

### Introduction to NIDDK Research

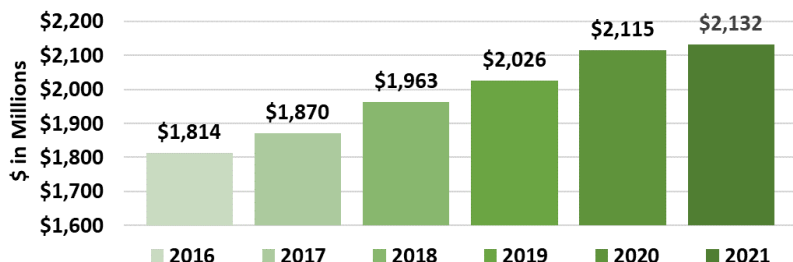
Established in 1950, the NIDDK supports and conducts research on some of the most chronic, common, and costly conditions, including diabetes and other endocrine and metabolic diseases, liver and other digestive diseases, obesity, kidney diseases, urologic diseases, and hematologic (blood) diseases. The Diabetes, Endocrinology, and Metabolic Diseases program; the Digestive Diseases and Nutrition program; the Kidney, Urologic, and Hematologic Diseases program; and the NIDDK Intramural Research Program support basic, clinical, and translational research across the United States. The NIDDK also supports research training and career development, as well as outreach efforts to patients, healthcare providers, and the public.



**Griffin P. Rodgers, M.D., M.A.C.P.**

Dr. Rodgers has been Director of NIDDK since 2007 and had served as Deputy Director since 2001. As a leading hematology investigator, he is widely recognized for his contributions to development of the first effective—and FDA-approved—therapy for sickle cell anemia.

### NIDDK Appropriations History (FY 2016-2021)

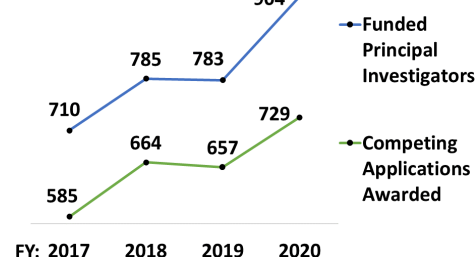


President's Budget Request (\$ in Millions):  
\$2,219 (FY 2022)

### Facts and Figures

- 635 Full-time Equivalent Employees (4-year average, FYs 2017-2020)

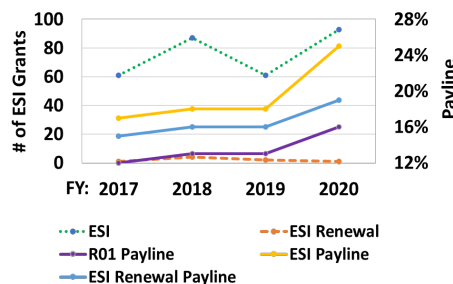
### NIDDK Research Project Grants (excluding Special Diabetes Program)



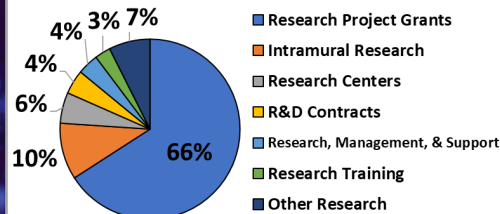
### Recent NIDDK Research Highlights

- An immune-targeting drug delayed **type 1 diabetes** progression in high-risk individuals for at least 2 years.
- Research defining subgroups of people with **chronic kidney disease** has paved the way for kidney precision medicine.
- Research advances showed how **inflammatory bowel disease** varies from person to person, moving toward more personalized therapies.
- Type 2 diabetes** drug classes made possible by NIDDK research provided cardiovascular health benefits in people with diabetes.
- Bariatric surgery** in adolescents with severe obesity resulted in substantial improvements in type 2 diabetes and blood pressure along with weight loss.
- Studies detailed how the **gut microbiome** interacts with diet and nutrition, affecting inflammatory bowel disease, diabetes, urinary tract infections, obesity, and undernutrition.

### NIDDK Paylines and Early Stage Investigators (ESIs)



### NIDDK FY 2020 Budget Mechanisms



### Selected Current Activities

- **Kidney Precision Medicine Project** is analyzing kidney biopsies from a broad range of people, using cutting-edge technologies to identify new therapeutic targets and stimulate development of personalized therapies.
- **Type 1 Diabetes Special Statutory Funding Program** is funding research to improve blood glucose management technologies such as continuous glucose monitors and artificial pancreas devices.
- **NASH Clinical Research Network's** adult and pediatric studies are testing potential therapies and uncovering genetic and racial/ethnic risk factors for nonalcoholic fatty liver disease and nonalcoholic steatohepatitis.
- **Accelerating Medicine Project-T2D** is working to identify diabetes drug targets by finding rare mutations that affect risk of type 2 diabetes.
- **Intestinal Stem Cell Consortium** studies intestinal stem cells' roles in intestinal health and disease, aiming to identify and develop novel therapies to regenerate the human intestine.
- **Center for Identification and Study of Individuals with Atypical Diabetes Mellitus** has begun to study atypical cases of diabetes, with the goal of understanding how best to classify diabetes subtypes in the future.

### Selected Recent Accomplishments

- Studies of speech-generated droplets showed their potential importance in SARS-CoV-2 transmission.
- **Restoring Insulin Secretion Consortium** demonstrated important differences between type 2 diabetes in adolescents and adults.
- New drugs based on NIDDK-supported research can dramatically reduce disease burden for many with **cystic fibrosis**.
- Research advances increased understanding and treatment of **inflammatory bowel diseases** such as **Crohn's disease** and **ulcerative colitis**.
- NIDDK-sponsored research has paved the way for **microbiome-directed therapeutic foods** and increased understanding of how the brain receives information from the gut.
- Findings from the **Multidisciplinary Approach to the Study of Chronic Pelvic Pain Research and Symptoms of Lower Urinary Tract Dysfunction Research Networks** improved how these common, burdensome conditions are understood and treated.

### Selected Future Research Initiatives

- NIDDK will continue to **address the increasing burden of chronic diseases** and to **reduce health disparities** in diseases within NIDDK's mission.
- **Type 1 Diabetes in Acute Pancreatitis Consortium** will study interplay between different pancreatic functions to better understand type 1 diabetes and pancreatitis.
- NIDDK will support developing new technologies to sample and monitor the **gut and gut microbiome**, as well as **wearable smart devices** to monitor how nutrients, metabolites, and hormones fluctuate in the body over time.
- **Caring for Outpatients after Acute Kidney Injury Consortium** will work to develop and test treatments to help acute kidney injury survivors.