

DEPARTMENT OF HEALTH AND HUMAN SERVICES
NATIONAL INSTITUTES OF HEALTH

Fiscal Year 2013 Budget Request

Witness appearing before the
Senate Subcommittee on Labor-HHS-Education Appropriations

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Mr. Chairman and Members of the Committee:

I am pleased to present the President's Fiscal Year 2013 Budget request for the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) of the National Institutes of Health (NIH). The Fiscal Year (FY) 2013 budget includes \$1,792,107,000, which is \$2,798,000 below the comparable FY 2012 appropriation of \$1,794,905,000. Complementing these funds is an additional \$150,000,000 also available in FY 2013 from the Special Statutory Funding Program for Type 1 Diabetes Research. The NIDDK supports research on a wide range of common, chronic, costly, and consequential diseases and health problems that affect millions of Americans. These include diabetes and other endocrine and metabolic diseases; digestive and liver diseases; kidney and urologic diseases; blood diseases; obesity; and nutrition disorders.

BUILDING NEW OPPORTUNITIES: BASIC RESEARCH DISCOVERIES

From in-depth exploration of fundamental biologic processes, NIDDK-supported scientists are achieving remarkable advances and building the foundation for previously unimaginable strategies to improve health and quality of life. Among these advances, recent NIDDK-supported research into genetic risk factors for diabetes, inflammatory bowel disease, obesity, liver disease, and the kidney disease focal segmental glomerular sclerosis, along with other studies are providing insights into disease development and whether an individual is likely to respond to a given therapy. Investigating the different types of bacteria that reside in the intestines, researchers have discovered surprising links to obesity, inflammatory bowel disease, fatty liver disease, and other health conditions. Scientists supported by our Institute are also

designing novel intervention strategies and testing these in pre-clinical, laboratory models. For example, pursuing a treatment for fecal incontinence, researchers used tissue engineering to build muscle implants in mice with promising initial results, providing hope for future therapeutic use in people. Other scientists examined a potential drug for the rare disease Neimann-Pick type C in experiments with isolated human cells, and found encouraging results.

We will continue support for basic research across the Institute's mission, to gain further insights into health and disease and propel new ideas for interventions. Examples include research to identify type 2 diabetes risk genes in minority populations disproportionately affected by this disease; to discover environmental factors that trigger type 1 diabetes in genetically susceptible individuals; to elucidate the causes and consequences of a form of diabetes that can strike people with cystic fibrosis; to increase understanding of intestinal stem cells, which could benefit a variety of digestive diseases; and to augment knowledge of blood cells and hematologic diseases.

PREVENTING AND TREATING DISEASE—IN CLINICS AND COMMUNITIES

Through innovative design and rigorous testing of interventions—whether in the operating room, doctor's office, or home or community settings—NIDDK-supported researchers are improving lives with new approaches to prevent, treat, and reverse diseases and disorders. For example, investigators previously showed that intensive blood glucose control, beginning soon after diagnosis of type 1 diabetes, reduced early

signs of complications; now, after an average 22-year follow-up, the researchers demonstrated that controlling blood glucose reduced the risk of developing kidney disease by 50 percent, preserving kidney function for decades. The first cystic fibrosis therapy targeting a specific molecular defect gained FDA approval. This important advance was a culmination of research supported in part by NIDDK, from the historic gene discovery (by the NIH Director) to clinical trials of the drug. With cutting-edge tissue engineering, researchers have successfully generated urethras to replace defective tissue and ameliorate urination difficulties in boys. A network of investigators found that vitamin E helps reduce fatty liver disease in children. In studies that may alert clinicians to patients with heightened need for intervention, scientists found that elevated levels of the hormone FGF-23 mark increased risk for heart disease and death in people with chronic kidney disease, while high levels of certain amino acids in the blood signify increased risk for type 2 diabetes.

Looking forward, NIDDK is committed to continuing funding for clinical research. Because many diseases within our mission disproportionately affect certain populations, we will also continue to seek insights and answers to health disparities. As just a few examples of our many clinical studies, Institute-supported scientists will conduct trials of approaches to prevent or slow the onset of type 1 diabetes, and they will press forward in developing technology to create an artificial pancreas for people with diabetes. In a new effort, the Institute is planning a comparative effectiveness study of commonly used drugs for type 2 diabetes. We will also continue a promising, long-term clinical trial of a lifestyle intervention designed to promote weight loss and improve health in obese people with type 2 diabetes. Among multifaceted efforts to

meet the challenge of obesity will be a consortium studying lifestyle interventions for overweight and obese pregnant women, to improve the health of both mother and child. The Institute will continue to support clinical studies for a range of liver diseases; for example, a multicenter research network is planning trials of different treatment strategies for hepatitis B, including comparative effectiveness research. Multiple efforts will pursue approaches to combat chronic kidney disease, polycystic kidney disease, primary glomerular disease, and other forms of kidney disease and injury. We have also spearheaded an initiative encouraging studies to prevent and treat obesity, diabetes, and kidney disease in military populations. NIDDK continues to support a multi-disciplinary study in chronic urologic pelvic pain, and will support a new research network to improve measurement of the complex symptoms of lower urinary tract dysfunction in men and women and to advance clinical studies. To maximize the reach and benefits of interventions proven successful in clinical trials, we will sustain support for translational research, to implement these in real-world medical practice and community settings, cost effectively, for diverse populations. For example, an NIDDK-funded research project provided the first demonstration that YMCAs, now officially called Ys, can deliver a group-based version of the lifestyle intervention shown to reduce type 2 diabetes in the Diabetes Prevention Program clinical trial.

SUPPORTING AN INNOVATIVE, MULTIDISCIPLINARY WORKFORCE

Research breakthroughs happen only through the efforts of a creative, well-trained workforce. Thus, NIDDK will continue programs to train and support researchers at all stages of their careers, and to ensure that we benefit from the best

scientific minds. NIDDK supports summer research opportunities for underrepresented high school and college students, workshops for minority investigators and new investigators, a new initiative for professional societies to promote diversity in the research workforce, and other efforts. We will continue to support investigator-initiated projects, along with solicited research that is guided by input from expert researchers and the public.

INTEGRATING SCIENCE-BASED INFORMATION INTO PRACTICE

We will also continue to support education, outreach, and awareness programs. These efforts include materials tailored for diverse audiences and span the range of diseases within our mission, to bring vital, science-based knowledge to health care providers, patients and their families, and the general public.

In closing, NIDDK's future research investments will build upon findings from past and ongoing studies, pursue promising new opportunities, and tackle critical challenges toward innovative and more effective prevention and treatment strategies. Our research will be guided by five principles: maintain a vigorous investigator-initiated research portfolio; support pivotal clinical studies and trials; preserve a stable pool of new investigators; foster research training and mentoring; and disseminate science-based knowledge through education and outreach programs.

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

Director, National Institute of Diabetes and Digestive and Kidney Diseases

Dr. Griffin P. Rodgers was named Director of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) on April 1, 2007. He had served as NIDDK's Acting Director since March 2006 and was the Institute's Deputy Director from 2001-2009, including 2007-2009 in which he served in a dual role. Dr. Rodgers also has been chief of the Molecular and Clinical Hematology Branch since 1998; the branch is now administratively managed by NIH's National Heart, Lung, and Blood Institute.

Dr. Rodgers received his undergraduate, graduate, and medical degrees from Brown University in Providence, R.I. He performed his residency and chief residency in internal medicine at Barnes Hospital and the Washington University School of Medicine in St. Louis. His fellowship training in hematology/oncology was in a joint program of the NIH with George Washington University and the Washington Veterans Administration Medical Center. In addition to his medical and research training, he earned a master's degree in business administration, with a focus on the business of medicine, from Johns Hopkins University in 2005.

As a research investigator, Dr. Rodgers is widely recognized for his contributions to the development of the first effective—and now FDA approved—therapy for sickle cell anemia. He was a principal investigator in clinical trials to

develop therapy for patients with sickle cell disease and also performed basic research that focused on understanding the molecular basis of how certain drugs induce gamma-globin gene expression. Recently, he and his collaborators have reported on a modified blood stem-cell transplant regimen that is highly effective in reversing sickle cell disease in adults and is associated with relatively low toxicity. He has been honored for his research with numerous awards, including the 1998 Richard and Hinda Rosenthal Foundation Award, the 2000 Arthur S. Flemming Award, the Legacy of Leadership Award in 2002, and a Mastership from the American College of Physicians in 2005.

Dr. Rodgers has been an invited professor at medical schools and hospitals in France, Italy, China, Japan, and Korea. He has been honored with many named lectureships at American medical centers and has published over 200 original research articles, reviews, and book chapters and has edited four books and monographs.

Dr. Rodgers served as Governor to the American College of Physicians for the Department of Health and Human Services from 1994 to 1997. He is a member of the American Society of Hematology, the American Society of Clinical Investigation, the Association of American Physicians, and the Institute of Medicine of the National Academy of Sciences, among others. He served as chair of the Hematology Subspecialty Board and a member of the American Board of Internal Medicine Board of Directors. He is board certified in Internal Medicine, in Emergency Medicine, and in Hematology.