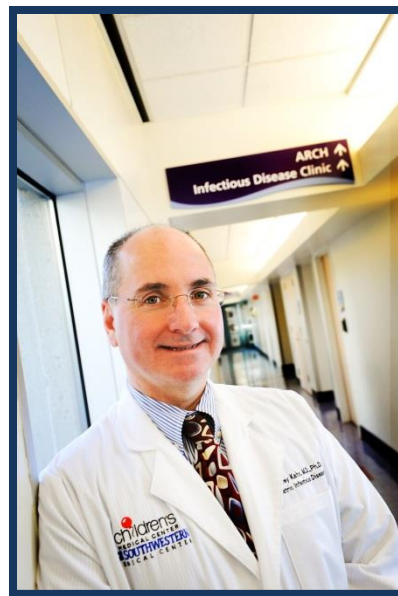


Under the direction of Jeffrey Kahn, M.D., Ph.D., the [Division of Pediatric Infectious Disease](#) directs and manages two active in-patient infectious disease consultation services; one dedicated to general infectious diseases and the other dedicated to infections in the immunocompromised hosts. The 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. 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 1960’s with one faculty member, John D. Nelson, M.D. Shortly thereafter, Dr. 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 and 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
- The link between pulmonary infection and asthma, specifically the role of dendritic cells in response to rhinovirus infection in the pathogenesis of asthma
- HIV/AIDS
- Malaria epidemiology, eradication, and elimination
- 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 greater 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 2021.

Zachary Most, M.D.

Assistant Professor



B.S., Chemistry, *cum laude*

University of Miami, Coral Gables, FL, 2011

M.D.

University of Miami, Miller School of Medicine, Miami, FL, 2015

M.S.

London School of Hygiene and Tropical Medicine, London, UK, 2022

Postdoctoral Training

Residency, Pediatrics

Children's Medical Center Dallas, 2015 – 2018

Fellowship, Pediatric Infectious Diseases

UT Southwestern, 2018 – 2021

Interests: Transmission dynamics of respiratory viral infections, Healthcare-associated respiratory viral infections in patients and healthcare personnel, Surveillance of community-acquired respiratory viral infections

Honors / Awards

Best Pediatric Specialists in Dallas, *D Magazine*

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

2021 Best Doctors - *D Magazine*

- Jeffrey Kahn

Amanda Evans

- Outstanding Community Service Award - Low Birth Weight Development Center

Invited Lectures

Jeffrey McKinney

- Infectious Diseases and Geographic Medicine Division Grand Rounds, UT Southwestern, Dallas, TX, July 2021
 - *"MD Networks Development: Approaches and Applications"*

Conference Presentations

Wei L, Aloisio G, Barrie U, Arang, N, Kaushansky A, **Wetzel DM**

Molecular Parasitology Meeting XXXII, Woods Hole, MA (Hybrid), October 2021

Poster Presentation: *"Using machine learning to dissect host kinases modulating Leishmania infection."*

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 supervision of the 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 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 application of the scientific method to clinical and laboratory research, and to develop competence in diagnosis and management of infectious diseases. Clinical training is in the form of consultations, rounds, and conferences, and outpatient Infectious Disease and HIV Clinics.

Dr. Kahn serves as the Pediatric Infectious Disease Fellowship 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 fundamentals of aerobic and anaerobic bacteriology, antibiotic susceptibility testing, antibiotic assays, serologic techniques, as well as state of the art molecular diagnostic assays such as Matrix-Assisted Laser Desorption Ionization Time-of-Flight Mass Spectrometry or MALDI-TOF.

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 through 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 and on the neonatal service at Parkland Health & Hospital System and the newly opened Clements University Hospital is extensive. 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 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, 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 MDRO 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 and 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 (ARMS) 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.
- 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
Inpatient consultations	550	702	790	852	878
Inpatient follow up visits	2,000	2,457	2,370		1,542
New Outpatient visits	520	383	448		505
Follow-up outpatient visits	360	490	1,070		976

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 – 08/2021

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: 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: 12/2020 – 06/2021

Grantor: Gilead Sciences

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

Role: Principal Investigator

Dates: 06/2020 – 07/2021

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 – 05/2021

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: Harrington Discovery Institute Scholar, Innovator Award

Title of Project: Developing Novel Antiparasitics That Affect Tubulin Dynamics

Role: Principal Investigator

Dates: 01/2019 – 12/2021

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: 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: 05/20/2020 – 04/30/2022

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: 11/01/2020 – 5/31/2022

Grantor: Welch Foundation

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

Role: Principal Investigator

Dates: 06/2019 – 12/2021

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: 01/01/2022 – 12/31/2023 (NOA received)

Journal Publications

1. Arrieta AC, Neely M, Day JC, Rheingold SR, **Sue PK**, Muller WJ, Danziger-Isakov LA, Chu J, Yildirim I, McComsey GA, Frangoul HA, Chen TK, Statler VA, Steinbach WJ, Yin DE, Hamed K, Jones ME, Lademacher C, Desai A, Micklus K, Phillips DL, Kovanda LL, Walsh TJ. [Safety, Tolerability, and Population Pharmacokinetics of Intravenous and Oral Isavuconazonium Sulfate in Pediatric Patients](#). *Antimicrob Agents Chemother*. 2021 Jul 16;65(8):e0029021. PMID:34031051
2. **Hanners NW**, Mar KB, Boys IN, Eitson JL, De La Cruz-Rivera PC, Richardson RB, Fan W, Wight-Carter M, Schoggins JW. [Shiftless inhibits flavivirus replication in vitro and is neuroprotective in a mouse model of Zika virus pathogenesis](#). *Proc Natl Acad Sci U S A*. 2021 Dec 7;118(49):. PMID:34873063
3. Huynh H, Levitz R, Huang R, **Kahn JS**. [mTOR kinase is a therapeutic target for respiratory syncytial virus and coronaviruses](#). *Sci Rep*. 2021 Dec 24;11(1):24442. PMID:34952911
4. Liu Y, Ye H, Huynh H, Kang P, Xie C, **Kahn JS**, Qin Z. [Single-Particle Counting Based on Digital Plasmonic Nanobubble Detection for Rapid and Ultrasensitive Diagnostics](#). *medRxiv*. 2021 Feb 23;():. PMID:33655274
5. Luu HS, Filkins LM, Park JY, Rakheja D, Tweed J, Menzies C, Wang VJ, Mittal V, Lehmann CU, **Sebert ME**. [Harnessing the Electronic Health Record and Computerized Provider Order Entry Data for Resource Management During the COVID-19 Pandemic: Development of a Decision Tree](#). *JMIR Med Inform*. 2021 Oct 18;9(10):e32303. PMID:34546942
6. Messiah SE, Xie L, Mathew MS, Delclos GL, Kohl HW 3rd, **Kahn JS**. [Results of COVID-19 Surveillance in a Large United States Pediatric Healthcare System over One Year](#). *Children (Basel)*. 2021 Aug 30;8(9):. PMID:34572184
7. Moreno-Duarte I, **Evans AS**, Alder AC, Vernon MC, Szmuk P, Rebstock S. [An unexpected COVID-19 diagnosis during emergency surgery in a neonate](#). *Paediatr Anaesth*. 2021 May;31(5):613-615. PMID:33570775
8. **Most ZM**, Warraich GJ, James L, Costello K, Dietz S, Lamb GS, **Evans AS**. [Missed Opportunity Encounters for Early Diagnosis of HIV Infection in Adolescents](#). *Pediatr Infect Dis J*. 2021 Mar 1;40(3):e106-e110. PMID:33165279
9. **Most ZM**, Hendren N, Drazner MH, Perl TM. [Striking Similarities of Multisystem Inflammatory Syndrome in Children and a Myocarditis-Like Syndrome in Adults: Overlapping Manifestations of COVID-19](#). *Circulation*. 2021 Jan 5;143(1):4/6/2022. PMID:32787714
10. van Oers NSC, **Hanners NW**, **Sue PK**, Aquino V, Li QZ, Schoggins JW, Wysocki CA. [SARS-CoV-2 infection associated with hepatitis in an infant with X-linked severe combined immunodeficiency](#). *Clin Immunol*. 2021 Mar;224():108662. PMID:33412294

11. Wolf J, Abzug MJ, Wattier RL, **Sue PK**, Vora SB, Zachariah P, Dulek DE, Waghmare A, Olivero R, Downes KJ, James SH, Pinninti SG, Yarbrough A, Aldrich ML, MacBrayne CE, Soma VL, Grapentine SP, Oliveira CR, Hayes M, Kimberlin DW, Jones SB, Bio LL, Morton TH, Hankins JS, Maron GM, Timberlake K, Young JL, Orscheln RC, Schwenk HT, Goldman DL, Groves HE, Huskins WC, Rajapakse NS, Lamb GS, Tribble AC, Lloyd EC, Hersh AL, Thorell EA, Ratner AJ, Chiotos K, Nakamura MM. [Initial Guidance on Use of Monoclonal Antibody Therapy for Treatment of Coronavirus Disease 2019 in Children and Adolescents.](#) *J Pediatric Infect Dis Soc.* 2021 May 28;10(5):629-634. PMID:33388760
12. Zhang Z, Ray S, Imlay L, Callaghan LT, Niederstrasser H, Mallipeddi PL, Posner BA, **Wetzel DM**, Phillips MA, Smith MW. [Total synthesis of \(+\)-spiroindimicin A and congeners unveils their antiparasitic activity.](#) *Chem Sci.* 2021 Aug 4;12(30):10388-10394. PMID:34377425
13. Almatrafi MA, Aquino VM, Slone T, Huang R, **Sebert, M.** [Community Airborne Mold Spore Counts and Invasive Fungal Disease Risk Among Pediatric Hematological Malignancy and Stem Cell Transplant Patients.](#) *Open Forum Infect Dis.* 2021 Sep 25;8(11):1-7. PMID:34805427
14. Stubbs LA, Price M, Noland D, Fuchs J, Filkins L, McElvania E, Luu HS, **Sebert M**, Waters A, Hsiang MS. [Transfusion-Transmitted Malaria: Two Pediatric Cases From the United States and Their Relevance in an Increasingly Globalized World.](#) *Journal of the Pediatric Infectious Diseases Society* 2021 Dec 31;10(12):1092-1095. PMID:34559236