

Stanley Manne Children's Research Institute™

The mission of Stanley Manne Children's Research Institute at Ann & Robert H. Lurie Children's Hospital of Chicago is to generate new knowledge and translate advancements in the prevention, diagnosis and treatment of diseases that affect children's health through adolescence and adulthood. Our multidisciplinary teams of physicians, scientists, technicians, nurses and trainees are committed to making discoveries that will improve the lives of children and their families.

Manne Research Institute faculty members investigate a broad spectrum of children's health and diseases across the translational science spectrum. Basic researchers study the mechanisms underlying fundamental processes and related diseases, including human development, genetics or brain circuitry. Our translational research connects our basic science findings to human medicine. Clinical research focuses on treating or curing diseases and improving therapies, procedures or devices. Other faculty members engage in outcomes, clinical implementation, and community and population-based research to benefit children, their families and their communities.

Researchers include physicians, laboratory scientists, nurses, chemists and others who share their expertise. Our pediatricians and scientists routinely collaborate with our academic partner, Northwestern University, other medical centers and academic institutions across the globe, as well as with community partners such as schools and governments.

Manne Research Institute includes more than 200 investigators and more than \$48M in external funding annually for research, two-thirds of that from the National Institutes of Health (NIH) and other federal agencies. It is one of the nation's premier institutes for pediatric research, investing more dollars and resources in pediatric research than any other area hospital. The Institute has approximately 125,000 square feet of state-of-the-art laboratory space.

In the summer of 2019, Manne Research Institute wet-lab research will be moving from its current site to the Louis A. Simpson & Kimberly K. Querrey Biomedical Research Building located on the Northwestern University Chicago campus. This new two-phase, 22-story building will include a wet-bench laboratory; animal facility; conference, educational, office and collaborative space; and will be immediately adjacent to Northwestern University research resources and just one city block from Lurie Children's.

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 Ann & Robert H. Lurie
Children's Hospital of Chicago®

 **Northwestern Medicine**
Feinberg School of Medicine

BASIC SCIENCE RESEARCH

At the Manne Research Institute, our scientists conduct bench research in laboratories using a variety of model systems and techniques with over 50 wet-based laboratories. This type of research seeks to answer fundamental questions about health and disease, including medical conditions, human development and genetics, so that the results will lead to better therapies, devices or cures for patients.

CLINICAL RESEARCH

Clinical research uses both observational and interventional designs, allows description of diseases and disease outcomes, identifies risk factors that may affect treatment or prognosis, and allows study of new treatments. Our research may be conducted only at Lurie Children's, or at multiple institutions that collaborate, share results and publish findings together. All research involving human subjects is reviewed by the Institutional Review Board. Observational studies may use existing data from medical records, or collect data from volunteers. Studies of therapeutic interventions are available on ClinicalTrials.gov, the largest and most comprehensive list of clinical studies being conducted in the United States.

Clinical & Translational Research is a partner of the Northwestern University Clinical and Translational Sciences (NUCATS) Institute, which is a member of the Clinical and Translational Science Awards (CTSA) Consortium, an initiative led by the National Institutes of Health (NIH).

HEALTH SERVICES AND POLICY RESEARCH

The Mary Ann & J. Milburn Smith Child Health Research, Outreach and Advocacy Center addresses important clinical and public health problems of children through state-of-the-art interdisciplinary methods and collaborations.

The center engages in clinical, community and population-based research to advance knowledge about the natural history, biological, psychological, social and environmental causes of common and important child health problems.

The center also partners with communities and policy makers to translate this knowledge into effective clinical and public health interventions and policy. Additionally, the center trains a new generation of child health professionals and researchers with its interdisciplinary, collaborative public health approach to research.

RESEARCH NEIGHBORHOODS AND PRIORITY RESEARCH INITIATIVES

The laboratory-based programs of Manne Research Institute, centrally located in the new Simpson-Querrey Biomedical Research Center (SQBRC), are organized into scientific neighborhoods. These virtual neighborhoods incorporate investigators, staff and trainees from throughout the research institute, including translational, clinical, outcomes, and public health and policy researchers, as well as external research collaborators. A primary goal of the research institute is to facilitate research leading to the most advanced pediatric healthcare.

Neighborhoods

- Human Molecular Genetics and Physiology
- Molecular and Translational Cancer Biology
- Developmental Biology
- Neurobiology
- Fertility and Hormone Preservation and Restoration
- Engineered Solutions for Health
- Injury, Repair, and Regeneration
- Immune Deviation and Disease
- Perinatal Origins of Disease
- Host-Microbial Interactions, Inflammation, and Immunity (HMI³)

Priority Research Initiatives

- **Precision Medicine** encompasses the concept that every patient should be treated based upon the unique underlying cause of their disease, and upon the unique biologic characteristics that determine both their response to their disease and to the therapy provided.
- **Fertility and Hormone Preservation and Restoration** focuses on developing immediate improvements in clinical practice, establishing the next set of translational research, and supporting future fertility and endocrine innovations.
- **Perinatal Origins of Disease** is aimed at prevention of early childhood diseases that impact long-term health outcomes with a multidisciplinary program, which links childhood disorders to disruptions in the fetal environment, and a platform for shifting the paradigm from treatment of established disease to prenatal/fetal interventions to modify risk factors before they manifest.
- **Host-Microbial Interactions, Inflammation and Immunity (HMI³)** translates patient-specific microbiomics and immunology into novel disease diagnostics and therapeutics.
- **Neurosciences and Neurodevelopmental Outcomes** focuses on improving outcomes for high-risk NICU graduates and complex heart disease survivors with brain injury and disorders of brain development.
- **Neuroscientific Aspects of Pain** focuses on piloting and integration of patient-reported outcomes (PROs) and pediatric pain research and care.
- **Food Allergy** is engaged in research projects related to early immune development, community education and translational investigation of childhood food allergy and asthma.
- **Gender and Sex Development** concentrates on improving evidence-based clinical care for the clinical populations served by our Gender and Sex Development Program: transgender and gender-nonconforming children, adolescents and young adults and youth affected by differences of sex development.