

**UT Southwestern**  
Medical Center  
Department of Pediatrics

# **Pediatric Pulmonology and Sleep Medicine**

2023 Annual Report

# Pediatric Pulmonology and Sleep Medicine – 2023 Annual Report







The mission of the [Division of Pediatric Pulmonology and Sleep Medicine](#) is to deliver outstanding, compassionate clinical care, innovative science, and qualitative research, all while remaining committed to the training of future pediatric health professionals.

Under the direction of Andrew Gelfand, M.D., Chief of Pulmonology and Sleep Medicine, the Division’s 13 physicians and associated health care professionals compose a team that works together to form a true 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 faculty committed to the mission of the Division. These goals are achieved through the efforts of our 11 full-time and two part-time members of the Division of Pulmonology and Sleep Medicine. Each is dedicated to furthering the field of pediatric pulmonology and helping to create niches of expertise within the specialty. As our Division is somewhat small for the volume of patients we see, one of our major focuses over the next few years will be growth. We are excited that we added one new faculty member this past year and are actively recruiting more physicians to join us.



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

## Numbers at a Glance

 <p>Faculty: 13 New Faculty: 1 Promotions: 3 <i>U.S. News &amp; World Report: #22</i></p>	 <p>Clinical Fellows: 6 Clinical Sites: 3</p>	 <p>Inpatient Encounters: 8,429* Outpatient Encounters: 15,281*</p>
 <p>Research Funding Total* Grants: \$131,500 Contracts: N/A Total # Proposals Awarded: 1 Public Federal (# K Awards): N/A Public State of Texas: N/A Other: 1 Revenue from Active Clinical Trials as of 12/31/2023: \$1,782,135</p>	 <p>Active Clinical Trials: 3*</p>	 <p>Conferences/Lectures/Presentations: 27 Publications: 27* Citations: 344* Book Chapters: 2</p>

\*Sources: Orbit report of RHi032 Organizational Research Dashboard, UTSW Office of Research and Grants Support, Faculty Affairs, Education Alumni Affairs, Clinical Business Operations- invoice creation period for 2023, CVs

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## Honors/Awards

### **Best Pediatric Specialists in Dallas, *D Magazine***

- Steven Copenhaver, M.D.
- Andrew Gelfand, M.D.
- Tanya Martinez-Fernandez, M.D.
- Yadira Rivera-Sanchez, M.D.
- Preeti Sharma, M.D.

### **Texas Super Doctors, *Texas Monthly***

- Steven Copenhaver, M.D.
- Andrew Gelfand, M.D.
- Elisa Basora-Rovira, M.D. (Rising Star)

### **Devika Rao, M.D.**

- Flora Miller Award (Research) – UT Southwestern Department of Pediatrics

### **Preeti Sharma, M.D.**

- Outstanding Care Partnership Award – Cystic Fibrosis Foundation, North Texas Chapter
- CF Center Program Development Award – Cystic Fibrosis Foundation

## Top Five Conference Locations:

- Pediatric Academic Societies Meeting, Washington, D.C., April 2023
- American Thoracic Society 2023 International Conference, Washington, D.C., May 2023
- Sleep 2023, American Academy of Sleep Medicine, Indianapolis, June 2023
- Texas Pediatric Society, Houston, September 2023
- North American Cystic Fibrosis Conference, Phoenix, November 2023

## Education and Training

The Division of Pediatric Pulmonology and Sleep Medicine offers educational opportunities for medical students, pediatric residents, and fellows.

### **Medical Students**

We provide a comprehensive curriculum based on the core competencies outlined by the Council on Medical Student Education in Pediatrics (COMSEP):

- Bedside clinical supervision and daily rounds are provided.
- Faculty from various pediatric divisions lead didactic sessions and interactive case-based discussions.
- Regular curriculum reviews incorporate feedback from faculty, national regulatory agencies, and students.
- Students in our core clerkships consistently exceed national averages on standardized assessments.
- Specialty outpatient clinics, staffed by our faculty, offer individualized, one-on-one teaching.

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## Residents

We have several pediatric resident rotations. Our outpatient rotation is offered to interns, the inpatient rotation is for postgraduate year two (PGY2) and PGY3 residents, and a pulmonary elective is offered upon request. This rotation is customized to the resident's career goals in pediatrics. Yadira Rivera-Sanchez, M.D., directs the Pediatric Pulmonology and Sleep Medicine Resident Education Program.

All of our resident rotations focus on evaluating children with respiratory problems, with an emphasis on recognition, diagnosis, and care of respiratory diseases — the most common reasons for childhood physician encounters.

- The program provides residents with intensive exposure to a range of pulmonary disorders.
- An emphasis is placed on principles of management, current controversies, and the roles of pediatricians and pulmonary subspecialists.
- Residents gain valuable experience in managing children with known or presumptive pulmonary disorders. Additionally, they learn the criteria for pediatric pulmonary referrals.
- Residency expectations include demonstrating medical knowledge, understanding pathophysiology, developing differential diagnoses, showing increased independence in formulating management plans, and maintaining awareness of patient acuity.
- Residents interested in exploring or pursuing a fellowship in pediatric pulmonary medicine may request an elective in which they will be exposed to multiple areas of pediatric pulmonary medicine, including, but not limited to, consult services and multidisciplinary clinics (aerodigestive, sickle cell disease, cystic fibrosis, primary ciliary dyskinesia, muscular dystrophy, high-risk asthma, and chronic ventilator), as well as exposure to sleep medicine.

## Fellows

Fellows are under the direction of Tanya Martinez-Fernandez, M.D., Pediatric Pulmonology Fellowship Director, and Preeti Sharma, M.D., Associate Director. The mission of our Accreditation Council for Graduate Medical Education-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. We also strive to provide fellows with comprehensive clinical exposure and an education in pediatric pulmonology through training at our large and highly regarded academic and research institution. Contact with a diverse patient population, and thus, a broad pathology in pediatric pulmonary medicine, at Children's Medical Center Dallas 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 their interests.

## Program Goals:

1. Provide a high-quality, three-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, 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

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methods, including patient care, guided reading, and discussion with regards to organization, business planning, and management of the pediatric pulmonary service and research methodology.

## Fellows' Achievements:

Syeda Hiba Rizvi, M.D.

**Research Mentor:** Devika Rao, M.D.

**Research Project Title:** "BiPAP as a Bridge to Breathing Better: A Novel Approach to Persistent Hypoxemia in Children with Sickle Cell Disease"

Evaluation of outcomes including LOS and improvement in hypoxemia during use of BiPAP in treatment of persistently hypoxemic children admitted with complications associated with sickle cell disease

**Publication:**

Chan, KH, Rizvi, SH, De Jesus-Rojas, W, et al. Pulmonary hypertension screening in children with sickle cell disease. *Pediatric Blood Cancer*. 2022; e29980. <https://doi.org/10.1002/pbc.29980>

**Postgraduate:** Pediatric pulmonology practice, Cook Children's Medical Center in Fort Worth

Yutika Mandal, M.B.B.S.

**Research Mentor:** Yadira Rivera-Sanchez, M.D.

**Research Project Title:** "Exploring the relationship between bronchoalveolar lavage eosinophils and pulmonary symptoms in patients with eosinophilic esophagitis"

Assess prevalence of pulmonary manifestations in individuals with eosinophilic esophagitis (EoE) and correlate with bronchoalveolar lavage findings.

Liz Lezama Oropeza, M.D.

**Research Mentor:** Aarti Shakkottai, M.D.

**Research Project Title:** "Polysomnographic findings in infant sleep disordered breathing"

Determine reference value data from polysomnograms performed in otherwise healthy infants presenting with a Brief Resolved Unexplained Event.

Nataly Sanchez Solano, M.D.

**Research Mentor:** Kara Goss, M.D.

**Research Project Titles:** "Sleep Disordered Breathing in Adolescents and Adults with History of Extreme Prematurity"

Determine whether ventilatory dysfunction during sleep is present in older adolescents and adults with a history of bronchopulmonary dysplasia.

"Lung Function in Multi-ethnic Cohort of Adolescents and Adults with History of Prematurity"

Determine whether ventilatory dysfunction during sleep correlates with worse lung function.

**Postgraduate:** Sleep fellowship and faculty position, Children's Hospital of Philadelphia

## Research Activities

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 is a long-term goal. Below are some of the grants and projects in which members of the Division are currently participating.

- **Dr. Preeti B. Sharma's** clinical and research focus is on cystic fibrosis (CF). She is a Lead Investigator for the CF Foundation (CFF) Therapeutics Development Network and participates in numerous multicenter trials to investigate novel CF therapies. Additionally, Dr. Sharma serves as the site Principal Investigator for the qualitative research program within the CF Foundation, the Success with Therapeutics Research Consortium. Within this program, her focus has been on improving mental health and quality of life for people living with CF and their caregivers. Additionally, in collaboration with the UT Southwestern Adult CF Center, Dr. Sharma has been a national Investigator and contributor to improving the transition of care from pediatric to adult care centers. Other areas of research interest include quality improvement in clinical care, patient safety, and improving access to care. Her quality improvement work is carried out

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locally and as part of the national CF Foundation Learning Network, in which there is a multicenter extension of best practices.

- **Dr. Devika Rao** has worked on multiple research projects as outlined below:
  1. Severe lung injury from adolescent e-cigarette use (EVALI): Work is ongoing on our EVALI database, which is the largest pediatric database of EVALI cases in the nation. Earlier this year, Dr. Rao published (in *Pediatric Pulmonology*) a follow-up on our original case series published in *Pediatrics* in 2020. The latest manuscript described our findings of EVALI in adolescence before the pandemic and during the pandemic. She continues to develop research questions when it comes to EVALI, most recently evaluating the presence of psychosocial stressors in this population. A manuscript describing these findings is in progress. Dr. Rao's work on EVALI has continued to attract trainees. Her next steps are to describe the treatment of EVALI with steroids and to examine health care utilization prior to and after hospitalization for EVALI. Our work on EVALI was presented at multiple medical conferences this year, including the American Thoracic Society and the Pediatric Academic Society (this includes oral and poster presentations by trainees). Our published data on the clinical manifestations of EVALI will serve as pilot data to justify the need for further study of harmful adolescent e-cigarette use, which is the basis of a planned RO1 submission this year.
  2. Adolescent e-cigarette risks: Work is ongoing to recruit youth from the pulmonology clinic to participate in an Institutional Review Board (IRB)-approved survey study (known as the COVAPE study) to examine pandemic-related vaping habit changes.

NO-VAPE study: This is an IRB-approved study that aims to describe pulmonary function testing differences in adolescent e-cigarette users compared to nonusers. We are still awaiting site approval from Children's Medical Center Dallas and hope to begin recruitment for this study this calendar year. This is a study that has been funded by the Children's Foundation.
  3. Pulmonary manifestations of sickle cell disease: Dr. Rao, along with pulmonology fellow trainee Dr. Hiba Rizvi, continued work on an IRB-approved retrospective study that aims to describe the impact of bilevel positive pressure ventilation (BiPAP) on hospitalized children with sickle cell disease as treatment for persistent hypoxemia that prevents hospital discharge. Their analysis suggests that BiPAP was associated with several improved outcomes (including fewer days of hypoxemia and higher oxygen saturations) in this population, and these findings were presented this year at both the American Thoracic Society Conference and the Pediatric Hematology Society Conference in Fort Worth, Texas.
- Sleep positioning and other aspects of sudden infant death syndrome risk prevention are the focus of **Dr. Michelle Caraballo's** research. She continues to work on a project to promote safe sleep in the hospital setting. Additionally, Dr. Caraballo has investigated predictors of why pediatric sleep studies get terminated early.
- **Dr. Kamal Naqvi's** investigative efforts involve pediatric sleep disorders, including narcolepsy. The Pediatric Sleep Program, under his direction, also participates in several multicenter research trials. In 2023, Dr. Naqvi began his participation in two studies involving the use of a hypoglossal nerve stimulator in pediatric patients with Down syndrome as the initial such studies in the U.S.
- **Dr. Aarti Shakkottai's** research interests center around the impact of highly effective modulator therapy on sleep and upper airway pathology among patients with CF. Prior to her move to UT Southwestern, she looked at risk factors for obstructive sleep apnea (OSA) in patients with CF and found upper airway pathology, including tonsillar hypertrophy and chronic sinusitis, to be an important risk factor for OSA in children with CF. Dr. Shakkottai's current project builds on this work.
- **Dr. Yadira Rivera-Sanchez's** research focuses on patients with primary ciliary dyskinesia (PCD), and she has several IRB-approved studies. Some of her projects include the measurement of nasal nitric oxide to screen patients for PCD, as part of the PCD Foundation (PCDF) Clinical Registry. Additionally, Dr. Rivera-Sanchez is working with Dr. Yutika Mandal, a pediatric pulmonary fellow, to establish the pulmonary clinical presentation and bronchoalveolar lavage data of patients diagnosed with EoE.
- **Dr. Folashade C. Afolabi** is currently working with West Dallas 1, Dr. Joseph Su, and the O'Donnell School of Public Health on community-based participatory research with respect to respiratory health and

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air pollution in proximity to concrete batch plants in West Dallas. She has been embedded in West Dallas, regularly attending community meetings and providing education to the community to establish a rapport with community partners. In addition, Dr. Afolabi is working with Dr. Andrew Gelfand and Dr. Stephen Hemmerly to create a chronic vent dashboard and research on improved outpatient outcomes to reduce inpatient hospital stays. She is also a Co-Investigator in multiple CF studies and one asthma study.

- Dr. [Elisa Basora Rovira](#) has research interests in pediatric sleep medicine. She is studying the correlation between age and the initial findings of sleep breathing disorders in children with achondroplasia. Additionally, Dr. Basora Rovira is investigating the incidence of sleep-disordered breathing in patients with Chiari malformation. She recently started studying the effects of hypoglossal nerve stimulation on cognition and language in Down syndrome and OSA patients.
- The optimization of care of children with asthma is the focus of the scholarly pursuits of Dr. [Yadira Rivera-Sanchez](#) and Dr. [Tanya Martinez-Fernandez](#). Their research work will soon become the sites for multiple industry-sponsored pharmaceutical trials to help achieve better outcomes for childhood asthmatics.

## Clinical Activities

The Division provides comprehensive, state-of-the-art 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, CF, neuromuscular disorders, bronchopulmonary dysplasia, primary ciliary dyskinesia, EVALI, hereditary hemorrhagic telangiectasia, and sleep disordered breathing, as well as technology-dependent patients who require chronic ventilation. Additionally, we participate in multidisciplinary clinics to help in the management of patients with aerodigestive disorders, sickle cell disease, high-risk asthma, and chronic mechanical ventilatory needs. We also have started a long COVID-19 clinic and are in the process of forming an interventional bronchoscopy program.

The Division offers this care at a variety of locations, but primarily at Children’s Medical Center Dallas. We have two locations, one in Dallas adjacent to the hospital and one in Plano, which houses our 24-bed comprehensive sleep program and lab, the largest pediatric sleep program in the country. Our Chronic Ventilator Program is embedded in the integrated therapy unit at Children’s Medical Center Dallas, and the outpatients are seen in the Cityville Clinic, which is near Children’s Medical Center Dallas. Except for the Chronic Ventilator Program, our multidisciplinary clinics are all located at Children’s Medical Center Dallas. Additionally, we have two nationally accredited programs: the Claude Prestidge Cystic Fibrosis Care Center and the Primary Ciliary Dyskinesia Center.

## Patient Care

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

### **Inpatient Services**

The inpatient population consists primarily of patients with CF and chronic respiratory failure on mechanical ventilation, as well as patients with neuromuscular diseases hospitalized for an acute respiratory process. If we have bed availability, we also manage patients with high-risk asthma as well as less common pulmonary issues, such as PCD, hereditary hemorrhagic telangiectasia, and idiopathic pulmonary hemosiderosis, as well as other interstitial lung diseases. We frequently admit patients with tenuous airways or who need noninvasive mechanical ventilation when intensive care unit (ICU) acuity is no longer needed. We also provide a consultation service to help with the needs of the rest of Children’s Medical Center Dallas. This service typically has 20 to 40 patients, and we help advise respiratory management to patients throughout the hospital, including the pediatric ICU, the cardiovascular ICU, and the neonatal ICU, as well as to general and other specialty services. We also provide bronchoscopy services when indicated. There is always an attending pulmonologist assigned to the Pediatric Pulmonology and Sleep Medicine Service as well as the consultation service. In 2023, we started a supplemental service three days a week to help with patient care throughout the hospital, as consultative needs and acuity



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have risen with time. We anticipate this will become a full-time service soon. Lastly, a few members of the Division help cover the pulmonary service in the integrated therapy unit. This is where we educate families on the care needed to take a child home with a trach and a vent. Presently, this service is covered by Drs. Andrew Gelfand and Folashade Afolabi, with the help of Drs. Steven Copenhaver and Pravin Sah.

## 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 with selected patients. Additionally, the Pulmonary and Sleep Medicine Division directs many multidisciplinary/specialty clinics to help optimize care for our complex patients. Dr. [Tanya Martinez-Fernandez](#) has led the development and organization of the outpatient clinics.

### Claude Prestidge Cystic Fibrosis Care Center

The Pediatric Cystic Fibrosis Program, co-directed by Dr. [Preeti Sharma](#) (Pediatric Pulmonology and Sleep Medicine) and Dr. [Meghana Sathe](#) (Pediatric Gastroenterology), is one of the largest in the country, with over 280 pediatric patients. The center provides a comprehensive, multidisciplinary team approach to this complex and chronic disease. It is actively involved in numerous multicenter trials through the CFF Therapeutics Development Network, 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. As founding members of the CF Learning Network, their work in quality improvement and process improvement has led to national recognition in these areas. They are also active participants in the CFF Success with Therapies Research Consortium, which allows for collaboration in qualitative research. Through this consortium, they work to better understand and improve mental health and adherence to therapies in the CF community. The team is committed to improving care for their patients and serves as a model to care centers across the country.

### Pediatric Sleep Program

Under the direction of [Syed 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. Two PAP specialists provide mask fitting sessions and expertise for other equipment-related issues. Our 24-bed sleep lab (divided between our Dallas and Plano locations) 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. The Sleep Center and faculty are part of the training sites and faculty for a sleep medicine fellowship at UTSW, with three fellows trained each year.

### High-Risk Asthma Clinic

The High-Risk Asthma Clinic aims to provide multidisciplinary care for difficult-to-control and severe asthmatics. Initially established by the joint efforts of Drs. [Tanya Martinez-Fernandez](#) and [Yadira Rivera-Sanchez](#), the clinic is currently led by Dr. Martinez-Fernandez and has incorporated Dr. Jeffrey Chambliss (Pediatric Allergy and Immunology Division) and Dr. Folashade Afolabi. Dedicated time from specialists in physical therapy, psychology, nutrition, social work, case management, asthma education, and nursing has allowed us to improve care with the aim of reducing Emergency Department visits and hospitalizations and improve the quality of life for patients with life-threatening asthma.

### Primary Ciliary Dyskinesia Center

Since 2021, the PCD Foundation-accredited center, under the leadership of Dr. [Yadira Rivera-Sanchez](#), has remained the only PCD center in North Texas. Our multidisciplinary clinic is supported by a nursing coordinator, social worker, dietitian, and psychologist, and it collaborates with the Departments of Ear, Nose, and Throat (ENT), Cardiology, and Genetics. Increased referrals from the community and bordering states have required us to expand the number of clinics to accommodate the increasing volumes. In 2023, we were accepted into the multicenter



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PCD Foundation Registry project, which will allow us to participate in multicenter studies; we have started enrolling patients as a result. We also collaborated with the adult pulmonary group, and, under our guidance, they are in the process of securing PCD Foundation accreditation. This milestone will allow us to become one of the few pediatric programs in the U.S. with an associated adult program and the only one in Texas, furthering our national and international recognition.

## **Multidisciplinary Ventilator Clinic**

Dr. [Andrew Gelfand](#) directs the Ventilator Clinic. This is a multidisciplinary clinic involving ENT, physiatry, respiratory therapy, nursing, social work, radiology, nutrition, physical therapy, and case management. At the clinic, we follow over 200 patients with chronic mechanical ventilator needs from a variety of causes, including bronchopulmonary dysplasia, neuromuscular weakness, congenital heart disease, high spinal cord injury, and neurologically impaired children with poor control of breathing, as well as other causes of respiratory insufficiency. Dr. [Folashade Afolabi](#) is a member of the chronic ventilation team and has initiated work on formulating a registry for the program. Drs. [Steven Copenhaver](#) and [Pravin Sah](#), who are associated with [Children’s Medical Center Dallas](#), also help with the management of these patients.

## **Respiratory Manifestations of Neuromuscular Disease**

Dr. [Princy Ghera](#), along with Dr. [Esra Caylan](#), who recently joined the team, conduct specialized clinics on neuromuscular- and chest wall-related respiratory diseases. Dr. [Elisa Basora Rovira](#) continues to participate in a multidisciplinary clinic for young patients with Duchenne muscular dystrophy. Also, as Dr. Ghera is trained in internal medicine and pediatrics, she has an interest in helping us develop a transition to the adult medicine clinic for our patients with neuromuscular disorders. Lastly, Dr. [Peter Luckett](#) continues to help with the management of some of our adolescent patients with neuromuscular disease.

## **Aerodigestive Clinic**

Dr. Princy Ghera directs the Pulmonary Aspects Multidisciplinary Aerodigestive Program. This program, under the leadership of Dr. Stephen Chorney (ENT) and Rina Sanghavi (Pediatric Gastroenterology), combines the services of gastroenterology, pulmonology, and ENT specialists. Pediatric patients are referred from all over the nation for a comprehensive evaluation of swallowing, breathing, and feeding disorders.

## **Hereditary Hemorrhagic Telangiectasia (HHT)**

Dr. [Preeti Sharma](#) directs the Hereditary Hemorrhagic Telangiectasia (HHT) Clinic. She has partnered with the adult HHT center and the Divisions of Neuroradiology/Vascular Interventional Radiology, Pediatric Hematology and Oncology, and Pediatric Gastroenterology to provide ease of care and increased benefit to these patients.

## **Pulmonary-Sickle Cell Multidisciplinary Clinic**

Dr. [Devika Rao](#), along with Dr. [An Pham \(Division of Pediatric Hematology and Oncology\)](#), directs a Pulmonary-Sickle Cell Interdisciplinary Clinic to address the pulmonary needs of children with sickle cell anemia. This clinic is in the Pauline Allen Gill Center for Cancer and Blood Disorders.

## **Long COVID Respiratory Clinic**

Dr. [Aarti Shakkottai](#) started a Post-COVID Respiratory Clinic this year with the help of specialists in social work, psychology, and physical therapy to help with patients affected by the SARS-CoV-2 virus.

## **Pulmonary Function Lab**

Dr. [Devika Rao](#) served as Director of the Pulmonary Function Lab at Children’s Medical Center Dallas until recently. The Pulmonary Function Lab has more 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.

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## Patient Statistics

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

<b>Pulmonary at Children’s Medical Center Dallas</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
Inpatient admissions	402	341		390	201
Inpatient consultations	1,779	1,205	554	681	753
<b>New Outpatient Visits</b>					
Pulmonary Clinic	1,249	1,104	1,244	1,355	1,398
CF Clinic	64	35	44	75	69
Sleep Clinic	1,795	1,560	1,217	1,493	1,368
<b>Outpatient Follow-Up</b>					
Pulmonary Clinic	11,224	9,481	10,182	11,271	
CF Clinic	6,096	5,223	6,391	7,336	7,027
Sleep Clinic	2,072	1,667	1,952	1,969	2,063
<b>Telemedicine Visits</b>					
Pulmonary Clinic		5,793	3,334	2,262	
CF Clinic		2,801	1,645	1,262	1,010
Sleep Clinic		436	198	93	86
		2,556	1,491	907	664

<b>Pulmonary at Children’s Medical Center Frisco/Plano</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
<b>New Outpatient Visits</b>					
Pulmonary Clinic	565	217	125	210	
CF Clinic	303	33	0	133	61
Sleep Clinic	9	0	0	0	0
	253	184	125	77	1,074
<b>Outpatient Follow-Up</b>					
Pulmonary Clinic	931	244	251	530	
CF Clinic	562	51	0	485	79
Sleep Clinic	135	4	0	0	0
	234	189	251	45	1,043

<b>Procedures</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
Sleep Studies – Dallas	2,757	1,512	2,362	2,498	2,643
Sleep Studies – Plano	1,995	1,051	1,481	1,674	2,262
Pulmonary Function Testing Laboratory Procedures	12,808	3,124	5,365	5,609	5,320
Bronchoscopies	124	62	135	177	187

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## Top Five Peer-Reviewed Publications and Book Chapters

1. Stephenson N, Forno E, Laguna TA, Lovinsky-Desir S, Moore PE, Sheares BJ, Kazmerski TM, Udoko MN, Lypson ML, Harding LRW, Wilkes DS, Adair DJ, **Afolabi F**, Balasubramaniam V, Ale GJB, Castner LM, **Ghera P**, Heras A, Jordan K, Ly NP, **Martinez-Fernandez TM**, Mishra PE, Narang I, Palla JB, **Rivera-Sanchez YM**, Tapia IE, Toprak D, Torres-Silva CA, Cohen RT. [Diversity, Equity, and Inclusion in the Pediatric Pulmonary Workforce: An Official American Thoracic Society Workshop Report](#). Ann Am Thorac Soc. 2023 Oct;20(10):1373-1388. PMID: 37772940
2. Afolabi FA, Liptzin DR, **Sharma PB**, **Gelfand A**, Baker CD. [To Trach or Not to Trach? Ethical Considerations for Medically Complex Children During a Home Nursing Crisis](#). Pediatr Pulmonol. 2023 Aug;58(8):2415-2416. PMID: 37154514.
3. **Afolabi F**, **Rao DR**. [E-Cigarettes and Asthma in Adolescents](#). Curr Opin Allergy Clin Immunol. 2023 Apr 1;23(2):137-143. PMID: 36821483.
4. **Caraballo M**, Abbe M, Tidwell J, Dutton H, Garcia MG, Punzalan G, Axon A. [Steering the Titanic: One Tertiary Care Children's Hospital's Experience Navigating Safe Sleep for Hospitalized Patients with Cystic Fibrosis](#) J Pediatr Nurs. 2023 Nov-Dec;73:e1-e9. PMID: 37330278.
5. Kennedy K, Lee M, Sathe M, Ueng CS, **Sharma P**. [Evaluation of the Use of Appetite Stimulants in Pediatric Patients with Cystic Fibrosis](#). J Pediatr Gastroenterol Nutr. 2023 Oct 1;77(4):565-572. PMID: 37434282.