UT Southwestern Medical Center

Department of Pediatrics

Pediatric Allergy and Immunology

2023 Annual Report

Pediatric Allergy and Immunology – 2023 Annual Report

Under the direction of Drew Bird, M.D., the Division of Allergy and Immunology in the Department of Internal Medicine (IM) and the Division of Pediatric Allergy and Immunology in the Department of Pediatrics work as one team. While administratively separate, the two Allergy and Immunology Divisions function as one, blending teaching, clinical care, and research.

Drew Bird, M.D.
Professor, Interim Division Chief

Patient care and clinical activities are based at the Asthma, Allergy and Immunology, Food Allergy, and Immunodeficiency Clinics at Children's Medical Center Dallas, Parkland Memorial Hospital, and UT Southwestern, where Division faculty provide comprehensive evaluation, diagnostic, and management services for children and adults, respectively, with allergy, asthma, and immunological disorders.

Faculty members participate in both clinical and basic science research efforts. Dr. Bird, Dr. Christopher Parrish, and Dr. Malika Gupta perform important clinical research in food allergies; Dr. David Khan and Dr. Timothy Chow in drug allergies; and Dr. Christian Wysocki in immunodeficiency. The Clinical Immunology Program is recognized as a Jeffrey Modell Foundation Diagnostic and Research Center, and the Food Allergy Program has been designated as a Clinical Network Discovery Center of Distinction by Food Allergy Research and Education (FARE).

The Division has one of only 78 Accreditation Council for Graduate Medical Education-accredited programs for fellowship training in allergy and immunology. Division faculty also provide the major instruction to pediatric and internal medicine residents in the evaluation and management of children and adults with allergic diseases, asthma, and immunodeficiency diseases.

Numbers at a Glance

Faculty: 10 New Faculty: 2 Promotions: 1	Clinical Fellows: 4 Clinical Sites: 3	Inpatient Encounters: 92* Outpatient Encounters: 7,019*
Research Funding Total* Grants: $505,396 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: $2,683,330	Active Clinical Trials: 9*	Conferences/Lectures: 32 Publications: 23* Citations: 388* Book Chapters: 1

*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

Drew Bird

- Promoted to Interim Division Chief

David Khan

- Donald Stevenson Lectureship Award – Western Society of Allergy, Asthma and Immunology
- Seebohm Visiting Lectureship – University of Iowa
- David S. Pearlman Lectureship – American Academy of Allergy, Asthma & Immunology (AAAAI) meeting
- Sherwin Gillman Memorial Lectureship

Best Doctors/Pediatric Specialists in Dallas, *D Magazine,* America's Top Doctors, Castle Connolly

- Drew Bird
- Rebecca Gruchalla
- David Khan
- Christopher Parrish

Texas Super Doctors, *Texas Monthly,* Texas Super (top) Doctors

- Drew Bird
- Jeffrey Chambliss (Rising Star)
- Timothy Chow (Rising Star)
- Rebecca Gruchalla
- David Khan
- Rory Nicolaides (Rising Star)
- Christopher Parrish
- Christian Wysocki

Top Five Conference Locations:

AAAAI Annual Meeting, San Antonio, February 2023

Clinical Immunology Society Meeting, St. Louis, May 2023

European Academy of Allergy and Clinical Immunology, Hamburg, Germany, June 2023

World Allergy Conference Annual Meeting, Istanbul, October 2023

American College of Allergy, Asthma and Immunology Annual Meeting, Anaheim, California, November 2023

Education and Training

The Division of Pediatric Allergy and Immunology is committed to providing quality medical education for medical students, residents, and fellows. It has an active fellowship program and provides inpatient and outpatient opportunities for residents and medical students.

Medical Students

Pediatric Allergy and Immunology offers a fourth-year rotation for medical students. This course provides an in-depth exposure to pediatric allergy and immunology via:

- Clinical experience, learning utilization and interpretation of allergy and immunology testing.
- Structured didactic sessions/conferences with fellows-in-training and faculty.
- Self-study through prepared curriculum material and review of important articles in the field.

The Division of Allergy and Immunology is an Ambulatory Clerkship Clinic site, providing second- and third-year medical students with exposure to allergy and immunology clinical experiences in the pediatric allergy and adult asthma clinics.

Dr. Rory Nicolaides was selected as an Associate Clerkship Director for the Pediatrics Clerkship in the UTSW Medical School in 2022, and in October 2023, she was named Director of Medical Student Education. In her roles, Dr. Nicolaides is the Course Director for both the pediatrics sub-internship course and the pediatrics track of the residency essentials course. As Course Director of residency essentials, Dr. Nicolaides has developed a four-week curriculum of didactic and simulation sessions designed to prepare 24 fourth-year medical students who have applied for a pediatrics residency for their intern year.

Residents

The Pediatric Allergy and Immunology Division provides the major instruction to pediatric and internal medicine residents in the evaluation and management of children and adults with allergic diseases, asthma, and immunodeficiency diseases. It also provides didactic teaching for the residents on the basics of allergy and immunology and directs teaching for the residents in the regular departmental clinical conferences and as part of the inpatient consultation service.

An allergy and immunology elective is available for pediatric and internal medicine residents and fourth-year medical students. The objectives of the elective are to:

- Develop a working differential diagnosis of allergies, asthma, and primary immunodeficiency disorders.
- Learn how to conduct an allergy/immunology-focused physical exam, including the upper and lower airways.
- Learn appropriate utilization and interpretation of available testing methodologies.
- Examine and discuss patients from all major allergy and immunology categories: allergic rhinitis, asthma, urticaria, drug allergy, food allergy, and primary immunodeficiency.

Residents see outpatients in the clinics under the supervision of a member of the Division faculty. Relevant articles about specific allergic and immunologic disorders are provided to residents at the beginning of each rotation, and residents attend clinical conferences offering didactic teaching for fellows.

Drs. Nicolaides and Timothy Chow also lead quarterly sessions for the pediatric residency academic half-days. These sessions consist of interactive small group learning via a journal club, interactive case presentation, and didactics on allergy and immunology topics.

Fellows

Although recognized for its scientific achievements, the Division of Pediatric Allergy and Immunology is committed to excellence in clinical care and teaching. Toward this end, the Allergy and Immunology Training Program, directed by Dr. David Khan, has grown in both size and stature, with four funded fellowship positions since it enrolled its first fellow in 1982.

Balanced Clinical Experiences
Successful training in allergy and immunology should consist of balanced exposure to training experiences involving adults and children, no matter what the training background or the long-term plans of any fellow-in-training. Drs. Drew Bird, Christopher Parrish, Jeffrey Chambliss, Christian Wysocki, Rory Nicolaides, Malika Gupta, and Timothy Chow oversee the pediatric teaching clinics at Children's Medical Center Dallas, and Drs. David Khan, Christian Wysocki, Rebecca Gruchalla, and Lauren Franzblau oversee the adult teaching clinics at Parkland Memorial Hospital and the UTSW West Campus.

Further staffing of both adult and pediatric clinics is provided by our 14-volunteer clinical faculty. Approximately 40% of allergy fellows have come from pediatric house staff programs, and over half of the outpatient clinics required of Allergy and Immunology fellows primarily involve children.

Diversified Training Experiences
The UT Southwestern program offers a diversity of clinical experiences in the allergy and immunology subspecialty. Fellows-in-training work in general allergy clinics, the Food Allergy Center, and immunodeficiency specialty clinics. The Food Allergy Center was established for clinical and research purposes at Children's Medical Center Dallas. The Food Allergy Center has been recognized as a FARE Clinical Network Center of Excellence since 2015 and was awarded the designation of a Discovery Center of Distinction in 2020. The primary immunodeficiency program is led by Dr. Christian Wysocki and is one of the Diagnostic and Research Centers for the Jeffrey Modell Centers Network.

The Adult Allergy Division operates the Parkland Asthma Clinic, which oversees the care of adult patients with moderate to severe asthma, and the Parkland Allergy Clinic and the clinics at the University's West Campus, which are tertiary/quaternary referral centers for patients with chronic urticaria, drug allergies, hereditary angioedema, common variable immunodeficiency, mastocytosis, and anaphylaxis.

Fellows also have exposure to other common atopic conditions, including rhinitis, asthma, sinusitis, and atopic dermatitis in both the pediatric and adult clinics.

Research
All fellows are required to participate in at least one research project. Current and past projects have been extremely diverse – most are clinically oriented, and some are basic science-oriented – a reflection of the differing interests of past and current fellows. Because training positions are fully funded by Parkland Memorial Hospital and Children's Medical Center Dallas and not by federal training grants, fellows are encouraged to consider research opportunities in a diversity of fields.

Fellows are required to present the results of their research studies at national meetings. The majority of fellows are able to publish at least one manuscript based on a project completed during their fellowship training. Fellows-in-training are encouraged to travel to one national meeting during each of the two training years and are provided financial support for this purpose. Several recent fellows have been recognized for their research with awards at both regional and national meetings.

Success of Training Program Graduates
Within the past 22 years, 100% of the graduates of UT Southwestern's Allergy and Immunology Training Program have passed the American Board of Allergy and Immunology certifying examination. Most graduates are currently in private or group practice settings; however, a few have become full-time medical school faculty members. More than half of our adjunct clinical faculty are graduates of the Allergy and Immunology Training Program.

Research Activities

Drs. Drew Bird and Christopher Parrish continue conducting active research into interventional therapeutics for the treatment of life-threatening food allergies and eosinophilic esophagitis. Since 2010, more than 25 clinical research trials have been conducted in the Food Allergy Center with support from a variety of sources, including private foundations and grants and funding within the industry. In 2019, Dr. Bird was invited to participate in the National Institutes of Health (NIH)/National Institute of Allergy and Infectious Diseases (NIAID)-funded Consortium for Food Allergy Research. In 2020, Dr. Bird and his team were awarded the FARE Clinical Network Discovery Center of Distinction grant, providing $50,000 per year through 2025. Dr. Bird also works along with Dr. Jeffrey SoRelle to better understand the underlying genetic components of severe allergy development. Drs. Bird and SoRelle are currently submitting grants aimed at identifying novel diagnostic food allergy approaches. Dr. Parrish continues to lead clinical trials of emerging therapies for eosinophilic esophagitis as well.

Dr. Christian Wysocki collaborates with Dr. Nicolai Van Oers in the basic Immunology Department on projects related to novel gene discovery in primary immunologic disorders and on various aspects of DiGeorge/22q11.2 deletion syndrome and the development of the thymus. In collaboration with Dr. Victor Aquino from the stem cell transplant team, the program is involved in clinical research through the Primary Immunodeficiency Treatment Consortium, which is focused on allogeneic stem cell transplant and novel therapies for primary immunodeficiencies and immunoregulatory disorders.

Dr. Timothy Chow conducts active research with current projects focused on characterizing pediatric adverse reactions to drugs as a founding member of the United States Pediatric Drug Allergy Registry, investigating novel diagnostic and management strategies for pediatric drug allergy and increasing equitable access to drug allergy evaluations through exploring the impacts of social determinants of health on persistent unverified drug allergy labels and associated morbidity.

Dr. David Khan is conducting various research projects in adults focused on drug allergies, refractory chronic urticaria, and mood disorders and asthma.

Patient Care

Faculty cover an active consult service at Children's Medical Center Dallas, Parkland Memorial Hospital, and UT Southwestern's William P. Clements Jr. University Hospital, as well as outpatient asthma and allergy and immunology services at clinics at Children's Medical Center Dallas, Parkland, and UT Southwestern (at Professional Office Building 2).

Clinical Immunology Program

The Clinical Immunology Program was awarded recognition by the Jeffrey Modell Foundation as a Center for Excellence for diagnosis and treatment of primary immunodeficiency diseases. Directed by Christian Wysocki, M.D., Ph.D., the Clinical Immunology Program serves a large geographic referral area encompassing North Texas, eastern New Mexico, Oklahoma, western Louisiana, and southern Arkansas. This comprehensive program provides both diagnostic and leading-edge treatment opportunities for patients with primary immunodeficiency diseases. The clinical program also partners with members of the basic Immunology Department at UT Southwestern in research and educational efforts.

Furthermore, Dr. Wysocki staffs adult immunodeficiency clinics at UT Southwestern and Parkland. This allows state-of-the-art treatment of adult patients with immunodeficiency disorders and, importantly, allows effective transitioning of adolescent and young adult patients from the pediatric immunodeficiency clinics to the adult clinics while maintaining continuity of care.

Food Allergy Center

Under the direction of Drew Bird, M.D., Dedman Family Scholar in Clinical Care and Winn Master Physician in Food Allergy, the Food Allergy Center treats a broad range of allergic diseases and conducts research that is instrumental in developing treatments and therapies. This Center opened in 2010 and is the only academic-affiliated pediatric food allergy center in North Texas. Since 2015, the Food Allergy Center has been recognized as a FARE Clinical Network Center of Excellence, and in 2020, it received designation as a Clinical Network Discovery Center of Distinction.

The Food Allergy Center is also home to the Dallas Eosinophilic Esophagitis Program (DEEP) at Children's Medical Center Dallas. Dr. Christopher Parrish is Co-Director of this multidisciplinary program, which utilizes a team approach to the management of eosinophilic esophagitis (EoE) involving a pediatric allergist, pediatric gastroenterologist, a child psychologist with expertise in feeding problems, and a dietitian to provide expert care for children with EoE and other eosinophilic gastrointestinal diseases.

Dr. Malika Gupta joined the Food Allergy Center team in 2023. Dr. Gupta is the Director of the Food Immunotherapy Program and is growing the clinical practices on both the Plano and UT Southwestern campuses. The Food Immunotherapy Program has been formally operational since June 2023 and has been driving steady referrals from all over the Dallas-Fort Worth area. Currently, there is a waitlist.

General Allergy Clinic

Drs. Jeffrey Chambliss, Rory Nicolaides, and Timothy Chow evaluate and care for children with a broad variety of allergic diseases, including allergic asthma, along with an adjunct clinical faculty member, Dr. William Neaville. The targeted therapies for these patients may include biologic therapies and/or allergy shots offered through the immunotherapy clinic. The immunotherapy clinic also treats patients with allergic rhinitis and utilizes biologic therapy in the care of patients with chronic urticaria. Dr. Chow has a particular interest in pediatric drug allergy.

Learn more about our excellent allergy, asthma, and immunology patient care.

Clinical Activities

Pediatric Drug Allergy Program

Dr. Timothy Chow has established the Pediatric Drug Allergy Program, the first and only academic-affiliated dedicated pediatric drug allergy program in Texas. Through this program, patients with a broad range of adverse drug reactions are evaluated to assess underlying mechanisms and provide individualized management recommendations to ensure that children are offered the safest and most effective drug therapeutic options. Common implicated drugs that we manage are beta-lactams and other antibiotics, nonsteroidal anti-inflammatory drugs, biologics, chemotherapeutics, and vaccines. In addition to clinical care, the Pediatric Drug Allergy Program conducts research on the clinical features, diagnostic tools, and therapies for drug hypersensitivity reactions.

Patient Visits

Allergy and Immunology Patient Visits by Type Per Location by year.

Dallas

	2019	2020	2021	2022	2023
Food Allergy new patient visits	740	667	898	829	815
Food Allergy follow-up visits	819	901	1,059	1,323	1,279
Food Allergy challenge visits	652	463	532	482	859
Allergy new patient visits	1,294	794	1,548	2,006	1,952
Allergy follow-up visits	1,079	1,049	1,817	2,217	2,437
Immunology new patient visits	242	277	330	253	314
Immunology follow-up visits	465	485	663	634	777
Total Dallas Visits	**5,291**	**4,636**	**6,847**	**7,744**	**8,433**

Legacy

	2019	2020	2021	2022	2023
Food Allergy new patient visits	654	504	268	577	1,805
Food Allergy follow-up visits	397	512	254	569	1,337
Food Allergy challenge visits	13	10			
Total Legacy Visits	**1,064**	**1,026**	**522**	**1,146**	**3,142**

THD

	2019	2020	2021	2022	2023
Food Allergy new patient visits	127	126	254	199	214
Food Allergy follow-up visits	133	113	166	187	288
Total THD Visits	**260**	**239**	**420**	**386**	**502**

Total All Locations

	2019	2020	2021	2022	2023
Total new, follow-up, and challenge visits	**6,615**	**5,901**	**7,789**	**9,276**	**12,077**

Top Five Peer-Reviewed Publications and Book Chapters

1. Bhalla P, Du Q, Kumar A, Xing C, Moses A, Dozmorov I, Wysocki CA, Cleaver OB, Pirolli TJ, Markert ML, de la Morena MT, Baldini A, van Oers NS. Mesenchymal cell replacement corrects thymic hypoplasia in murine models of 22q11.2 deletion syndrome. J Clin Invest. 2023 Jul 3;133(13):e173145. doi: 10.1172/JCI173145. Erratum for: J Clin Invest. 2022 Nov 15;132(22): PMID: 37395280

2. Chow TG, Patel G, Mohammed M, Johnson D, Khan DA. Delabeling penicillin allergy in a pediatric primary care clinic. Ann Allergy Asthma Immunol. 2023 May;130(5):667-669. doi: 10.1016/j.anai.2023.01.034. Epub 2023 Feb 2. PMID: 36738783.

3. Greenhawt M, Sindher SB, Wang J, O'Sullivan M, du Toit G, Kim EH, Albright D, Anvari S, Arends N, Arkwright PD, Bégin P, Blumchen K, Bourrier T, Brown-Whitehorn T, Cassell H, Chan ES, Ciaccio CE, Deschildre A, Divaret-Chauveau A, Dorris SL, Dorsey MJ, Eiwegger T, Erlewyn-Lajeunesse M, Fleischer DM, Ford LS, Garcia-Lloret M, Giovannini-Chami L, Hourihane JO, Jay N, Jones SM, Kerns LA, Kloepfer KM, Leonard S, Lezmi G, Lieberman JA, Lomas J, Makhija M, Parrish C, Peake J, Perrett KP, Petroni D, Pfützner W, Pongracic JA, Quinn P, Robison RG, Sanders G, Schneider L, Sharma HP, Trujillo J, Turner PJ, Tuttle K, Upton JE, Varshney P, Vickery BP, Vogelberg C, Wainstein B, Wood RA, Bee KJ, Campbell DE, Green TD, Rouissi R, Peillon A, Bahnson HT, Bois T, Sampson HA, Burks AW. Phase 3 trial of epicutaneous immunotherapy in toddlers with peanut allergy. N Engl J Med. 2023 May 11;388(19):1755-1766. doi: 10.1056/NEJMoa2212895. PMID: 37163622.

4. Lozano-Ojalvo D, Chen X, Dunkin D, Agashe C, Baker MG, Bird JA, Molina E, Nowak-Wegrzyn A, Berin MC. Untargeted serum metabolomic analysis reveals a role for purinergic signaling in FPIES. J Allergy Clin Immunol. 2023 Mar;151(3):797-802. doi: 10.1016/j.jaci.2022.09.035. Epub 2022 Oct 25. PMID: 36306938

5. Wise SK, Damask C, Roland LT, Ebert C, Levy JM, Lin S, Luong A, Rodriguez K, Sedaghat AR, Toskala E, Villwock J, Abdullah B, Akdis C, Alt JA, Ansotegui IJ, Azar A, Baroody F, Benninger MS, Bernstein J, Brook C, Campbell R, Casale T, Chaaban MR, Chew FT, Chambliss J, Cianferoni A, Custovic A, Davis EM, DelGaudio JM, Ellis AK, Flanagan C, Fokkens WJ, Franzese C, Greenhawt M, Gill A, Halderman A, Hohlfeld JM, Incorvaia C, Joe SA, Joshi S, Kuruvilla ME, Kim J, Klein AM, Krouse HJ, Kuan EC, Lang D, Larenas-Linnemann D, Laury AM, Lechner M, Lee SE, Lee VS, Loftus P, Marcus S, Marzouk H, Mattos J, McCoul E, Melen E, Mims JW, Mullol J, Nayak JV, Oppenheimer J, Orlandi RR, Phillips K, Platt M, Ramanathan M Jr, Raymond M, Rhee CS, Reitsma S, Ryan M, Sastre J, Schlosser RJ, Schuman TA, Shaker MS, Sheikh A, Smith KA, Soyka MB, Takashima M, Tang M, Tantilipikorn P, Taw MB, Tversky J, Tyler MA, Veling MC, Wallace D, Wang Y, White A, Zhang L. International consensus statement on allergy and rhinology: Allergic rhinitis - 2023. Int Forum Allergy Rhinol. 2023 Apr;13(4):293-859. PMID: 36878860.