Pediatric News
An electronic newsletter from the Department of Pediatrics

December 2015

Division Spotlight: Pediatric Infectious Diseases

The Division of Pediatric Infectious Diseases specializes in the management of inpatient and outpatient infectious diseases in children at Nebraska Medicine, Children's Hospital and Medical Center, Bergan Mercy, and Creighton-CHI Hospitals. Our outpatient infectious diseases and travel clinics are located in the Children's Specialty Pediatric Care Center and our family HIV care is located at the UNMC Specialty Care Center.

Pediatric Infectious Diseases Faculty and Staff

Faculty:

Kari Simonsen, M.D. Division Chief, Associate Professor of Pediatrics and Public Health

H. Dele Davies, M.D. Professor, Vice Chancellor for Academic Affairs, Dean for Graduate Studies

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Upcoming Events

Dec 10 | 7 AM
Dept of Pediatrics Faculty Meeting
CHMC Glow Aud.

Dec 11 | 5 PM
Dept of Pediatrics Holiday Party
Henry Doorly Zoo

Dec 21 | 12 PM
Writing Group
UNMC UT 5151

Journal Club
Dec 9 | 12 PM
Drs. Matthew Douglass and Karisa Hajek
UNMC UT 7412

Patient Mgmt Conf.
Dec 8 | 8 AM
Dr. Ashley Nelson
UNMC UT 7412

Dec 15 | 8 AM
Dr. Danita Velasco
UNMC UT 7412

Grand Rounds
A complete schedule for the month is located at www.unmc.edu/Pediatrics
Clinical Staff

- Kallie Hannam, R.N.
- Maggie Krejci, PA-C
- Marilyn VanGestel, R.N.

Administrative Staff

- Raven VonBehren, Office Associate
- Dee Becker, Clinic Administrative Assistant

Research Staff

- Matthew Beaver, Research Technologist
Education in Pediatric Infectious Diseases

The Division has a thriving fellowship program, and Dr. Simonsen serves as fellowship Program Director. In the past 5 years, we have had 4 successful graduates of the program, and currently have one fellow, Dr. Gwenn Skar. Dr. Skar is performing her research under the direction of Dr. Jessica Snowden in the Snowden lab at DRC II evaluating the performance of a multiplex PCR panel for rapid identification of pathogens in the cerebrospinal fluid of patients with suspected meningitis and central nervous system (CNS) shunt infections. She is also evaluating the CNS cytokine profile of these patients to compare the immune response in the CNS to meningitis and VP-shunt infections.

Drs. Snowden, Delair, and Simonsen are also formally involved in resident and student education in pediatrics. Dr. Snowden serves on the Pediatric Residency Program Evaluation Committee and Dr. Simonsen on the Residency Clinical Competency Committee. They are also involved in the M1-M2 Curriculum Transitions Group at UNMC as members of the Pediatrics Synthesis Block, with Dr. Simonsen serving as Team Chair. Dr. Snowden is also serving on the Infectious Diseases Synthesis Block Team. Drs. Snowden and Delair are also Individualized Learning Track leaders for the Pediatric Residency Program, with Dr. Snowden leading the Academic Track and Dr. Delair the Global Health Track for pediatric residents.

In addition, all members of the faculty are actively involved and enjoy teaching students, residents, and fellows.

Research in Pediatric Infectious Diseases

Research is a critical element of the work done each and every day in the Division of Pediatric Infectious Diseases. Every member of the faculty serves as a Principal Investigator for projects of their interest and expertise.

Dr. Obaro is the Director of International Pediatric Research for the Department of Pediatrics and is a key investigator in the Division of Pediatric ID. His research interests include host immune responses to infections, serious bacterial infections in children including matenal and newborn infections, and development and deployment of vaccines for the prevention of childhood infections. He is currently establishing field studies in Nigeria to understand the epidemiology of bloodstream infections in children and the risk factors associated with these infections, through funding support from the National Institutes for Health and the Bill and Melinda Gates Foundation. He has served as a technical adviser to the World Health Organization on childhood immunizations and was a consultant to the Bill and Melinda Gates
Foundation on Polio Eradication in Nigeria. He is also serving as a research mentor for Dr. Shirley Delair and for Dr. Kari Neemann.

Dr. Delair is currently in the mentored-scholars PhD program at UNMC, and her research is focused on maternal and newborn infections in Nigeria. She is also working together with Dr. Obaro and Dr. Kari Neemann to better understand the burden of multi-drug resistant pathogens and antimicrobial resistance in children with infections in Nigeria. Dr. Delair has been awarded UNMC Diversity funding, and Itner Foundation awards for this research. Dr. Neemann has been awarded an early-career Thrasher Foundation award for her work. These studies are part of a regional program on etiology of maternal child infections lead by Dr. Obaro where more specifically prevalence and effects of Group B Streptococcal (funded by Gates Foundation) and ESBL carriage (funded by Thrasher Grant) are investigated. These data are essential to devising an effective preventive strategy plan to decrease maternal and neonatal mortality in the region that could help shape national maternal health preventive strategies to meet the WHO Millennium development goal on improving maternal child health.

Dr. Simonsen is involved in clinical trials research as a site-Principal Investigator on numerous investigational anti-infective studies. Drs. Neemann, Davies, and Delair are also currently involved in clinical trials, with at least one where they serve as PI. These trials aim to provide necessary pediatric data on new antibiotic compounds to support FDA licensure for their use in children. By participating in these trials, we can potentially provide access to the newest therapeutic options for complex infections as well as assist with the regulatory steps necessary to license these compounds for broader use in pediatric patients. We are currently performing studies in Phase I-Phase IV, and are actively recruiting for patients with suspected or confirmed gram-positive infections or gram-negative infections, Clostridium difficile, Hepatitis C, and bloodstream or bone and joint infections with gram-positive pathogens. Dr. Simonsen is also involved in quality improvement work and hospital epidemiology. Dr. Green-Hines also participates in this research and has been evaluating the feasibility of chlorhexidine bathing across different patient populations, and is initiating a new evaluation of antibiotic utilization through the antimicrobial stewardship program.

Public Health research is another component of the Pediatric ID Division portfolio. Dr. Delair recently completed her MPH through UNMC with a capstone project evaluating a novel STI testing program at Omaha City Libraries. Dr. Simonsen participated in this project with her, as well as additional projects evaluating STI and HIV testing programs at the Douglas County Department of Corrections in conjunction with the Douglas County Health Department.

Dr. Snowden has a unique animal model of CNS shunt infections. Her research focuses on the immune response to CNS infections and inflammation, especially in the context of the biofilm formation common to a VP-shunt infection. This mouse model involves placing a CNS shunt into a baby mouse, and infecting it Staphylococcus aureus or epidermidis—the two most common bacteria that infect people, and evaluating which cells are being recruited into the brain at the time of infection and how
those cells are reacting. She also uses the model to test different treatments and do behavioral studies: how does the mouse behave long term after the infection, for instance. Is it killing certain kinds of cells in the brain? Is it stopping new ones from growing? These studies are aimed at improving our understanding of the pathophysiology to design improved diagnostics, therapeutics, and ultimately, to prevent VP-shunt infections. Dr. Snowden is funded primarily through an NIH K-08 award, mentored by Dr. Tammy Kielian in the UNMC Department of Pathology and Microbiology, and has submitted her NIH R-01 which has been favorably reviewed.

Quality Improvement at Children's Hospital & Medical Center

The Division of Pediatric Infectious Diseases is actively involved in patient safety and quality improvement efforts at Children's Hospital and Medical Center. Dr. Simonsen serves as the Hospital Epidemiologist and Chair of the Infection Prevention and Control Committee, and Dr. Andrea Green as the Medical Director of Antimicrobial Stewardship.

December Resident Faculty Awards

The Pediatric Residency Program would like to honor select faculty members for their dedication to the residency program and taking the additional time to teach residents. On a monthly basis residents vote for one community and one academic faculty member who they felt went above and beyond expectations to improve their education. This month's recipients are:

Stephen Dolter, M.D.
Academic Faculty Award

Jillyn Kratochvil M.D.
Community Faculty Award

Congratulations and thank you for your commitment to our program and bettering the future physicians of our community.