

Message from the Director



As the Director of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), I am pleased to present this annual compendium highlighting the research efforts and programs supported by the Institute. The NIDDK has a broad research responsibility, which includes some of the most common, debilitating, and costly conditions affecting Americans. These conditions include diabetes and other endocrine and metabolic diseases, such as cystic fibrosis; liver disease and other digestive diseases, such as inflammatory bowel disease; nutritional disorders and obesity; kidney diseases, such as polycystic kidney disease; urologic diseases, such as interstitial cystitis/painful bladder syndrome; and hematologic diseases, such as Cooley's anemia.

This 10th edition illustrates recent NIDDK-supported scientific advances, such as:

- Identification of more than 40 genes or regions of the genome that affect risk of type 1 diabetes;
- Revelation that an energy-burning form of fat tissue is active in adults;
- Discovery of the protein target of the diabetes drug metformin;
- Finding that the risk of short-term complications is low after bariatric surgery for extreme obesity;
- Insights into how certain types of bacteria found in the human gut—and their collective genomes—may contribute to their host's obesity or leanness;
- Identification of new genetic risk factors associated with ulcerative colitis;
- Demonstration that weight loss in overweight or obese women reduces urinary incontinence;
- Finding that people who donate a kidney have similar long-term survival and quality of life as the general population; and
- Identification of key factors that interact to regulate blood stem cell development.

This compendium also includes personal stories of patients. A family dedicated to advancing research on type 1 diabetes describes its participation in a clinical trial testing an agent to delay or prevent the disease. A man who participated in the landmark Diabetes Prevention Program that showed type 2 diabetes can be prevented or delayed with modest weight loss continues to be followed to determine the long-term effects of the intervention. A woman shares her story and warns about acute liver failure caused by over-the-counter medication. A woman who participated in a study testing the effects of weight loss on urinary incontinence reveals how the study positively affected her life.

The NIDDK is continuing efforts to ensure that knowledge gained from its research advances is disseminated to health care providers, patients, and the general public. Such efforts include the Institute's major educational programs, the National Diabetes Education Program and the National Kidney Disease Education Program. Additionally, the Weight-control Information Network, the National Diabetes Information Clearinghouse, the National Digestive

Diseases Information Clearinghouse, and the National Kidney and Urologic Diseases Information Clearinghouse develop and distribute science-based information on diseases and disorders within the NIDDK mission. Several hundred brochures, fact sheets, and publications are available in printed copy and on the NIDDK Web site so that they are readily available for patients, health care providers, and the public. I invite you to visit the Web site at: www.niddk.nih.gov

This compendium reflects only a fraction of the immense body of research performed by basic scientists, clinical investigators, and patient volunteers. We remain committed to translating their efforts into improvements in the health and quality of life of all people.



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Director

National Institute of Diabetes and Digestive and Kidney Diseases

National Institutes of Health

U.S. Department of Health and Human Services

The materials featured in this publication reflect the core mission of the NIDDK, including the Director's following guiding principles:

- Maintain a vigorous investigator-initiated research portfolio;
- Support pivotal clinical studies and trials;
- Preserve a stable pool of talented new investigators;
- Foster exceptional research training and mentoring opportunities; and
- Ensure knowledge dissemination through outreach and communications.