



The
MELIORA
CHALLENGE

THE CAMPAIGN *for the*
UNIVERSITY OF ROCHESTER

Research to Improve
Children's Health

OUR RESEARCH HAS IMPROVED CHILDREN'S HEALTH AROUND THE WORLD



JILL S. HALTERMAN, M.D., M.P.H.

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Every day, dedicated researchers—across UR Medicine and throughout the University of Rochester—are working to improve the health of our most vulnerable patients: infants and children. Our research has helped children around the world lead healthy lives, from the discovery of lung surfactant to help premature babies survive, to the development of the *Haemophilus influenzae type b* (Hib) vaccine to prevent one of the most common forms of bacterial meningitis in children, and many other serious diseases of childhood. Building on this legacy of world-class discoveries, research in areas related to children's health at the University of Rochester continues to make a significant impact across the nation and around the world. However, there is much more work to be done.

Bricks and mortar are vital to providing the state-of-the-art care and healing environment that children need when they are ill; an environment like the one to be found in our new Golisano Children's Hospital. But our children's hospital is more than bricks and mortar. It is a home that encourages the partnership of pediatricians and researchers to prevent, treat—and ultimately cure—childhood diseases and illnesses.

With the completion of the first phase of the new Golisano Children's Hospital in 2015, our goal is to create one focal point—a children's research institute—for basic, translational and clinical research programs involving investigators in the Department of Pediatrics, UR Medicine, the University's graduate schools, and community organizations in Upstate New York. An institute would provide the rich, supportive environment needed to expand our role as a national leader in children's health-related research through collaborative, multi-disciplinary scientific investigation, as well as train the next generation of scientific leaders in pediatric medicine.

With your support, we could become *the* institution in the country that develops new life-saving discoveries and better treatments for children with severe and chronic illnesses, and serves as the national model for pediatric care.

Best Regards,

A handwritten signature in black ink that reads "Jill Halterman".

A handwritten signature in black ink that reads "DJK".

Jill S. Halterman, M.D., M.P.H.

Damian J. Krysan, M.D., Ph.D.

ON THE COVER: Alessandro Hernandez participates in a preventive asthma study using novel technology. Asthma is one of the most common, chronic childhood disorders, affecting nearly 8 million children in the U.S. and more than 10 percent of children in the city of Rochester. It is also a leading cause of hospitalization among children under the age of 15. Strikingly, urban children in the Rochester area have asthma hospitalization rates that are five-times higher than suburban children. Our researchers collaborate with more than 70 schools and preschools in the Rochester City School District and 13 primary care practices in urban Rochester to improve care for children with asthma. These collaborative preventive care programs have become national models to identify and treat asthma in urban communities.

EXAMPLES OF OUR RESEARCH PROGRAMS OF EXCELLENCE



CHILD DEVELOPMENT AND AUTISM

The University of Rochester has one of the largest autism spectrum disorder research programs in the U.S., and is one of only 17 Autism Treatment Network sites. We collaborate with researchers across the country to study causes, characteristics, and care of children and youth with autism spectrum disorders and other developmental disorders. We are testing new treatments and comparing different treatment options to identify the most effective therapies that optimize care for these children. Our unique partnerships with the community are crucial to advancing our work. Basic studies are also underway to understand the neurobiology and behavioral responses of individuals with autism. In addition, our nationally-recognized environmental medicine group is actively investigating the relationship between environmental exposures and autism.



CHILD HEALTH PROMOTION

Our researchers are working to ensure that new treatments are not only safe and effective for children, but that they reach the children who need them most. For instance, we are one of seven sites in the country whose research has led to major advances in understanding respiratory and diarrheal diseases, changes in vaccine recommendations, and the development of new vaccines for children. Our community-based research is nationally recognized for its work in immunization delivery and asthma prevention. Through unique partnerships between researchers and pediatricians at Golisano Children's Hospital, the University, and throughout the Rochester community, we have proven to be a national model for pediatric care.



INFECTIOUS DISEASES

Childhood infections are considered routine in pediatric practice. However, some infections can lead to serious complications and, in rare cases, death. We have established a legacy of excellence in the study of childhood infections. For example, pioneering pediatric studies were instrumental in the development of vaccines for type B Haemophilus influenzae (Hib), virtually eradicating a leading cause of meningitis in preschoolers, preventing thousands of cases of permanent brain damage every year. We are also one of the leading centers of influenza research in the country. Our current research focuses on understanding the body's immune response to infections and the basic biology of pathogens, developing new vaccines, and discovering new drugs to treat infections.



PREMATURITY

In the last 30 years, our ability to support and care for our smallest premature infants has improved dramatically. Our researchers were the first to administer lung surfactant to premature infants, saving the lives of tens of thousands of babies. Today, while neonatal lung disease and infection continue to be two important causes of disease and disability in premature infants, we continue to be nationally recognized, housing the nation's only Respiratory Pathogens Research Center and one of the country's most state-of-the-art inhalation facilities to study lung disease. Our current research focuses on identifying infants at greatest risk, understanding how oxygen affects the developing lung, and how prematurity affects the development of disease later in life. We are also investigating new drugs to help high-risk premature infants fight severe fungal infections that cause their substantial illness or death.



STEM CELLS/CANCER RESEARCH

Nearly 14,000 children and adolescents are diagnosed with cancer each year in the U.S. While the survival rate has increased dramatically during the past 40 years, cancer remains a leading cause of death in children, and two-thirds of childhood survivors face at least one chronic health condition. Our researchers are studying not only the underlying biology of cancers, but of cellular and molecular development, blood disorders, genetic diseases, and immune system disorders. Their studies are helping us better understand how cancers form, how to reduce the toxicity of treatments like radiation, and how to improve treatments like bone marrow transplantation by using blood stem cells to restore the immune system. Our goal is to develop new vaccines and therapies that provide precision cancer care, and that, ultimately, prevent and cure cancer.





“Millions of children are alive, healthy, and have grown to productive adulthood because of what our scientists have taught the world through research. The Hib vaccine alone has saved more than 660,000 lives to date and prevented lifelong disability for many more.

With your help, our goal is to protect millions more against serious illness through the development of new vaccines and other preventions.”

—Nina Schor, M.D., Ph.D.
William H. Eilinger Chair of Pediatrics
and Pediatrician-in-Chief,
Golisano Children’s Hospital

Your Gift Will Help Us *Improve the Health of Children Around the World*

If we can prevent diseases in childhood, we can give children the healthiest beginning possible. You can help us do just that. Your support of our faculty, fellows, and graduate students is what propels life-changing ideas from our laboratories to children in Rochester and around the world, and helps our pediatricians provide the high quality care that every child and family wants and deserves. Here is a sampling of how you can help.

FACULTY

ENDOWED PROFESSORSHIPS—\$1,500,000 to \$2,000,000 OR MORE

Endowed professorships are permanent funds that honor acclaimed leaders who perform groundbreaking research, mentor junior faculty, and attract and retain talented fellows, residents, and students. They are among the most coveted and defining rewards that a faculty member can receive, recognizing and fostering excellence. Professorships also serve as a powerful recruitment tool, drawing new faculty of established distinction from around the world.

ENDOWED RESEARCH AND EDUCATION FUNDS—\$500,000 to \$1,000,000

Our physicians and scientists have a legacy of working collaboratively across disciplines to conduct basic and clinical research that improves children’s health. These endowed funds provide lasting support of the work of scientists or clinicians who have not yet attained the level of professor, but whose dedication to improving children’s health sets them apart from their peers.

ENDOWED SYMPOSIA/LECTURE SERIES—\$250,000 to \$500,000 OR MORE

Funds provide permanent support for nationally-renowned speakers to present important discoveries that may advance research and care. Lecture series address both the medical community at grand rounds and the greater Rochester community at public lectures.

PILOT PROJECTS/SEED FUNDS—\$50,000 to \$250,000 OR MORE (annually)

Gifts for seed funding are “risk capital” for a promising researcher who has the potential to make groundbreaking discoveries that will impact children here and around the world. They allow scientists to shift the direction of their research to follow promising leads, new ideas, or use new technology to propel scientific discoveries in new ways. Funds invested today in innovative research help scientists and clinicians provide state-of-the-art care for tomorrow’s children.

POST-DOCTORAL AND CLINICAL RESEARCH FELLOWS

ENDOWED FELLOWSHIPS—\$750,000 OR MORE

Fellowships provide significant work experiences for clinicians to hone their skills and further explore a pediatric specialty, or for scientists to conduct in-depth research that advances children’s health. These fellowships provide permanent support that allows fellows to complete their training without having to devote time to working outside their field, or resorting to additional loans for support.

ANNUAL FELLOWSHIPS—\$25,000 TO \$75,000

These fellowships support an aspiring scientist or clinician, for one year, while providing training and mentorship in the laboratory or health care setting.

GRADUATE STUDENTS

SCHOLARSHIPS—\$50,000 OR MORE

Funds support the next generation of researchers and medical scientists dedicated to improving children’s health. You can provide permanent graduate student support by creating a named endowed scholarship fund with a minimum gift of \$50,000.