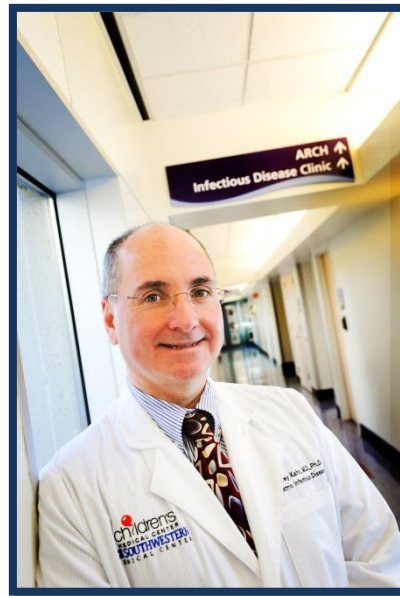


Under the direction of Jeffrey Kahn, M.D., Ph.D., the Division of Pediatric Infectious Disease directs and manages two active in-patient infectious disease consultation services: one dedicated to general infectious diseases and the other dedicated to infections in the immunocompromised hosts. The Division has an active ambulatory service for children with infectious diseases, including a large clinic for HIV-infected and HIV-exposed children and adolescents at Children’s Medical Center Dallas. The Infection Control and Prevention Programs at two of Children’s campuses (Dallas and Our Children’s House) are managed under the medical directorship of Michael Sebert, M.D.

The Division was established in the early 1960s with one faculty member, John D. Nelson, M.D. Shortly thereafter, George McCracken joined the Division, and the two managed the Division for decades, graduating more than 100 fellows, many of whom are currently leaders in academics and in the field of infectious diseases, making the fellowship program one of, if not the, longest-standing and productive pediatric infectious disease fellowship programs in the world. Drs. Nelson and McCracken were the founding editors for the *Pediatric Infectious Diseases Journal*, the top publication in the field of Pediatric Infectious Diseases. Currently, the Division has nine faculty members, five fellows, and several research and administrative support staff.



**Jeffrey Kahn, M.D., Ph.D.**  
**Professor, Division Chief**

The Division provides an active infectious disease consultation service at Children's and other hospitals on the UT Southwestern campus, including Parkland Memorial Hospital and Clements University Hospital. Each year, the Division provides consultation and care to more than 700 infants, children, adolescents, and young adults. Faculty care for patients with inherited or acquired immunodeficiency, including those receiving immunosuppressive therapy for cancer, organ transplantation, bone marrow, and stem cell transplantation, as well as patients with inflammatory bowel disease, rheumatologic disorders, and a wide variety of classic, as well as unusual, infectious disease problems.

Division faculty members publish an average of 10-12 papers yearly in peer-reviewed journals and are actively engaged in clinically applied research involving the areas of:

- Molecular epidemiology of respiratory syncytial virus and activation of the innate immune system by RSV
- HIV/AIDS
- Molecular biology and drug discovery for protozoan parasites
- Hepatitis E virus
- Infections in immunocompromised hosts
- Fungal infections
- Transplant infectious diseases
- Antimicrobial stewardship
- Outbreak investigations
- Innate immune response to neuroinvasive flaviviruses

The Division is dedicated to the training of medical students, residents, and fellows. Since 1965, more than 100 physicians have completed training in the Division’s fellowship training program, and more than 80 percent of them have academic appointments at universities and children’s hospitals worldwide.

## Faculty

There are eight full-time faculty members in the Division of Pediatric Infectious Disease.

One new faculty member joined the Infectious Disease team in 2022.

### **Mehgan Teherani Kidd, M.D.**

Assistant Professor



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

Texas A&M Health Science Center College of Medicine, Bryan, TX, 2014

#### **Postdoctoral Training**

Residency, Pediatrics

Phoenix Children's Hospital, Phoenix, AZ, 2015 – 2017

Fellowship, Pediatric Infectious Diseases

Emory University, Atlanta, GA, 2018 – 2021

#### **Interests:**

1. Antimicrobial stewardship
2. Microbiome and pediatric stem cell transplantation

## **Honors / Awards**

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

- Amanda Evans
- Natasha Hanners
- Jeffrey Kahn
- Jeffrey McKinney
- Michael Sebert
- Paul K. Sue
- Dawn Wetzel

### **2022 Super Doctors – Texas Monthly**

- Jeffrey Kahn

### **Amanda Evans**

- Outstanding Community Service Award - Low Birth Weight Development Center

## Invited Lectures

### **Amanda Evans**

- South Central AIDS Education & Training Center (SCAETC), Virtual, Dallas, TX, January 2022
  - *"Barriers to Adolescent STI Testing and PrEP Engagement"*
- Dallas County Public School Superintendents Meeting with Dallas County Judge Clay Jenkins, Dallas, TX, February 2022
  - *"COVID-19 Update: Pediatric COVID-19 Vaccines and AAP School Recommendations"*

- Dallas County Private/Charter School Leadership Meeting with Dallas County Judge Clay Jenkins, Dallas, TX, February 2022
  - *“COVID-19 Update: Pediatric COVID-19 Vaccines and AAP School Recommendations”*
- Charlton Methodist Family Methodist Program, Dallas, TX, March 2022
  - *“Group A Streptococcal Pharyngitis”*

#### **Zachary Most**

- Society for Healthcare Epidemiology of America (SHEA) Spring Conference, Colorado Springs, CO, April 2022
  - *“Respiratory Virus Infections in Symptomatic and Asymptomatic Children: Results of One Year of Hospital Admission Screening.”*
- American Medical Informatics Association (AMIA), Clinical Informatics Conference, Houston, TX, May 2022
  - *“Using an Organic Apprenticeship Model to Incorporate Data Science Into Medical Education”*

#### **Paul Sue**

- Pediatric Infectious Diseases Research Conference (PIDS), Virtual, March 2022
  - Case Presentation, *“Reading the Tea Leaves: EBV Infection and PTLD in Pediatric SOT Recipients”*

#### **Dawn Wetzel**

- University of California at Irvine, Irvine, CA, January 2022
  - *“Targeting new therapies for trypanosomatids”*
- Baylor School of Medicine, Houston, TX, February 2022
  - *“Targeting new therapies for trypanosomatids”*

## **Conference Presentations**

### **Molecular Parasitology Meeting XXXIII, Woods Hole, MA, September 2022**

Barrie U, **Wetzel DM**, et.al.

Poster Presentation, *“ERK1/2 activation in macrophages is necessary for efficient Leishmania internalization and pathogenesis”*

Roman A, Nepal B, Datta A, Ullah I, **Wetzel DM**

Poster Presentation, *“Investigating the mode of action of MMV676477, a broad-spectrum antiparasitic compound”*

### **Gordon Conference on Host Parasite Interactions, Newport, RI, June 2022**

Barrie U, **Wetzel DM**, et.al.

Oral Presentation, *“ERK1/2 activation in macrophages is necessary for efficient Leishmania internalization and pathogenesis”*

Poster Presentation, *“ERK1/2 activation in macrophages is necessary for efficient Leishmania internalization and pathogenesis”*

Ullah I, Nepal B, Addepalli Y, Datta A, Roman A, Gahalawat S, Trice C, Williams NS, Ready JM, **Wetzel DM**

Poster Presentation, *“Targeting tubulin as treatment for trypanosomatids”*

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

### **Hanners N**

Invited Lecture, *"Infectious causes of pediatric encephalitis – epidemiology, differential diagnosis, evaluation, and management"*

Akkoyun E, Devarajan M, Ashraf B, **Wyndham Hanners N, Kahn J, Most Z**

Poster Presentation, *"Risk Factors for Severe COVID-19 in Children"*

### **Other Conferences**

Barrie U, **Wetzel DM**, et.al.

American Society for Tropical Health and Hygiene Meeting, Seattle, WA, November 2022

Oral Presentation, *"ERK1/2 activation in macrophages is necessary for efficient Leishmania internalization and pathogenesis"*

M.D.-Ph.D. National Student Conference, Copper Mountain, CO, July 2022

Oral Presentation, *"ERK1/2 activation in macrophages is necessary for efficient Leishmania internalization and pathogenesis"*

Molecular Parasitology Meeting XXXIII, Woods Hole, MA, September 2022

Poster Presentation, *"ERK1/2 activation in macrophages is necessary for efficient Leishmania internalization and pathogenesis"*

Rising Stars Program Meeting, University of Utah, Salt Lake City, UT, May 2022

Oral Presentation, *"ERK1/2 activation in macrophages is necessary for efficient Leishmania internalization and pathogenesis"*

Canan FM, Rakheja D, Rajaram V, **Evans AS**, Filkins L

**American Association of Neuropathologists Annual Meeting, Bonita Springs, FL, June 2022**

Abstract Presentation, *"Meloidosis with encephalomyelitis in a child with no travel history to endemic areas"*

## **Education and Training**

The Division of Pediatric Infectious Disease provides educational opportunities for medical students and pediatric residents in addition to its accredited fellowship program.

Pediatric Infectious Diseases is a consultative service in which faculty interact with all divisions in the department and assist in the management of children with a variety of underlying medical problems. Most consultations involve hospitalized patients, but there are general infectious disease and HIV/AIDS clinics in which patients are managed on an outpatient basis. Medical students can elect to work in these clinics under the supervision of fellows and faculty. The elective rotation is open to second-, third-, and fourth-year medical students and pediatric residents, the latter being given more autonomy because of their greater clinical experience. Visitors from other medical schools and residency training programs are welcome.

The Infectious Diseases Service is an elective-only rotation among our house officers. Thus, we are pleased to consistently attract residents who self-select month-long training experiences in Infectious Diseases. Individualized by Amanda Evans, these blocks have allowed residents to choose among training exposures in our outpatient clinics, our general infectious diseases consult service, and our immunocompromised host clinical service. Residents consistently contribute to our

division rounds, including via formal presentations of contemporary cases and new research findings. In addition, trainees interested in infectious diseases work with our colleagues in public health, in the bone marrow transplant unit, the clinical microbiology lab, and with our dedicated infectious diseases pharmacists. Resident scholarly projects have been mentored by our faculty, and we take pride in facilitating nationally competitive infectious disease ID fellowship searches by our UT Southwestern resident cadre.

The Division of Pediatric Infectious Disease has a long tradition of training fellows in the subspecialty. Since 1965, more than 100 fellows from 28 countries have completed training in infectious diseases. Eighty percent are involved in teaching and research in university-affiliated medical centers.

Many graduates are leaders in the field of infectious diseases, and some have become division directors and department chairs or deans of medical schools.

The purposes of the training program are to provide a background in laboratory techniques of classical microbiology, immunology, and molecular biology, to provide experience in the application of the scientific method to clinical and laboratory research, and to develop competence in the diagnosis and management of infectious diseases. Clinical training is in the form of consultations, rounds, conferences, and outpatient Infectious Disease and HIV Clinics.

Dr. Kahn serves as the Pediatric Infectious Disease Fellowship Program Director and Dr. Sebert as the Associate Program Director. All division faculty, each with specific clinical and research interests, actively participate in the training program. Each trainee is instructed in all relevant basic laboratory methods, including the fundamentals of aerobic and anaerobic bacteriology, antibiotic susceptibility testing, antibiotic assays, and serologic techniques, as well as state-of-the-art molecular diagnostic assays such as Matrix-Assisted Laser Desorption Ionization Time-of-Flight Mass Spectrometry..

Additionally, the fellows have ample opportunity to work with collaborators in molecular microbiology to acquire basic techniques such as PCR, microarray analyses, cloning, transcriptome analyses, and purification of bacterial outer membrane components (e.g., endotoxin).

The trainee carries out one or more research protocols of his or her own design with supervision by the program directors and collaborators. This is tailored to the interests and capabilities of the individual trainee, either in basic laboratory experimentation or in clinical research.

The clinical experience at Children's Medical Center Dallas, the neonatal service at Parkland Health and Hospital System, and the newly opened Clements University Hospital is extensive. Overall, there are approximately 120,000 outpatient visits, 9,000 pediatric admissions, and 16,000 deliveries per year. A high proportion of these have infectious disease problems; therefore, trainees have the opportunity to see many common infections and most of the rarer disorders.

Infectious disease clinical rounds are conducted daily; there are outpatient clinics at least four days each week. The Division averages approximately 60 inpatient consultations monthly and 15-20 new outpatient consultations monthly.

The three-year fellowship training program aims to provide individuals with sufficient background to pursue a career of independent research, teaching, and managing patients with a wide variety of pediatric infectious diseases.

## **Research Activities**

Pediatric Infectious Disease faculty are actively engaged in numerous investigations that provide an invaluable opportunity to learn the most modern molecular biologic techniques and to apply these to common clinical problems in pediatrics. The Division has a long-standing history in clinic investigation and has published landmark papers in many areas, including clinical trials of anti-inflammatory agents in bacterial meningitis, diagnostic studies using polymerase chain reaction (PCR) in congenital syphilis and pneumonia, and studies of endotoxin concentrations in body fluids of

infants and children with meningococcal or Haemophilus meningitis and correlating these values with outcomes.

- Jeffrey Kahn's areas of scientific research include emerging pathogens, respiratory syncytial virus, and nanotechnology-based viral diagnostics.
- Natasha Hanners' clinical and research interest is in viral encephalitis and the innate immune response in control on neuroinvasive viruses.
- Dawn Wetzel focuses on host pathogen interactions in, and drug development for, parasitic infections such as leishmaniasis and trypanosomiasis.
- Paul Sue's research interests include the epidemiology and clinical outcomes of viral and fungal infections among pediatric transplant recipients, novel therapeutics including the role of fecal microbiota transplantation among children, and the role of microbiota diversity in the emergence of multidrug-resistant organisms among immunocompromised hosts.

Research areas include:

- The link between pulmonary infection and asthma
- Malaria
- HIV/AIDS
- Immunogenetic profiles of children with various infections
- Respiratory syncytial virus
- Hepatitis E virus
- Innate immune response to Flaviviruses
- Infection control and prevention
- Infections in immunocompromised hosts
- Fungal infections
- Transplant infectious diseases

The Division has established collaborative research programs with members of the Departments of Microbiology and Immunology at UT Southwestern. The principle goals of these collaborative projects are:

- To delineate the molecular immunobiologic basis for the pathogenesis of certain infectious diseases in pediatrics
- To define and control the inflammatory processes involved in bacterial infections, such as bone and joint infections
- To develop the immunobiologic profiles of children with infectious diseases

## **Clinical Activities**

The Division provides an active infectious disease consultation service at Children's and other hospitals on the UT Southwestern campus including Parkland Memorial Hospital and Clements University Hospital. Each year, the Division provides consultation and care to more than 700 infants, children, adolescents, and young adults. Faculty care for patients with inherited or acquired immunodeficiency, including those receiving immunosuppressive therapy for cancer, organ transplantation, bone marrow, and stem cell transplantation, as well as patients with inflammatory bowel disease, rheumatologic disorders, and a wide variety of classic as well as unusual infectious disease problems.

In addition to the infectious disease outpatient clinic and the infection control program at Children's, the Division is responsible for directing:

- The AIDS-Related Medical Services Clinic under the leadership of Amanda Evans, M.D.
- The Infection Control Program under the leadership of Michael Sebert, M.D.
- The Solid Organ Transplant Infectious Diseases Clinic under the leadership of Paul Sue, M.D.
- The establishment of a new Congenital Infectious Disease Clinic, to address the increased rates of congenital infections, in particular congenital syphilis, under the leadership of Amanda Evans, M.D.

## Patient Visits

Infectious Disease Patient Stats by Type of Visit By Year.

	2017	2018	2019	2020	2021	2022
Inpatient consultations	550	702	790	852	878	818
Inpatient follow up visits	2,000	2,457	2,370		1,542	1,601
New Outpatient visits	520	383	448		505	345
Follow-up outpatient visits	360	490	1,070		976	866

## Current Grant Support

### Amanda Evans

**Grantor:** National Institute Of Infectious Disease/University Of Alabama At Birmingham

**Title of Project:** Congenital and Perinatal Infections Rare Diseases Clinical Research Consortium (RDCRC)

**Role:** Principal Investigator

**Dates:** 09/2020 – 11/2022

### Natasha Hanners

**Grantor:** NIH K08

**Title of Project:** Interferon-mediated Control of Neuropathogenic Flaviviruses

**Role:** Principal Investigator

**Dates:** 02/2019 – 01/2024

### Jeffrey Kahn

**Grantor:** NIH / University of Dallas

**Title of Project:** Rapid Diagnostic Test for Respiratory Syncytial Virus by Digital Nanobubbles

**Role:** Principal Investigator

**Dates:** 05/2020 – 04/2025

**Grantor:** NIH - National Inst Of Allergy Infect Dis

**Title of Project:** Rapid Viral Diagnostic Test by Digital Plasmonic Nanobubbles - Phase I STTR Proposal for RSV - Resubmission

**Role:** Principal Investigator

**Dates:** 07/2022 – 06/2024

**Grantor:** DoD / UT Dallas

**Title of Project:** Ultrasensitive and Rapid Diagnosis of Influenza by Digital Nanobubbles on a Microwell Array Platform

**Role:** Principal Investigator

**Dates:** 03/2020 – 02/2022

### Paul K. Sue

**Grantor:** Allovir Inc

**Title of Project:** Phase 3 Multicenter, Double-Blind, Placebo-Controlled Trial of Viralym-M (ALVR105) for the



Treatment of Patients with Virus-Associated Hemorrhagic Cystitis After Allogeneic Hematopoietic Cell Transplant)

**Role:** Principal Investigator

**Dates:** 08/2020 – Present

**Grantor:** Allovir Inc

**Title of Project:** Phase 3, Randomized, Double-Blind, Placebo-Controlled Trial, with Cross-Over, of Posoleucef (ALVR105) for the Treatment of Adenovirus Infection in Pediatric and Adult Participants Receiving Standard of Care Following Allogeneic Hematopoietic Cell Transpl

**Role:** Principal Investigator

**Dates:** 12/2022 – Present

**Grantor:** Gilead Sciences

**Title of Project:** A Phase 2/3 Open – label Study to Evaluate the Safety, Tolerability, Efficacy and PK of Remdesivier in Participants from Birth to < 18 years of age with COVID-19

**Role:** Principal Investigator

**Dates:** 07/2020 – 05/2022

**Grantor:** Merck, Sharpe & Dohme Corp

**Title of Project:** A Phase 2b, Open-Label, Single-Arm Study to Evaluate the Pharmacokinetics, Efficacy, Safety and Tolerability of Letermovir in Pediatric Participants from Birth to Less Than 18 Years of Age at Risk of Developing CMV Infection and/or Disease Following Allogeneic Haematopoietic Stem Cell Transplantation (HSCT)

**Role:** Principal Investigator

**Dates:** 05/2019 – Present

**Grantor:** NIH-National Inst of Allergy Infect Dis/Duke University

**Title of Project:** Non-Invasive Diagnosis of Pediatric Pulmonary Invasive Mold Infections

**Role:** Principal Investigator

**Dates:** 07/2021 – 05/2023

## Dawn Wetzel

**Grantor:** NIH - National Institute of Allergy and Infectious Diseases (NIAID)

**Title of Project:** Targeting a New Therapy for Trypanosomatids

**Role:** Principal Investigator

**Dates:** 06/2019 – 05/2024

**Grantor:** American Heart Association Postdoctoral Fellowship Award

**Title of Project:** Characterizing the mechanism of action of novel tubulin-binding antiparasitic compounds

**Role:** Mentor (Dr. Binita Nepal, PI)

**Dates:** 01/2022 – 02/2024 (NOA received)

**Grantor:** Welch Foundation

**Title of Project:** Defining the mechanism of a novel antiparasitic small molecule that facilitates tubulin polymerization

**Role:** Principal Investigator

**Dates:** 06/2021 – 05/2024

**Grantor:** NIH – National Institute of Allergy and Infectious Diseases (NIAID)

**Title of Project:** R01AI146349S1 - Diversity supplement to train U. Barrie, M.D., Ph.D. student

**Role:** Principal Investigator/Mentor

**Dates:** 05/2020 – 04/2022

**Grantor:** UT Southwestern Circle of Friends Pilot Synergy Grant

**Title of Project:** Mechanism of a novel microtubule-stabilizing antiparasitic agent



**Role:** Co-Principal Investigator (with Dr. Luke Rice)

**Dates:** 11/2020 – 5/2022

## Journal Publications

1. Borel M, Xie L, Kapera O, Mihalcea A, **Kahn J**, Messiah SE. [Long-term physical, mental and social health effects of COVID-19 in the pediatric population: a scoping review](#). *World J Pediatr*. 2022 Mar;18(3):149-159. PMID:35118594
2. Fernández OL, Rosales-Chilama M, Quintero N, Travi BL, **Wetzel DM**, Gómez MA, Saravia NG. [Potency and Preclinical Evidence of Synergy of Oral Azole Drugs and Miltefosine in an Ex Vivo Model of Leishmania \(Viannia\) panamensis Infection](#). *Antimicrob Agents Chemother*. 2022 Jan 18;66(1):e0142521. PMID:34694879
3. Fisher BT, Boge CLK, Xiao R, Shuster S, Chin-Quee D, Allen J, Shaheen S, Hayden R, Suganda S, Zaoutis TE, Chang YC, Yin DE, Huppler AR, Danziger-Isakov L, Muller WJ, Roilides E, Romero J, **Sue PK**, Berman D, Wattier RL, Halasa N, Pong A, Maron G, Soler-Palacin P, Hutto SC, Gonzalez BE, Salvatore CM, Rajan S, Green M, Doby Knackstedt E, Hauger SB, Steinbach WJ. [Multicenter Prospective Study of Biomarkers for Diagnosis of Invasive Candidiasis in Children and Adolescents](#). *Clin Infect Dis*. 2022 Aug 25;75(2):248-259. PMID:35134165
4. Liu Y, Ye H, Huynh H, Xie C, Kang P, **Kahn JS**, Qin Z. [Digital plasmonic nanobubble detection for rapid and ultrasensitive virus diagnostics](#). *Nat Commun*. 2022 Mar 30;13(1):1687. PMID:35354801
5. Liu Y, Ye H, Bayram A, Zhang T, Cai Q, Xie C, Huynh H, Peerzade SAMA, **Kahn JS**, Qin Z. [Gold Nanourchins Improve Virus Targeting and Plasmonic Coupling for Virus Diagnosis on a Smartphone Platform](#). *ACS Sens*. 2022 Dec 23;7(12):3741-3752. PMID:36454708
6. Messiah SE, Xie L, Mathew MS, Shaikh S, Veeraswamy A, Rabi A, Francis J, Lozano A, Ronquillo C, Sanchez V, He W, Weerakoon SM, Srikanth N, Borel M, Kapera O, **Kahn J**. [Comparison of Long-Term Complications of COVID-19 Illness among a Diverse Sample of Children by MIS-C Status](#). *Int J Environ Res Public Health*. 2022 Oct 17;19(20):. PMID:36293968
7. Mohamed MF, Gupta K, Goldufsky JW, Roy R, Callaghan LT, **Wetzel DM**, Kuzel TM, Reiser J, Shafikhani SH. [CrkII/AbI phosphorylation cascade is critical for NLRC4 inflammasome activity and is blocked by Pseudomonas aeruginosa ExoT](#). *Nat Commun*. 2022 Mar 11;13(1):1295. PMID:35277504
8. Sanchez MJ, Patel K, Lindsay EA, Tareen NG, Jo C, Copley LA, **Sue PK**. [Early Transition to Oral Antimicrobial Therapy Among Children With Staphylococcus aureus Bacteremia and Acute Hematogenous Osteomyelitis](#). *Pediatr Infect Dis J*. 2022 Sep 1;41(9):690-695. PMID:35703303
9. Wolf J, Abzug MJ, Anosike BI, Vora SB, Waghmare A, **Sue PK**, Olivero RM, Oliveira CR, James SH, Morton TH, Maron GM, Young JL, Orscheln RC, Schwenk HT, Bio LL, Willis ZI, Lloyd EC, Hersh AL, Huskins CW, Soma VL, Ratner AJ, Hayes M, Downes K, Chiotos K, Grapentine SP, Wattier RL, Lamb GS, Zachariah P, Nakamura MM. [Updated Guidance on Use and Prioritization of Monoclonal Antibody Therapy for Treatment of COVID-19 in Adolescents](#). *J Pediatric Infect Dis Soc*. 2022 May 30;11(5):177-185. PMID:35107571