



Northwestern University
NUCATS
Clinical and Translational Sciences Institute



**IMPACT REPORT
2024**

NUCATS is supported by the NIH's National Center for Advancing Translational Sciences, grant UM1TR005121, as well as Northwestern University's Feinberg School of Medicine and Office for Research



ADVANCING HEALTH EQUITY, INNOVATION, AND IMPLEMENTATION THROUGH TRANSLATIONAL SCIENCE

As we stand at the beginning of the newest chapter for our Clinical and Translational Science Award (CTSA) Hub, we're driven by optimism, uplifted by excitement, and focused on opportunity. This renewed effort — supported by a seven-year \$55 million NIH grant and generous institutional support — presents us with an opportunity to move forward with reimagined approaches as we strengthen our collaborations and enhance the impact of our work.

We've been diligent in purpose and engaged in thoughtful discussions about our mission and vision: we intend to continue to engage the community in efforts to innovate and implement effective and generalizable improvements in health for all.

This vision means we will strengthen collaborations with our clinical affiliates and community partners on clinical research challenges that will advance health equity. Our vision also enables NUCATS to better translate innovations into interventions with broad impact on health and healthcare. NUCATS is now also even better positioned than before to infuse implementation science methods into work across the translational continuum to improve public health.

The NIH recently changed its charge to all CTSA hubs: from supporting translational research to conducting clinical and translational science, the act of learning how to accelerate and move new interventions into impact that improves health for all. As one of more than 60 CTSA-funded hubs, NUCATS will leverage our nation-leading strengths in dissemination and implementation science to infuse these approaches into earlier stages of translational research. In 2024, we emphasized this transition, and this Impact Report details some of our accomplishments over the past year, which include: supporting FoundHer Fellows and women entrepreneurship; collaborating on community-driven research initiatives; enhancing FDA regulatory consultation expertise; and naming a new director of Informatics and Data Science

This year, we will continue to critically evaluate our efforts, optimizing them to keep pace with our fast-moving environment. After reading this report, we hope you are energized by the immense contributions of our faculty and staff.

Richard D'Aquila, MD
NUCATS MPI

Sara Becker, PhD
NUCATS MPI

Clyde Yancy, MD
NUCATS MPI

On the cover, clockwise from top left:

Alliance for Research in Chicagoland Communities (ARCC) Associate Director Sherida Morrison and ARCC Director Jen Brown, MPH, brought academic and community partners together during multiple Community Research Learning Exchanges in 2024.

Satish Nadig, MD, PhD, joined the Institute's Science in Translation podcast to discuss his experience collaborating with and starting biotechnology companies and the importance of institutional support when launching startups or exploring the commercialization of research.

Center for Community Health Director Darius Tandon, PhD, was appointed Chief of Intervention Science in the Department of Medical Social Sciences.

Laila Gharzai, MD, assistant professor of Radiation Oncology was awarded an ASTRO-ACS Clinician Scientist Development Grant (CSDG) from the American Cancer Society and American Society for Radiation Oncology. Gharzai credits the NUCATS-supported Clinical and Translational Investigation Accelerator with putting her in a position to apply for the CSDG award.

With assistance from NUCATS, Robert H. Lurie Comprehensive Cancer Center of Northwestern University member and K12 Scholar Lajja Desai, MD, delivered a TED-style talk before an audience of scientists and community members at MATTER, a global healthcare startup incubator.

Principal investigators (from left), Clyde Yancy, MD, MSc, Sara Becker, PhD, and Richard D'Aquila, MD, officially launched the Institute's seven-year, \$55 million UM1 award from the National Center for Advancing Translational Sciences.

Leena B. Mithal, MD, MSCI, associate professor of Pediatrics, was named director of the Institute's successful Master of Science in Clinical Investigation program.

With new funding from NUCATS, Teni Brown, MD, who also received a prestigious RWJ Harold Amos Award, will explore how patient navigation may help optimize pelvic floor disorder treatment for older black women, while also addressing systemic racism and other barriers to care.

Northwestern University
NUCATS
Clinical and Translational Sciences Institute

Richard D'Aquila
NUCATS Institute MPI
Sara Becker
NUCATS Institute MPI
Clyde Yancy
NUCATS Institute MPI

Roger Anderson
Director, Marketing & Communications
Kristi Holmes
Director, Informatics and Data Science

Nicole Woitowich
Executive Director

Photo Attributions
Eileen Molony, Teresa Crawford, Alex Miranda



Co-led by Leena Sharma, MD, NUCATS received a five-year, \$5.4 million K12 Mentored Research Career Development Program Award from the National Institutes of Health. The NUCATS Institute's Mentored Career Development Program has been continuously funded for 17 years.

NORTHWESTERN HOSTS CHICAGOLAND K DAY EVENT

"The way we discuss work-life balance doesn't seem to be working so well," said David Victorson, PhD, professor of Medical Social Sciences at the Feinberg School of Medicine.

"We spend a lot of time managing projects, managing teams, managing people, and managing time," Victorson told a crowd of early career investigators during the annual Chicagoland K Day event, held this year at Northwestern University and led by the NUCATS Institute K12 Program. "While it's important to manage all of those things, managing one's mood and emotions with self-compassion is by far the most important management job we'll ever have."

More than 60 early career faculty and postdoctoral fellows from Northwestern, the University of Illinois at Chicago, University of Chicago, Rush, and Loyola attended Victorson's talk.

NUCATS supports many investigators who receive Research Career Development (K) Awards from the National Institutes of Health, which enable scientists with diverse backgrounds to enhance their careers in biomedical research. Individual K awards can also have positive effects on an investigator's publication record and subsequent receipt of future NIH grants.

LEADERSHIP COURSE FILLS GAP IN HIGHER EDUCATION

As the architect of a successful research career, Bonnie Essner, PhD, is adept at designing study protocols. Building and managing a team of investigators, however, was something she had no formal training in.

"At this stage of my career, my research program continues to accelerate, and our interdisciplinary team is expanding to include more trainees and colleagues," says Essner, assistant professor of Psychiatry and Behavioral Sciences and Pediatrics. "When I began to explore 'Leadership and Management Strategies for Clinical Investigators,' I realized the course could guide me in building research-specific management skills to support our program's success and to attend to each team member's individual experiences."

The course is designed for physician-scientists, clinical researchers, and other principal investigators who have health-focused research. It is led by Kellogg faculty in an interactive classroom setting. Participants in the four-day course are exposed to practical and effective approaches to topics including organizational culture, strategic time management, feedback and persuasion strategies, and diversifying funding sources. "The Kellogg faculty are incredible instructors," says Essner, who completed the program in 2024.



BONNIE ESSNER

Launched in 2020, "Leadership and Management Strategies for Clinical Investigators" offers clinical investigators a chance to build a foundation of evidence-based management and leadership skills.

"We continue to enhance the coursework so that it helps researchers harness unique leadership skills often not taught in the many years of clinical and scientific education they've already received," says Course Director Divakar Mithal, MD, PhD.

41

NUCATS' CAREER DEVELOPMENT (K12) AWARD HAS SUPPORTED 41 FACULTY IN 17 YEARS



16

LAUNCHED IN 2022 WITH 8 MEMBERS, THE MIDWEST TRANSLATIONAL SCIENCE GROUP NOW HAS 16 INSTITUTIONS

NUCATS

Clinical and Translational Sciences Institute

\$55M

NUCATS RECEIVED A 7-YEAR, \$55 MILLION NCATS **GRANT** THAT CONTINUES NIH SUPPORT STARTED IN 2008

126K

PAGES ON THE **NUCATS WEBSITE** WERE VIEWED MORE THAN 126,000 TIMES BY 89,000 USERS IN FY24, A 19% INCREASE



16K

NUCATS-SUPPORTED PUBLICATIONS WERE FEATURED IN 1,894 **NEWS ARTICLES** AND 14,557 TWEETS LAST YEAR

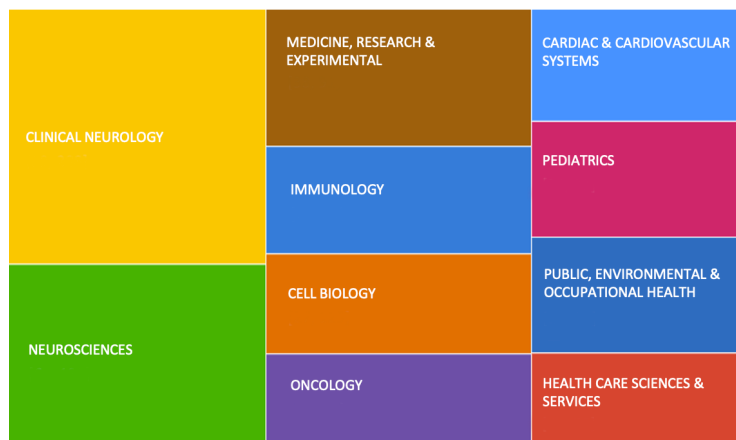
623

MORE THAN 600 **PUBLICATIONS** WERE SUPPORTED BY NUCATS LAST YEAR



6,902

NUCATS HELPED SUPPORT MANY OF THE INVESTIGATORS INVOLVED WITH NEARLY 7,000 CLINICAL TRIALS AT NORTHWESTERN IN FY24. THE TRIALS INCLUDED MORE THAN 372,000 PARTICIPANTS



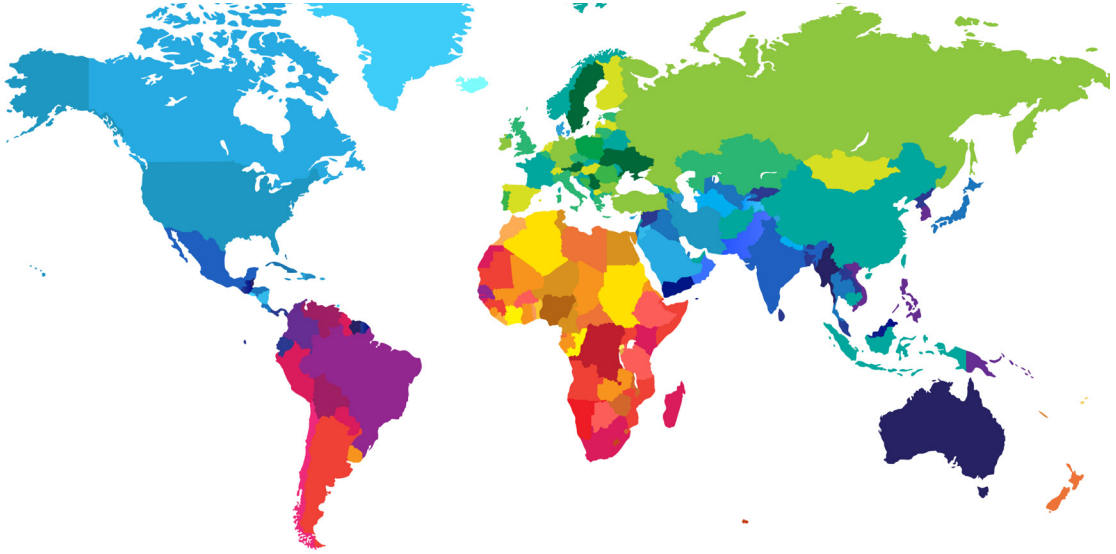
NEUROLOGY & NEUROSCIENCE WERE THE MOST-POPULAR **SUBJECT AREAS** PUBLISHED BY NUCATS-SUPPORTED INVESTIGATORS IN FY24

455,000

SINCE LAUNCHING IN 2008, NUCATS HAS SUPPORTED 8,450 **RESEARCH PAPERS**, WHICH HAVE BEEN CITED 454,946 TIMES BY ACADEMIC AND POLICY EXPERTS AROUND THE WORLD



NUCATS MEMBERS CITED 2,088 TIMES IN 105 COUNTRIES



NUCATS members continue to make a global impact, collaborating with investigators from 50 countries in FY 2024. During the past year, institute-supported research discoveries received 2,088 citations. Those citations occurred in nine different languages by individuals residing in 105 nations.

BUILDING ON LEGACY OF SUCCESS, NUCATS LAUNCHES UM1

"If we've seen further, it's by standing on the shoulders of giants," said Clyde Yancy, MD, MSc, paraphrasing Isaac Newton's famous line. "Building on a legacy of success, it's important that this version of NUCATS marks a new beginning, one we envision will serve as an exemplar for what it means to be a CTSA hub."

In September, NUCATS leaders, including principal investigators Richard D'Aquila, MD, Sara Becker, PhD, and Yancy officially launched the Institute's seven-year, \$55 million UM1 award.

"Today marks a significant moment for the NUCATS team and the entire Northwestern community as we

celebrate the largest active research award at the university," said Northwestern Vice President for Research Eric Perrault, PhD. "Most importantly, we will continue the journey to translate this grant into real-world impact."

Awarded by the National Institutes of Health's National Center for Advancing Translational Sciences, the grant will fund activities that cultivate a culture of excellence to better capitalize on the full range of existing talent while enabling effective translation of discoveries. The Institute is also positioned to infuse implementation science methods into work across the translational continuum to improve public health and meet the needs of all. Northwestern University and its

affiliates the Ann and Robert H. Lurie Children's Hospital of Chicago and its Stanley Manne Children's Research Institute, Shirley Ryan AbilityLab, and Northwestern Medicine comprise the NUCATS Institute. Clinicians and investigators at each affiliate are Northwestern faculty members and the partnering entities share a jointly operated, markedly grown academic medical center campus where faculty and trainees' education, care, and research activities cultivate a learning health system.

The Institute's new mission is bold. Aiming not just to support research, but to fundamentally change the way we think about and conduct clinical and translational science.

Philip Greenland, MD
Founding Director

"This remarkable team is positioned to become a national model for what transdisciplinary science can achieve. I can't wait to see the incredible innovations from this new phase of NUCATS."

Donald Lloyd-Jones, MD, ScM
Former NUCATS Director



REMI LOVE

CONFERENCE PUTS COMMUNITIES FIRST

“Whatever is not being done with communities is being done to communities,” says Glencene Green, PhD, co-founder and executive director of the Black Researchers Collective.

That message — one of many delivered by Green — helped set the tone during Northwestern’s daylong Community-Engaged Research Conference. The event was organized by Center for Community Health Administrator Remi Love.

“There are fundamental assets that are part of every community,” says Green. “One of the things we want researchers to understand is that when you approach communities with a partnership mentality, you can get access to any number of assets that might be used to better leverage your work.”

Bolstered by support from the Northwestern University Feinberg School of Medicine, the conference focused on health equity, relationship building, information sharing, best practices, and more by providing a forum to better understand the landscape of community-driven research.

CENTER FOR CLINICAL RESEARCH GROWS UNDER PETERS' LEADERSHIP

The Center for Clinical Research (CCR) continues to enhance many service lines and recently announced the availability of an external FDA consultancy firm to guide Northwestern University investigators with FDA submission planning. The firm offers various subject-matter experts in medical devices, investigational drugs and biologics, and combination products. The CCR Regulatory Team can now support annual submissions to the FDA, as well as amendments not requiring consultation. The CCR Finance Team now offers a separate Study Tracker budget build-out fee for study teams. Additionally, CCR Finance and Regulatory have gained considerable experience in executing cellular therapy protocols.



ANJU PETERS
CCR Director

The ClinicalTrials.Gov Support Team expanded outreach efforts to study teams and launched a series of how-to videos to answer frequently asked questions. Northwestern Medicine’s Clinical Research Unit continues to be an option for many of the nearly 7,000 clinical trials taking place annually at Northwestern.

“The CRU offers exceptional support, ensuring research teams can conduct their studies efficiently

while providing outstanding, detailed care to the study subjects,” says Anju Peters, MD, CCR director. “One of the great advantages of the NM CRU is that its mobile nurses offer flexible, on-site support to research teams across the hospital, ensuring that clinical studies are conducted seamlessly wherever they are needed.”

SENIOR DIRECTOR OF MENTORING, LEADERSHIP DEVELOPMENT NAMED

A long-time figure in the mentoring landscape at Northwestern University, Kenzie Cameron, PhD, MPH, has been named senior director of NUCATS Mentoring and Leadership Development. The NUCATS Institute’s Center for Education and Career Development serves to anchor mentoring activities at the medical school and includes the renowned “Developing & Enhancing Mentoring Relationships” program. Cameron also recently led a CECD collaboration to launch new curricula designed to enhance the experiences of early career faculty members.



KENZIE CAMERON

94
NUCATS NAVIGATORS COMPLETED 61 SERVICE REQUESTS AND PROCESSED 33 LETTERS OF SUPPORT IN FY24



685
685 PEOPLE ATTENDED Q FOUNDER AND FOUNDER LECTURES IN FY24

EQUATR 2024: CLINICAL RESEARCH IN THE AGE OF AI

Co-hosted by the NUCATS Institute, the Institute for Translational Medicine, and the University of Illinois at Chicago Center for Clinical and Translational Science, the Enhancing Quality in the Translational Research Workforce (EQuaTR) Conference created the type of interactive platform that is a hallmark of the Chicagoland CTSA community.

“EQuaTR allows the Chicagoland Clinical and Translational Science Award hubs and research community to come together to join in learning and networking. The speakers and breadth of knowledge shared was outstanding,” says Sharon Rosenberg, MD, a professor of Pulmonary and Critical Care in the Department of Medicine who has served as the NUCATS Institute leader on this citywide initiative for nearly a decade.

This year’s conference highlighted clinical research in the digital age, exploring how technological advances such as AI will change the research and data process for clinical research staff. Featured guests included Abel Kho MD, director of Northwestern’s Institute for Artificial Intelligence in Medicine.

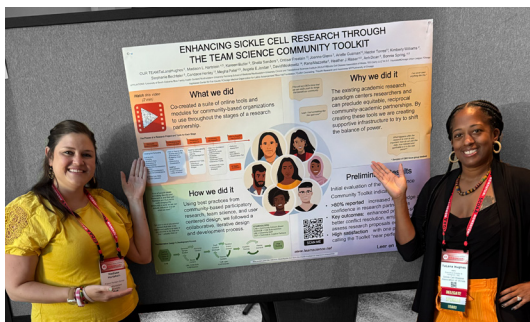


SHARON ROSENBERG



ABEL KHO

COLLABORATION NETS NATIONAL RECOGNITION



Team Science Senior Project Manager Madison Hartstein and TaLana Hughes, MPH, community advocate and executive director at the Sickle Cell Disease Association of Illinois, received best poster recognition at the 52nd Annual Sickle Cell Disease Association of America National Convention. The pair presented on “Enhancing Sickle Cell Research Through the Team Science Toolkit.”



Breaking Barriers panelists Annabelle Volgman, MD; Vineet Arora, MD; Shikha Jain, MD; Nicole Woitowich, PhD, and Janice Phillips, PhD, RN (not pictured)

EXPLORING 30 YEARS OF THE NIH REVITALIZATION ACT

To celebrate 30 Years of the NIH Revitalization Act and women’s health research, the NUCATS Institute hosted a “Breaking Barriers” panel discussion at the Chicago healthcare incubator MATTER. The event was co-sponsored by the Institute for Translational Medicine and University of Illinois at Chicago Center for Translational Sciences. The landmark 1993 legislation required women to be included in clinical trials and codified into law the existence of the office of women’s health research at the NIH.

“We came together to discuss the advances that have been made and recognize the profound impact this policy has had on women’s health and biomedical research,” said NUCATS Executive Director Nicole Woitowich, PhD. “However, we also recognize there is more work to be done.”

Jan Schakowsky, a Congresswoman from the Illinois 9th Congressional District, provided opening remarks, highlighting the positive impact the act has fostered over the past three decades.

“For years, women have been underrepresented, particularly women of color, when it comes to research on healthcare. But thanks to the passage of the Revitalization Act, now 50 percent of the participants in research are women,” Schakowsky said.

NUCATS INVESTIGATES SCIENCE IN TRANSLATION

In season three of “Science in Translation” we explored how NUCATS will become more inclusive and innovative while helping investigators implement their breakthrough discoveries. Among our guests were implementation science expert Cory Bradley, PhD, MSW, MPH, Center for Clinical Research Director Anju Peters, MD, and Leah Welty, PhD, director of the Research Design and Analysis Methods Program. Listen to “Science in Translation” wherever you get your podcasts.



NUCATS Institute
Arthur J. Rubloff Building
750 North Lake Shore Drive, 11th Floor
Chicago, IL 60611



Left-to-right: Dimitra Georganopoulou (Mentor), Ashima Shukla (Fellow), Rebecca Keate (Fellow), Jacqueline Burke (Fellow), Michelle Hoffman (Mentor), and Lilli Zakarija (Mentor) in San Francisco.

FOUNDER FELLOWS PITCH DISCOVERIES IN SAN FRAN

The FoundHer Fellows program was created to cultivate first-time women scientist entrepreneurs at Northwestern and to help increase the participation rates of women academic researchers in entrepreneurship. This year, the FoundHer cohort included three former graduate students and postdocs who have spun out companies from their academic research and now lead those companies full time. At the conclusion of the INVO-led program, the fellows flew to San Francisco to network with investors in life sciences. In a series of meetings, they delivered pitches and received critical feedback.

CTSA EVALUATORS OUTLINE OPPORTUNITIES TO GROW

For evaluators in the Clinical and Translational Science Award (CTSA) consortium, the practice of evaluation creates opportunities to adapt, improve and respond. These findings were highlighted in a *Journal of Clinical and Translational Science* publication that details the impact of evaluators and their roles within the consortium. Verónica Hoyo, PhD, executive director of the NNLM-NEC based at Galter Health Sciences Library, was first author. The paper was a conscious effort to share CTSA consortium knowledge in evaluation and best practices, while simultaneously inviting wider community participation to engage in conversations surrounding evaluators' work. Takeaways from the study provide evidenced-based recommendations for evaluation practice (at both, national and group-level) and prompt use by other large evaluation consortia.

NEW DIRECTOR OF DATA SCIENCE AND INFORMATICS

Kristi Holmes, PhD, is the new director of informatics and data science at the NUCATS Institute. To this role, she brings nearly 20 years of experience in the development and delivery of technical infrastructure, data



KRISTI HOLMES

services, and training programs, building on a wide range of experiences over her career. "It is a profoundly important moment for informatics and data science at Northwestern and globally. As a university-wide initiative, NUCATS is a critical catalyst to realize this promise, bringing together talented and dedicated people and their innovations to advance discovery and health," says Holmes, who is also associate dean for knowledge management and strategy at Feinberg, professor of Preventive Medicine, director of Galter Health Sciences Library and Learning Center, and chief of knowledge management at the Institute for Artificial Intelligence in Medicine. "I'm honored to support the many dedicated and brilliant people advancing this work at NUCATS and look forward to nurturing new opportunities for informatics and data science at the university."

RENOWNED MSCI PROGRAM EXPANDS REGIONAL REACH

The Master of Science in Clinical Investigation (MSCI) program is a renowned part of The Graduate School at Northwestern, and numerous high-achieving clinical-investigators are listed as alumni. The objective of the part-time class structure is to produce clinical scientists who are skilled in clinical research techniques, competitive in seeking research support, and knowledgeable about the complex issues associated with conducting sound clinical research, particularly in translational and clinical epidemiologic patient-oriented studies. For more than 20 years, the MSCI program has been a core part of the NUCATS Institute. With renewed emphasis, the program is accepting more individuals than ever from Chicagoland institutions.

