**University of Alabama at Birmingham (****UAB)**

UAB is a comprehensive urban university with over 22,000 students from across the US and internationally. Research funding to UAB from the National Institutes of Health (NIH) exceeded $300 million in 2022. This placed UAB 28th in the list of organizations receiving funding from the NIH. Among public universities, UAB ranked 11th. UAB received more than $715 million in research grants and extramural awards for the 12-month period ending Sept. 30, 2022, up $67.8 million from the previous year. A 10.5% increase for the year and a nearly 50% increase, an additional $237 million, during the past five years. The University is one of three autonomous institutions within The University of Alabama System and is the only four-year, public university in the state’s largest metropolitan area. UAB spans more than 100 blocks in the city center with over 245 buildings providing over 400 acres and 18 million gross square feet of building space. UAB is Alabama’s largest employer with an annual economic impact exceeding $7.15 billion. As of the fall of 2022, UAB employed over 24,000 people, had a faculty of 3,096 (46.7% of whom are female), and had a student enrollment of 22,289 at the undergraduate through doctoral levels. The graduate student population is 67.7% female and 41.5% are among minority ethnicities. UAB is comprised of 10 academic colleges and schools in the health sciences and academic areas. The UAB Academic Health Center includes the Schools of Medicine, Dentistry, Nursing, Optometry, Public Health, Health Professions, the Graduate School, and the Lister Hill Library of the Health Sciences. The University’s academic campus consists of the College of Arts and Sciences, the Collat School of Business, the Schools of Education and Engineering, the Graduate School, and the Mervyn Sterne Library. The University has 244 endowed chairs/professorships.

**Heersink School of Medicine (HSOM)**

As the largest School within UAB, the Heersink School of Medicine is dedicated to the education of physicians and scientists in all of the disciplines of medicine and biomedical investigation. The school provides medical education and internship opportunities for students throughout the world. Its comprehensive approach to teaching future physicians covers all facets of medicine, including medical education, research, and patient care -- delivered in one of the most technologically advanced medical facilities in the country. The school has nearly 800 students, more than 1100 residents, and over 1600 full-time faculty in 27 academic departments. Many of UAB’s most productive extramurally funded research centers are based in the UAB School of Medicine, including the Comprehensive Cancer Center, Comprehensive Diabetes Center, and Center for AIDS Research. The UAB School of Medicine is also a national leader in research with a long record of accomplishment of accomplishment of proven success being ranked in the top 30 of NIH funded Schools of Medicine for more than 20 years.

**Department of Pediatrics**

The Department of Pediatrics is comprised of 19 subspecialty divisions, each with a research, educational, and clinical focus. In FY 2022, we had funding from the National Institutes of Health (NIH) totaling $22.1 million and total research funding of $38.4 million. This puts us in the top 19 departments of pediatrics in the country. Since FY 2013, we have had a 3.9-fold increase in NIH funding, and we have grown the number of NIH-funded investigators from eight to 30 (a 3.75-fold increase). Many new investigators are supported by the department’s investments in research programs such as pilot and feasibility awards from the Children’s of Alabama Kaul Pediatric Research Institute and by the combined investments from the department and Children’s of Alabama in research infrastructure. In addition to research accomplishments, a focus on clinical quality and safety is always paramount. For the thirteenth consecutive year, U.S. News & World Report ranked Children’s of Alabama’s pediatric specialty services among the top 50 in the nation. All 10 specialties were ranked: Cancer, Cardiology & Heart Surgery, Endocrinology and Diabetes, Gastroenterology & GI Surgery, Neonatology, Nephrology, Neurology & Neurosurgery, Orthopedics, Pulmonology and Urology. The department is proud to be in one of only 22 children’s hospitals in the country ranked in all 10 specialties. The residency program consists of 72 categorical pediatric residents; three combined programs also participate in pediatric training (Internal Medicine/Pediatric, Child Neurology, and Medical Genetics/Pediatrics). The Department of Pediatrics supports 20 fellowship programs (17 ACGME and three non-ACGME programs), representing 75 pediatric fellows. Over the last 15 years our fellowship programs have grown from 32 total fellows to 75 fellows in 2022.

**Department of Pediatrics’ Divisions (in alphabetical order)**

**Division of Academic General Pediatrics**

Each year faculty of the UAB Division of Academic General Pediatrics at Children's of Alabama see thousands of patients from Birmingham and surrounding areas in primary care clinics. Serving patients ranging in age from newborn to age 18 and beyond, specially trained physicians and state of the art facilities make the Division of Academic General Pediatrics an ideal choice for pediatric healthcare needs. The UAB Pediatric Primary Care Clinic (PCC) is located in the Park Place building, directly adjacent to the Children’s of Alabama Hospital in the heart of the Birmingham Medical District. The 18-room clinic provides routine well-child check-ups with vaccines and same-day sick visits to children of the Birmingham metro area. The clinic serves as the primary care continuity clinic for the Pediatric Residency Program, providing pediatric residents general pediatric training with direct supervision from board-certified pediatric attending physicians from the Division of Academic General Pediatrics.

**Division of Adolescent Medicine**

The UAB Division of Adolescent Medicine performs transdisciplinary investigations that include behavioral science, intervention and outcomes research, as well as assessments of psychosocial and physiologic changes during growth and development. Specific areas of research include immunizations, improving outcomes for people living with HIV, HIV prevention, nutrition research, quality improvement, randomized clinical trials, health disparities and adolescent health risk and resiliency research. More than 5,000 teenagers and young adults are cared for each year by a team of health professionals specially trained for this unique patient population. The division is home to two interdisciplinary Maternal and Child Health (MCH) Bureau funded training programs. The purpose of the Leadership Education in Adolescent Health (LEAH) Program is to improve the health status of adolescents and young adults, particularly those in the southeastern region of the U.S. The purpose of the Leadership Education in Pediatric Nutrition (LEPN) Program is to improve the nutritional health status of infants, children, adolescents and families by providing leadership training, education and collaboration to health professionals to improve their knowledge and skills in MCH nutrition and physical activity. The UAB Adolescent Medicine Fellowship Program provides a wide array of clinical and scholarly experiences, enabling fellows to gain sufficient knowledge and skills in all areas of adolescent health and medicine. As part of their scholarly activities, our fellows can participate in master’s-level training in public health, health administration or other health-related fields, as suits their individual interests.

**Division of Pediatric Allergy and Immunology**

The UAB Division of Pediatric Allergy & Immunology board-certified faculty are dedicated to research and clinical care in the field of allergy and immunology and advancing knowledge in the diagnosis and care of patients with allergic diseases such as drug allergy, food allergy, asthma and atopic dermatitis and those with primary and secondary immunodeficiencies. The faculty have ongoing collaborations with clinical immunologists at the National Institutes of Health (NIH) that have resulted in the identification of novel immunodeficiency diseases in several patients and extended knowledge in the clinical manifestations, diagnosis and treatment of these disorders. The UAB Allergy & Immunology Fellowship Program strives to train and educate fellows to be empathic and prepared to practice as an allergist in any setting. Our fellows receive intensive clinical training in allergic and immunologic diseases in children with division faculty. During their training, fellows participate in research and quality-improvement projects under the mentorship of UAB research faculty and are encouraged to pursue electives in specialties with considerable overlap in our field.

**Division of Pediatric Cardiology and Cardiac Intensive Care**

The UAB Division of Pediatric Cardiology & Cardiac Intensive Care is a leader in multi-institutional collaborations such as NEPHRON Collaborative, Congenital Catheterization Research Collaborative (CCRC), and the Advanced Cardiac Therapies Improving Outcomes Network (ACTION). The Todd and Karen Wanek Family Program for Hypoplastic Left Heart Syndrome (HLHS) collaboration helps provide valuable research and clinical options for our patients with HLHS, one of our most vulnerable patient populations. Members of our team are assisting in valuable efforts toward expanding our knowledge of xenotransplantation and its potential use in our patient population. New in 2023, the division is a collaborating member of the Pediatric Heart Network, a group of hospitals across the United States, Canada and other countries that conduct research in children with congenital heart disease. The division is currently engaged in several industry-sponsored research protocols, as well as various investigator initiated/bench research projects with multiple other divisions throughout UAB. The UAB Pediatric Cardiac Critical Care Fellowship Program is dedicated to educating future cardiac intensivists in the independent management and care of pediatric patients with congenital and acquired heart disease. This one-year fellowship uniquely provides training based on a fellow’s previous clinical experience and focuses on developing clinical skills and knowledge specifically in pediatric cardiac critical care. As the only Pediatric Cardiothoracic Surgery Center in the state of Alabama, there is a wide breadth of both acute and chronic congenital and acquired heart disease in children and young adults. This includes pre- and postoperative care of neonates and children with congenital heart disease, medical management of patients with heart failure and arrhythmias, ventricular assist devices, ECMO, and heart transplantation. As part of their training, fellows participate in multidisciplinary research with opportunities available in both clinical and basic science research. The UAB Pediatric Cardiology Fellowship Program offers an innovative training opportunity to develop clinical excellence and the skills needed to be an independently practicing pediatric cardiologist. Fellows are exposed to a broad diversity of congenital and acquired cardiac disease as well as many opportunities for scholarly activity, advocacy and leadership. During training, fellows participate in multidisciplinary research with mentorship from division faculty. The goal is to provide fellows with the knowledge and skills necessary to become proficient and effective in identifying reasonable research hypotheses. The Bruno Pediatric Heart Center is a "heart hospital within a hospital" and built upon a single platform of care that places key services in three connected buildings (Children’s of Alabama, UAB Women and Infants Center, and University Hospital). This single platform of care includes a state-of-the-art, 20-room CVICU (Cardiovascular Intensive Care Unit); four dedicated ECMO suites; cardiac-specific operating rooms and catheterization laboratory; same day and post-anesthesia care unit; CT scanner with minimum radiation and advanced MRI technology; three-dimensional image mapping; and easy access to the UAB high-risk obstetric birthing suites and regional neonatal intensive care unit. The CVICU provides comprehensive care to children of all ages with simple and complex congenital heart disease. It oversees care for approximately 600 open-heart cases per year.

**Child Abuse Pediatrics**

The UAB Division of Child Abuse Pediatrics was established in August of 2015. The division expands the services provided by the Children’s Hospital Intervention and Prevention Services (CHIPS) Center including forensic medical evaluations, psychosocial assessments, play therapy, counseling, social work services, prevention education, court support and expert court testimony for victims of child abuse. Services coordinate with all local, regional and state resources and organize educational efforts to increase awareness, understanding and reporting of child maltreatment.

**Division of Pediatric Critical Care**

The UAB Division of Pediatric Critical Care is committed to providing excellence in patient care, research, and training. Patients with life-threatening diseases are cared for in the 24 bed Pediatric Intensive Care Unit at Children’s of Alabama – the only Level I pediatric trauma center and ECMO center in the state. Faculty support the Pediatric Intensive Care Unit, Critical Care Transport Team, Pediatric Simon Sedation Service, and the Pediatric Simulation Center at Children’s of Alabama. Faculty are actively involved with education and simulation research. Division faculty developed COACHES (Children’s of Alabama Community Healthcare Education Simulation Program) which uses simulated pediatric emergencies to train staff in emergency departments and inpatient areas in hospitals throughout the state. The UAB Pediatric Critical Care Fellowship Program combines research and clinical experiences to prepare our trainees to be excellent intensivists who are also successful in the academic setting. The program is the only fully accredited comprehensive critical care fellowship program in the state of Alabama. We have a 100% pass rate for first-time board takers of the American Board of Pediatrics Subspecialty board exam in pediatric critical care medicine. As the only Level I pediatric trauma center and ECMO center in the state, fellows encounter a wide variety of common and rare critical illnesses representing all subspecialties and acquire the necessary skills to become excellent academic intensivists. They learn to diagnose and care for patients with a wide variety of conditions, such as multiple traumas, respiratory failure, surgical diagnoses, shock and multi-organ failure dysfunction. During their training, our fellows also devote time and effort to academic interests, including research projects (clinical, translational or bench research), and are able to select a research mentor from across all specialties on the UAB campus.

**Developmental and Behavioral Pediatrics**

The Division of Developmental-Behavioral Pediatrics is devoted to improving the system of care and care delivery for children with autism and related neurodevelopmental disorders. Faculty and staff participate in multidisciplinary clinical care, training and research. Research spans a variety of areas, including development of an autism registry and bio-banking repository for autism etiological research in collaboration with the UAB Department of Neurobiology. The division collaborates with the Division of Neonatology, which is a member of the NIH Neonatal Research Network, for neonatal follow-up, including neonatal opioid exposure. Division faculty also collaborate with researchers on Rett syndrome and tuberous sclerosis in the Division of Pediatric Neurology. The UAB Leadership and Education in Neurodevelopmental and Related Disorders (LEND) training program and the University Center of Excellence on Developmental Disabilities (UCEDD) training program, are located within the Civitan-Sparks Clinics and co-administered through the Departments of Psychology and Pediatrics. These programs provided pre-service training to 91 trainees across 12 disciplines, including 25 medium- or long-term trainees. These programs sponsored, co-sponsored, or contributed to 29 educational events with more than 1,200 total participants and engaged in over 100 technical assistance activities. Clinicians and faculty for the LEND/UCEDD serve on over 20 planning, policy, and advisory committees and, along with their trainees, remain active in research activities.

**Division of Pediatric Emergency Medicine**

As Alabama’s main tertiary care center for the care of children, the only designated Level 1 pediatric trauma center, and the fifth busiest pediatric emergency department in the country, the UAB Division of Pediatric Emergency Medicine has the privilege and responsibility of caring for the most critically ill children in Alabama. To best care for them, an excellent team of nurse practitioners, registered nurses, and ancillary staff members surrounds our pediatric emergency medicine physicians. Physicians also have 24-hour access to pediatric medical and surgical subspecialists as well as round the clock in-house PICU and CVICU coverage. The Emergency Department has 53 rooms including four major resuscitation rooms and a four- bed unit specialized for the care of psychiatric patients. The radiology department, including MRI and CT, connects to the ED offering rapid access to multiple imaging modalities. The UAB Pediatric Emergency Medicine Fellowship Program provides a wide range of exposures to clinical experiences and provides them with the necessary skills to become excellent emergency medicine physicians. Our fellows have an intensive didactic educational conference curriculum that includes research, quality improvement, journal club, evidence-based medicine, patient safety, radiology and interesting cases. We offer various electives and a significant amount of protected research time throughout the training program. Our research program includes online courses in epidemiology and biostatistics, lectures and mentorship with a scholarly project completed during fellowship.

**Division of Pediatric Endocrinology and Diabetes**

Research from the UAB Division of Pediatric Endocrinology & Diabetes spans from the bench to the bedside. The division works in close collaboration with members of the UAB Comprehensive Diabetes Center, Nutrition Obesity Research Center (NORC), Gregory Fleming James Cystic Fibrosis Research Center, and the UAB Center for Clinical and Translational Science. The division’s research includes cystic fibrosis (CF), type 1 diabetes, type 2 diabetes, lipid disorders, lipoprotein metabolism, congenital hypothyroidism, thyroid nodules, thyroid and parathyroid disorders, polycystic ovary syndrome, non-alcoholic fatty liver disease, dietary intervention and epigenetics. The UAB Pediatric Endocrinology Fellowship Program consists of a three-year comprehensive experience that incorporates clinical care, research activities and evidence-based learning. The curriculum is a balance of inpatient and outpatient clinic rotations with ample time devoted to developing research and/or career interest. Fellows are encouraged to participate in other institutional clinical experiences here at UAB, including genetics, reproductive endocrinology and adult endocrinology. Research experiences are available through our division or vast resources here at UAB. These research opportunities may include basic science, clinical or transitional research, as well as projects in medical education.

**Division of Pediatric Gastroenterology, Hepatology and Nutrition**

The UAB Division of Pediatric Gastroenterology, Hepatology and Nutrition provides comprehensive multidisciplinary evaluation and management of all pediatric gastrointestinal, liver and nutritional problems with a focus on multidisciplinary patient-centered care.  State of the art GI laboratory and endoscopy facilities perform a number of diagnostic and therapeutic procedures that include upper and lower endoscopy with biopsies, polypectomies, variceal sclerotherapy and banding, foreign body removal from upper GI tract, dilations, percutaneous liver biopsies, PH probe, hydrogen breath testing and anorectal motility testing. The Aerodigestive Program experienced tremendous growth in 2022 with more than 1,000 individual clinic visits. The Aerodigestive Program is also expanding their scope to include children with genetic abnormalities, autism, and long-term follow-up of patients born with tracheal esophageal atresia. The UAB Pediatric Gastroenterology, Hepatology and Nutrition Fellowship Program is designed to provide fellows with the background and experience to diagnose and manage patients with acute and chronic diseases of the digestive system (esophagus, stomach, intestines, liver and pancreas), including those that are life-threatening, and to conduct research in this specialized field. The patient population is sufficiently varied, and complex diseases and volume ensure that residents have the opportunity to become clinically competent in the management of common as well as uncommon gastrointestinal, hepatobiliary and pancreatic diseases in patients ranging from infancy through young adulthood. Fellows develop clinical judgement and decision-making skills in cost-effective, efficient evaluation and management of a wide variety of presenting complaints. Our program offers fellows the opportunity to train and develop skills in appropriate laboratory testing, procedures including indications, preparation, techniques and interpretations. During their training, fellows have research mentoring and opportunities for clinical or laboratory-based research with support from division faculty.

**Division of Hematology and Oncology**

The UAB Division of Pediatric Hematology and Oncology is committed to advancing research and taking findings from the bench to the bedside and then to the community. The division’s research efforts center in the Alabama Center for Childhood Cancer and Blood Disorders, a collaboration between the UAB Department of Pediatrics and Children’s of Alabama. As the state’s only comprehensive center for pediatric blood and malignant disorders, the Center treats 90% of all pediatric cancer and other blood disorders patients diagnosed in Alabama. Additionally, the division faculty work in close collaboration with members of the O’Neal Comprehensive Cancer Center, an NCI-funded entity. Multidisciplinary collaborations serve as a rich resource to accelerate the pace of discovery across the entire trajectory of disease from diagnosis to survivorship and end of life. Within the US, UAB is one of only 21 sites nationwide to participate in the Children’s Oncology Group (COG) Pediatric Early Phase Clinical Trials Network (PEP-CTN), one of 23 sites nationally to be a member of the Neurofibromatosis Consortium, one of 23 members of National Pediatric Cancer Foundation Sunshine Project, and one of 26 centers of Pacific Pediatric Neuro-oncology Consortium (PNOC). Participation allows us access to innovative clinical trials for our patients. In order to meet the needs of cancer survivors, UAB Heersink School of Medicine founded the Institute for Cancer Outcomes and Survivorship (ICOS) in 2015, with a mission to improve the understanding of the long-term effects of cancer treatment on the overall health and well-being of survivors, and to mitigate the burden of morbidity through research, health promotion and education. The key areas of excellence include the following: burden of morbidity in cancer populations, molecular pathogenesis of treatment-related complications, adherence to therapy, end of life/palliative care, health services research, prevention/mitigation of morbidity and patient/family education. The core mission of the UAB Pediatric Hematology/Oncology Fellowship Program is to graduate excellent, independent pediatric hematologists-oncologists for careers in academic medicine who will be local and national leaders in the field. The program provides fellows with sufficient clinical experience with both inpatients and outpatients who have hematologic and oncologic disorders to develop their skills in diagnosing and managing both common and unusual problems. During training, fellows undertake an in-depth study of a specific area of pediatric hematology and oncology. This project may involve laboratory-based research or joining a clinical research project that is ongoing within the division.

**Pediatric Hospital Medicine**

The UAB Division of Pediatric Hospital Medicine is committed to providing compassionate, comprehensive and evidence-based care to children admitted to Children’s of Alabama. The division directly cares for roughly one-third of the patients admitted, which amounts to about 5,500 admissions per year. Faculty are attending physicians for a general inpatient service that serves acutely ill children from the community as well as complex care patients and patients that are followed by subspecialties including neurology, rheumatology, rehabilitation medicine, dermatology, infectious diseases, immunology and allergy, genetics, and some surgical subspecialties. Faculty also serve as medical directors for three acute care nursing units and the Special Care Unit, the ICU-step down unit. The UAB Pediatric Hospital Medicine Fellowship Program successfully completed its first ACGME site visit in 2022. The UAB Pediatric Hospital Medicine Fellowship Program prepares specialists who will have excellent clinical skills, the ability to perform meaningful scholarship, and the capacity to become leaders in the field of hospital medicine. Our program provides ample clinical experience for fellows to become confident experts in the care of hospitalized children. All fellows complete a research project that contributes to the field of pediatric hospital medicine in its broadest sense, as well as the opportunity to build a disease-specific clinical pathway for use at Children’s of Alabama.

**Division of Pediatric Infectious Diseases**

The UAB Division of Pediatric Infectious Diseases is internationally known for its studies of congenital and perinatal viral infections as well as its studies of antiviral therapeutics and drug discovery. For 50 years, the division has defined the natural history, pathogenesis, diagnosis, treatment, prevention of, and established the standard of care for the management congenital cytomegalovirus, neonatal herpes simplex virus infections, and other viral infections in infants. Through the Congenital and Perinatal Infections Consortium (CPIC), a 31-site consortium member of the NIH Rare Diseases Clinical Research Network (RDCRN), large multi-center natural history and treatment of herpes simplex virus, cytomegalovirus and enterovirus in the neonatal population are conducted as well as clinical phase 1 trials. The Antiviral Drug Development and Discovery Program evaluates animal models and uses Next Generation Sequencing to identify viral subpopulations with diminished susceptibility to antiviral drugs commonly used to treat life-threatening diseases. In partnership with the NIH’s in vitro antiviral screening program, the program provides preclinical data to support drug development and human clinical trials. Expertise has expanded from herpesviruses and orthopoxviruses to a broad range of DNA viruses, including the adenoviruses, polyomaviruses and papillomaviruses. The division has an active presence in pediatric clinical trials related to SARS-COV-2, a long history of the NICHD-funded Pediatric HIV/AIDS Cohort Studies, and a CDC-funded sanitation health studies program in the historic Black-Belt region of Alabama. The mission of the Pediatric Infectious Disease Fellowship Program is to train, educate and mentor fellows to become exceptional clinicians and researchers in the field of pediatric infectious diseases. The trainee learning environment values excellence in clinical care, scholarly activity and professionalism. We have special expertise in combined fellowship programs that include not only pediatric infectious diseases training but also neonatology, critical care medicine and adult infectious diseases training. During their training, fellows gain experience in a wide variety of clinical conditions and settings, participate in quality improvement and patient safety initiatives, and have close mentorship and guidance for the development of successful research careers.

**Division of Neonatology**

The UAB Division of Neonatology is responsible for the operations of the Regional Newborn Intensive Care Unit (RNICU) at University Hospital and the Neonatal Intensive Care Unit (NICU) at Children’s of Alabama and provides coverage for four community hospitals in Birmingham. The RNICU at UAB is a 120 bed Level III nursery and the primary referral nursery for maternal-fetal patients, critically ill neonates, and sick infants with congenital heart disease. The division accepts referrals of neonates with any illness including genetic, cardiac, and surgical problems from the state, the nation, and from overseas. The NICU at Children’s of Alabama is available for babies with surgical problems or complex, multi-system congenital disorders. The Division is a founding member of the NICHD’s Neonatal Research Network (NRN). Over the 37 years of its existence, the NRN has defined the standards of multi-institutional collaborative research that has directly resulted in the increased survival and decreased morbidity rates of infants in the United States and abroad. UAB investigators have led more NRN trials than investigators than any other participating US university. UAB Neonatology is consistently one of the top centers in developing, leading and enrolling in important randomized controlled trials and clinical studies. The Division of Neonatology is also a founding member of the NICHD’s Global Network for Women’s and Children’s Health Research. Over the 17 years of existence, this network has defined the standards of multi-institutional collaborative research that has directly resulted in the increased survival and decreased morbidity rates of infants worldwide. Of note, in 2022 UAB Neonatology received the second largest grant from the Bill and Melinda Gates Foundation to lead the studies on the effects of intrapartum azithromycin maternal and infant antimicrobial resistance patterns, microbiome and resistome. Research interests are in the following areas: respiratory distress syndrome, neonatal infections and immunology, persistent pulmonary hypertension, lung development, lung assist devices, lung injury, ventilation techniques in newborns, gastrointestinal development, necrotizing enterocolitis, neonatal apnea, cardiovascular problems, and complications arising from prematurity. The UAB Neonatology Fellowship Program provides an excellent educational, clinical and research experience to train the next generation of academic neonatologists. Fellows are provided with instruction in the psychosocial implications of disorders of the fetus, neonate and young infant, as well as in the family dynamics surrounding the birth and care of a sick neonate. As part of their training, fellows are involved in a regional program that includes outreach education, patient consultation and transport of ill neonates. The program also places an emphasis on excellence in basic science and clinical research with up to two-thirds of the fellowship time dedicated to research.

**Division of Pediatric Nephrology**

The UAB Division of Pediatric Nephrology leads research efforts in drug discovery and pharmacokinetics, as well as the assessment, progression and treatment of acute and chronic kidney disease in children. The Pediatric and Infant Center for Acute Care Nephrology (PICAN) seeks to understand and improve outcomes in neonates and children who are at risk for acute kidney failure. A multidisciplinary team provides care for those with urinary tract infections, hypertension, hematuria, proteinuria, glomerulonephritis, and nephrotic syndrome, vasculitis, and systemic lupus erythematosis and chronic kidney disease, including those who require chronic dialysis or transplantation. Faculty have pioneered the use of an adapted machine (Aquadex) at UAB and Children’s of Alabama to treat neonates and premature infants with kidney failure who were too small for conventional hemodialysis. As a result, children as small as 1 kg can now receive this lifesaving therapy. With the publication of results, this technology is now used at more than 10 major children’s hospitals across the country, including Cincinnati Children’s Hospital Medical Center, St. Louis Children’s Hospital, Children’s Hospital of Philadelphia and Seattle Children’s Hospital. Children’s of Alabama remains the premier location for national referrals for management of kidney failure in premature infants <2.5kg in birth weight. The renal care center is one of the largest comprehensive pediatric dialysis units in the United States offering acute and chronic dialysis therapies. To maximize health and quality of life, the renal care center is one of three pediatric programs who train qualifying pediatric patients to perform hemodialysis at home using NXSTAGE Portable Dialysis Machine. In conjunction with the Division of Transplantation Surgery at UAB, the Division of Nephrology is one of the largest pediatric kidney transplant programs in the country. Multi-center studies determine the optimal immunosuppression therapy to maximize long-term outcomes for children with kidney transplantation. The UAB Pediatric Nephrology Fellowship Program combines an interdisciplinary experience in clinical training and collaborative research opportunities to train the next generation of academic pediatric nephrologists. Available research collaborations across UAB encompass basic science and adult and pediatric nephrology. Fellows have access to additional program training resources at the O’Brien Center, the UAB Comprehensive Transplant Institute, Health Disparities Research Center, and the Pediatric and Infant Center for Acute Nephrology (PICAN).

**Division of Pediatric Neurology**

The UAB Division of Pediatric Neurology provides inpatient consultative services at both Children's of Alabama and UAB Hospital. In addition, the service administers and directs a four-bed inpatient Epilepsy Monitoring Unit. The division maintains an active clinical research portfolio, primarily addressing the areas of epilepsy, movement disorders, demyelinating diseases, Rett syndrome and neuromuscular conditions in childhood. The focus of bench research in the Division of Pediatric Neurology is on genetic neuromuscular disease and examines the role of both genetic and epigenetic factors in a variety of muscular dystrophies. Researchers take a multi-systematic, translational approach in using a combination of zebrafish and mouse disease modeling, as well as primary human samples, to better understand the etiologies of disorders and determine any potential avenues for therapeutic treatment. Besides examining the pathophysiology of these diseases, the laboratory performs important pre-clinical mouse testing of “hit” compounds for eventual opportunity for translational use.

**Division of Pediatric Pulmonary and Sleep Medicine**

The UAB Division of Pediatric Pulmonology and Sleep Medicine maintains a broad research portfolio that complements clinical programs with focus areas in aerodigestive disorders, asthma, bronchopulmonary dysplasia, cystic fibrosis (CF), neuromuscular disorders, sleep medicine and sickle cell disease. Faculty provide evidence-based, interdisciplinary, family-centered care for infants and children with bronchopulmonary dysplasia and other chronic lung diseases of infancy and improve their health and developmental outcomes. The UAB Division of Pediatric Pulmonology and Sleep Medicine is proud to have one of six Pediatric Pulmonary Centers (PPCs) in the nation. The purpose of the PPC is to develop leaders who will improve the health of children with respiratory conditions through the provision of family-centered care. Through inter-professional training, patient and family care and education, research, consultation, and the provision of continuing education and technical assistance and with funding from the Maternal and Child Health Bureau, the PPC provides interdisciplinary training to students in nursing, nutrition, social work, respiratory therapy, family leaders and medical fellows. The Cystic Fibrosis Foundation accredited CF Care Center provides state-of-the-art care for approximately 400 CF patients. The CF Care Center integrates with the research of the UAB Gregory Fleming James Cystic Fibrosis Research Center. The Children’s of Alabama Sleep Disorder Center on average performs 2,000 pediatric sleep studies per year and provides clinical care to hundreds of patients. It is the only multidisciplinary sleep disorders center in Alabama, and surrounding regions, dedicated exclusively to children; it is accredited by the American Academy of Sleep Medicine. The UAB Pediatric Pulmonary Fellowship Program strives to train highly competent physician-educators and scientists. Clinical training develops competence in the clinical diagnosis, pathophysiology and medical treatment of respiratory disorders in pediatric patients. Clinical care is provided for children with a remarkable variety of lung diseases and breathing disorders, such as asthma, sleep-disordered breathing, apnea, central hypoventilation, cystic fibrosis, ciliopathies, bronchiectasis, interstitial lung diseases, bronchopulmonary dysplasia, bronchiolitis, pneumonia, chronic respiratory insufficiency, thoracic tumors, and congenital lung anomalies. A significant portion of training consists of scholarly activity, during which fellows develop and hone skills necessary to be successful as effective subspecialists, advocates, clinical investigators, and pulmonary scientists. The UAB Sleep Medicine Fellowship Program offers fellows clinical teaching and formal didactics provided by faculty with diverse backgrounds and expertise, evenly spanning faculty with primary training in adult/pediatric pulmonary medicine and adult/ pediatric neurology. The sleep disorder centers of UAB and Children’s of Alabama attract patients with a broad spectrum of sleep disorders from the state and beyond, offering fellows the opportunity of firsthand experience with common and rare disorders.

**Division of Pediatric Rehabilitation Medicine**

The UAB Division of Pediatric Rehabilitation Medicine seeks to generate new knowledge related to disabling conditions of children and adolescents. Through close collaboration with the UAB Research Collaborative on the Lakeshore Foundation campus, faculty work to develop wide-reaching interventions to improve the health and wellness of children with physical impairments through sports, fitness, recreation, and lifestyle interventions. The division’s research efforts focus on improving neurologic and other outcomes in patients with brain injury or cerebral palsy. Many utilize telemedicine and other technologic advances to meet study goals. Commonly treated conditions include traumatic brain injury, spinal cord injury, cerebral palsy, spina bifida, muscular dystrophy and brachial plexus injury.

**Division of Pediatric Rheumatology**

The Division of Pediatric Rheumatology provides state of the art clinical care to patients in Alabama and neighboring states. Faculty diagnose and treat children with autoimmune disorders, including juvenile arthritis, lupus, myositis, scleroderma, and various vasculitides. A satellite clinic operates in Mobile with every other monthly visits by a faculty member. There are also monthly clinics in Hoover, Huntsville, and Montgomery. Division research covers basic mechanisms of T lymphocyte function, temporomandibular joint arthritis, spondyloarthritis and the microbiome, pediatric systemic lupus erythematosus, and several projects aimed at optimizing the treatment of juvenile idiopathic arthritis. Faculty lead nationally in research on cytokine storm syndromes (CSS) in the pediatric population. Additional investigation in the division has focused on the genetics and therapeutics for children and adults with COVID-19 pneumonia and the novel post-infectious entity of multi-systemic inflammatory syndrome in children. Ongoing research efforts are devoted to identifying the molecular mechanism responsible for this gene mutation’s contribution to COVID-19 CSS. The UAB Pediatric Rheumatology Fellowship Program provides extensive clinical experience in the first year, followed by protected time for fellow-directed scholarly activity in the second and third years with the flexibility to address the specific needs of each fellow. Fellows not working in a basic science laboratory are strongly encouraged to get an advanced degree at UAB in public health, clinical epidemiology, or a related field of interest. Current funding for fellowship slots comes from the Kennedy Endowed Fellowship and grants from the Rheumatology Research Foundation, the Arthritis Foundation and Pfizer. UAB Rheumatology and Immunology T32 training grant slots are also competitively available to our fellows.

**Pediatric Research Office**

The Department of Pediatrics established the Pediatric Research Office (PRO) in 2015 to renew a commitment to the generation of new knowledge in the diagnosis, treatment, and sequelae of pediatric diseases. David W. Kimberlin, M.D., vice-chair for Clinical and Translational Research in the Department of Pediatrics, leads the PRO. In FY22, the PRO assisted investigators and their study teams with 359 projects representing 197 unique users (e.g., faculty fellows, residents, etc.) and18 of the 19 divisions in the Department of Pediatrics, plus 11 other departments with pediatric research. The success of the PRO is reflected in the research accomplishments of the Department of Pediatrics. In FY 2022, funding from the National Institutes of Health (NIH) totaled $22.1 million and total research funding of $38.4 million, reflecting a 3% increase in NIH funding and a 15% increase in overall funding compared to the previous year. NIH-funded investigators increased from 27 to 35 over the same time period with 32 of the 35 investigators using PRO services to advance their research. PRO personnel and associated partners provide assistance and consultation on intra and extramural research development and training applications, biostatistics and research design, informatics, regulatory support (IRB), data management, and the administration of the primary Child Health Research Unit.

**Child Health Research Unit (CHRU)**

The Child Health Research Unit (CHRU) is a partnership between the UAB Department of Pediatrics, Children’s of Alabama and the UAB Center for Clinical and Translational Science (CCTS). It provides outpatient space for pediatric research to reduce barriers to the conduct of scientifically rigorous clinical and translational research. The primary CHRU opened in 2017 in a renovated, 2,547-square-foot facility on the third floor of Dearth Tower. The space includes a reception/registration area, a triage room, six well-equipped exam rooms, two conference rooms, workspace with monitors and locked storage, a lab with centrifuge and freezer for short-term storage, and an equipment storage room. A -80 freezer is available for short-term use on the seventh floor of Dearth Tower. There is also a CHRU Ancillary Unit on the seventh floor, used primarily for pulmonary research. This Unit has three exam rooms, a conference room, ECG and pulmonary equipment, refrigerated centrifuges, specimen storage, sterile hoods, a 40 x-100 x microscope, a hemocytometer, and an autoclave. In FY22, the CHRU saw an overall increase in visits of 63% (950 visits in FY21 to 1553 visits in FY22). Combined, the primary and ancillary CHRU had 30 unique investigators with 58 studies.

Children's of Alabama (COA)

**Children’s Pharmacy**

The Children's of Alabama Pharmacy department is committed to excellence in the provision of pharmaceutical care including medication delivery, decisions about medication selection, dosages, routes and methods of administration, medication therapy monitoring, and the provision of other medication-related information and counseling to individual patients. The Investigational department provides services for inpatients and clinic patients. Its pediatric-trained pharmacists provide investigational drug support and drug information services to the patients and health care professionals within the health system.

Investigational (Study) Drug Policy: The pharmacy department is responsible for establishing specific procedures regarding the control and usage of medications related to clinical research in order to ensure the safety of research subjects. These procedures comply with UAB’s Institutional Review Board. Investigational medications require a complete order by an authorized prescriber. All investigational drugs dispensed to enrolled study patients seen at COA are stored separately from other drugs in an area of limited access and dispensed from the Pharmacy Department. All inpatient and outpatient medications are clearly labeled as required in the procedural guidelines. The pharmacy is responsible for reviewing protocols to ensure they are in accordance with hospital policy. Pharmacists dispense investigational drugs only after receiving written confirmation that a subject has properly signed an IRB-approved informed consent and is a currently enrolled study patient either from the PI or his/her designee. Investigational drugs are dispensed only upon receipt of an order or prescription authorized by a PI and after checking if the dose is correct per protocol guidelines. Pharmacists are also responsible for maintaining accurate records, storing drugs according to manufacturer’s specifications, and disposing of unused materials or returning unused materials to the sponsor in accordance with instructions. Pharmacists also provide the identity codes for blinded investigational drugs, if authorized by the study sponsor and/or protocol if necessity demands. Upon completion of a study, the study pharmacist will dispose of or return unused materials to the sponsor in accordance with instructions from the protocol, PI, study sponsor, or Drug Enforcement Administration, as appropriate, and will store all pertinent records as deemed appropriate by designated agencies and the drug sponsor and/or sponsor representative.

Sources

<https://user-8msctv.cld.bz/2022-Academic-Annual-Report/>

[Research - Heersink School of Medicine | UAB](https://www.uab.edu/medicine/home/research)

<https://www.uab.edu/ccts/images/OVERALL_2022_Institutional_Facilities_and_Resources_v20230108-11map_FINAL.docx>

<https://www.uab.edu/news/research/item/13438-uab-received-more-than-332-million-in-research-funding-from-the-national-institutes-of-health-in-2022>

<https://www.uab.edu/news/campus/item/13239-uab-s-research-funding-tops-record-700-million-for-fy-2022>