

Department of Pediatrics
Indiana University School of Medicine
Riley Hospital for Children
2008 Status Update Report

- #10 in NIH funding to Pediatric Departments in 2007
- 22 Endowed Chairs
- 250 faculty
- Endowed chair for the chairperson – endowment \$5.5 million
- 530 pediatric/med/surg/PICU/NICU/rehab beds (includes 240 NICU beds in 8 hospitals)
- 675,000 sq. ft. 300 bed inpatient addition under construction
- 150 pediatric resident
- \$2.5 million endowment for Physician Scientist Training Program
- \$2.5 million endowment for Dyson Pediatric Residency Program
- Endowed chair for pediatric residency director
- \$9 million endowment for pediatric education program
- Professional billions for clinical services in excess of \$90 million per year
- Subspecialty outpatient services at 16 sites and primary care services at 30 sites
- \$12 million investment in new Type 1 diabetes research programs
- Major expansion of Wells Center basic research facility 2009/2010
- \$6 million investment in pediatric clinical and translational research and recent funding by NIH of IUSM CTSA with major leadership role by pediatric faculty.

GENERAL

The Indiana University School of Medicine (IUSM) Department of Pediatrics has grown dramatically over the past 20 years. The Department is located at Riley Hospital for Children in downtown Indianapolis and has clinical programs throughout the city and the State. The department has 250 faculty members. The primary clinical operations are housed at Riley main campus, Riley at Methodist Hospital and at Riley Hospital North. Riley Hospital is part of Clarian Health Partners, a large multi-hospital health care system. Riley Hospital is the most successful hospital in the system by any criterion.

The Department is organized into sections. The department management style has been quite decentralized with section directors having major responsibilities for decisions within their sections. The current departmental administrative structure includes an Associate Chair for Basic Research (Merv Yoder), an Associate Chair for Clinical Research (Scott Denne), an Associate Chair for Education (Mary Ciccarelli) and an Associate Chair for Clinical Affairs (Howard Eigen). In the past few years, there have been movements toward a more centralized structure and it is likely that this will need to continue during the upcoming years.

The morale within the faculty is excellent as reflected by the School of Medicine faculty surveys. The Department of Pediatrics has had relatively little faculty turn over in the past, excluding retirements or promotions to other positions within the IUSM/Riley system. Section director positions have been particularly stable, although there will be significant numbers of section director retirements in the upcoming few years. There have only been two chairmen since 1967.

The Department currently has 22 endowed chairs; 9 of these chairs are either vacant or will become vacant over the next few years with the opportunity to name new faculty members

to the chairs. The endowed chair for the Chairman of the Department of Pediatrics has an endowment principal of \$5.5 million.

THE SECTIONS

The largest sections are General & Community Pediatrics which includes Children's Health Services (79 faculty), Neonatology (42 faculty), Pulmonary/Critical Care and Allergy (32 faculty), Hematology/Oncology (22 faculty), Cardiology (22 faculty) and Adolescent Medicine (13 faculty). Each of the above sections has large clinical operations and large federally funded research programs.

The General and Community Pediatrics (GCP) faculty provide primary care to 60,000 children within Indiana University Medical Group – Primary Care (IUMG-PC). IUMG-PC includes both community health centers that serve an inner city, largely Medicaid population and “metro sites” that serve suburban communities with more privately insured families. Fifteen faculty in our pediatric hospitalist group staff five hospitals throughout the city. Resident education programs incorporate our Dyson initiative curriculum that emphasizes service learning, community partnerships, and public health and advocacy. Children's health services Research (CHSR) is the research arm of GCP. With 7 research faculty and a \$4M annual budget, it is one of the largest programs of its kind in the U.S. CHSR runs PresNet, a practice based research network, including 22 IU and 15 private pediatric practices throughout Indianapolis. Research includes an extensive medical records and secondary data analysis; a geostatistics group, studying environmental factors affecting children's health; a health policy analysis group that works closely with Indiana Medicaid; child abuse research; and child health studies in Kenya. CHSR also has a postdoctoral fellowship program in health services research supported by the Agency for Healthcare Research and Policy.

The Neonatology Section provides care to babies in 240 NICU beds in eight hospitals. There are 35 neonatologists and 25 neonatal nurse practitioners who provide clinical care. The NICU at Riley has 55 beds and 800 administrators per year; the total number of patients seen by neonatologists at all sites is more than 5,000 annually. There are a number of unique programs within the section which include the Family Support Program (directed by two parents who had personal experience with their children in the NICU and who are employed full time in this program); the Global Network NIH research grant with Moi University in Kenya directed by Ed Liechty; the Riley Mother and Baby Hospital of Kenya; a partnership between the Section and University of Hildago in Mexico; and bioethics. Neonatology faculty hold or have held almost every major leadership position nationally in organizations such as the American Academy of Pediatrics, American Society of Hematology and the International Society of Experimental Hematology. They are internationally recognized for their expertise in stem cell biology, fetal and neonatal nutrition and metabolism, leukemia and other cancers, and bone metabolism.

The Section of Pediatric Pulmonology, Critical Care and Allergy has 32 faculty members, 28 of whom do clinical care. The section covers PICU's at three hospitals encompassing 50 beds. They have more than 4,000 patients with asthma and more than 400 patients with cystic fibrosis under care at multiple sites across the state. The Section has a number of innovative programs including a home ventilator program, the SAIL program for obese asthmatics, an infant lung disease program and the ASTHMA ER at Clarian North. They operate the largest pediatric sleep lab in the country. A vigorous clinical science and basic science research program focuses on the developing lung and airways and on cell signaling in asthma. The Section has 10 NIH grants in addition to many foundation and commercial grants.

The Section of Pediatric Hematology/Oncology has 22 faculty members, 7 of whom are involved primarily in research. There are currently four endowed chairs. The clinical cancer program is large and comprehensive – 200 new oncology patients annually, representing 85-90% of new patients in the state. The clinical faculty covers a 19 bed inpatient unit, a 6-bed inpatient stem cell transplant unit, and an outpatient clinic with 12 examination rooms, 1 procedure room, and 14 infusion/observation beds. The program includes a NCI-supported Phase I new agent clinical trial program, clinics in sickle cell disease and coagulation/thrombosis, and a cancer survivor program.

The Section of Pediatric Endocrinology and Diabetology has 10 full-time and 4 part-time faculty. The section provides comprehensive care to children with endocrine disorders including 2,000 children with diabetes at Riley downtown, Riley North and multiple satellite clinics throughout the State. Highlights of the clinical program include multidisciplinary Metabolic Bone Disease and Obesity clinics, a Type II diabetes clinic, and centralized coordination of Newborn Screening Follow-up for congenital hypothyroidism and CAH. The Section is actively engaged in both clinical and basic research in areas of diabetes, disorders of growth and puberty, disorders of sex development, osteogenesis imperfecta and hypopituitarism. A new type 1 diabetes basic research program has been initiated with \$12 million philanthropic support.

The Section of Pediatric Gastroenterology, Hepatology, and Nutrition care for children during 10,000 visits and perform 2,000 endoscopic procedures annually. Special programs include a Liver Program, IBD clinic, Motility lab, and a new Obesity Program. Research programs include translational research in energy metabolism in IBD, treatment of fatty liver, diagnosis and treatment of eosinophilic esophagitis, management of viral hepatitis, and treatment of inflammatory bowel disease.

The Adolescent Medicine Section faculty includes 7 physicians, 3 psychologists, a nurse, a social worker, and a dietician. With over 40,000 adolescent clinic visits per year, it is one of the preeminent academic training programs in the country. Section faculty and trainees have published 265 scientific articles and book chapters. Extramural support approximates \$3 million per year including 5 NIH RO-1 GRANTS, a HRSA-MCHB training grant and 3 mentor research awards as well as multiple other federal, state, and industry grants.

CLINICAL

Department of Pediatrics specialists provide care to children in 530 med/surg, PICU, NICU and rehab beds throughout the state of Indiana. Our neonatologists provide care to babies in 240 NICU beds in eight hospitals. We staff 50 PICU beds and 240 non-ICU pediatric beds. Our subspecialty faculty members provide outpatient clinical services at 7 sites in the metropolitan Indianapolis area and 9 additional sites throughout the state. Our primary care faculty provide outpatient services at 30 sites throughout the metropolitan area.

Our department professional billings for clinical services exceed \$90 million/year. This does not include billings for primary care services and contractual relationships with Clarian and hospitals outside the metropolitan Indianapolis area. These contracts bring in significant support for the Department.

In 2000, Riley Hospital opened the spectacular 250,000 sq. ft. Riley Outpatient Center. This beautiful and functional outpatient facility houses virtually all subspecialty outpatient clinics based at the main hospital. It also includes 6 outpatient surgery rooms, a 200 seat auditorium and conference rooms. The 4th floor of the Outpatient Center is principally faculty office space but is designed for expansion of outpatient facilities when needed.

Our main Riley Hospital site currently has 250 med/surg/PICU and NICU beds. A 675,000 sq. ft. \$475 million inpatient addition is under construction – the Simon Family Tower named after the Indianapolis Simon family who provided a \$40 million gift to the hospital. This new addition will have 300 private rooms with 20 new operating rooms and wonderful support facilities for families. After the construction is completed, we will renovate our 1986 building which will become the Riley Mother & Babies Hospital, relocating our high risk OB services from the adult hospital to Riley and including 100 NICU beds, all private rooms. After all of the renovations are complete, the main Riley Hospital will have the capacity for 430 med/surg, PICU, NICU, rehab and child psychiatry beds. At Riley Hospital North, we staff a 6 bed PICU, a 20 bed NICU and 22 bed pediatric medical surgical floor. In addition, Department faculty staff Riley at Methodist Hospital PICU (12 beds), the med/surg floor (30 beds) and the NICU (26 beds). The Riley Strategic Plan includes recruitment of 76 additional clinical subspecialty faculty, expansion of our suburban hospital programs and joint ventures with community hospitals distant from Indianapolis.

EDUCATION

IUSM has the second largest number of medical students in the country – currently 300 per class with plans to go to 360 over the next 4 years. The pediatric medical student education program is highly successful. The students score well above the national average on standardized tests. The clerkship has excellent, stable leadership. A high percent of students enter pediatrics or a combined pediatric residency program.

There are 150 residents in Department of Pediatrics residency programs; half of these are straight pediatric residents and half are combined pediatric resident (med/peds, peds/psych/child psych, and EM/pediatrics). The med/peds residency is the largest in the country and considered

by many to be the best. As with the student education program, there is excellent leadership and stability in the residency programs. There are currently 35 subspecialty fellows in 13 fellowship programs.

The large clinical inpatient and outpatient subspecialty programs provide excellent venues for our educational programs. The IUSM-Primary Care organization has 30 clinics throughout the metropolitan area. These sites plus the use of private pediatric offices enable the educational program to have adequate venues for all students and residents for primary care outpatient experiences, including residency continuity clinics.

There are several special programs associated with the residency training program. Ours was one of ten programs to receive a \$2.5 million Dyson Community Pediatric Training Initiative Grant to provide experiences and education to residents in community settings. This is a very popular program for resident applicants. A \$2.5 million endowment was created to sustain the infrastructure of the program beyond the funding period from the Dyson Foundation. Another extremely popular component of the residency program is the IUSM Kenya Program at Moi University in Eldoret, Kenya. Numerous students, residents, fellows and faculty have chosen to serve elective rotations in Kenya.

The department is committed to increase the number of subspecialty fellowship programs and the number of fellows, and to develop innovative programs to recruit and produce more physician scientists through the fellowship programs. Recently, the Morris Green Physician Scientist Scholar Program was funded with a \$2.5 million endowment. The purpose of this program is to prepare pediatric residents and fellows for a career in academic pediatrics.

There is an endowed chair for the pediatric residency director and a \$9 million endowment for the pediatric education program. There is also a successful high school student science education program in the Wells Center for Pediatric Research with a \$1 million endowment to cover the annual cost of this program.

RESEARCH

The Department of Pediatrics research program has expanded dramatically during the past decade with total external funding of \$27 million last year. In 2007, IUSM ranked #10 in NIH funding (\$16.6 million) relative to other pediatric departments. Other academic departments that have large NIH research funded programs at Riley Hospital include Child Psychiatry, Pediatric ENT and Genetics. If NIH funding in other academic departments at Riley Hospital were included, the total funding would be \$26.2 million which would place Riley #4 in funding among “free-standing children’s hospitals.”

Bench research occurs in the Herman B. Wells Center for Pediatric Research. Since the Wells Center opened in 1991, it has undergone major space expansions in 1997 and in 2003. In 2008, an additional 6,000 sq. ft. of bench laboratory space was made available for the development of the new type 1 diabetes basic research program. The Wells Center will again expand in 2009/2010 when the new IUSM Research III Building is completed. The Wells Center space will approximate 55,000 sq. ft. of “web lab” space in addition to faculty and staff offices, core facilities, auditorium, restrooms, and conference rooms (>120,000 gross sq. ft.). Dr. Mervin Yoder, the Director of the Wells Center and the Associate Chair for Basic Research, plans to expand existing programs and to develop the areas of neuroscience, translational research (with Dr. Denne) and molecular medicine.

Major NIH funded programs in the Wells Center include gene therapy, hematopoietic stem cell transplantation, comparative stem cell biology, developmental hematology and immunology, cardiac developmental biology, molecular oncology and pulmonary biology. A type 1 diabetes basic research program has just been initiated with \$12 million of support and the recent recruitment of a new senior faculty leader. The Pediatric Department/Wells Center faculty are principal investigators on 4 NIH Program Project and U-Grants. The majority of the Wells Center researchers have secondary appointments in basic science departments. Many are members of the IU Simon Cancer Center or other Centers at IUSM.

The Department of Pediatrics has large externally funded (NIH, CDC AHRQ, HRSA, etc.) clinical and translational research programs in the following areas: 1) adolescent medicine/sexually transmitted diseases; 2) health service research; 3) NICHD neonatal clinical trials network; 4) Type 1 diabetes TrialNET and 5) NCI Children's Oncology Group.

The Adolescent Medicine Section has approximately \$3 million per year in federal research funding. The faculty in Adolescent Medicine hold 5 ROIs and 2 mentored research awards, serve as PIs on STD Center Projects/Cores and participate in 2 national research centers including the adolescent NIH Trials Network. Adolescent Medicine and the Children's Health Services Research Program are based in the new IUSM Health Information and Translational Sciences (HITS) Building.

The Children's Health Services Research Program has several general pediatric research faculty; 85% of their salaries, fringe benefits and research costs are covered by external grants and contracts. The areas of research include; 1) the use of information technology to improve knowledge of children's health care and quality of health services; 2) disseminating research through health policy research, clinical policy analysis and advocacy; 3) services for vulnerable

children – children with special health care needs, children in poverty, and children facing social and cultural barriers; 4) community pediatrics and Medical Home; and 5) practice based research network.

Our Neonatology Section has 42 faculty, 12 of whom are PIs on NIH grant and 11 faculty serve on NIH study sections. Our neonatal group has participated in the NICHD Neonatal Clinical Trials Network since the Network was founded.

Our Pediatric Endocrinology and Diabetes section has more than 40 ongoing clinical research studies with external funding from the NIH, March of Dimes and the Juvenile Diabetes Research Foundation. Our diabetes program has ongoing clinical research in the following areas: 1) NIH type 1 diabetes TrialNET study; 2) immunomodulation in new onset type 1 diabetes; 3) insulin infusion pumps in children with type 1 diabetes; 4) evaluation of health surveillance in type 1 diabetes; 5) adolescent transition study; 6) utility of new technology in the daily management of type 1 diabetes; and 7) type 1 diabetes genetics consortium. In addition to the areas of clinical research related to diabetes, the section has ongoing externally funded clinical research programs in metabolic bone disease, hypothyroidism, Crohn's disease, precocious puberty, congenital adrenal hyperplasia and Turner's syndrome.

The Hematology/Oncology Section annually enters approximately 200 children newly diagnosed with cancer into clinical research studies through the NCI Children's Oncology Group (COG), ranking the IUSM/Riley Pediatric Cancer Program #4 nationally in patient accrual to clinical trials in the Children's Oncology Group. The faculty are active participants and serve in leadership roles in the NIH funded Indiana University Simon Cancer Center. Riley is one of two sites in the world with federal funding for Phase II clinical trials for new chemotherapeutic

treatments for plexiform neurofibromas. Riley is one of eight centers in the country funded by the NCI to conduct Phase I clinical trials in pediatric oncology.

In 2007, the department made a \$6 million commitment to significantly expand NIH supported clinical and translational research. Scott Denne is the director of this program and Associate Chair for Clinical Research. An Advisory Committee has been named and research nurses hired; an infrastructure has been put in place for IRB and administrative support and for a pilot funding program. Space has been allocated to this program and recruitment of clinical investigators is underway. A protocol Development Team has been put in place to interface with basic and clinical scientists to design and implement high quality, feasible, fundable clinical/translational research projects. Scott Denne is Co-PI and five other pediatric faculty have major roles in the new NIH funded Clinical and Translational Science Award (CTSA).

There is a long history of highly productive collaboration between the faculty in the Department of Pediatrics and faculty in other departments in the School of Medicine and in other schools within Indiana University and Purdue University, including the Weldon School of Biomedical Engineering.

Document provided in January 2018 to Riley Hospital Historic Preservation Committee courtesy of Richard L. Schreiner, M.D.