (11.9)	\$85,403	\$86,258	\$855
Civilian Personnel Benefits (12.1)	\$21,975	\$22,524	\$549
Military Personnel Benefits (12.2)	1,397	1,411	14
Benefits to Former Personnel (13.0)	0	0	0
Subtotal Pay Costs	\$108,775	\$110,193	\$1,418
Travel & Transportation of Persons (21.0)	\$2,335	\$2,306	-\$29
Transportation of Things (22.0)	191	191	0
Rental Payments to Others (23.2)	0	0	0
Communications, Utilities & Misc. Charges (23.3)	1,504	1,504	0
Printing & Reproduction (24.0)	300	180	-120
Other Contractual Services:			
Consultant Services (25.1)	1,001	1,001	0
Other Services (25.2)	13,974	13,905	-69
Purchases from government accounts (25.3)	106,771	99,975	-6,796
Operation & Maintenance of Facilities (25.4)	1,311	3,728	2,417
Operation & Maintenance of Equipment (25.7)	4,811	4,811	0
Subsistence & Support of Persons (25.8)	0	0	0
Subtotal Other Contractual Services	\$127,868	\$123,420	-\$4,448
Supplies & Materials (26.0)	\$12,436	\$12,436	\$0
Subtotal Non-Pay Costs	\$144,634	\$140,037	-\$4,597
Total Administrative Costs	\$253,409	\$250,230	-\$3,179

NATIONAL INSTITUTES OF HEALTH
National Institute of Diabetes and Digestive and Kidney Diseases

Detail of Full Time Equivalents (FTE)

OFFICE/DIVISION	FY 2013 Actual			FY 2014 Est.			FY 2015 Est.		
	Civilian	Military	Total	Civilian	Military	Total	Civilian	Military	Total
Division of Diabetes, Endocrinology, and Metabolic Diseases									
Direct:	26	2	28	26	2	28	26	2	28
Reimbursable:	2		2	2	-	2	2		2
Total:	28	2	30	28	2	30	28	2	30
Division of Digestive Diseases and Nutrition									
Direct:	23	3	26	23	3	26	23	3	26
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	23	3	26	23	3	26	23	3	26
Division of Extramural Activities									
Direct:	66	1	67	66	1	67	66	1	67
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	66	1	67	66	1	67	66	1	67
Division of Intramural Research Programs									
Direct:	314	10	324	314	10	324	314	10	324
Reimbursable:	3		3	3	-	3	3		3
Total:	317	10	327	317	10	327	317	10	327
Division of Kidney, Urologic, and Hematologic Diseases									
Direct:	24		24	24		24	24		24
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	24		24	24		24	24		24
Division of Nutrition Research Coordination									
Direct:	9		9	9		9	9		9
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	9		9	9		9	9		9
Office of the Director									
Direct:	147		147	147		147	147		147
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	147		147	147		147	147		147
Total	614	16	630	614	16	630	614	16	630
Includes FTEs whose payroll obligations are supported by the NIH Common Fund.									
FISCAL YEAR	Average GS Grade								
2011	12.0								
2012	12.0								
2013	12.0								
2014	12.0								
2015	12.0								

NATIONAL INSTITUTES OF HEALTH
National Institute of Diabetes and Digestive and Kidney Diseases

Detail of Positions

GRADE	FY 2013 Actual	FY 2014 Enacted	FY 2015 President's Budget
Total, ES Positions	1	1	1
Total, ES Salary	165,000	167,000	168,000
GM/GS-15	42	42	42
GM/GS-14	74	74	74
GM/GS-13	87	87	87
GS-12	57	57	57
GS-11	38	38	38
GS-10	0	0	0
GS-9	30	30	30
GS-8	28	28	28
GS-7	20	20	20
GS-6	3	3	3
GS-5	3	3	3
GS-4	2	2	2
GS-3	0	0	0
GS-2	2	2	2
GS-1	0	0	0
Subtotal	386	386	386
Grades established by Act of July 1, 1944 (42 U.S.C. 207)	0	0	0
Assistant Surgeon General	0	0	0
Director Grade	10	10	10
Senior Grade	4	4	4
Full Grade	1	1	1
Senior Assistant Grade	1	1	1
Assistant Grade	0	0	0
Subtotal	16	16	16
Ungraded	232	232	232
Total permanent positions	396	396	396
Total positions, end of year	635	635	635
Total full-time equivalent (FTE) employment, end of year	630	630	630
Average ES salary	165,000	167,000	168,000
Average GM/GS grade	12.0	12.0	12.0
Average GM/GS salary	97,000	98,000	99,000

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