

In 2022, the [Division of Pediatric Gastroenterology](#) at UT Southwestern Medical Center and Children’s Health System of Texas entered a phase of significant growth in all branches of our tripartite mission. The Division gained four exceptional physicians and expanded clinical activities further north into Prosper while also initiating coverage for inpatient clinical gastrointestinal (GI) needs at the Plano campus hospital. Our ongoing mission is to promote health and a healthy society that enables achievement of every child’s full potential. We fulfill this mission by providing the highest standard of care, advanced clinical programs, innovative training of future healthcare providers, and performing state-of-the-art clinical and translational research.

On the research front, Jorge Bezerra, M.D., a leading investigator in cholestatic liver disease, joined in October and has laid a foundation for significantly increased scientific activity in the Division.

The importance of teaching continued to be recognized, with outstanding performances by our fellows and an exceptional match for next year. We also developed a framework for the creation of our first advanced training programs in subspecialty areas including inflammatory bowel disease (IBD), nutrition, advanced endoscopy, hepatology, and motility.

Under the leadership of Division Chief Bradley Barth, M.D., M.P.H., this nationally recognized division includes distinguished faculty who focus clinical and research efforts on diverse areas of pediatric digestive health. This growing and dynamic group is now comprised of 25 faculty members offering inpatient, outpatient, and procedural services. In addition, the Division’s physicians provide supervision to 18 Advance Practice Providers and specialty training to nine clinical and research fellows.

Gastroenterology at Children’s Health was ranked number nine in the nation by *US News and World Report* in 2022 and currently provides clinical services and medical leadership at four practice sites:

1. Children’s Medical Center Dallas
2. Children’s Health™ Specialty Center Plano
3. Texas Health Presbyterian Hospital
4. Children’s Health Specialty Center Prosper



**Bradley Barth, M.D., M.P.H.**  
Division Chief

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Clinical activities of the Division include a high-volume, high-acuity service with more than 20,000 outpatient visits and 3,000 endoscopic procedures per year.

All of these functions are organized in a programmatic fashion into 19 distinct clinical programs:

- Aerodigestive Program
- Celiac Disease
- Childhood Obesity
- Chronic Abdominal Pain
- Clinical Nutrition
- Colorectal and Pelvic Surgery
- Cystic Fibrosis Center
- Eosinophilic/Allergic Disorders
- Feeding Disorders
- General Gastroenterology
- Hepatology/Liver Transplant
- Inflammatory Bowel Disease
- Intestinal Immunology
- Intestinal Rehabilitation and Short Bowel Disease
- Neuro-Gastroenterology
- Non-Alcoholic Fatty Liver Disease
- Pancreatic Disorders
- Polyposis
- Integrative Medicine
- Therapeutic Endoscopy/Gastroenterology Laboratory

## Faculty

Currently, the Division is comprised of 25 faculty members, with four new faculty members, Jorge Bezerra, Derek Ngai, Jacobo Santolaya, and Srisindu Vellanki, joining the Division in 2022.

### **Jorge Bezerra, M.D.**

Professor, Department Chair



#### **M.D.**

Federal University of Rio Grande Do Sul, Brazil, 1984

#### **Postdoctoral Training**

Resident, Pediatrics

University of Arizona Health Sciences Center, Tucson, AZ, 1986-1989

Fellowship, Pediatric Gastroenterology

Cincinnati Children's Hospital Medical Center, Cincinnati, OH, 1990-1993

#### **Interests**

Biliary atresia and other cholestatic liver diseases

### **Derek Ngai, M.D.**

Assistant Professor



#### **M.D.**

UT Southwestern Medical Center, 2016

#### **Postdoctoral Training**

Resident, Pediatrics

UT Southwestern/Children's Medical Center, Dallas, TX, 2016-2019

Fellowship, Pediatric Gastroenterology

UT Southwestern/Children's Medical Center, Dallas TX 2019-2022

#### **Interests**

General pediatric gastroenterology and clinical informatics including optimization of the electronic health record in medical care.

**Jacobo Santolaya, M.D.**

Assistant Professor



**M.D.**

Rutgers Robert Wood Johnson Medical School, New Brunswick, NJ, 2016

**Postdoctoral Training**

Resident, Pediatrics

Children’s Hospital of Philadelphia, Philadelphia, PA, 2016-2019

Fellowship, Pediatric Gastroenterology

UT Southwestern Medical Center, Dallas TX 2019-2022

**Interests**

Pediatric inflammatory bowel disease.

**Srisindu Vellanki, M.D.**

Assistant Professor



**M.D.**

St. Louis University School of Medicine, St. Louis, MO, 2015

**Postdoctoral Training**

Resident, Pediatrics

Stanford Healthcare/Lucile Packard Children’s Hospital, Palo Alto, CA 2015-2018

Resident, Chief Resident

Stanford Healthcare/Lucile Packard Children’s Hospital, Palo Alto, CA 2018-2019

Fellowship, Pediatric Gastroenterology

Children’s Hospital of Philadelphia, Philadelphia, PA, 2019-2022

**Interests**

Pediatric inflammatory bowel disease and integrative medicine.

**Honors / Awards**

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

- Brad Barth
- Bhaskar Gurram
- Charina Ramirez
- Norberto Rodriguez-Baez
- Meghana Sathe
- Gaith Semrin
- David Troendle

**Texas Super Doctors, *Texas Monthly Magazine***

- Norberto Rodriguez-Baez
- Meghana Sathe
- David Troendle – Rising Star

**Norberto Rodriguez-Baez**

- The John M. Anderson Excellence in Teaching Award – Pediatric Gastroenterology at UT Southwestern
- North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition (NASPGHAN) Master Educator Award

### **Isabel Rojas Santamaria**

- Promoted to Associate Professor

### **Rinarani Sanghavi**

- Promoted to Professor

### **Meghana Sathe**

- Promoted to Professor
- Appointed as faculty for Cystic Fibrosis Foundation's DIGEST Junior Faculty Training Program

## **Invited Lectures**

### **Bradley Barth**

- Advanced Pediatric Endoscopy Conference, Saudi Arabia, Virtual, March 2022
  - *"Refractory Esophageal Strictures"*

### **Lauren Lazar**

- Southern Pediatric Otolaryngology Education Group, Annual Meeting, Florida, January 2022
  - *"Updates in Gastroesophageal Reflux: To PPI or not to PPI?"*

### **Norberto Rodriguez-Baez**

- Digestive Diseases Week (DDW), San Diego, CA, May 2022
  - *"Pediatric Hepatology: A Year in Review"*

### **Isabel Rojas Santamaria**

- Children's Of Alabama/The University of Alabama at Birmingham, Birmingham, AL, January 2022
  - *"Polyposis and Inherited Colorectal Cancer Syndromes"*

### **Meg Sathe**

- Texas Speech-Language Hearing Association (TSHA), Virtual, February 2022
  - *"A Multidisciplinary Approach to Tube Weaning in the Pediatric Population."*

### **Rina Sanghavi**

- Grand Rounds, Cohen Children's Hospital, New Hyde Park, NY, September 2022
  - *"To Ruminare or Stop- That is the Question"*
- North American Society for Pediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN) Junior Faculty Conference, Chicago, IL, December 2022
  - *"Physician Compensation Equity- What, Why, Now and How"*
- Alfred G. Gilman Symposium on Education (SWAT), Dallas, TX, April 2022
  - *"EQ - What Got You Here Won't Get You There"*

## David Troendle

- Journal of Pediatric Gastroenterology and Nutrition (JPGN), Orlando, FL, October 2022
  - *“Meet the Editors Breakfast Session”*
- Argon Plasma Coagulation and Bipolar Coagulation, Orlando, FL, October 2022
  - *Instructor, Hands-On Endoscopy Session*
- Endoscopic Shockwave Lithotripsy in Children, Rome, September 2022
- ERCP: A PEDIatric Experience, Rome, September 2022

## Conference Presentations

### **Pediatric Academic Societies Annual Meeting, Denver, CO, April 2022**

#### **Rodriguez-Baez N**

Presentation, *“Non-Alcoholic Fatty Liver Disease in Children: The Current Landscape and Future Horizons”*

## Education and Training

The Division promotes new and innovative training strategies for students, residents, fellows, and junior faculty, as well as educational programs to the local and national community.

Our three-year, Accreditation Council for Graduate Medical Education (ACGME)-accredited fellowship program is directed by Dr. Meghana Sathe and Dr. Charina Ramirez. Our fellowship provides comprehensive training for nine gastroenterology fellows (three per year). In the first year of fellowship, emphasis is on acquiring knowledge and clinical skills in gastroenterology, hepatology, and nutrition. The second and third year of training focus on a basic science or clinical research project that meets the ACGME requirements for scholarly activity. Both areas emphasize acquiring skills in scientific presentation, writing abstracts and manuscripts, and grant development. The passing rate for initial certification in pediatric gastroenterology offered by the American Board of Pediatrics for our graduating fellows is one of the highest in the nation, with the majority of graduates currently practicing in academic institutions.



**Pediatric Gastroenterology Fellows**

Our training program is dynamic and innovative, offering individualized training tracks including, but not limited to, inflammatory bowel disease, neurogastroenterology and motility, advanced therapeutic endoscopy, study of the gut microbiome and cystic fibrosis (CF). The CF track is designed to provide an environment enriched in opportunities for fellows interested in performing research and enhancing their skills in the care of patients with CF. Drs. Nicholas Norris, David Willcutts, and Joseph Woolley received the Cystic Fibrosis Foundation Clinical fellowship award given by the Cystic Fibrosis Foundation. Fellows electing to choose a basic science track focus on a specific area of basic research under the guidance of an established UTSW faculty researcher and may be funded by a T32 training grant during their second and/or third years of fellowship.

In June 2022, Drs. Derek Ngai, Jacobo Santolaya, and Joseph Woolley successfully completed their research projects as well as their training in our program. Dr. Ngai and Dr. Santolaya joined the faculty here at UT Southwestern and Dr. Woolley is practicing at Phoenix Children’s Hospital.

Our second-year fellows moved on to the third year and are working on:

- Standardized Coaching Language to Improve Endoscopy Training Quality – Dr. Aayush Gabrani and Drs. Roopa Vemulapalli and Catharine M. Walsh (mentors)
- Modulating Host Immunity with Helminth-derived Products –Dr. Phinga Do and Dr. Andrew Koh (mentor)
- Targeted Therapy for Cystic Fibrosis Transmembrane Receptor-Mediated Congenital Diarrhea – Dr. David Willcutts and Drs. Ezra Burstein and Luis Sifuentes (mentors)

The first-year fellows completed their primary clinical year in June 2022 and began projects including:

- A Descriptive Analysis of the Utilization and Findings of Transabdominal Ultrasound in Patients with Acute Recurrent and Chronic Pancreatitis –Nick Norris and David Troendle (mentor)
- The Role of Colonic Enteroendocrine Cells in Metabolic Control –Tiffany Freaney, Wright and Luis Sifuentes-Dominguez
- Investigating the Impact of Prolonged Antibiotic Exposure on Gastric Motility in Preterm Infants Using Electrogastrography as a Non-invasive Method-Liane Sadler with Rina Sanghavi and Eric Ortigoza (mentors)

Locally, our fellows participate in important hospital initiatives including the Children’s Physician Advisory committee and committees charged with improving the use of our electronic health record. On a national level, fellows are actively involved in committees at NASPGHAN and the American Academy of Pediatrics. Our fellows presented at several national conferences including the NASPGHAN annual meeting and the North American Cystic Fibrosis Conference. Fellows also published in several medical journals in 2022.

As a program, we continue our commitment and support for NASPGHAN and its educational activities, including the fellows conferences. We are proud that many of our faculty members continue to participate in, organize, and lead these national training and mentorship activities.

## **Research Activities**

Research activities cover a wide range of important GI disorders in basic, translational and clinical programs. In 2022, the Division had 53 ongoing IRB-approved clinical trials, including multiple National Institutes- of Health (NIH)-sponsored projects, along with a number of national, multicenter studies evaluating treatments for pancreatic disease, CF, chronic constipation, inflammatory bowel disease, hepatitis, and liver failure.

### **Liver Research**

- Dr. Norberto Rodríguez-Báez is the principal site investigator for a national, multicenter, NIH-supported study examining the safety and efficacy of treatments for acute liver failure in children. He also participates in clinical studies for children with hepatitis B and C. Dr. Rodríguez-Baez has co-authored articles presenting the results of the studies. He has also presented at national conferences.
- Dr. Charina Ramirez’s research focuses on non-alcoholic fatty liver disease (NAFLD). She is conducting a novel trial evaluating the effects of specialized diets in the treatment of childhood fatty liver disease. She also participates in research involving Niemann-Pick type C disease and lysosomal acid lipase deficiency.
- Dr. Sarah Barlow is site investigator for an industry-sponsored observational study of children with NAFLD.
- Dr. Lauren Lazar is completing work on a five-year review of biochemical markers and ultrasound findings in Dallas pediatric CF patients, working to establish a new diagnostic algorithm for CF liver disease.
- Dr. Jorge Bezerra is the principal investigator (PI) of multiple grants from the NIH focused on preclinical and translational

research on biliary atresia. This work is currently being established at UTSW following his move from Cincinnati.

## Gastroenterology Research

- Dr. Luis Sifuentes is studying basic mechanisms of intestinal inflammation. He is supported by a NIH K08 award and is working with Dr. Ezra Burstein in the Department of Internal Medicine's Division of Gastroenterology at UT Southwestern to understand the molecular basis of early-onset IBD. Using cutting edge genomic and proteomic approaches, they have identified novel genes that play a role in early-onset IBD. Dr. Sifuentes is also supported by a DocStars award, is a site PI for CAPTURE IBD, and is a co-investigator on an R01 studying colonic enteroendocrine cells in metabolic control.
- Dr. Rina Sanghavi focuses on research related to diversity and equity in pediatric GI on a national scale. She also works with the neonatology group to assess for GI tract motility maturation in newborns in basic and translational research as well as microbiome research.
- Dr. Bhaskar Gurram has assumed the role of site leader for the multicenter IBD collaborative Improve Care Now. His clinical and research interests include inflammatory bowel diseases, immune deficiency states manifesting with gastrointestinal symptoms and *Clostridioides difficile* infection. He is the site's principal investigator for several multicenter clinical trials looking at therapeutics for management of inflammatory bowel diseases. Dr. Gurram is also co-investigator for the multicenter growth study in pediatric Crohn's disease patients. Our center also participates in several multicenter registry studies that look at the post-marketing data on existing biologic studies.
- Dr. Brad Barth studies therapeutic interventions for complex childhood hepatobiliary and pancreatic disorders. His clinical and research interests include therapeutic endoscopy, endoscopic retrograde cholangiopancreatography (ERCP), endoscopic treatment of gastrointestinal bleeding, and pancreatic disease in children.
- Dr. David Troendle's research focuses on interventional endoscopic approaches for the treatment of GI bleeding and pancreatic disease, as well as the prevention of post-ERCP pancreatitis. He is also investigating the epidemiology and severity of acute, recurrent, and chronic pancreatitis in children.
- Dr. Sarah Barlow is actively involved in the study of childhood obesity and nonalcoholic fatty liver disease, working toward effective interventions. Her other projects include: 1) evaluating telehealth in a multidisciplinary weight management program; 2) developing and implementing a web-based program in English and Spanish for primary care providers to offer to parents; the website provides practical guidance on healthy lifestyles; 3) validating a questionnaire to assess knowledge of MyPlate healthy eating concepts; and 4) implementing of a community-based healthy weight program.
- Dr. Meghana Sathe is involved in multiple projects studying care of children with CF, including a multicenter study for which she was a co-PI, evaluating the landscape of GI symptomatology in persons with CF (GALAXY Study). She is also the national PI for a new non-porcine pancreatic enzyme being developed. Dr. Sathe also participates as a site investigator for GI and nutrition studies in persons with CF through the Therapeutic Drug Network, qualitative research through Strategies in Therapeutics, and quality improvement through the CF Learning Network.
- Dr. Aakash Goyal is the primary investigator on a study to evaluate the pharmacokinetics of IV proton pump inhibitors in children. He is also a co-investigator on projects working to establish a biorepository for samples of patients with suspected eosinophilic esophagitis (EoE), and to evaluate esophageal biopsy techniques in children. Additionally, he is a co-investigator for a phase 3 study to investigate efficacy and safety of Dupilumab in adult and adolescent patients with EoE. He will be a co-investigator for an upcoming phase 3, multicenter, multinational study to evaluate the efficacy and



**Drs. Rinarani Sanghavi and Ricardo Medina-Centeno**

safety of CC-93538 in adult and adolescent subjects with EoE. Lastly, Dr. Goyal is involved in a project evaluating the efficacy and safety of dose escalation in children with IBD on infliximab.

- Dr. Megha Mehta has clinical and research interests in pediatric pancreatic disorders. She is site-PI for the INSPPIRE study-an international multi-center research consortium for the study of pediatric recurrent and chronic pancreatitis.
- Dr. Michele Alkalay focuses on the quality of life in children with celiac disease and collaborates on research examining the microbiome in various celiac populations. She is currently examining ethnic differences in the clinical presentation of celiac disease in a pediatric population.
- Dr. Isabel Rojas has initiated a multicenter, international project studying gastrointestinal polyposis in children and the effects of treatment using sirolimus in this population.
- Dr. Claudia Phen has clinical and research interests in pediatric polyposis and hereditary GI cancer syndromes. She is an active member of NASPGHAN's polyposis interest group and is working to improve education and resources for patients, families, and other providers on primary polyposis syndromes. She also collaborates and participates in international, multicenter polyposis research to optimize the evaluation, management, and surveillance of children and adolescents with polyposis syndromes.
- Dr. Amal Aqul's research focuses on cholestatic liver disease and quality improvement projects for liver transplants. She is the site primary investigator on multicenter clinical trials evaluating the effect of ileal bile acid transporter inhibition on pruritus and serum bile acids in patients with progressive familial intrahepatic cholestasis and progression of liver disease in patients with biliary atresia. She has collaborated with other centers on studying cerebral vascular anomalies in patients with Alagille's syndrome. Additionally, she is collaborating with UTSW genetics to identify novel gene mutations that have been associated with pediatric cholestatic liver disease. Dr. Aqul continues to participate in research involving lysosomal acid lipase deficiency.

## **Clinical Activities**

The nationally recognized clinical programs of the Division of Gastroenterology are housed at Children's Medical Center Dallas, with satellite activities at Children's Plano, Children's Prosper, Cityville, and Texas Health Resources Dallas. In the patient-centered environment, physicians are joined by nurse practitioners, physician assistants, child psychologists, dietitians, speech therapists, child life specialists, social workers, an enterostomal therapist/educator, and a care coordinator to provide multidisciplinary, comprehensive, and state-of-the-art care for children with virtually any gastrointestinal, pancreatic, or liver problem. Feeding and nutrition-centered programs have recently grown as well.

### **Gastroenterology Endoscopy Lab**

The gastroenterology endoscopy lab at Children's Health Dallas continues to lead the nation in innovation, investigation, training, and patient care. Our staff of specially trained endoscopy nurses and technicians supports not only routine endoscopic procedures but also advanced and therapeutic endoscopy, including ERCP, cholangioscopy, endoscopic ultrasound (EUS), balloon enteroscopy, endoscopic suturing and capsule endoscopy. We also perform a full array of motility procedures, including anorectal, esophageal, antroduodenal, small bowel, and colonic manometry, as well as EndoFlip. The unit performed approximately 95 pediatric ERCPs and 30 pediatric EUS cases in 2022. We were also one of the first pediatric centers in the world to successfully pilot the use of a new disposable duodenoscope in pediatric patients designed to decrease the risk of procedurally acquired infections.

### **Specialized Programs**

The Division supports multiple specialized clinical programs. Faculty accept referrals for all of the



following programs and a Gastroenterology physician is on call daily to consult with referring physicians.

### **Neurogastroenterology Program**

Under the direction of Dr. Rina Sanghavi, this program provides comprehensive care for children with complex GI dysmotility, including intestinal pseudo-obstruction, dysmotility following infection or surgery, and neuromyopathies. It is home to one of the few American Neurogastroenterology and Motility Society-certified pediatric motility labs in the country performing esophageal manometry, antroduodenal and colonic motility, and esophageal impedance studies. It is the only bowel management program in North Texas for children with simple and complex anorectal malformations, the only multidisciplinary abdominal pain program, and the only aerodigestive disorders management program in the area. In 2017, the Biofeedback program, directed by Dr. Rina Sanghavi, was introduced, providing life-changing treatment to children with disordered defecation.

### **Aerodigestive Program**

Directed by Dr. Rina Sanghavi, Dr. Yan Fuu/Dr. Stephen Chorney (ENT), Dr. Princey Ghera and Dr. Melike Bozkanat (Pulmonology), the multidisciplinary aerodigestive program combines the services of gastroenterology, pulmonology, and ear, nose and throat (ENT) specialists. Pediatric patients are referred from all over the nation for comprehensive evaluation of swallowing, breathing, and feeding disorders. This specialized program includes procedural services such as esophageal impedance, BRAVO pH monitoring, endoscopy, bronchoscopy, and laryngoscopy.

### **Chronic Abdominal Pain Program**

Directed by Dr. Rinarani Sanghavi and Dr. Thomas Spain (Pain Specialist), the chronic abdominal pain program provides comprehensive evaluation and treatment to children with chronic abdominal pain. This multidisciplinary program includes a skilled team consisting of gastroenterologists, pain management specialists, psychologists, and nurses. It is the only comprehensive pain management program in North Texas for children with abdominal pain.

### **Hepatology & Liver Transplantation Program**

Children's Health and UTSW offer a well-established, recognized active Pediatric Liver Transplantation program. Led by Dr. Amal Aqul (Transplant Hepatology) and Dr. Dev Desai (Transplant Surgery), the liver transplant program performs whole and split liver transplants in a multidisciplinary setting. Living-related donor liver transplantation is also available in appropriate cases.

### **Pediatric Liver Care**

The program offers comprehensive and multidisciplinary care for patients with various pediatric liver disease including cholestatic liver disease, autoimmune liver disease, Fontan associated liver disease, and vascular liver disorders.

### **Intestinal Rehabilitation Program**

Under the direction of Dr. Nandini Channabasappa, this is the only program of its type in North Texas and the surrounding states and is one of the largest in the country. Located in a geographic region with a rapidly growing pediatric population and serving as a referral center for multiple NICUs, the program provides a much-needed comprehensive approach to nutritional support, including parenteral and enteral feeding programs for children with short bowel syndrome, intestinal pseudo-obstruction, and other disorders resulting in intestinal failure, as well as for those who have undergone intestinal transplantation.

### **Pediatric Inflammatory Bowel Disease (IBD) Program**

Directed by Dr. Bhaskar Gurram, this program provides specialized care for children with inflammatory bowel disease, conducts research into new treatments, genetics, and epidemiology, and is a founding member of the extremely successful

international collaboration, the Improve Care Now network, establishing quality improvement indicators and benchmarks to rapidly advance patient care and optimize outcomes. The Center is one of the largest IBD centers in the nation, caring for more than 500 children with Crohn's disease or ulcerative colitis and providing consultations to patients from throughout the U.S. and internationally.

### **Pediatric Intestinal Immunology Clinic (PIIC)**

Also directed by Dr. Gurram, the PIIC provides comprehensive evaluation and care to children with immunodeficiency and/or immune dysregulation with corresponding intestinal inflammation. It combines the skills of gastroenterologists, immunologists, geneticists, and pathologists, and it is the only one of its kind in North Texas. We also provide multidisciplinary care for patients with Very Early Onset Inflammatory Bowel Disease (VEOIBD) in this clinic. We receive referrals and second opinions regionally as well as nationally for this complicated group of patients. In this clinic, we follow over 100 patients with immune deficiency/dysregulation states/VEOIBD. We are in the process of creating a VEOIBD Center of Excellence.

### **Childhood Obesity Program**

Directed by Dr. Sarah Barlow, the Childhood Obesity program uses a cross-disciplinary, cross-site approach to care for children. The program provides resources for primary care providers, including electronic health record clinical decision support, connections to community-based weight management programs, and nutritional education.

### **Non-Alcoholic Fatty Liver Disease Program**

This growing program is directed by Dr. Charina Ramirez. Focus is placed on personalized treatment plans developed based on the readiness level of the patient to make lifestyle and dietary modifications. A comprehensive evaluation for co-existing liver conditions as well as co-morbidities associated with NAFLD is provided. The progression of liver disease is monitored using different imaging modalities when indicated (such as MRI Liver with Elastography, US with elastography, and/or Fibroscan). Clinical resources such as Nutrition Clinic and GI Psychology, as well as referrals to the Bariatric Program and the community-based Get Up and Go Program, are available.

### **Therapeutic Endoscopy Program**

Directed by Dr. David Troendle, the Therapeutic Endoscopy Program is one of the few programs in the United States performing specialized, cutting-edge endoscopic procedures, including endoscopic retrograde cholangiopancreatography (ERCP) in children of all ages, and leads the nation in endoscopic innovation, research, and training. More than 3,000 endoscopic procedures are performed per year, including specialized procedures such as ERCP and endoscopic ultrasound. The program, which houses a state-of-the-art training program with a simulation lab, has won the North American Society of Pediatric GI Endoscopy prize multiple times and is the founding site for the Pediatric ERCP Database Initiative. This project, started by Dr. Troendle, collects data from national and international centers related to ERCP indications, complications, and outcomes.

### **Cystic Fibrosis Program**

The childhood Cystic Fibrosis program, co-directed by Drs. Meg Sathe from Pediatric Gastroenterology and Preeti Sharma from Pediatric Respiratory Medicine, 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. It also focuses on qualitative improvement, a mainstay in improving the lives of people with CF.

### **Eosinophilic Esophagitis and Esophageal Disorders Program**

Directed on the GI side by Dr. Aakash Goyal, this program, known as the Dallas Eosinophilic Esophagitis Program (DEEP), treats children with eosinophilic esophagitis using a multidisciplinary clinical approach with the involvement of an allergist, dietitian, psychologist, and pathologist on the team. Children's Health gastroenterologists and community gastroenterologists have recognized DEEP as a center of excellence for the treatment of eosinophilic diseases in children, and the program continues to grow. In addition to clinical work, the program supports ongoing basic research into the

mechanisms underlying disease pathogenesis.

### Celiac Disease Program

Directed by Dr. Michele Alkalay and located at the satellite campus in Plano, this is a multidisciplinary program involving intense nutritional and family support for children with celiac disease and gluten sensitivity. It is the only program of its kind in the DFW area.

### Pancreatic Disorders Program

Drs. David Troendle and Megha Mehta lead a comprehensive program spanning inpatient, outpatient, and procedural care that brings the latest in minimally invasive endoscopic techniques to the treatment of children with disorders of the pancreas. The program has a strong foundation in robust international collaborative research and is a designated National Pancreas Foundation Center of Excellence. Patients are referred from all over the nation for evaluation and for advanced therapeutic techniques offered at few other Pediatric centers in the United States.

### Feeding Disorders Program

Directed by Dr. Gaith Semrin, the Feeding Disorders program at Children’s Health consists of a multidisciplinary team dedicated to the care of patients with disorders of oral feeding. The mission of the program is to formulate individual therapy, foster feeding independence, and improve the quality of life for patients with feeding problems.

### Fecal Microbial Transplant Program

In 2018, Dr. Bhaskar Gurram and Dr. Paul Sue co-founded this program, which is the first of its kind in North Texas, aimed at treating children with recurrent or refractory *C. difficile* infection.

## Patient Statistics

Gastroenterology Patient Visits by Type per Location by Year.

<b>Dallas</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Ambulatory Visits	14,861	15,110	15,437	12,649	17,696	<b>15,918</b>
New	4,161	4,077	4,322	3,285	4,645	<b>4,470</b>
Follow-up	10,700	11,033	11,115	9,364	13,051	<b>11,448</b>

<b>Plano/Frisco</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Ambulatory Visits	6,844	6,652	6,387	3,584	2,861	<b>4,261</b>
New	2,190	1,980	2,172	1,179	1,321	<b>2,062</b>
Follow-up	4,654	4,672	4,216	2,405	1,540	<b>2,199</b>

<b>THD</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Ambulatory Visits	717	711	779	439	689	<b>693</b>
New	272	264	358	174	241	<b>242</b>
Follow-up	445	447	421	265	448	<b>451</b>

<b>TOTALS</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Ambulatory Visits	22,422	22,473	22,603	16,672	21,246	<b>20,872</b>
New	6,623	6,321	6,852	4,638	6,207	<b>6,774</b>
Follow-up	15,799	16,152	15,751	12,034	15,039	<b>14,098</b>
Procedures	3,304	3,663	3,589	2,513	2,876	<b>2,747</b>

## Current Grant Support

### Amal Aqul

**Sponsor:** Mirum Pharmaceuticals Inc

**Title of Project:** MRX-502: Randomized Double-blind Placebo-controlled Phase 3 Study to Evaluate the Efficacy and Safety of Maralixibat in the Treatment of Subjects with Progressive Familial Intrahepatic Cholestasis (PFIC) – MARCH-PFIC

**Role:** Principal Investigator

**Dates:** 01/2020 – 4/2023

**Sponsor:** Mirum Pharmaceuticals Inc

**Title of Project:** An Open-label Extension Study to Evaluate the Long-term Safety and Efficacy of Maralixibat in the Treatment of Subjects with Progressive Familial Intrahepatic Cholestasis (PFIC)

**Role:** Principal Investigator

**Dates:** 08/2021 – present

**Sponsor:** Albireo AB

**Title of Project:** A Double-Blind, Randomized, Placebo-Controlled Study to Evaluate the Efficacy and Safety of Odevixibat (A4250) in Children with Biliary Atresia Who Have Undergone a Kasai Hepatportoenterostomy (BOLD)

**Role:** Principal Investigator

**Dates:** 01/2021 – present

### Sarah Barlow

**Grantor:** NIH-National Inst of Chld Hlth & Hmn Dev/University of Tx Hlth Sci Ctr at Houston

**Title of Project:** Partnering Lifestyle Intervention with Bariatric Surgery to Maximize Health Outcomes in Adolescents

**Role:** Principal Investigator

**Dates:** 03/2022 – 02/2024

### Aakash Goyal

**Sponsor:** Pfizer Pharmaceuticals Inc

**Title of Project:** An Open-Label, Multicenter Study to Evaluate the Pharmacokinetics of Single and Multiple Intravenous Doses of Pantoprazole in Hospitalized Pediatric subjects 1 to 2 Years of Age Who Are Candidates for Acid Suppression Therapy

**Role:** Principal Investigator

**Dates:** 10/2017 – current

### Megha Mehta

**Grantor:** NIH-National Institute of DDK Diseases/University of Iowa

**Title:** INSPPIRE: A Longitudinal Cohort Study of Pediatric Chronic Pancreatitis to Predict Clinical Course and Identify Disease Modifiers (CPDPC) (Y8-2022-2023)

**Role:** Principal Investigator

**Dates:** 07/2021 – 06/2023

## Norberto Rodriguez-Baez

**Sponsor:** NIH-National Institutes of Health

**Title:** Pediatric Acute Liver Failure Immune Response Network (PALF IRN) Treatment for Immune Mediated Pathophysiology Phase 2b, Double-Blind, Three Arm, Randomized, Placebo Controlled Trial with Restricted Response Adaptive Randomization Testing the Efficacy

**Role:** Principal Investigator

**Dates:** 2019 – present

**Grantor:** NIH-National Institute of Diabetes and Digestive and Kidney Diseases/ Lurie Children's Hospital of Chicago

**Title:** Pediatric Acute Liver Failure Immune Response Network: Treatment for Immune Mediated Pathophysiology (PALF IRN: TRIUMPH)

**Role:** Principal Investigator

**Dates:** 06/2021 – 05/2023

**Grantor:** NIH-National Institute of Diabetes and Digestive and Kidney Diseases/Johns Hopkins University

**Title:** YR12\_ Immunologic and Virologic Correlates of the Age-Related Decrease in HBV DNA in Children

**Role:** Principal Investigator

**Dates:** 06/2019 – 05/2022

**Grantor:** Cystic Fibrosis Foundation

**Title:** CRSP LOI - GALAXY Project (Sathe, Meghana)

**Role:** Principal Investigator

**Dates:** 11/2018 – 10/2023

## Rinarani Sanghavi

**Sponsor:** University of Texas Southwestern

**Title of Project:** Permanent gastric electrical stimulation in children and adolescents

**Role:** Principal Investigator

**Dates:** 2018 – current

## Meghana Sathe

**Grantor:** Cystic Fibrosis Foundation

**Title:** TX-34/34 - Care Center Award

**Role:** Co-Principal Investigator

**Dates:** 7/2013 – ongoing with annual renewal

**Grantor:** Cystic Fibrosis Foundation/Seattle Children's Research Institute

**Title:** A Prospective Study to Evaluate Biological and Clinical Effects of Significantly Corrected CFTR Function in Infants and Young Children (BEGIN)

**Role:** Principal Investigator

**Dates:** 01/2020 – 12/2024

**Grantor:** Cystic Fibrosis Foundation

**Title:** Rifaximin for treatment of bloating in children and adults with cystic fibrosis

**Role:** Principal Investigator

**Dates:** 09/2021 – 08/2024

**Grantor:** Cystic Fibrosis Foundation

**Title:** Cystic Fibrosis Therapeutics Development Center

**Role:** Co-Principal Investigator  
**Dates:** 01/2014 – ongoing with annual renewal  
**Grantor:** Cystic Fibrosis Foundation  
**Title:** Statistical Support for UT Southwestern CF Program Projects  
**Role:** Co-Principal Investigator  
**Dates:** 09/2020 – 08/2023

**Grantor:** Cystic Fibrosis Foundation  
**Title:** Mental Health Risk and Resilience in Caregivers of Children with CF  
**Role:** Principal Investigator  
**Dates:** 08/2022 – 07/2024

**Grantor:** Cystic Fibrosis Foundation/Seattle Children's Research Institute  
**Title:** Sathe - The CHEC-SC Cohort Study: CHaracterizing CFTR Modulated Changes in Sweat Chloride and their Association with Clinical Outcomes  
**Role:** Principal Investigator  
**Dates:** 07/2017 – ongoing

**Grantor:** Cystic Fibrosis Foundation  
**Title:** CRSP LOI - GALAXY Project (Sathe, Meghana)  
**Role:** Principal Investigator  
**Dates:** 11/2018 – 10/2023

**Grantor:** Cystic Fibrosis Foundation  
**Title:** GALAXY-OB-18 Multicenter study of patient-reported gastrointestinal symptoms in people with Cystic Fibrosis (GALAXY)  
**Role:** Principal Investigator  
**Dates:** 01/2019 – 08/2022

**Grantor:** Cystic Fibrosis Foundation  
**Title:** A Proton Pump Inhibitor Withdrawal Study  
**Role:** Principal Investigator  
**Dates:** 02/2021 – 08/2022

**Grantor:** Cystic Fibrosis Foundation/Cincinnati Children's Hospital Medical Ctr  
**Title:** CF C3N-CFLN  
**Role:** Principal Investigator  
**Dates:** 01/2016 – ongoing with annual renewal

**Grantor:** Cystic Fibrosis Foundation  
**Title:** Sharma - STRC - Success w/ Therapeutics Research Consortium  
**Role:** Co-Principal Investigator  
**Dates:** 08/2021 – ongoing with annual renewal

#### **Luis Sifuentes-Dominguez**

**Grantor:** NIH-National Institute of DDK Diseases  
**Title of Project:** Role of SCGN in intestinal immune homeostasis  
**Role:** Principal Investigator  
**Dates:** 2021 – 2025

**Sponsor:** NIH-National Institute of DDK Diseases  
**Title:** Role of colonic enteroendocrine cells in metabolic control  
**Role:** Co-Principal Investigator  
**Dates:** 08/2022 – 05/2026

**Sponsor:** Crohn's & Colitis Foundation  
**Title:** Capture IBD  
**Role:** Principal Investigator  
**Dates:** 02/2023 – 02/2024

## David Troendle

**Grantor:** NIH-National Institute of DDK Diseases/University of Iowa  
**Title:** A Randomized Trial of a Web-based Non-Pharmacological Pain Intervention for Pediatric Chronic Pancreatitis  
**Role:** Principal Investigator  
**Dates:** 06/2020 – 05/2023

## Peer-Reviewed Publications

1. Albon D, Thomas L, Hoberg L, Stamper S, Somerville L, Varghese P, Balasa E, Roman M, Britto MT, Miner M, Gehring E, Gammon C, Amin RS, Seid M, Powers M, CF Learning Network telehealth iLab working group. [Cystic fibrosis learning network telehealth innovation lab during the COVID-19 pandemic: a success QI story for interdisciplinary care and agenda setting.](#) *BMJ Open Qual.* 2022 May;11(2):. PMID:35589277
2. Aqul AA, **Ramirez CM**, Lopez AM, Burns DK, Repa JJ, Turley SD. [Molecular markers of brain cholesterol homeostasis are unchanged despite a smaller brain mass in a mouse model of cholesteryl ester storage disease.](#) *Lipids.* 2022 Jan;57(1):3/16/2023. PMID:34618372
3. Arvais-Anhalt S, Lau M, Lehmann CU, Holmgren AJ, Medford RJ, **Ramirez CM**, Chen CN. [The 21st Century Cures Act and Multiuser Electronic Health Record Access: Potential Pitfalls of Information Release.](#) *J Med Internet Res.* 2022 Feb 17;24(2):e34085. PMID:35175207
4. **Barlow SE**, Lorenzi A, Reid A, Huang R, Garigipati P, Messiah SE. [Successful Virtual Delivery of a Group Childhood Healthy Weight Program.](#) *Child Obes.* 2022 Dec;18(8):576-578. PMID:35363044
5. Cavallo L, Kovar EM, Aqul A, McLoughlin L, Mittal NK, **Rodriguez-Baez N**, Shneider BL, Zwiener RJ, Chambers TM, Langlois PH, Canfield MA, Agopian AJ, Lupo PJ, Harpavat S. [The Epidemiology of Biliary Atresia: Exploring the Role of Developmental Factors on Birth Prevalence.](#) *J Pediatr.* 2022 Jul;246():89-94.e2. PMID:35364097
6. Chaudhari A, Wang X, Roblyer L, **Sanghavi R**, Liu H, Ortigoza EB. [Frequency-specific electrogastrography as a non-invasive tool to measure gastrointestinal maturity in preterm infants.](#) *Sci Rep.* 2022 Dec 1;12(1):20728. PMID:36456633

7. Desher KA, **Alkalay MJ**. [Clinical differences among racially diverse children with celiac disease](#). *World J Pediatr*. 2022 Oct;18(10):710-714. PMID:35960472
8. Freeman AJ, Huang R, Heltshe SL, Gelfond D, Leung DH, Ramsey BR, Borowitz D, **Sathe M**, BONUS Study Investigators. [Association between stool consistency and clinical variables among infants with cystic fibrosis: Findings from the BONUS study](#). *J Cyst Fibros*. 2022 Sep;21(5):830-836. PMID:35585010
9. Furlano R, **Troendle D**. [Introduction to the "Endoscopy and Procedures" Section](#). *J Pediatr Gastroenterol Nutr*. 2022 Mar 1;74(3):313. PMID:35226641
10. Jetelina KK, Oke O, Rodriguez P, Weerakoon SM, **Barlow SE**. [Implementation of a telehealth-enhanced home visiting programme for families of young children](#). *J Telemed Telecare*. 2022 May;28(4):266-279. PMID:32772762
11. Johnson Valiente A, Liem KS, Schwarz KB, Rosenthal P, Murray KF, Mogul D, Teckman J, **Rodriguez-Baez N**, Schwarzenberg SJ, Feld JJ, Wong DK, Lewis-Ximenez LL, Lauer G, Hansen BE, Ling SC, Janssen HLA, Gehring AJ. [The Inflammatory Cytokine Profile Associated With Liver Damage Is Broader and Stronger in Patients With Chronic Hepatitis B Compared to Patients With Acute Hepatitis B](#). *J Infect Dis*. 2022 Feb 1;225(3):470-475. PMID:34286845
12. Kissel AM, Maddox K, Francis JKR, Diaz MI, **Sanghavi R**, Rao D, Menzies C, Lehmann CU. [Effects of the electronic health record on job satisfaction of academic pediatric faculty](#). *Int J Med Inform*. 2022 Dec;168():104881. PMID:36208533
13. Lin TK, **Barth B**, Fishman DS, Fox VL, Giefer MJ, Gugig R, Kramer RE, Liu QY, Mamula P, McOmber ME, Vitale DS, Wilsey MJ, **Troendle DM**. [Technological imbalance: seeking a small-caliber duodenoscope](#). *Gastrointest Endosc*. 2022 Dec;96(6):1055-1057. PMID:36007585
14. Liu QY, Ruan W, Fishman DS, **Barth BA**, Tsai CM, Giefer MJ, Kim KM, Martinez M, Dall'Oglio L, De Angelis P, Torroni F, Faraci S, Bitton S, Wilsey M, Khalaf RT, Werlin S, Dua K, Huang C, Gugig R, Mamula P, Fox VL, Grover AS, Quiros JA, Zheng Y, **Troendle DM**. [Predictors of Prolonged Fluoroscopy Exposure in Pediatric Endoscopic Retrograde Cholangiopancreatography: Results From the Large Pediatric Endoscopic Retrograde Cholangiopancreatography Database Initiative Multicenter Cohort](#). *J Pediatr Gastroenterol Nutr*. 2022 Mar 1;74(3):408-412. PMID:34724445
15. Nicholson MR, Alexander E, Ballal S, Davidovics Z, Docktor M, Dole M, Gisser JM, Goyal A, Hourigan SK, Jensen MK, Kaplan JL, Kellermayer R, Kelsen JR, Kennedy MA, Khanna S, Knackstedt ED, Lentine J, Lewis JD, Michail S, Mitchell PD, Oliva-Hemker M, Patton T, Queliza K, Sidhu S, Solomon AB, Suskind DL, Weatherly M, Werlin S, de Zoeten EF, Kahn SA, North American Society of Pediatric Gastroenterology and Nutrition Faecal Microbiota Transplantation Special Interest Group. [Efficacy and Outcomes of Faecal Microbiota Transplantation for Recurrent Clostridioides difficile Infection in Children with Inflammatory Bowel Disease](#). *J Crohns Colitis*. 2022 Jun 24;16(5):768-777. PMID:34788420
16. Ortigoza EB, Cagle J, Brown LS, Mansi S, Gosser SP, Montgomery AD, Foresman Z, Boren ML, Pettit PS, Thompson TD, Vasil DM, Chien JH, Neu J, Koh AY, **Sanghavi R**, Mirpuri J. [Tachygastric in Preterm Infants: A Longitudinal Cohort Study](#). *J Pediatr Gastroenterol Nutr*. 2022 Nov 1;75(5):564-571. PMID:36305880



17. Patel D, Shan A, Mathews S, **Sathe M**. [Understanding Cystic Fibrosis Comorbidities and Their Impact on Nutritional Management](#). *Nutrients*. 2022 Feb 28;14(5):. PMID:35268004
18. Patel N, Goyal A, Thaker A, **Troendle D**, Parrish C. [A Case Series on the Use of Dupilumab for Treatment of Refractory Eosinophilic Gastrointestinal Disorders](#). *J Pediatr Gastroenterol Nutr*. 2022 Aug 1;75(2):192-195. PMID:35666881
19. Perito ER, Pohl JF, Bakker C, Armfield MA, **Barth B**, Cuneo A, Mascarenhas M, **Mehta M**, Schwarzenberg SJ. [Outpatient Pain Management in Children With Chronic Pancreatitis: A Scoping Systematic Review](#). *Pancreas*. 2022 Feb 1;51(2):135-147. PMID:35404888
20. Perrillo R, Lin HS, Schwarz KB, Rosenthal P, Lisker-Melman M, Chung RT, Prokunina-Olsson L, Cloherty G, Feld J, Hepatitis B Research Network (HBRN). [Changes in serum hepatitis B surface and e antigen, interferon-inducible protein 10, and aminotransferase levels during combination therapy of immune-tolerant chronic hepatitis B](#). *Hepatology*. 2022 Sep;76(3):775-787. PMID:35188674
21. **Phen C**, Berens D, Moriarty K, Ng K, Sengupta A, **Rojas I**. [Polygenic early-onset colorectal cancer in pediatric patients](#). *Pediatr Blood Cancer*. 2022 Oct;69(10):e29790. PMID:35670754
22. Reeves PT, Kovacic K, Rogers PL, **Sanghavi R**, Levinthal DJ, Echelmeyer S, Li BUK. [Development and Assessment of a Low Literacy, Pictographic Cyclic Vomiting Syndrome Action Plan](#). *J Pediatr*. 2022 Mar;242():174-183.e1. PMID:34740589
23. **Sanghavi R**, Reisch J, Tomer G. [Diversity in Selected Leadership Positions in United States Academic Pediatric Gastroenterology Programs: A Review and Call to Action](#). *J Pediatr Gastroenterol Nutr*. 2022 Feb 1;74(2):244-247. PMID:34620758
24. **Sathe M**, Paul GR, Faro A. [A step back in time: The basics of CF care still matter!](#) *Pediatr Pulmonol*. 2022 Mar;57(3):597-599. PMID:34847286
25. Sawyer C, **Sanghavi R**, Ortigoza EB. [Neonatal gastroesophageal reflux](#). *Early Hum Dev*. 2022 Aug;171():105600. PMID:35716649
26. Schwarzenberg SJ, Ling SC, Rosenthal P, Murray KF, Teckman J, Mogul D, **Rodriguez-Baez N**, Schwarz K. [Lessons Learned From Children Enrolled Into the Hepatitis B Virus Research Network Multi-Center Prospective Study](#). *J Pediatr Gastroenterol Nutr*. 2022 Apr 1;74(4):431-433. PMID:35045562
27. Tham SW, Wang F, Garipey CE, Cress GA, Abu-El-Haija MA, Bellin MD, Ellery KM, Fishman DS, Gonska T, Heyman MB, Lin TK, Maqbool A, McFerron BA, Morinville VD, Nathan JD, Ooi CY, Perito ER, Schwarzenberg SJ, Sellers ZM, Shah U, **Troendle DM**, Wilschanski M, Zheng Y, Yuan Y, Lowe ME, Uc A, Palermo TM, INternational Study Group of Pediatric Pancreatitis: In search for a cuRE (INSPPIRE) and Consortium for the Study of Chronic Pancreatitis, Diabetes and Pancreatic Cancer (CPDPC). [Health-Related Quality of Life in Pediatric Acute Recurrent or Chronic Pancreatitis: Association With Biopsychosocial Risk Factors](#). *J Pediatr Gastroenterol Nutr*. 2022 May 1;74(5):636-642. PMID:35192575

28. **Troendle DM**, Ruan W, Fishman DS, **Barth BA**, Liu QY, Giefer M, Kim KM, Martinez M, Dall'oglio L, Torroni F, De Angelis P, Faraci S, Bitton S, Wilsey M, Khalaf R, Werlin S, Dua K, Gugig R, Huang C, Mamula P, Quiros JA, Zheng Y, Grover A, Fox VL. [Technical Outcomes in Pediatric Endoscopic Retrograde Cholangiopancreatography: Data from an International Collaborative](#). *J Pediatr Gastroenterol Nutr*. 2022 Dec 1;75(6):755-760. PMID:36122368
29. Uc A, Cress GA, Wang F, Abu-El-Haija M, Ellery KM, Fishman DS, Garipey CE, Gonska T, Lin TK, Liu QY, **Mehta M**, Maqbool A, McFerron BA, Morinville VD, Ooi CY, Perito ER, Schwarzenberg SJ, Sellers ZM, Serrano J, Shah U, **Troendle DM**, Wilschanski M, Zheng Y, Yuan Y, Lowe ME, Consortium for the Study of Chronic Pancreatitis, Diabetes and Pancreatic Cancer. [Analysis of INSPPIRE-2 Cohort: Risk Factors and Disease Burden in Children With Acute Recurrent or Chronic Pancreatitis](#). *J Pediatr Gastroenterol Nutr*. 2022 Nov 1;75(5):643-649. PMID:35976273
30. Wright TLF, Umaña LA, **Ramirez CM**. [Update on glycogen storage disease: primary hepatic involvement](#). *Curr Opin Pediatr*. 2022 Oct 1;34(5):496-502. PMID:35942643
31. Yang K, Han J, Asada M, Gill JG, Park JY, **Sathe MN**, Gattineni J, Wright T, Wysocki CA, de la Morena MT, Garza LA, Yan N. [Cytoplasmic RNA quality control failure engages mTORC1-mediated autoinflammatory disease](#). *J Clin Invest*. 2022 Jan 18;132(2):. PMID:35040435
32. Yang K, Han J, Gill JG, Park JY, **Sathe MN**, Gattineni J, Wright T, Wysocki C, de la Morena MT, Yan N. [The mammalian SKIV2L RNA exosome is essential for early B cell development](#). *Sci Immunol*. 2022 Jun 3;7(72):eabn2888. PMID:35658009
33. Kissel AM, Maddox K, Francis JKR, Diaz MI, **Sanghavi R**, Rao D, Menzies C, Lehmann CU. [Effects of the electronic health record on job satisfaction of academic pediatric faculty](#). *Int J Med Inform*. 2022 Dec; 168:104881. Doi: 10.1016/j.ijmedinf.2022.104881. PMID: 36208533.
34. **Ngai D**, Wolf M, Kelley S, **Goyal A**. [Pediatric Gastric Mucosal Calcinosis](#). *J Pediatr Gastroenterol Nutr Reports*: 2022 July;3 (3):212. PMID:37168627

## Book Sections

1. Rosen R, **Sanghavi R** (2022). [Esophageal Functional Disorders](#). In: Faure C, Thapar N, Di Lorenzo (Eds.), *Pediatric Neurogastroenterology* (3<sup>rd</sup> ed., pp. 457-464). Switzerland: Springer.
2. SadderL, **Sanghavi R** (2022) [Pediatric Nausea – a Review of Current Management](#). In: Saeed SA, Mezoff (Eds.), *Paediatric Gastroenterology - Current Treatment Options in Pediatrics* (ed., pp.354-368). Springer.