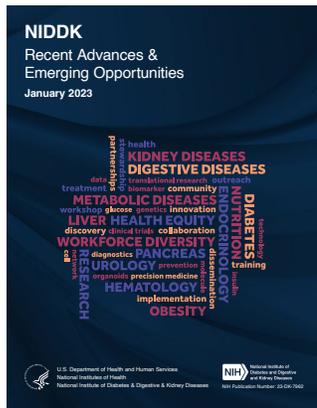


NIDDK Recent Advances & Emerging Opportunities: 2023

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. Many of these disproportionately affect certain groups or communities, including those who have been historically marginalized by structural and systemic racism and other forms of discrimination, and those who experience injustice today. NIDDK recognizes that to improve the health of all we must accelerate efforts to eliminate disparities and promote health equity. This report discusses a new NIDDK Health Disparities/Health

Equity Implementation Plan, currently in development, that will guide this research. Descriptions of recent and ongoing initiatives, workshops, research, and activities also highlight NIDDK's commitment to these efforts and to cultivating a diverse workforce.

To access the full report, visit niddk.nih.gov and search for "Recent Advances and Emerging Opportunities"

Diabetes, Endocrinology, and Metabolic Diseases

- ▶ An oral therapy delayed type 1 diabetes progression, lowering insulin requirements for at least 2 years. Also, two diabetes drugs outperformed others, when combined with metformin, in a large clinical trial.
- ▶ New studies identified factors critical for healing of diabetic foot ulcers and confirmed that good blood glucose management can reduce the risk of developing these wounds.
- ▶ A novel experimental approach identified possible new treatments for the endocrine disorder hyperparathyroidism.

“It was probably one of the best things that has happened.... It introduced me to an easier life.”

- Lauryn, on how joining a clinical trial testing a novel artificial pancreas device showed her a less burdensome approach to managing her type 1 diabetes.

“It was so rewarding knowing I was doing this to protect the health of my baby.”

- Angelica, speaking about her participation in GO MOMS, a clinical study to better understand how blood sugar levels change throughout pregnancy.



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

- ▶ Researchers found that bariatric surgery, including gastric bypass surgery and sleeve gastrectomy, led to significantly more weight loss than nonsurgical care for people with severe obesity.
- ▶ Investigation of a molecule produced during exercise by various mammals, including people, has offered new insights into how physical activity helps regulate food intake and body weight.

| Digestive Diseases and Nutrition

- ▶ Scientists uncovered a possible role for the protein gasdermin B in the healing of intestinal lesions, which could lead to development of new inflammatory bowel disease therapies.
- ▶ Recent discoveries may help inform clinical care for nonalcoholic fatty liver disease by identifying genetic factors underlying the disease in children and by tracking factors associated with disease outcomes in adults.
- ▶ Communication between immune and esophageal cells may influence whether people with eosinophilic esophagitis develop a more severe form of the disease. This knowledge could help inform more personalized disease treatment.

“ We’re really concerned about the lives of these children and ways to improve them—that’s such a gratifying mission to stand behind.”

- Jessi, on the motivation behind her work, including serving as study coordinator for the ITCH trial that tested a new treatment for the severe itching seen in the rare pediatric liver disorder Alagille syndrome.

| Kidney, Urologic, and Hematologic Diseases

- ▶ An “atlas” detailing the healthy adult kidney at the cellular level may dramatically deepen understanding of human kidney physiology and lead to more personalized therapies for kidney disease.
- ▶ Researchers demonstrated in mice that kidney damage from early polycystic kidney disease can be reversed by reactivating an inactive gene.
- ▶ Two recent studies explored new potential approaches for treating the urinary symptoms caused by prostate enlargement.

The HOPE study seeks to improve pain management and reduce opioid prescription rates in people undergoing dialysis. HOPE also prioritizes including the patient perspective in all its activities.

“ Dave, a Patient Advisor for HOPE, said, “The HOPE trial exceeded my expectations... And my expectations were high.” When Leroy, a HOPE study participant, was asked if he would encourage other people to participate in clinical research studies like HOPE, he replied, “Oh, definitely. I would give [the study] an A plus...Give it a try.”

Full Report:

www.niddk.nih.gov/about-niddk/strategic-plans-reports/niddk-recent-advances-emerging-opportunities

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