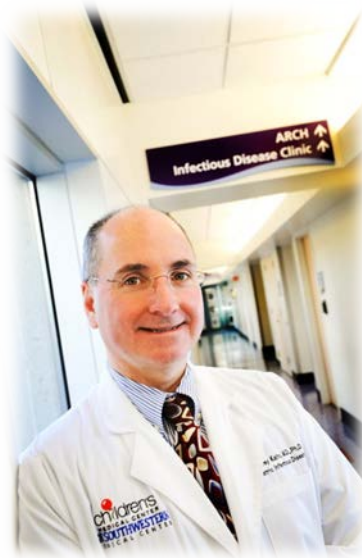


Division Introduction



Jeffrey Kahn, M.D., Ph.D.

Under the direction of Jeffrey Kahn, M.D., Ph.D., the Division of Pediatric Infectious Disease directs and manages an active in-patient infectious disease consultation service and an active ambulatory service for children with infectious diseases, including a large clinic for HIV-infected and HIV-exposed children and adolescents at both Children's Medical Center and Children's Medical Center Plano. In addition, the Infection Control and Prevention Programs are managed at both locations under the direction 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, 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 Diseases fellowship programs in the world. Drs. Nelson and McCracken were the founding and are the current editors for the Pediatric Infectious Diseases Journal, the top publication in the field of Pediatric Infectious Diseases. Currently, the Division has eleven faculty members, four fellows, and several research and administrative support staff.

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. 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:

- Streptococcus pneumoniae infections
- The clinical pharmacology, efficacy, and safety of antimicrobial agents
- 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
- Microarray analyses to identify unique genetic signatures of children with various infectious diseases, particularly RSV and MRSA
- Neonatal infections
- Malaria epidemiology, eradication and elimination
- Ebola response preparedness
- Molecular biology of Leishmania
- Hepatitis E virus
- Antimicrobial stewardship
- Outbreak investigations

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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 eleven full-time faculty members in the Division of Pediatric Infectious Disease. Dr. Paul Sue joined the faculty in 2015.

Paul Sue, M.D.

Assistant Professor



B.A., magna cum laude

Wheaton College, Wheaton, IL, 1999

M.D., C.M.

McGill University Faculty of Medicine, Montreal, Quebec, 2007

Postdoctoral Training

Internship and Residency, Pediatrics

Albert Einstein College of Medicine, Jacobi Medical Center, Bronx, NY, 2007-2010

Chief Residency, Pediatrics

Albert Einstein College of Medicine, Jacobi Medical Center, Bronx, NY, 2010-2011

Fellowship, Pediatric Infectious Disease

Johns Hopkins, Baltimore, MD, 2011-2014

Dr. Sue's clinical interests include the diagnosis and management of opportunistic infections among immunocompromised hosts, antimicrobial stewardship, and global health. His research interests focus on the clinical epidemiology of viral hepatitis, particularly the emergence of HEV among immunocompromised hosts, in addition to other infections associated with pediatric transplantation and immunodeficiency.

He is a previous recipient of the Pediatric Academy Society Resident Research Award, Infectious Disease Society of America Fellow's Travel Grant award, Ruth L. Kirchstein Research Service Award (NIH T32), and the institutional award for excellence in Medical Student teaching at the Jacobi Medical Center. He is a member of the American Academy of Pediatrics, the Infectious Disease Society of America, the American Academy for the Study of Liver Diseases, and the Pediatric Infectious Disease Society. Most recently Dr. Sue served as a reviewer and facilitator for the Infectious Disease Section at the Pediatric Academic Society meeting in 2015.

Honors / Awards

Carla Garcia

- Texas Super Doctor, *Texas Monthly Magazine*

Jeffrey Kahn

- Best Pediatric Specialists in Dallas, *D Magazine*

George McCracken

- Texas Super Doctor, *Texas Monthly Magazine*

Michael Sebert

- DFW Hospital Council Physician of the Year Nominee, Children's Medical Center

Invited Lectures

Jeffrey McKinney

- Keynote Speaker: Residency Program Directors' Symposium, Leadership Training in Graduate Medical Education, Doha, Qatar, March 2015
 - *"Intentional Cultivation of Medical Education Leaders: Training Strategies"*
- Pediatric Education Excellence Across the Continuum Conference, Atlanta, Georgia, September 2015
 - *"Cultivating Physician Leaders and Teaching Quality Improvement"*

Michelle Hsiang

- World Health Organization, Expert Review Group on Mass Drug Administration/Mass Screening and Treatment/Focal Screening and Treatment for Malaria, Geneva, Switzerland, April 2015
 - *"Evaluating Reactive Case Detection for Malaria Elimination in Low Transmission Settings: Lessons from Swaziland, Namibia, and Indonesia"*
- Malaria Elimination Group, Tenth annual meeting, Ezulweni, Swaziland, November 2015
 - *"Reactive Case Detection Learning and Plans for Targeted Parasite Elimination in Swaziland"*
- American Society of Tropical Medicine and Hygiene, Philadelphia, October 2015
 - *"Optimizing Reactive Case Detection for Malaria Elimination in Swaziland"*
- Department of Pediatrics Fall Research Retreat, October, 2015
 - *"Evaluating Reactive Case Detection for Malaria Elimination in Swaziland"*

Michael Sebert

- 9th Annual Advanced Practice Conference, Grapevine, TX, September 2015
 - *"What's the Next Pandemic?"*

Oral & Poster Presentations

Dawn Wetzel

- *Targeting Cell Entry as Therapy for Leishmaniasis*, Wetzel DM, Rhodes EL, Li S, McMahon-Pratt D, Koleske AJ
 - Oral Presentation: Molecular Parasitology Meeting XXVI, Wood Hole, MA, September 2015
 - Poster Presentation: Kinetoplastid Molecular Parasitology V, Wood Hole, MA, September 2015

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 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 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.

Pediatric infectious disease fellows consistently receive national and international recognition and publish in peer-reviewed medical and scientific journals during their fellowship.

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, immunoelectrophoresis, the fluorescent antibody method, tissue culture technique, and leukocyte function studies.

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 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.



**Emily Mamula, Research Technician
in Dr. Wetzel's lab**

- Jeffrey Kahn's areas of scientific research include emerging pathogens, respiratory syncytial virus, human metapneumovirus and rhabdoviral vectors.
- Michelle Gill, whose research centers on evaluating the role of dendritic cells in pediatric respiratory viral infections, partners with the Division of Pediatric Allergy and Immunology to evaluate the role of dendritic cells in asthma pathogenesis.
- Michelle Hsiang's research focuses on malaria eradication and elimination.
- Dawn Wetzel is involved in investigations of the entry of Leishmania.
- Paul Sue's interests are in the epidemiology and clinical features of hepatitis E virus.

Research areas include:

- Clinical pharmacology
- Efficacy and safety of antimicrobial agents
- The link between pulmonary infection and asthma
- HIV/AIDS
- Microarray analyses to identify unique genetic signatures of children with various infectious diseases, particularly RSV and MRSA
- Neonatal infections
- Immunogenetic profiles of children with various infections
- Respiratory syncytial virus
- Hepatitis E virus
- Infection Control and Prevention

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. 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)
- The Infection Control Program under the leadership of Michael Sebert, M.D.

2015 Patient Visits

Inpatient consultations	530
Inpatient follow up visits	1,859
New Outpatient visits	419
Follow-up outpatient visits	1,586

Current Grant Support

Amanda Evans

Grantor: Children's Medical Center CCRAC Junior Investigator Award

Title of Project: Molecular Mechanisms of Binding and Transcriptional Changes of *Moraxella catarrhalis* Induced by Respiratory Syncytial Virus- Infected Human Cells

Role: Principle Investigator

Dates: 2014 – 2016

Michelle Gill

Grantor: NIH

Title of Project: Mechanistic Study Development for ICAC3 MUPPITS and CoNAC Protocols

Role: Co-Investigator (Principle Investigator: University of Wisconsin)

Dates: 2015 – 2016

Michelle Hsiang

Grantor: Horchow Family Fund

Title of Project: Scholarship Award for Endowed Scholars in Pediatrics, UT Southwestern

Role: Principle Investigator

Dates: 2014 – 2018

Grantor: NIH / NIAID

Title of Project: Evaluating re-active surveillance strategies for malaria elimination in Swaziland

Role: Principle Investigator

Dates: 2012 – 2017

Grantor: Burroughs Wellcome Fund – American Society of Tropical Medicine and Hygiene

Title of Project: Malaria elimination surveillance in Swaziland: Investigation of strategies to improve sensitivity and efficiency for detection of secondary cases

Role: Principle Investigator

Dates: 2012 – 2016

Dawn Wetzel

Grantor: NIH, K08

Title of Project: Targeting Entry Pathways for Leishmaniasis

Role: Principle Investigator

Dates: 2012 – 2015

Grantor: Children's Medical Center CCRAC
Title of Project: Targeting Cell Entry as Therapy for Leishmaniasis
Role: Principle Investigator
Dates: 2015 – 2017

Peer-Reviewed Publications

1. Ambalavanan N, Carlo WA, Wrage LA, Das A, Laughon M, Cotten CM, Kennedy KA, Laptook AR, Shankaran S, Walsh MC, Higgins RD, Support Study Group of the NICHD Neonatal Research Network (**Evans AS, Gill MA**). [PaCO₂ in surfactant, positive pressure, and oxygenation randomised trial \(SUPPORT\)](#). *Archives of Disease in Childhood – Fetal Neonatal Edition* 2015 Mar;100(2):F145-9.
2. **Bird JA**, Feldman M, Arneson A, Dougherty I, Brown LS, Burk CM, Kulis M, Burks W, **Gill M**. [Modified peanut oral immunotherapy protocol safely and effectively induces desensitization](#). *The Journal of Allergy and Clinical Immunology in Practice* 2015;3:433-5 e1-3.
3. **Hsiang MS**, Gosling RD. [Striding toward malaria elimination in China](#). *The American Journal of Tropical Medicine and Hygiene* 2015;93:203-4.
4. **Hsiang MS**, Greenhouse B, Rosenthal PJ. [Reply to Goyal et al](#). *The Journal of Infectious Diseases* 2015;211:1687.
5. Joslin SN, Pybus C, Labandeira-Rey M, **Evans AS**, et al. [A Moraxella catarrhalis two-component signal transduction system necessary for growth in liquid media affects production of two lysozyme inhibitors](#). *Infection and Immunity* 2015;83:146-60.
6. Reiner RC, Le Manach A, Kunene S, Ntshalintshali N, **Hsiang MS**, et al. [Mapping residual transmission for malaria elimination](#). *eLife* 2015;4.
7. Rowe RK, **Gill MA**. [Asthma: The interplay between viral infections and allergic diseases](#). *Immunology and Allergy Clinics of North America* 2015;35:115-27.
8. **Sue PK**, Pisanic N, Heaney CD, et al. [Variability of hepatitis E serologic assays in a pediatric liver transplant recipient: challenges to diagnosing hepatitis E virus infection in the United States](#). *Transplant Infectious Disease: An Official Journal of the Transplantation Society* 2015;17:284-8.
9. Teach SJ, **Gill MA**, Toghias A, et al. [Preseasonal treatment with either omalizumab or an inhaled corticosteroid boost to prevent fall asthma exacerbations](#). *The Journal of Allergy and Clinical Immunology* 2015.
10. Yang IV, Pedersen BS, Liu A, O'Connor GT, Teach SJ, Kattan M, Misiak RT, **Gruchalla R**, Steinbach SF, Szeffler SJ, **Gill MA**, et al. [DNA methylation and childhood asthma in the inner city](#). *The Journal of Allergy and Clinical Immunology* 2015;136:69-80.

Book Sections

1. **Sue PK**, Golden WC. Herpes simplex virus. In: Cabana MD, Brakeman P, Curran M, Dimeglio DA, Golden WC, Goldsby R, Hartman A, Kind T, Lightdale JL, Sabella C, Tanel R, eds. *The 5-Minute Pediatric Consult*, 7th edition. Philadelphia, Lippincott, Williams, and Wilkins, 2015.