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Children's Mercy Research Institute

2000

Research Vision 2000

Children's Mercy Hospital

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Research Vision: Progress 2000



**Children's
Mercy
Hospitals &
Clinics**



the children are waiting...

The Research Vision of Children's Mercy Hospitals and Clinics is simple: making better lives for children today and tomorrow through the work and discoveries of world-class researchers concentrating in areas that hold great promise for improvements in pediatric health care. In this report, you will discover that the vision is becoming reality, and real advances are happening in the labs and at the bedside.

Medical research today will ensure that the medical care we provide tomorrow will be every bit as leading edge as the care we have provided for more than 100 years at Children's Mercy. It will impact the well being of children everywhere. Medical research that allows a child to grow into a happy, productive adult makes a difference for a lifetime, many lifetimes.

Research Successes



Katharine Berry Richardson

As long ago as 1920, one of our founders, Dr. Katharine Berry Richardson, saw the value and need for medical research. She established the first research lab here and Children's Mercy hasn't looked back since!

We have celebrated some wonderful successes, such as the part one of our physicians, Dr. Herbert Wenner, had in the discovery of the polio vaccine in the 1950s. Our research in cancer, nephrology and pharmacology has led to better treatments and new medications, improving the lives of children everywhere.

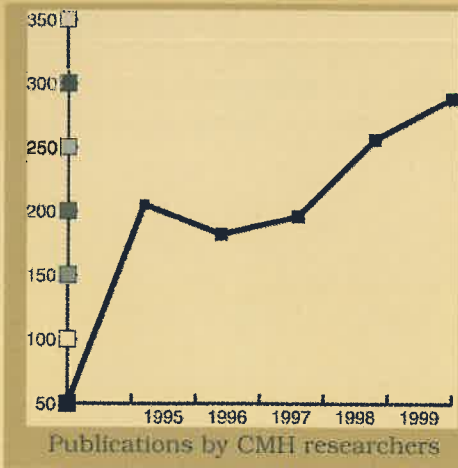
One gauge of our recent success is the six new endowed chairs that have been established since 1995. These chairs are occupied by some of the best and brightest physician/researchers:

- Marion Merrell Dow/Missouri Chair in Pediatric Medical Research, Dr. Ralph Kauffman
- Marion Merrell Dow/Missouri Chair in Pediatric Clinical Pharmacology, Dr. Gregory Kearns
- William R. Brown/Missouri Chair in Medical Genetics and Molecular Medicine, Dr. Merlin Butler
- Joseph Boon Gregg/Missouri Chair in Pediatric Cardiac Surgery, Dr. Gary Lofland
- Dee Lyons/Missouri Chair in Pediatric Immunology Research (search underway)
- Thomas Holder/Keith Ashcraft Chair in Pediatric Surgical Research, Dr. George Gittes



Dr. George Gittes

Additional measures of success



Scientific publications by our investigators have increased from 205 in 1995 to 288 in 1999.

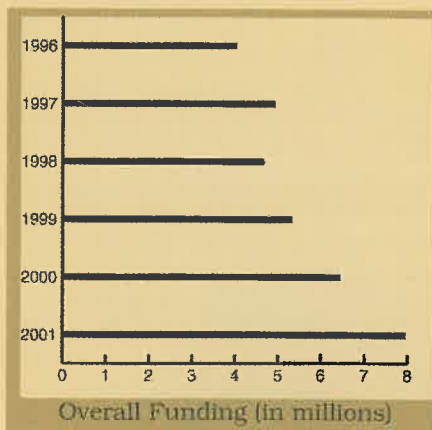
News media from the metropolitan area and nation have focused on programs such as:

- Clinical Pharmacology (*US News and World Report*)
- Asthma/Allergy ("20/20")
- Toxicology (Discover channel)
- Genetics (KMBC TV9)
- Hematology/Oncology (*Kansas City Star*)
- Injury Prevention (National Public Radio).

Why Medical Research?

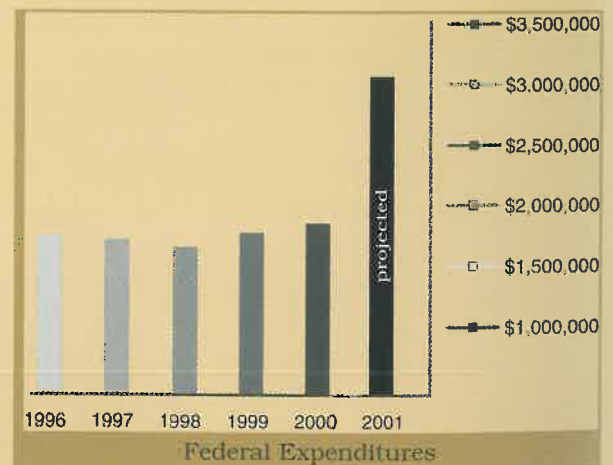
Patients benefit from the expertise of nationally renowned medical researchers on the Children's Mercy staff. Our experienced staff provides patients with access to the newest treatments and medications for pediatric conditions.

The information below demonstrates the increase in expenditures for the Children's Mercy research programs. Expanded funding ensures that creative and innovative ideas are nurtured and will move us forward in creating true centers of excellence in pediatric research and patient care. The ultimate beneficiaries, of course, are the children.



Overall funding: This includes support from all sources, federal, state and local government agencies, private foundations and industry, as well as internal sources.

The increase in expenditures is based on funds designated specifically for research. These funds are not dependent upon, and do not contribute to the cost of, direct patient care.



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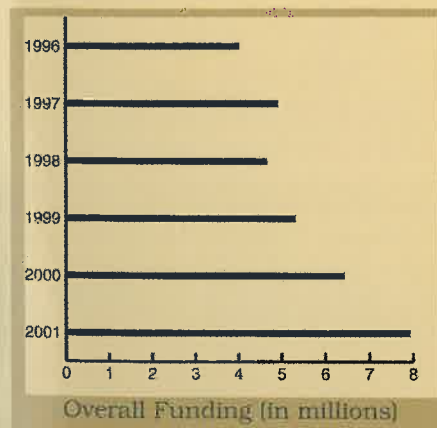
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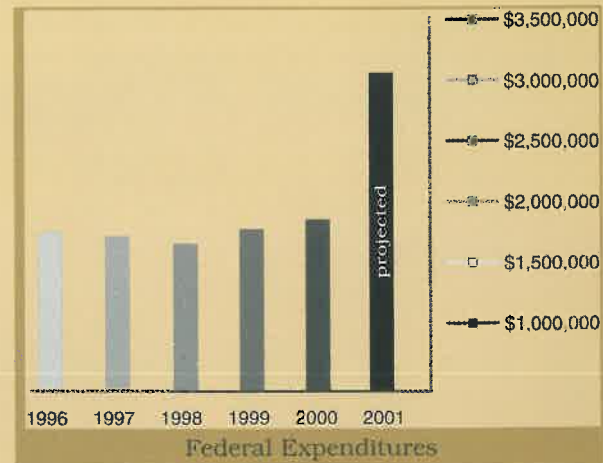
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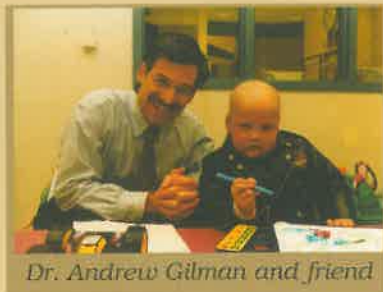
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Areas of Emphasis

Children's Mercy is concentrating its research efforts in a variety of clinically relevant areas of emphasis. And we are seeing profound progress. Among the highlights:

Hematology/Oncology:



Dr. Andrew Gilman and friend

A new \$2 million grant from the National Institutes of Health will fund continuing research into the prevention and treatment of graft vs. host disease, complications that affect bone-marrow transplant patients. Another major activity is the Great Plains Regional Comprehensive Care for Hemophilia project that is funded by two federal grants. This regional project coordinates comprehensive care for children with blood clotting disorders through a network of treatment centers in Missouri, Kansas, Nebraska and Iowa. This project includes data collection on blood safety and orthopedic

outcomes for children with hemophilia. In addition, Children's Mercy is a member of the nationwide Children's Oncology Group funded by the National Cancer Institute which carries out virtually all of the children's cancer treatment research in the United States.

Clinical Pharmacology:

Children's Mercy has one of the premier pediatric clinical pharmacology programs in the United States. It is one of 13 pediatric centers funded by the National Institutes of Health to develop new medicines for children. Clinical research projects completed or underway during the past year include studies in asthma, cystic fibrosis, pain relief, and new drugs to treat viral, bacterial and fungal infections. In addition, the program recently received new NIH grants to fund research in adverse drug reactions, pharmacogenetics and birth defects. This program has attracted more than \$1.6 million in grants during the past 12 months.

Surgery:

Established in 1999, the Laboratory for Surgical Organogenesis is conducting cutting edge work on engineering stem cells to become insulin-producing cells similar to normal cells in the pancreas. This offers the hope of someday growing pancreatic cells that can be transplanted into children with diabetes, and eliminate the need for daily insulin injections.

Neonatology:

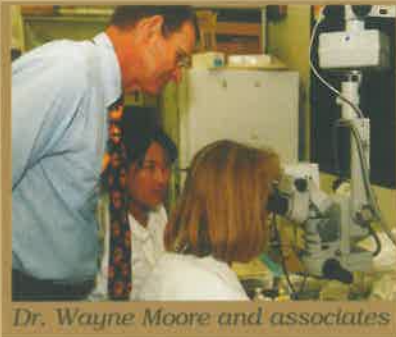
Efforts to improve the outcomes of full-term infants who develop chronic lung disease have been very successful and even more children will benefit from a new \$1.6 million grant from the NIH to continue work in the use of nitric oxide, this time in premature infants. The ultimate goal is to provide safe, more effective treatments for reducing or preventing short-term and long-term pulmonary injury in premature infants.

Genetics:

Children's Mercy has made a major commitment to medical and molecular genetics with researchers focusing on such areas as clinical genetics, cytogenetics, cancer genetics, molecular genetics, bioinformatics and hematology. Their work has implications for the treatment of conditions such as Prader-Willi syndrome, autism, Down Syndrome, leukemia and muscular dystrophy.

Asthma:

Allergy, Asthma, and Immunology research is exploring the effects of indoor allergens on the health of children with respiratory conditions such as asthma. The Children's Mercy team has developed a "Healthy Homes" survey that helps to identify potential health problems in homes. We have also been working with Family Health Partners to develop an asthma disease management program and recently submitted a Robert Wood Johnson grant proposal to expand that program into the surrounding region.



Diabetes:

The main focus of our diabetes research is to develop novel ways to prevent rejection of transplanted cells without the severe side effects of toxic drugs so pancreatic cells that make insulin can be safely transplanted into children with diabetes. This will both eliminate the need for daily injections and blood-sugar monitoring and prevent the development of the chronic complications of diabetes.

Endocrinology:

With a focus on a particular brain hormone (GnRH) and its role in immunity and autoimmunity, research at CMH is demonstrating a connection between this hormone and immune-mediated diseases such as diabetes and lupus. This research promises new approaches to preventing or treating these debilitating diseases.

Kidney disease:

Current kidney research activities are focused on the care of children undergoing dialysis and kidney transplantation. This research is studying the effectiveness of intravenous iron in the pediatric hemodialysis population, dialysis adequacy in children on peritoneal dialysis, and recombinant human growth hormone (Nutropin) in Pediatric Dialysis Patients. In addition, a multi-center research project is evaluating the use of a new form of recombinant human erythropoietin to stimulate red blood cell production in children with anemia associated with kidney failure.

Nursing:

Occupational stress among health care workers is the focus research that is crucial, as previous studies have shown that keeping personnel enjoying their work at bedside is critical to the health of the entire community.





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**Children's Mercy Hospitals
& Clinics**
 Research vision : progress
 2000.

The Best Is Yet To Come

Children's Mercy has made dramatic progress in the past few years in building a nationally-recognized pediatric research center — but this is only the beginning! Children's Mercy and the entire Kansas City community have made a long-term commitment to expanding research efforts and building a city-wide effort that holds tremendous potential for the future.

At Children's Mercy, the already-established research efforts in clinical pharmacology, genetics, surgery, immunology, endocrinology/diabetes and others will continue to grow. We anticipate continuing increases in national funding for the pioneering work being done in these areas. Although research is a long-term effort and there are no sure ways of predicting the outcomes, Children's Mercy Hospital may one day be known as the center which developed a dramatic new treatment for diabetes or a cure for muscular dystrophy. Or perhaps we'll be known for a breakthrough that hasn't even been dreamed of yet!

But this type of ongoing progress doesn't occur all alone. The medical staff, the scientists, the donors and the board of Children's Mercy have all played crucial roles in bringing our research vision to reality. In addition, Children's Mercy is a key player in the city-wide collaboration to develop Kansas City as the "life sciences crossroads" of the nation.

Children's Mercy is a member of the Life Sciences Institute, which brings together the local leaders in health care, research, academics and business — an organization in which the whole is greater than the sum of its individual parts. In addition, in recent months Children's Mercy also has established specific research affiliations with the University of Kansas, the Midwest Institute and the Stowers Institute, aimed at bringing the special expertise of each to bear on the unique needs of children.

For our children and grandchildren in Kansas City
 ... the best is yet to come!

DATE DUE
