

# NIDDK Recent Advances & Emerging Opportunities: 2025

Executive Summary



Here is a snapshot of recent NIDDK-funded research activities, including scientific advances and personal perspectives of those who have given time and effort in support of clinical research.



NIDDK's research mission includes some of the most common, chronic, and costly diseases and conditions affecting the health and quality of life of Americans. As we celebrate NIDDK's 75th anniversary, this report reflects on the incredible progress made over the past 75 years toward understanding and treating some of the nation's greatest public health challenges including diabetes, kidney diseases, digestive diseases, obesity, and more. As a sign of both continually moving forward with current efforts and looking ahead to future successes, this report

also describes recent research advances and workshops, ongoing programs and activities, and personal stories of people participating in clinical studies, highlighting NIDDK's enduring commitment to advancing science and health for all.

To access the full report, visit [niddk.nih.gov](https://niddk.nih.gov) and search for "Recent Advances and Emerging Opportunities"

## | Diabetes, Endocrinology, and Metabolic Diseases

- ▶ Experiments in mice revealed that an antibody drug that binds to a protein on the surface of insulin-producing  $\beta$  (beta) cells protected mice from developing type 1 diabetes.
- ▶ New predictive models were developed and tested that could help health care providers diagnose young people with type 1 or type 2 diabetes.
- ▶ Evidence shows that sugar and sweetened beverage taxes may be effective for improving public health by changing consumption habits.

“I didn't hesitate. I was ready to try anything that could give me even a temporary break from insulin.”

-Norma, recalling her decision to take part in a Clinical Islet Transplantation Consortium clinical trial that tested the effectiveness of pancreatic islet cell transplantation as a treatment for type 1 diabetes.

“Without these studies, my health would not be what it is today.... They gave me a lot of life back to raise my family.”

-Keisha, referring to her participation in the Triabetes and subsequent ARMMS-T2D clinical studies, which assessed the effectiveness of bariatric surgery adults with type 2 diabetes and overweight/obesity.



**NIDDK Director  
Dr. Griffin P. Rodgers'  
Guiding Principles**

**Maintain** a vigorous investigator-initiated research portfolio

**Support** pivotal clinical studies and trials

**Promote** a steady and diverse pool of talented new investigators

**Foster** exceptional research training and mentoring opportunities

**Ensure** knowledge dissemination through outreach and communications

## | Obesity

- ▶ Time-restricted eating was found to be effective for weight loss and lowering blood glucose levels compared to daily calorie counting in adults with type 2 diabetes and obesity.
- ▶ A study in mice has provided new insight into how some obesity and diabetes medications work, which could lead to the development of new therapies.

## | Digestive Diseases and Nutrition

- ▶ Targeted feeding of the gut microbiome was demonstrated to increase growth in infants with malnutrition in the early stages of life.
- ▶ A few weeks on either a vegan or ketogenic diet was shown to cause changes in immune function and metabolism in adult study participants, suggesting that it may be possible to tailor dietary patterns to prevent or treat disease.
- ▶ A clinical trial found that administering an anti-inflammatory drug along with a pancreatic stent is more effective at preventing pancreatitis after an endoscopic procedure than the anti-inflammatory drug alone.

“*If it was to help with developing better treatment options for people, and they were able then to get their lives back, I feel like that would be really rewarding.*”

-Alicia, speaking about her motivation for participating in the Gastroparesis Clinical Research Consortium, which aims to catalyze research and test new diagnostics and therapies for gastroparesis.

## | Kidney, Urologic, and Hematologic Diseases

- ▶ Researchers used a new technique of following mitochondrial DNA through blood cell development to gain new knowledge about human blood.
- ▶ A new approach may one day help people with genetic variants that cause certain kidney diseases assess their risk of progressing to chronic kidney disease.
- ▶ Molecular pathways were identified that may increase nerve growth in the bladder and lead to pain that persists after recurrent urinary tract infections.

“*I just felt great during the program.... I know it helped my kidney function, but my whole body responded so much better when I stayed hydrated.*”

-Bob, describing how increasing water intake as part of the PUSH trial benefitted his health.

### Full Report:

[www.niddk.nih.gov/about-niddk/strategic-plans-reports/niddk-recent-advances-emerging-opportunities](http://www.niddk.nih.gov/about-niddk/strategic-plans-reports/niddk-recent-advances-emerging-opportunities)

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