LONGER LIFE FOUNDATION

Advancing Women's Cardiovascular Research Through Early Funding

Dr. Kathryn J. Lindley, FACC

Dr. Kathryn J. Lindley is an Associate Professor of Medicine and Obstetrics and Gynecology, and the Samuel S. Riven Director of the Women's Heart Center at Vanderbilt University Medical Center. She is a nationally recognized leader in cardio-obstetrics and adult congenital heart disease. Dr. Lindley's research is focused on understanding and mitigating the impact of hypertensive disorders of pregnancy on short- and long-term adverse cardiovascular outcomes. She has held leadership roles with the American College of Cardiology and collaborates on major maternal cardiovascular health initiatives and funded studies.

Ten to twenty percent of pregnancies are affected by cardiovascular or metabolic complications, including hypertensive disorders, small for gestational age, gestational diabetes and preterm birth. Dr. Kathryn Lindley's work examines the link between pregnancy complications and long term cardiovascular health. By reframing pregnancy as a key window for risk identification, her research helps advance earlier detection, prevention, and more personalized approaches to women's cardiovascular health.

Below, Dr. Lindley shares how support from the Longer Life Foundation has influenced her career and research efforts in the cardio-obstetric field.

How did receiving a Longer Life Foundation grant impact your career path and research focus?

As an early career clinical researcher, the Longer Life Foundation funding supported the hiring of a research assistant and aided with the costs of cardiac imaging. This allowed me to obtain pilot data, leading to being awarded an NIH R01 grant to expand our findings.

Pictured from left: Research Coordinator Olivia Patridge and Dr. Kathryn Lindley

Can you describe the research project supported by the grant and its relevance to your area of focus?

Pregnancy complications are convincingly associated with increased risk for future cardiovascular complications in women – including coronary artery disease, heart failure, and stroke. Heart failure with preserved ejection fraction (HFpEF) disproportionately affects females, and is more common among women who have experienced preeclampsia. The reasons for future heart failure following preeclampsia remain unclear – whether they are clinical risk factors, social risk factors, or persistent physiologic changes after pregnancy.

Our study seeks to identify risk factors for subclinical HFpEF in the first year following pregnancy by evaluating cardiac structure and function, endothelial function, exercise capacity, cardiovascular protein expression, and clinical factors (weight, blood pressure, diet and exercise patterns). Defining this risk profile for early HFpEF will afford the opportunity for future studies to mitigate disease through pharmacologic/lifestyle interventions in a targeted population. We hypothesize that persistent structural and functional cardiac abnormalities in women with preeclampsia are linked to cardiometabolic risk factors and functional capacity, as well as pathways of vascular and inflammatory stress central to heart failure risk.

Have you seen any lasting effects of your grant-supported work in clinical practice, patient outcomes, or further research?

Several publications have resulted from our pilot studies. These early findings have helped drive new research questions, additional research studies, and my ability to effectively counsel my patients with preeclampsia. We are preparing to launch our next research study in the fall of 2026, focused on a targeted intervention for patients with recent preeclampsia.

What advice would you give to early-career researchers or clinicians considering applying for a Longer Life Foundation grant?

You should make the most of every opportunity as an early career scientist. Effective mentors and pilot funding are essential for building a strong foundation upon which you can launch a successful research career.

Is there anything else you would like to share about your experience with the Foundation or how it shaped your professional journey?

The LLF grant was truly transformational in my research career trajectory. Without this support, I would not have had the resources to obtain the critical pilot data and research experience that were essential for NIH funding.

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Similar to Dr. Lindley's work, grants from the Longer Life Foundation have supported hundreds of academicians and scientists engaged in fundamental research into longevity and health. If you would like to read more about these important projects, ***click here****.*