

The mission of the [Division of Pediatric Pulmonology and Sleep Medicine](#) is to deliver outstanding and compassionate clinical care for pediatric patients with respiratory illness and become recognized regionally and nationally for clinical care, innovative scientific and qualitative research, all while remaining committed to the training of future pediatric health professionals.

Under the direction of the Chief of Pulmonology and Sleep Medicine, Andrew Gelfand, M.D., the division’s 12 physicians and other associated health care professionals comprise a team that work together to form a truly multidisciplinary program. Our overarching goal is to help develop programs in pulmonology and sleep medicine that are highly respected and help lead the nation in clinical care and research. We also strive to recruit and sustain an excellent and diverse division of faculty committed to the mission of the division. Achievement of these goals will be done through the efforts of our 10 full time and 2 part time members of the Division of Pulmonology and Sleep Medicine. Each are dedicated to furthering the field of pediatric pulmonology and help create niches of expertise within the specialty. As our division is somewhat small for the volume of patients that we see, one of our major focuses over the next few years will continue to be growth. We are excited that we added 2 new faculty this past year and are actively recruiting more physicians to join us.



Andrew Gelfand, M.D.
Associate Professor, Division Chief

The Division provides care to infants, children, and young adults with a wide spectrum of respiratory illnesses, including disorders of respiratory control, the chest wall, respiratory muscles, airway and parenchyma. More specifically, we have programs to treat patients with asthma, high-risk asthma, cystic fibrosis (CF), technology-dependent patients who require chronic ventilation, neuromuscular disorders, bronchopulmonary dysplasia, primary ciliary dyskinesia, EVALI, hereditary hemorrhagic telangiectasia, and sleep disordered breathing. Additionally, we participate in multidisciplinary clinics to help in the management of patients with aerodigestive disorders and sickle cell disease. This year, we are excited about starting a long covid pulmonary clinic as well as an interventional bronchoscopy program.

- Inpatients are treated at Children’s Health locations of Children’s Medical Center Dallas and Our Children’s House.
- Pulmonary outpatients are treated at Children’s Health Specialty Center, both in Dallas and Cityville locations as well as the University of Texas Southwestern Frisco Campus.
- Chronically ventilated patients are seen at the Cityville location of Children’s Health for outpatient services.
- A large sleep program, with 20 beds divided between Dallas and Plano, also provides rooms for outpatient visits. Some sleep outpatients are also seen on the University of Texas Southwestern Frisco Campus. We currently are planning to relocate the Plano Sleep Clinic and lab to a newer and larger location in Plano
- We participate in a variety of multidisciplinary clinics to help improve the care delivered to our patients. Some of these clinics include cystic fibrosis, high-risk asthma, sickle cell, neuromuscular, sleep, hereditary hemorrhagic telangiectasia, and chronically ventilated children.
- We are proud to announce that in April of 2021, we became and accredited center for patients with primary ciliary dyskinesia.
- We continue to work on developing a center to help with the management of patients with pulmonary hypertension, but progress has been slow in recruiting for this program. As UT Southwestern has a new Chief of Pediatric Cardiology, there is renewed enthusiasm to develop this much needed program.
- We are leading the charge to improve safe sleep practices for infants within the hospital system.

- We continue to work on creating management pathways for patients diagnosed with EVALI (E-cigarette or Vaping product Associated Lung Injury) as well as for other at-risk patients causing lung injury through inhalation.
- Secondary to the pandemic, we have developed a robust telehealth program for our patients. We plan to continue using telehealth to improve access to care, especially for our patients with transportation difficulties and for those living greater than 50 miles away
- Also, secondary to the need of the pandemic, we will be starting a post covid clinic for those patients with long term respiratory effects of SARS-COV-2 virus. This clinic will have a multidisciplinary approach including physical therapy.
- We are excited about starting an interventional bronchoscopy program this year as well.
- We have added a full-time physical therapist to our clinic to help start innovative therapies to many of our complex populations of patients including cystic fibrosis and high risk asthma.

Varied research interests include cystic fibrosis biology and care, near-fatal asthma, pulmonary outcomes in neuromuscular disease, pulmonary complications of sickle cell disease, pulmonary complications of obesity, and sleep-related disorders in children. We have also been engaged in research around social determinants of health for our cystic fibrosis population. We are presently investigating the use of Fitbit watches to help engage Cystic fibrosis patients in routine exercise. We are also working diligently to develop a new Pediatric Sleep Research Center.

Division faculty are committed to the education and training of medical students, residents, and fellows. The Pediatric Pulmonology Fellowship Program prepares pediatricians to be experts in pulmonary medicine through a combination of educational activities, clinical experience, competencies such as bronchoscopy and pulmonary function testing, and assessment methods.

This year we are proud to announce that under the guidance and leadership of Dr. Yadira Rivera-Sanchez, we have become an accredited center for the diagnosis and treatment of patients with Primary Ciliary Dyskinesia. We are one of 19 pediatric centers in the United States and the only accredited center in the North Texas Region.

Faculty

The Division has ten full-time and two part-time faculty members, and four fellows, all with varied interests in clinical and translational research. Dr. Kubra Bozkanat and Dr. Aarti Shakkottai joined the division in 2021.

Kubra Melike Bozkanat, M.D.

Assistant Professor



M.D.

Dokuz Eylul University School of Medicine, Izmir, Turkey 2007-2013

University of Copenhagen School of Medicine, Erasmus Exchange Program, Copenhagen, Denmark
4/11- 7/11

Postdoctoral Training

Residency,

University of Kansas Medical Center, Pediatric Residency, Kansas City, MO 2015-2018

Education

Fellowship, Pediatric Pulmonology

UT Southwestern 2018 – 2021

Interests

Interventional Bronchoscopy, Post Covid Respiratory Clinic, MPAC (Aerodigestive)

Aarti Shakkottai, M.D.

Assistant Professor



M.D.,

Rutgers Robert Wood Johnson Medical School, New Brunswick, NJ 2010

M.S.,

(Clinical Research Design & Statistical Analysis)

University of Michigan School of Public Health, Ann Arbor, MI 2019

Postdoctoral Training

Residency,

University of Michigan, Ann Arbor, MI 2010-2013

Fellowship, Pediatric Pulmonology

University of Michigan, 2010-2013

Fellowship, Sleep Medicine, Ann Arbor, MI

University of Michigan, 2019-2020

Interests

Education Sleep Medicine, Cystic Fibrosis, Bronchopulmonary dysplasia, Post Covid Respiratory Clinic

Honors / Awards

Best Pediatric Specialists in Dallas, *D Magazine*

- Andrew Gelfand
- Tanya Martinez-Fernandez
- Devika Rao
- Yadira Rivera-Sanchez
- Preeti Sharma

Texas Super Doctors, Texas Monthly

- Andrew Gelfand
- Elisa Basora-Rovira (Rising Stars)

Devika Rao

Promoted to Associate Professor

Leadership Emerging in Academic Departments (LEAD) Program participant – UT Southwestern Medical Center

Folashade Afolabi

Leadership Emerging in Academic Departments (LEAD) Program participant – UT Southwestern Medical Center

Invited Lectures**Afolabi Folashade**

- Levine Academy, Dallas TX, (Virtual) February 2021
 - *“COVID19 in children an update”*
- Practice to Practice Lecture Series, Children’s Health, (Virtual), Dallas Tx March 2021 –
 - *“Pediatric Continuity Care Educational Day: PFT interpretation and Asthma Management for the Primary Care Provider”*
- Practice to Practice Lecture Series, Children’s Health, (Virtual), Dallas TX, April 2021
 - *“PFT interpretation and Asthma Management for the Primary Care Provider”*
- Back to School Health Professional Conference, Children’s Medical Center, Dallas, TX, (Virtual), August 2021
 - *“Asthma management for the School Nurse”*
- Practice to Practice Lecture Series, Children’s Medical Center, Dallas, TX, (Virtual), September 2021
 - *“Updated Asthma Management Guidelines: The Rules Have Changed! Part 1”*
- 53rd Annual Kenneth C. Haltalin Conference, Children’s Medical Center, Dallas, TX, (Virtual), October 2021
 - *“RSV and Other Respiratory Pathogens During the COVID-19 Pandemic: Testing and Management Strategies”*
- PEM talks, Children’s Medical Center, Dallas, TX, (Virtual), September 2021
 - *“Asthma for the urgent and emergency care”*
- Practice to Practice Lecture Series, Children’s Medical Center, Dallas, TX, (Virtual), September 2021
 - *“Updated Asthma Management Guidelines: The Rules Have Changed! Part 2”*

Elisa Basora

- University of Miami, Miami FL, March 2021
 - *“Pediatric Sleep Medicine Review I”*

Kamal Naqvi

- Pediatric Grand Rounds, UT Southwestern Medical Center, Dallas, TX, February 2021
 - *“Sleep Disordered Breathing in Children – To Breathe or To Sleep?”*

Devika Rao

- Pediatric Grand Rounds, University of Texas Health Science Center at San Antonio, (Virtual), April 2021
 - *"Clinical manifestations of E-Cigarette, or Vaping, Product-Associated Lung Injury in Adolescent"*
- Texas Children's Health Plan Grand Rounds, (Virtual) Houston, TX, May 2021
 - *"Asthma Care and When to Refer" – a talk given for "Recognizing the Need for Referrals for Common Diseases"*

Yadira Rivera-Sanchez

- Dysphagia Symposium, Children's Medical Center, Dallas, TX 2021
 - *"The lungs are made to breathe and food will make them squeak."*

Andrew Gelfand

- Children's Medical Center Virtual Platform, September 2021
 - *"The Nurse Is In: Respiratory Diseases Impacting School-Aged Children"*

Michelle Caraballo

- PEM Talks , Children's Medical Center, Dallas, TX August 2021
 - *"Sleep 101."*
- Muscular Dystrophy Association, (Virtual), October 2021
 - *"Respiratory implications of neuromuscular disease in children"*

Conference Presentations**American Thoracic Society (ATS) Meeting (Virtual), May 2021****Rao DR.**

Scientific Symposium, Co-chair, *"Where Evidence Meets Advocacy: The Scientific Basis of Pediatric Respiratory Health Policy"*

North American Cystic Fibrosis Conference, San Antonio, TX, October 2021

Shakkottai A, Irani S, Nasr SZ., O'Brien LM, Chervin RD.

"Obstructive Sleep Apnea in People with Cystic Fibrosis: Potential Risk Factors."

Sharma P

CF Care Clinical Discipline Group Workshop: *"Separation Anxiety: Family Dilemma"*

American Thoracic Society Mini Symposium, (Virtual), November 2021**Rao D.**

Moderator, *"Leaving a Mark – Intrinsic and extrinsic regulators of asthma and lung function."*

Lee H, **Roa D.**

Abstract Presentation, *"Clinical Manifestations of EVALI before and during the COVID-19 Pandemic"*

Other Conferences

Basora-Rovira E.

Sleep 2021 Meeting – Associated Professional Sleep Societies, May , 2021

Poster Presentation, *“Correlation between age and initial findings of sleep breathing disorder in children with achondroplasia”*

Media Appearances/Interviews

Devika Rao

- Quoted in interview with Al Dia Dallas, February 2021
 - [“Dallas: Riesgo de covid-19 en jóvenes se multiplica por uso de vaping o cigarros”](#)
- Children’s Health. UT Southwestern Medical Center, March 2021
 - [“The Dangers of Vaping During COVID-19.”](#)
- Interview with Fox4KDFW on COVID in children.
 - [“Students head back to school in Garland, Duncanville and on 5 Dallas campuses.”](#)
- UT Southwestern Pediatric Group, May 2021.
 - Promotional video for the Department. Chosen as a pediatric specialist representative for video interview for UT Southwestern regarding pediatric patient care.

Michelle Caraballo

- KRLD radio interview, July 2021
 - *“Adjusting sleep schedules for back to school”*
- Dallas Morning News, October 2021
 - Interview, [“COVID vaccines in children”](#)
- WFAA Radio April-May 2021
 - Voiceover Spot, "Is it allergies or COVID-19?"
- Doximity, April 2021
 - Feature on Multidisciplinary Clinic, “Duchenne Muscular Dystrophy”
- CBS 11, March 2021
 - [“How to prepare for daylight saving's impact on our body”](#)
- KRLD radio interview, July 2021
 - *“Ask the expert: preparing children for daylight saving”*

Andrew Gelfand

- Children’s Health Checkup Podcast. August 2021
 - [“RSV in Infants and Children”](#)

Folashade Afolabi, Preeti Sharma

- Children's Health, Pediatric insights: Advances and Innovations in Children's Health
 - [*"Breaking Down Imposter Syndrome"*](#)

Education and Training

The Division of Pediatric Pulmonology and Sleep Medicine provides educational opportunities for medical students and pediatric residents, in addition to our accredited fellowship program.

Medical Students

A full curriculum based on the core competencies as published by the Council on Medical Student Education in Pediatrics (COMSEP) is taught through bedside clinical supervision and daily rounds, in addition to various didactic sessions and interactive case-based discussions facilitated by faculty in nearly all divisions in the Department of Pediatrics. The entire curriculum is reviewed on an ongoing basis through feedback from UT Southwestern Medical School faculty, national regulatory agencies, and students themselves. Students rotating through the core clerkship continue to outpace national averages on standardized assessments.

Medical students participate in outpatient specialty clinics staffed by members of the Division of Pediatric Pulmonology and Sleep Medicine faculty. During clinic sessions, medical students receive individualized, one-on-one teaching by the faculty. Third year medical students participate on the inpatient pulmonary service. As part of their rotation and under the supervision of the Division faculty, they are assigned to obtain the history, complete the physical exam, and present their patients during daily rounds.

Residents

The evaluation of children with respiratory problems is an integral component of the practice of pediatric medicine. Respiratory symptoms and problems are the most common reason for childhood physician encounters and are the number one cause of school absenteeism and hospital admission. Hence, it is essential that the pediatric resident becomes familiar with the recognition, diagnosis, and care of respiratory diseases. The overall goal of the Pediatric Pulmonology and Sleep Medicine rotation is to provide residents with intensive exposure to a broad spectrum of pulmonary disorders, in order to highlight principles of diagnosis and management, and the respective roles played by the pediatrician and pulmonary subspecialist, as well as other disciplines in the management of often very complex patients.

The Pediatric Inpatient Pulmonary rotation has been designed for second and third year pediatric residents. Goals are aimed at gaining experience in the daily management of children with known as well as presumptive pulmonary disorders. Expectations include the demonstration of medical knowledge, comprehension of pathophysiology, development of differential diagnoses, and development of increased independence in the formulation of management plans. In addition, residents should maintain an overall awareness of the high acuity of the patients on the inpatient service, which in turn helps improve critical thinking.

The Pediatric pulmonary outpatient rotation is designed for first year residents. It exposes residents to different areas within pediatric pulmonary medicine including but not limited to general pulmonary medicine and sleep medicine, multidisciplinary clinics such as cystic fibrosis, aerodigestive and neuromuscular disease clinics as well as pulmonary function testing and patients being evaluated as part of the consult service. The goal of this rotation is for first year residents to gain understanding in the multiple areas within pulmonary medicine and medical knowledge in common diagnoses seen in outpatient pulmonary medicine.

The Pediatric pulmonary elective is designed for second and third year residents to gain exposure to specific areas within pulmonary medicine. It is tailored to the specific interests and future career goals of the participating resident. This rotation can include a combination of outpatient and consult service exposure and allows for the resident to have an active participation in the development of the rotation.

Yadira Rivera-Sanchez, M.D., directs the Pediatric Pulmonology and Sleep Medicine Resident Education Program.

Fellows

Under the direction of Dr. Tanya Martinez as Pediatric Pulmonology Fellowship Director and Dr. Preeti Sharma as the Associate Director, the mission of our AGGME accredited Pulmonology Fellowship training is to prepare future generations of postgraduate pediatricians to become expert clinicians and join a diverse workforce in our field. By providing training that combines high-quality education and research, we aim to produce culturally competent, compassionate, and clinically skilled lifelong learners. It is our goal that training in our large academic and research institution provides comprehensive clinical exposure and education in pediatric pulmonology. Contact with a diverse patient population and thus broad pathology in pediatric pulmonary medicine at Children's Health leads to the development of strong clinical acumen. UT Southwestern Medical Center offers opportunities in clinical, basic and/or translational research and medical education. Consequently, our graduates are prepared to join national or international academic, public, or private pediatric pulmonology practices to further develop individual interests.

Program Aims:

1. Provide a high-quality 3-year curriculum that will prepare postgraduate pediatricians with the clinical skills to diagnose and manage a range of common and rare pediatric pulmonary diseases.
2. Train compassionate, clinically skilled, culturally competent and lifelong learners through exposure to a dynamic, diverse and growing multicultural population.
3. Educate fellows to independently practice and become excellent leaders of clinical care teams that will provide comprehensive, safe, high-quality, family-centered patient care in pediatric pulmonology.
4. Prepare trainees for academic careers by delivering fulfilling experiences and education on research development, quality improvement, and patient safety.
5. Develop individualized learning plans with fellows that drive educational opportunities to stimulate, prepare, and help achieve career goals.
6. Promote strategies that lead to wellness and resilience within the fellowship program.
7. Enable trainees to qualify and successfully complete requirements for board certification in pediatric pulmonology.

The mission of our accredited Pulmonology Fellowship Training Program is to prepare postgraduate pediatricians to be experts in pulmonary medicine. Training is through a combination of educational activities, competencies, and assessment methods, including patient care, guided reading, and discussion with regards to organization, business planning, and management of the pediatric pulmonary service and research methodology.

Clinical Research:

The Division's research efforts focus on areas of clinical expertise within the faculty. The division is primarily clinically oriented, but investigator-initiated research from within our division is a long-term goal. However, mentioned are some of the grants and projects in which members of the division are currently participating.

- Dr. Preeti Sharma's research continues to incorporate clinical drug trials through the Cystic Fibrosis Foundation and the Therapeutics Development Network, studying CFTR modulator therapies in infants and young children, infection control and prevention, as well as the role of highly effective modulator therapy in ongoing CF care. With this, she has also expanded her focus to adherence research, and has been closely working with the Success with Therapies Research Consortium of the CF Foundation. She has been investigating more patient and family-centered care models and how that affects outcomes and adherence, such as adherence coaching in adolescents and young adults with CF. In addition to her drug trials and qualitative research endeavors, she has continued her

focus on quality improvement. She has continued the focus on access to care by continuing to understand the impact of social determinants of health in chronic illness and has worked to understand this in the context of the COVID-19 pandemic. Additionally, she has led an effort to improve sweat chloride testing and assure that patients with advanced CF lung disease are carefully monitored within the guidelines of the CF Foundation. In an effort to understand substance abuse in teens, she has initiated substance abuse screening in CF clinic to understand the patterns of usage in teens with CF. She has continued to innovate QI endeavors based on improving clinical care and outcomes. CF research endeavors have continued to increase in number, and Dr. Sharma and team members have received national recognition from the CF Foundation and other research collaborative groups that they have continued to participate in. Not only has the CF center participated in numerous research and QI studies, but they have also been the lead sites for multicenter QI endeavors which have influenced care across the CFF Care Network System.

In addition to research work in CF, Dr. Sharma has led the pulmonary division in quality improvement endeavors to improve care for children with other pulmonary illnesses. Through work with physical therapy, she was able to spearhead work aimed at improving referral for children with severe lung to physical therapy to improve lung function and quality of life. She has initiated the next divisional quality improvement endeavor aimed at improving transition of care to adult medicine in teenage asthmatics.

- Dr. Devika Rao, spearheaded research in the pulmonary harms of e-cigarettes in 2019. She published her findings on her EVALI cohort in the form of a case-series in 2020 in *Pediatrics*, as since then continues to study EVALI, or e-cigarette, or vaping-production, associated lung injury. She has submitted a follow-up manuscript to *Pediatrics* on the clinical manifestations of EVALI before and after the COVID-19 pandemic, and is mentoring a medical student, Harin Lee, on a neighborhood analysis of vape shop density and EVALI cases in the DFW area. Future planned studies include performing an analysis on health disparities with respect to EVALI in the Hispanic versus non-Hispanic population, performing a cross-sectional study on vaping habits in adolescent e-cigarette users during the COVID-19 pandemic (CoVAPE study, IRB approval obtained), and is also working on a cross-sectional cohort study on pulmonary function and vaping habits in three groups of adolescents: former e-cigarette users, current e-cigarette users, and never users (IRB approval pending, funding provided by Children's Foundation in the amount of \$80,000). Dr. Rao is additionally working on submitting a K01 grant for the June 2022 cycle on the basis of a school-based vaping screening study in the Dallas Independent School District. She is mentored by Sarah Messiah, Ph.D., MPH, the Director of the Center for Pediatric Population Health at UT.
- Sleep positioning and other aspects of sudden infant death syndrome risk prevention are the focus of Dr. Michelle Carballo's research. She continues to work on a project to promote safe sleep in the hospital setting.
- Dr. Kamal Naqvi's investigative efforts involve pediatric sleep disorders, including narcolepsy. The sleep program, under Dr. Naqvi's direction, also participates in numerous multicenter research trials. Dr. Naqvi is also participating in a few IRB approved studies. One is involved in improving Adolescent Suicidal ideation through a standardized brief group sleep intervention. In addition to this, he is working on a study for healthy sleep for children with Down Syndrome. He is also participating in a pilot study to evaluate safety and efficacy of the hypoglossal nerve stimulator in adolescents with Down Syndrome and obstructive sleep apnea. Lastly, he is doing an in-depth analysis of sleep studies that have been done Children's Health.
- Dr. Shakkottai research interests center around the impact of highly effective modulator therapy on sleep and upper airway pathology among patients with cystic fibrosis. Prior to her move to UTSW, she looked at risk factors for obstructive sleep apnea in patients with cystic fibrosis and found upper airway pathology including tonsillar hypertrophy and chronic sinusitis to be an important risk factor for OSA in children with cystic fibrosis. Her current project builds on this work.

- We are also in progress of designing a new Pediatric Sleep Research Center.
- Dr. Elisa Basora has research interests in pediatric sleep medicine. She presently is working on 2 projects. She is studying the correlation between age and initial findings of sleep breathing disorders in children with achondroplasia. Additionally, she is investigating the incidence of sleep disordered breathing and patients with Chiari malformation.
- The optimization of care of children with asthma is the focus of the scholarly pursuits of Dr. Yadira Rivera-Sanchez and Dr. Tanya Martinez.
- Drs. Gelfand and Martinez are getting involved in asthma pharmaceutical trial to help achieve better outcomes for outpatients.
- Dr. Michelle Caraballo, with the help of Dr. Anna Wani from the Department of Family Medicine, are working on an early termination sleep project. They realize that many children with possible obstructive sleep apnea remain unidentified due to low referral rate. Of the patients who successfully get referred, scheduled, and show up to their polysomnography (PSG), a proportion fail to complete the study, which wastes resources, contributes to long wait times, and may lead to under-diagnosis or treatment of sleep disordered breathing. Our focus is to explore what factors can lead to early PSG termination in hopes of proactively identifying the at-risk groups and implementing strategies in the future to help bridge the gap between scheduled and completed studies.
- Drs. Kubra Melike Bozkanat and Aarti Shakkottai are tracking and study patients with significant respiratory compromise from Covid-19. They are tracking therapeutic response to therapies and physical therapy with this cohort of patients.

Clinical Activities

The Pediatric Pulmonology and Sleep Medicine Division offers both inpatient and outpatient consultation for a wide variety of respiratory and sleep disorders in children.

Inpatient Services

The inpatient population consists primarily of patients with cystic fibrosis, chronic respiratory failure on mechanical ventilation and patients with neuromuscular diseases hospitalized for an acute respiratory process. If we have bed availability, we also like to manage patients with high-risk asthma as well as less common pulmonary issues, such as primary ciliary dyskinesia, hereditary hemorrhagic telangiectasia, and idiopathic pulmonary hemosiderosis, as well as other interstitial lung diseases. We do frequently admit patients with tenuous airways or who need non-invasive mechanical ventilation when ICU acuity is no longer needed. We also provide a consultation service to help with the needs of the rest of the hospital. This service typically has 20-30 patients, and we help advise respiratory management to patients throughout the hospital, including the Pediatric Intensive Care Unit, the Cardiovascular Intensive Care Unit, and the Neonatal Intensive Care Unit, as well as to the general and other specialty services. We also provide bronchoscopy services when indicated.

Dr. Yadira Rivera-Sanchez oversees the inpatient activities of the Division. There is an attending pulmonologist assigned to the Pediatric Pulmonology and Sleep Medicine Service as well as the consultation service at all times.

Outpatient Services

Outpatient activities are comprehensive and primarily centered on a busy general pulmonology practice. Physicians combine their efforts with a group of talented and dedicated nurse practitioners, who conduct clinical consultations on selected patients. Additionally, the pulmonary division directs a few programs that also deserve mentioning.

- Tanya Martinez Fernandez, M.D., has led the development and organization of the outpatient clinics.
- The Pediatric Cystic Fibrosis program, one of the largest in the country with over 300 pediatric patients, is co-directed by Dr. Preeti Sharma from Pediatric Pulmonology and Sleep Medicine and Dr. Meghana Sathe from Pediatric Gastroenterology. The center provides a comprehensive team approach to this complex and chronic disease. It is actively involved in many national multicenter trials, including clinical trials of new and innovative treatments. The cystic fibrosis care center continues to grow and provide outstanding clinical care and cutting-edge research to the children of North Texas and beyond. We are also founding members of the CF Learning Network and participate in the national Success with Therapies Research Consortium.
- Pediatric Sleep Program – under the direction of Kamal Naqvi, M.D., our sleep center provides comprehensive care for all pediatric sleep disorders, including obstructive and central sleep apnea, narcolepsy, hypersomnia, insomnia, circadian rhythm disorders, and behavioral sleep disorders. A licensed sleep psychologist offers cognitive behavioral therapy for insomnia (CBTi). Two PAP specialists provide mask fitting sessions and expertise for other equipment-related issues. Our 20-bed sleep lab (divided between Dallas and Legacy campuses) performs over 4,000 outpatient sleep studies per year and inpatient sleep studies as needed, including diagnostic sleep studies, PAP titration studies, multiple sleep latency tests and maintenance of wakefulness tests. The sleep program also participates in numerous multicenter research trials. We are presently designing a new, larger sleep clinic and lab in Plano to better serve our patients.
- Dr. Princy Ghera, along with Dr. Peter Lockett, conduct specialized clinics on neuromuscular and chest wall related respiratory diseases. Elisa Basora, M.D., and Michelle Caraballo, M.D., continue to participate in a multidisciplinary clinic for young patients with Duchenne’s Muscular Dystrophy. Also, as Dr. Ghera is Internal Medicine and Pediatrics trained, she has an interest in helping us develop a transition to adult medicine clinic for our patients with neuromuscular disorders.
- In 2015, Dr. Devika Rao founded a Pulmonary-Sickle Cell interdisciplinary clinic to address pulmonary needs of children with sickle cell anemia. This clinic takes place at the Pauline Allen Gill Center for Cancer and Blood Disorders once each month.
- Devika Rao, M.D., was Director of the Pulmonary Function Lab, Children’s Health until recently. The pulmonary function lab has greater than 1,000 visits per month. We have a fully functioning lab with the ability to do spirometry, body plethysmography, FeNO, methacholine and exercise challenges, and other measures of pulmonary function. We are presently looking for a new Medical director for our lab.
- Drs. Kubra Melike Bozkanat and Princy Ghera., participate Aerodigestive Multidisciplinary Clinic, which is conducted with the pediatric otolaryngology and gastroenterology services.
- Drs. Yadira Rivera-Sanchez and Tanya Martinez-Fernandez co-direct the High-Risk Asthma clinic. Dr. Folashade Afolabi contributes to his clinic as well. This multidisciplinary clinic is improving the care to some of our most serious patients with life threatening asthma. We are on pace to expand this clinic by incorporating allergy, nutrition, social work, and physical therapy by early 2022.

- Andrew Gelfand, M.D., directs the ventilator clinic. This is a multidisciplinary clinic involving ENT, Physiatry, respiratory therapy, nursing, social work, radiology, nutrition, and case management. Here we follow over 200 patients with chronic mechanical ventilator needs from a variety of causes such as bronchopulmonary dysplasia, neuromuscular weakness, congenital heart disease, high spinal cord injury, neurologically impaired children with poor control of breathing as well as other causes of respiratory insufficiency. Dr. Folashade Afolabi formally joined the chronic ventilation team this past year. Drs. Steven Copenhaver and Pravin Sah who are associated with Children’s Health, also help with the management of these patients.
- Dr. Preeti Sharma directs the Hereditary Hemorrhagic Telangiectasia (HHT) clinic. She has partnered with the adult HHT center, Interventional Radiology, Hematology, and Gastroenterology to provide ease of care and increased benefit to these patients.
- Dr. Kubra Melike Bozkanat will be starting and directing an Interventional Bronchoscopy program this year.
- Drs. Kubra Melike Bozkanat and Aarti Shakkottai will be starting a Post Covid Respiratory clinic with the help of social work, psychology, and physical therapy this year to help with patients affected by SARS-COV-2 virus.

Patient Care Guidelines

Division members have been actively engaged in the establishment of patient care guidelines, including for the evaluation and implementation of non-invasive ventilation in infants at home, for the care of asthma patients, and for tracheostomy care.

Patient Statistics

Pulmonology and Sleep Medicine Patient Stats by Locations by Type by Clinic. Also Includes Patient Procedures by Locations.

Pulmonary at Children’s Medical Center Dallas	2018	2019	2020	2021
Inpatient admissions	478	402	341	
Inpatient consultations	1181	1779	1205	
New outpatient Visits	3029	3108	2,699	2,505
Pulmonary	1061	1249	1,104	1,244
CF	76	64	35	44
Sleep	1,892	1795	1,560	1,217
Outpatient follow up	9804	11224	9,481	10,182
Pulmonary Clinic	5571	6,096	5,223	6,391
CF Clinic	1,824	2,072	1,667	1,952
Sleep Clinic	2,409	3,056	2,591	1,839
Telemedicine Visits				
Pulmonary Clinic			2,801	1,645
CF Clinic			436	198
Sleep Clinic			2,556	1491

Pulmonary at Children’s Plano	2018	2019	2020	2021
New outpatient visits	513	565	217	125
Pulmonary Clinic	315	303	33	0
CF Clinic	0	9	0	0
Sleep Clinic	198	253	184	125
Outpatient follow up	974	931	244	251
Pulmonary Clinic	559	562	51	0
CF Clinic	163	135	4	0
Sleep Clinic	252	234	189	251

Procedures	2018	2019	2020	2021
Sleep studies – Dallas	2,351	2,757	1512	2,362
Sleep studies – Plano	1,882	1,995	1051	1481
Pulmonary function testing Laboratory procedures	12,379	12,808	3124	5,365
Bronchoscopies	155	124	62	135

*Updated 2018, 2019 outpatient totals to include CF Clinic & Sleep Clinic

Current Grant Support

Syed Naqvi

Grantor: Cincinnati Children’s Hospital Medical Center

Title of Project: A Multicenter Retrospective with Prospective Follow-Up Study of Early Onset Childhood Narcolepsy: Recent cases and Post infection

Role: Co-principal Investigator

Dates: 11/2017 – 11/2022

Grantor: NIH-National Heart, Lung and Blood Inst

Title of Project: Respiratory Effects of Obesity in Children

Role: Co-Investigator

Dates: 11/2017 – 11/2022

Preeti Sharma

Grantor: CFF- STRC

Title of Project: Feasibility, Acceptability, and Pilot Randomized Controlled Trial of a Tele-coaching Intervention to Improve Treatment Adherence in Cystic Fibrosis (Telecoaching Pilot).

Role: Principal Investigator

Dates: 9/2021-Present

Grantor: CFF-TDN

Title of Project: A master protocol to test the impact of discontinuing chronic therapies in people with cystic fibrosis on highly effective CFTR modulator therapy (SIMPLIFY)

Role: Principal Investigator

Dates: 1/2010-Present

Grantor: Cystic Fibrosis Foundation

Title of Project: Success with Therapeutics Research Consortium Application

Role: Co-Principal Investigator

Dates: 08/2018 – 07/2021

Grantor: Cystic Fibrosis Foundation

Title of Project: TX-34/34 - Care Center Award - Year 8

Role: Co-principal Investigator

Dates: 07/2020 – 06/2022

Grantor: Cystic Fibrosis Foundation

Title of Project: Therapeutic Drug Development Network

Role: Co-principal Investigator

Dates: 2018 – Present

Grantor: Cystic Fibrosis Foundation / Cincinnati Children's Hospital

Title of Project: CFC3N – Pilot Learning Network for Enhancing Quality Care

Role: Co-principal Investigator

Dates: 2017 – Present

Grantor: Iqvia RDS, Inc.

Title of Project: A retrospective Observational Study in Cystic Fibrosis Patients with Chronic Respiratory Pseudomonas Aeruginosa Infection Treated with TOBI Podhaler (Tobramycin Inhalation Powder) or Other FDA Approved Inhaled Antipseudomonal Antibacterial Drugs

Role: Sub-investigator

Dates: 02/2015 – 02/2022

Grantor: University of North Carolina at Chapel Hill

Title of Project: STaph Aureus Resistance-Treat Early and Repeat (STAR-TER)

Role: Principal Investigator

Dates: 01/2019 – Present

Grantor: University of North Carolina at Chapel Hill

Title of Project: UNC-New PA Infection Study

Role: Principal Investigator

Dates: 09/2020 – Present

Grantor: Vertex Pharmaceuticals, Inc.

Title of Project: A Phase 3, 2-part, Open-label Study to Evaluate the Safety and Pharmacokinetics of Lumacaftor/Ivacaftor in Subjects 1 to Less Than 2 Years of Age with Cystic Fibrosis, Homozygous for F508del

Role: Principal Investigator

Dates: 11/2018 – 11/2023

Devika Rao

Grantor: Children's Health, Service Package Grant.

Title of Project: The six-minute walk test in children with sickle cell disease: a cross-sectional study

Role: Principal Investigator

Dates: 3/2020 – Present

Grantor: Children's Health Foundation.

Title of Project: Nicotine and Other substances Vaped by Adolescents and Pulmonary Effects (NoVAPE): A Pilot Study on Lung Function Outcomes in Adolescent E-cigarette Users

Role: Principal Investigator

Dates: 6/2021 – Present

Peer-Reviewed Publications

1. **Bozkanat KM**, West NE, Ladores S, Montemayor K, Tupayachi Ortiz MG, Christianson M, Jain R. [Catamenial haemoptysis in females with cystic fibrosis: a case series with review of management strategies.](#) *Respir Case Rep.* 2021 Jun;9(6):e00755. PMID:33976884
2. Cristea AI, Ren CL, Amin R, Eldredge LC, Levin JC, Majmudar PP, May AE, Rose RS, Tracy MC, Watters KF, Allen J, Austin ED, Cataletto ME, Collaco JM, Fleck RJ, **Gelfand A**, Hayes D Jr, Jones MH, Kun SS, Mandell EW, McGrath-Morrow SA, Panitch HB, Popatia R, Rhein LM, Teper A, Woods JC, Iyer N, Baker CD. [Outpatient Respiratory Management of Infants, Children, and Adolescents with Post-Prematurity Respiratory Disease: An Official American Thoracic Society Clinical Practice Guideline.](#) *Am J Respir Crit Care Med.* 2021 Dec 15;204(12):e115-e133. PMID:34908518
3. Jain R, Kazmerski TM, Aitken ML, West N, Wilson A, **Bozkanat KM**, Montemayor K, von Berg K, Sjoberg J, Poranski M, Taylor-Cousar JL. [Challenges Faced by Women with Cystic Fibrosis.](#) *Clin Chest Med.* 2021 Sep;42(3):517-530. PMID:34353456
4. **Rao DR**, Kopp B, Kameron-Kretzmer RJ, **Afolabi F**, Liptzin DR, Balasubramaniam V, Sadreameli SC. [Advocacy Considerations for the Pediatric Pulmonologist in the Era of the COVID-19 Pandemic.](#) *Ann Am Thorac Soc.* 2021 Jun;18(6):942-945. PMID:33544048
5. Sathe M, **Sharma PB**, Savant AP. [Year in review 2020: Nutrition and gastrointestinal disease in cystic fibrosis.](#) *Pediatr Pulmonol.* 2021 Oct;56(10):3120-3125. PMID:34310872
6. Shaffer L, **Bozkanat K**, Lau M, **Sharma P**, Sathe M, Lopez X, Jain R. [Gender-affirming hormone therapy in cystic fibrosis - A case of new Pseudomonas infection.](#) *Respir Med Case Rep.* 2021;32():101353. PMID:33537203
7. **Sharma PB**, Sathe M, Savant AP. [Year in Review 2020: Multisystemic impact of cystic fibrosis.](#) *Pediatr Pulmonol.* 2021 Oct;56(10):3110-3119. PMID:34324789
8. Vidot DC, Islam JY, Marlene Camacho-Rivera, Harrell MB, **Rao DR**, Chavez JV, Lucas G Ochoa, Hlaing WM, Weiner M, Messiah SE. [The COVID-19 cannabis health study: Results from an epidemiologic assessment of adults who use cannabis for medicinal reasons in the United States.](#) *J Addict Dis.* 2021 Jan-Mar;39(1):26-36. PMID:32933383

9. Wilhite DP, Bhammar DM, Balmain BN, **Martinez-Fernandez T**, Babb TG. [Inhaled albuterol increases estimated ventilatory capacity in nonasthmatic children without and with obesity](#). *Respir Physiol Neurobiol*. 2021 Mar;285():103597. PMID:33301965
10. Xie L, Atem F, **Gelfand A**, Bauer C, Messiah SE. [United States prevalence of pediatric asthma by environmental tobacco smoke exposure, 2016-2017](#). *J Asthma*. 2021 Apr;58(4):430-437. PMID:31877060

Book Chapters

1. Wani A., Rosen R., **Naqvi S.K.** (2021) [What Is Wrong with My Child? Narcolepsy and Its Emotional Burden on Parents](#). In: Khawaja I.S., Hurwitz T.D. (eds) *Sleep Disorders in Selected Psychiatric Settings*.(pp 81-86) Springer, Cham.
2. Shakkottai A., Chervin R.D., Nasr S.Z., O'Brien L.M. (2021) [Cystic Fibrosis](#). In: Gozal D., Kheirandish-Gozal L. (eds) *Pediatric Sleep Medicine*. (pp 543-553) Springer, Cham.