American Heart Association.

STRATEGICALLY FOCUSED RESEARCH NETWORK

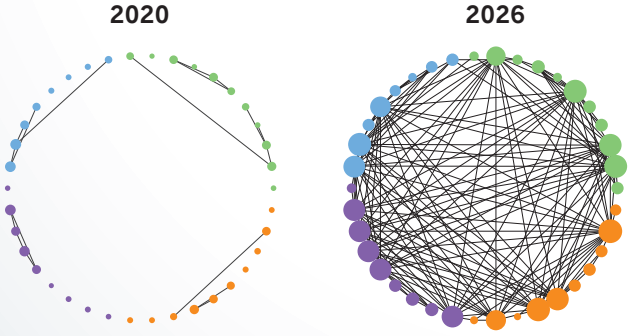
CARDIOMETABOLIC HEALTH & TYPE 2 DIABETES

AHA'S INVESTMENT 2020-2024

$13.8 MILLION IN RESEARCH TO 4 CENTERS | **$1 MILLION** IN COLLABORATIVE GRANTS

BY THE NUMBERS

- **61** subsequent grants totaling over **$124M**, four of which were awarded to Network Fellows
- **123** related publications, including articles in the *Journal of the American Heart Association*, *Circulation Research*, *Nature Cardiovascular Research*, and *Journal of the American Medical Association*
- Collaboration and co-authorship between awardees grew 10 times over the duration of the awards, with the most growth seen from 2025 to 2026

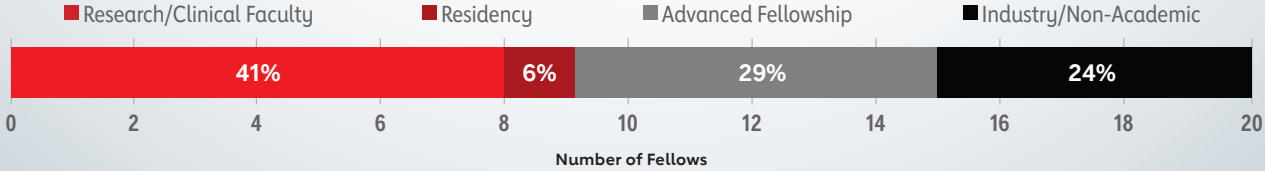


NOTE: Each circle represents a researcher, and each center has a different color. The size of the circles represents the number of connections, while the arcs indicate joint publications between researchers.

- Johns Hopkins University
- New York University
- Brigham & Women's Hospital
- University of Iowa

TRAINING A NEW GENERATION OF MULTIDISCIPLINARY INVESTIGATORS

Overall, 76% of the fellows transitioned into a research/clinical position or advanced into further clinical or specialty training.



NOTABLE PUBLICATIONS

BRIGHAM HEALTH
BRIGHAM AND WOMEN'S HOSPITAL

A smooth muscle cell lncRNA controls angiogenesis in chronic limb-threatening ischemia through miR-143-3p/HHIP signaling, *Journal of Clinical Investigation*, August 2025

This study discovered that a specific RNA molecule found in smooth muscle cells called CARMN helps the body grow new blood vessels when limbs don't get enough blood (a serious condition known as chronic limb threatening ischemia). When CARMN levels are low, blood vessel cells don't communicate well, new blood vessels don't grow properly, and tissue damage worsens after reduced blood flow. Researchers showed that boosting this communication pathway can improve blood flow and tissue recovery, pointing to completely new treatment possibilities for preventing amputations in patients at risk of limb loss.

JOHNS HOPKINS
UNIVERSITY & MEDICINE

Heart Failure and Obesity: The Latest Pandemic, *Progress in Cardiovascular Diseases*, May 2023

Obesity is a major driver of rising heart failure rates because excess body fat disrupts metabolism, strains the heart, and triggers hormonal and inflammatory changes that damage heart muscle over time. Although people with mild obesity who already have heart failure sometimes live longer than patients at lower weight ranges (the obesity paradox), intentional weight loss consistently improves heart function, reduces risk, and is essential to addressing the growing burden of heart failure.

NYU Grossman School of Medicine

Systems immunology-based drug repurposing framework to target inflammation in atherosclerosis, *Nature Cardiovascular Research*, June 2023

Researchers used advanced immune and gene analysis tools to identify how blood from people with atherosclerotic heart disease triggers harmful inflammation in immune cells. By comparing these immune patterns to large drug databases, they identified saracatinib, an existing drug, as capable of reversing this inflammatory response by reducing artery plaque inflammation and slowing disease progression in multiple animal models. This research supports the potential repurposing as a new immunotherapy for cardiovascular disease and shows how matching immune patterns to existing drugs could speed up the discovery of new treatments.

UNIVERSITY OF IOWA HEALTH CARE

Diabetes Mellitus - Progress And Opportunities In The Evolving Epidemic, *Cell*, July 2024

Diabetes involves multiple organs and develops through a mix of genetic influences, environmental pressures, and metabolic dysfunction, with Type 1 driven by immune destruction of insulin producing cells and Type 2 shaped largely by insulin resistance, reduced insulin output, and obesity related brain pathways that regulate appetite and energy use. Both forms carry risks for serious complications that affect quality of life and longevity, and their development is strongly influenced by nutrition and broader social determinants of health. Growing scientific insights into diabetes reveal how the disease progresses and points to emerging treatments that could shape long term health.

NOTABLE COLLABORATIONS

- Collaboration among the four Cardiometabolic SFRN centers led to the January 2026 Circulation Research publication "A Road Map to Understanding Cardiovascular Disease in Diabetes," bringing together their combined studies in humans, cells, and animal models to explain why people with diabetes face a much higher risk of heart disease. Their joint work uncovered new biological clues, early warning markers, and potential future treatment approaches that could ultimately help reduce heart related complications for people living with diabetes.
- Brigham and Women's Hospital, Johns Hopkins University, New York University, and the University of Iowa built a shared training program that gave fellows hands-on exposure to new scientific methods, cross-center mentorship, and collaborative workshops and master classes, strengthening their ability to work across all science disciplines. This coordinated approach expanded fellows' technical skills in areas such as omics, bioinformatics, and translational science while also creating a unified research culture that prepares them to lead future advances in cardiometabolic health.
- Collaboration among New York University researchers and their work from the Cardiometabolic SFRN generated preliminary evidence that helped secure a five-year, $3.4 million National Heart Lung and Blood Institute R01 grant to further investigate cholesterol lowering and residual cardiovascular risk in Type 1 diabetes. This achievement underscores how the network's shared research foundation directly enabled the launch of this new study and expanded national investment in this critical area of diabetes and heart disease research.
- Johns Hopkins University and the University of Iowa partnered to measure novel protein markers in people undergoing bariatric surgery, and this work aligned with broader cross center efforts to compare treatment strategies for patients with diabetes and sleeve gastrectomy related weight loss. Together, these collaborations helped identify shared inflammatory and metabolic biomarkers that may clarify why certain interventions improve cardiovascular health in people with diabetes.