

A Commitment To Research

An Interview with Karina Davidson, PhD, Senior Vice President of Research, Northwell Health

EDITORS' NOTE *Dr. Karina Davidson also serves as Dean of Academic Affairs, Director and Professor, Institute of Health System Science, Feinstein Institutes for Medical Research, and Donald and Barbara Zucker Professor in Health Outcomes, Donald and Barbara Zucker School of Medicine at Hofstra/Northwell. For more than 25 years, Davidson has served in leadership roles for teams focused on the advancement of scientific, educational and patient care missions through both the generation and implementation of evidence-based practices. Davidson is past chair of the United States Preventive Services Task Force. She earned her Master of Applied Science degree in industrial/organizational psychology as well as her PhD in clinical psychology from the University of Waterloo (Canada).*



Karina Davidson

and patient symptoms, incorporating patient preferences and values. I was awarded the National Institutes of Health Transformative R01 grant to achieve Personalized Trial (N-of-1) clinical trial delivery at the point of care. This grant envisions reimagining the process through which therapies are tested within clinical encounters, ultimately identifying for each patient the therapy that provides maximum benefit with minimal harm.

I have always been fascinated with how we can improve patient and population health proactively, and I have

worked to create systems and structures to support this mission. Directing the Institute of Health System Science at Feinstein has been exceptionally fulfilling, providing a unique opportunity to cultivate a culture of innovation, excellence, and dedication to enhancing our patients' quality of life.

When did you develop your passion for scientific research and advancements in medicine?

My passion for scientific research took root early in my career as I observed the transformative impact that personalized, evidence-based approaches could have on patient care. Whenever I face difficult moments, I am reminded that my journey in science has always been about serving and helping those most vulnerable in our communities. During my tenure on the United States Preventive Services Task Force (USPSTF), I confronted the complex challenge of guiding decisions about which preventive services had sufficient evidence to recommend nationally. The sheer volume of research, from cardiovascular screening to mental health interventions, was significant. I focused on the behavioral aspects of prevention, exploring how to encourage healthier habits and adherence to screening recommendations. I also focused on the underlying social determinants of health and structural racism that can impede screening recommendations from applying to all Americans. Another key challenge was addressing the stigma surrounding mental health, and I advocated for clear screening recommendations for depression and anxiety. My contributions helped shape national guidelines, translating into real-world changes in healthcare delivery. I left the USPSTF with a sense of accomplishment, confident in its continued commitment to improving public health.

This commitment to public health and serving those who are vulnerable was particularly galvanized in recent years as the maternal health crisis

in the United States unfolded, where most adverse pregnancy outcomes are preventable yet disproportionately impact Black and Indigenous women. In 2023-2024, I had the privilege to lead a national workgroup and workshop for the National Institutes of Health Pathways to Prevention Panel for Maternal Mortality. During the workshop, we analyzed evidence on predicting and preventing poor postpartum health outcomes, and we questioned what prevention interventions had the greatest beneficial effect. We ultimately reported that most eligible studies in this field were vulnerable to methodological bias in their findings. We, the volunteer expert panel, recommended that the nation needs a "maternal morbidity and mortality prevention moonshot" to strengthen the research methods used within the science of maternal health; to establish and conduct national prevention, treatment, and policy interventions; and to reimburse evidence-informed clinical approaches to improve maternal health across the life course. Without a national focus on fundamentally transformative interventions and other initiatives aimed at redressing structural racism and inequities in healthcare, current interventions and clinical advances in maternal morbidity and mortality prevention will remain tragically insufficient. For me, this commitment to rigorous evidence informing national policy that ultimately improves lives is the driving force behind my dedication to research.

Will you highlight Northwell Health's commitment to research and how deeply ingrained research is in Northwell's culture and values?

Northwell Health's commitment to research is profound and deeply embedded within our organization's culture. At Northwell, we prioritize a forward-thinking approach to healthcare, which means integrating the latest scientific advances directly into patient care. Our Institute of Health System Science at Feinstein Institutes is an example of this commitment, where we focus on pioneering innovations like the Personalized Trial model, aimed at offering tailored treatments based on individual patient needs. By supporting transformative studies and embracing an environment that values patient preferences, we are not only enhancing healthcare delivery but also fostering a culture that values continuous learning, adaptability, and compassion. Northwell's emphasis on evidence-based practices and advancing scientific knowledge enables us to set new standards in healthcare, ensuring our patients receive the most effective, personalized care possible. ●

INSTITUTION BRIEF *Northwell Health (northwell.edu) is a clinical, academic, and research enterprise with a workforce of more than 87,000 and annual revenue of \$18 billion. Northwell is the largest healthcare provider and private employer in New York State, caring for more than two million people annually through a vast network of more than 900 outpatient facilities, including 220 primary care practices, 52 urgent care centers, home care, rehabilitation, and end-of-life programs, and 21 hospitals.*

Will you discuss your career journey?

I am a clinical psychologist, deeply committed to creating and disseminating evidence-based health interventions particularly for patients, communities, clinicians, and healthcare systems. I was trained in Canada, where I received my master's in industrial/organizational psychology and my PhD from the University of Waterloo, Ontario in the specialty area of clinical health psychology. Having been taught that research should influence practice patterns, and that practice should inform research, I dedicated my career to the generation of impactful research. I love using my grounding in behavior change and systems theory to capitalize on the unique opportunities to improve the health and well-being of patients at Northwell and across our nation.

My research currently focuses on innovative personalized trials to manage chronic disease