





# DIVISION OF GENERAL ACADEMIC PEDIATRICS

## Mission

The mission of the Division of General Academic Pediatrics (GAP) is to improve the health and well-being of children, families, and communities through high-quality patient care, leadership in the education of health care providers, high-impact research on common pediatric problems, and advocacy in promoting child and family health. More specifically, the division:

- Provides evidence-based, family-centered, culturally competent pediatric primary care to children living in underserved communities
- Provides innovative, evidence-based education to medical students, residents, fellows, and allied health professionals
- Develops and disseminates high-impact research regarding common pediatric problems, novel treatment approaches, best practices, health outcomes, and innovative models of service delivery
- Advocates through leadership and partnership to promote child and family health at hospital, community, regional, and national levels

## FACULTY AND STAFF

**Alejandro Hoberman, MD**

Professor of Pediatrics and Clinical and Translational Science  
 Professor of Pediatrics  
 Jack L. Paradise Professor of Pediatric Research  
 Vice Chair for Clinical Research Chief, Division of GAP

**Kristin Hannibal, MD**

Associate Professor of Pediatrics  
 Clinical Director, Division of GAP  
 Clinical Director, Child Development Unit

**Sonika Bhatnagar, MD, MPH**

Associate Professor of Pediatrics

**Aimee Biller, MD**

Assistant Professor of Pediatrics  
 Director, Combined Ambulatory Medicine and Pediatrics Clerkship

**Debra L. Bogen, MD**

Professor of Pediatrics, Psychiatry, and Clinical and Translational Science  
 Director, Faculty Development in GAP Fellowship Program

**Diego Chaves-Gnecco, MD, MPH**

Associate Professor of Pediatrics  
 Director, Salud Para Niños (Health for the Children)

**Stacey Cook, MD, PhD**

Assistant Professor of Pediatrics

**Alicia Haupt, MD**

Assistant Professor of Pediatrics

**Sanjay Lambore, MD**

Associate Professor of Pediatrics  
 Medical Director, Turtle Creek Primary Care Center (PCC)

**Ana Malinow, MD, MSHCPM**

Associate Professor of Pediatrics

**Judith M. Martin, MD**

Associate Professor of Pediatrics

**Deborah Moss, MD, MPH**

Associate Professor of Pediatrics and Psychiatry  
 Pediatric Medical Director, Medicaid and Children's Health Insurance Program (CHIP), UPMC Health Plan

**Gysella B. Muñoz Pujalt, MD**

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**Jack L. Paradise, MD**

Professor Emeritus of Pediatrics

**Kumaravel Rajakumar, MD, MS**

Associate Professor of Pediatrics

**Kristin Ray, MD, MS**

Assistant Professor of Pediatrics

**Evelyn Reis, MD**

Associate Professor of Pediatrics and Clinical and Translational Science  
 Medical Director, Clinical and Translational Science Institute (CTSI) Pediatric PittNet

**Nader Shaikh, MD, MPH**

Associate Professor of Pediatrics  
 Course Director, CTSI

**Timothy R. Shope, MD, MPH**

Associate Professor of Pediatrics

**Reed Van Deusen, MD**

Assistant Professor of Medicine-Pediatrics

**Katherine Watson, DO**

Assistant Professor of Pediatrics  
 Associate Program Director, Children's Hospital of Pittsburgh of UPMC Residency Program  
 Medical Director, Resident Continuity Clinic  
 Director, Primary Care Education

**Jennifer Zarit, MD**

Assistant Professor of Pediatrics

**Jill Radtke Demirci, RN, PhD**

Postdoctoral Associate

**Emily Barker, PA****Donna Duchene, CRNP****Sandra McRandal, CRNP**

## OVERVIEW OF DIVISION

The teaching programs and tools that faculty in the division have developed resulted from specific divisional goals of high-quality curricula for learners at all levels. There has been a critical mass of faculty interested in improving medical knowledge and skills, with the outcome being ongoing, active curriculum development by all members, with inspiration from early leaders and mentors. These accomplishments occur in the midst of a thriving clinical environment at the PCCs in Oakland and Turtle Creek and at the Magee-Womens Hospital of UPMC Normal Newborn Nursery (MWH-NNN), as well as in a thriving research program funded by the National Institutes of Health (NIH) in the areas of vitamin D and calcium metabolism; acute bacterial rhinosinusitis; urinary tract infection (UTI); pneumonia; vesicoureteral reflux (VUR); acute otitis media (AOM); and the relationship between children's health and nutrition and maternal mental health issues, such as depression and substance abuse. Research activities are enhanced by Pediatric PittNet, the practice-based research network (PBRN) funded by the CTSI, with research nurses/research assistants who identify and enroll children in multiple physical and mental health studies being conducted in the network.

## CLINICAL ACTIVITIES

This year, the Division of GAP had more than 28,215 visits for outpatient services at two PCCs. The PCC at Children's Oakland Medical Building remains the largest program. The PCC in Turtle Creek, which facilitates teaching of residents seeking dual credentialing in medicine and pediatrics, continued to experience growth during the past year. The division also increased the numbers of residents rotating, specifically with additional residents in the Community-Oriented Residency Education (CORE) Program.

Kristin Hannibal continued to co-chair the GAP multidisciplinary Clinical Effectiveness Group, which aims to improve delivery of clinical care at both PCCs. The work group includes nurses, administrators, and clinicians. Their efforts have resulted in a variety of clinical initiatives and educational improvements implemented at each site.

The group also has worked on clinic efficiency, creating a team approach for rooming patients and distributing work. The division has increased clinic efficiency with implementation of practice huddles and the electronic white board tracking system developed by Ana Malinow in collaboration with graduate students from Carnegie Mellon University.

The division has broadened its clinical services with lactation services, dental services, social work/care coordination, medical-legal partnership, and behavioral health services, collocating providers in the clinical space. Dental services are offered through a public health hygienist in collaboration with the Children's Hospital of Pittsburgh of UPMC dental division. The social worker position is funded through a joint venture with Gateway Health Plan for Gateway-insured patients. The division has a UPMC-funded care-coordination position in addition to a practice-supported care coordinator. All are busy serving the needs of an at-risk population while striving to provide a comprehensive medical home for patients. Most recently, the division has partnered with Neighborhood Legal Services Association to form a medical-legal partnership to serve the legal needs of the at-risk patient population. A lawyer from the program is collocated in the clinic three half-days per week, working on a variety of issues from housing, social security, and utility shutoff to educational challenges for families.

The division maintained an extremely busy clinical service at MWH-NNN, where faculty members provide leadership and education to pediatric, medicine-pediatric, and family medicine residents and medical students in the areas of normal newborn assessment, management, discharge planning, and breastfeeding education. The division has increased its participation in administrative responsibilities at MWH-NNN by participating in Newborn Nursery Committee meetings and the ongoing multidisciplinary OB Bundle project at MWH.

Hannibal participated in the implementation and update of the electronic health record on MWH's postpartum floor and in the nursery. The busy service is now responsible for about 1,907 newborns and more than 4,367 total clinical visits to the PCCs annually. As the liaison to MWH-NNN for the Division of GAP, Hannibal has worked in close collaboration with Abeer Azzuga, nursery director. The Newborn Nursery Committee meets every month to discuss newborn issues with other pediatricians, nursing staff, infection-control nurses, lactation specialists, and other invited guests. The division has reviewed newly developed policies such as the safe sleep position program, neonatal abstinence syndrome protocol, pulse oximetry testing of newborns, treatment of hyperbilirubinemia, and the baby-friendly hospital initiative, and it has updated a discharge instruction book for new parents, as well as discussed pertinent newborn issues affecting clinical care in the service.

The patient population at MWH-NNN is quite diverse and is often medically and socially challenging. Patients who choose to receive follow-up care at the PCC in Oakland schedule appointments in an outpatient newborn clinic as soon after discharge as necessary to receive optimal care. The division has expanded to five afternoon newborn follow-up clinics per week and four morning lactation sessions per week. Faculty experts in breastfeeding and newborn care staff the clinics, along with residents and students from the MWH-NNN rotation. In addition, a lactation consultant now serves the newborn follow-up clinic five full days per week. The division now has the availability to expand clinics as needed to accommodate breastfeeding babies, who usually need to be seen within 48 hours after discharge.

Katherine Watson continues to work to establish Healthy Habits for Life (HH4L) as a sustainable clinic at the PCC in Oakland. She has launched research initiatives relating to lifestyle modification and increased activity for patients.

Watson works with the Children's Hospital of Pittsburgh residents in the HH4L clinic during their continuity rotation. The goal is to improve their motivational interviewing skills and increase their medical knowledge about childhood obesity.

Chaves-Gnecco is the director and founder of the program Salud Para Niños, the first pediatric bilingual-bicultural clinic in Southwestern Pennsylvania. At Salud Para Niños, culturally and linguistically competent primary care for children and families is complemented with activities intended to empower the community regarding its own health. Some of the activities of Salud Para Niños include weekly clinics in Oakland at the Children's Hospital of Pittsburgh of UPMC PCC; two monthly free clinics at the Children's Hospital Care Mobile and at the Birmingham Clinic; participation in the organization of community fairs; a literacy program in which children are given bilingual books to promote early literacy and learning of English as a second language; translation of wellness materials into Spanish; and Hispanic/Latino car-seat checks, which emphasize car safety.

## RESEARCH AND OTHER SCHOLARLY ACTIVITIES

The division has received support from the CTSI (Clinical Translational Science Award [CTSA] to the University of Pittsburgh) to provide infrastructure for Pediatric PittNet, a PBRN that is currently composed of 20 urban, suburban, and rural practices with more than 200 providers caring for more than 200,000 children. PittNet was created to facilitate the translation of pediatric research discoveries into practice to improve the health of the region's children. Currently, Pediatric PittNet includes more than 50 research protocols covering a range of common childhood behavioral health (e.g., attention-deficit disorder, depression, anxiety) and physical health (e.g., AOM, UTI, immunization) concerns. Reis is the medical director of PittNet; Hoberman and David Brent (Department of Psychiatry) serve as codirectors.

In his role as the Department of Pediatrics vice chair for clinical research, Hoberman has continued to work with the chair on recruiting for various division chief-level positions; participating in Department of Pediatrics committees, including Executive, Scholarship, Promotions and Tenure, and Pediatric Scientist Development Program Steering; fully restructuring CTSA-sponsored programs (PittNet) and the Pediatric Clinical and Translational Research Center; and completing full implementation of a pediatric component of the CTSA research registry. In collaboration with Bogen, Carlton Bates (Nephrology), and Liz Miller (Adolescent and Young Adult Medicine), he developed an aggressive three-year timeline of research expectations and requirements for fellows, as well as a similar two-year outline for junior faculty. Hoberman and Miller established mock K review study sections for fellows and junior faculty submitting applications from the divisions of GAP and Adolescent and Young Adult Medicine.

### Alejandro Hoberman, MD

#### RESEARCH

*Completion of Additional Data Analysis on the National Institute of Allergy and Infectious Diseases (NIAID)-Sponsored, Randomized, Placebo-Controlled Study in Young Children With AOM, Leading to a Revised AOM Severity of Symptoms Scale (AOM-SOS v. 5.0).* A U.S. Food and Drug Administration (FDA) guidance document for clinical trials in children with AOM has recommended the use of time-to-resolution of symptoms as the primary outcome when evaluating the efficacy of antimicrobial treatment. Following a series of FDA pre-investigational new drug meetings and teleconferences for future studies, Shaikh, Hoberman, and Paradise conducted additional analyses of data collected in the AOM placebo-controlled trial that led to a revision of the AOM-SOS scale, as well as determination of the minimally important clinical difference (MICD), to increase its sensitivity to detect change and determine statistical analysis methods

that better discriminate between two treatment groups, rather than between treatment and placebo. A document outlining the analyses and proposed revision to the AOM-SOS scale was submitted to the Division of Antimicrobials, Center for Drug Effectiveness Research, FDA. Three manuscripts were published. The FDA requested further data on parents completing the tool electronically. The researchers completed gathering of data on about 70 children whose parents completed the AOM-SOS elec-



**Alejandro Hoberman, MD**  
Division Chief, General  
Academic Pediatrics

tronically and planned to submit the completed application to the FDA early in 2018.

*Completion of the Broad Agency Announcement (NIAID) Contract on Targeted Interventions to Reduce Antimicrobial Resistance to Compare Short- Versus Standard-Duration Therapy in Children 6–23 Months With AOM.* Hoberman was awarded a five-year NIAID contract to evaluate the efficacy of reduced-duration treatment compared with standard-duration treatment and its impact on antimicrobial resistance. This was in response to BAA NIAID-DMID-NIHAI2009058, “Targeted Clinical Trials to Reduce the Risk of Antimicrobial Resistance,” and addressed AOM, one of three disease areas of interest, and shorter treatment duration, one of the eligible strategies to reduce antimicrobial resistance (NIAID, \$9,005,202). The researchers concluded that in children 6–23 months of age with AOM, reduced-duration antimicrobial treatment resulted in less favorable outcomes than standard-duration treatment, without reduction in the occurrence of adverse events or the emergence of antimicrobial resistance. The manuscript was published in December 2016 in the *New England Journal of Medicine*. A final progress report was submitted to NIAID in November 2016.

*Continuation of a Clinical Trial (U01) Sponsored by the National Institute of Deafness and Communication Disorders (NIDCD) Evaluating the Efficacy of Tympanostomy Tubes for Children With Recurrent AOM.* This five-year study is a randomized clinical trial of children with recurrent AOM who will be followed over a two-year period to determine whether the surgical therapy compared to nonsurgical therapy results in a substantial reduction in the number of episodes of AOM, whether children are less likely to carry resistant bacteria because of decreased utilization of antibiotics, and whether surgery is cost-effective. Findings will enable evidence-based decision-making by parents. Enrollment in the trial started in November 2015; a total of 789 children have been enrolled during the initial year in phase I (screening phase); 175 have been randomized in phase II at Children’s Hospital of Pittsburgh of UPMC, Children’s National Medical Center, and Kentucky Pediatric/Adult Research. Monthly teleconferences have been conducted with all participating investigators and an NIDCD scientific monitor to evaluate progression of the study and share successful recruitment strategies.

*Monitoring Trends of Antimicrobial Resistance and Serotype Variation in Nasopharyngeal Isolates From Children With AOM.* Together with Judith Martin, Hoberman has conducted studies in children with AOM for more than 15

years; the work has permitted the team to follow trends of antimicrobial resistance and serotype variation in nasopharyngeal isolates of *Streptococcus pneumoniae*. Although an initial increase in *H. influenzae* colonization was observed, suggesting an impact of pneumococcal conjugate vaccine, most recent rates of nasopharyngeal colonization with *H. influenzae* and  $\beta$ -lactamase production are similar to those observed before universal administration of PCV7. A manuscript describing the work has recently been submitted for publication.

*Continuing to Contribute to Enhanced Diagnostic Accuracy in Young Children With AOM.* In collaboration with Shaikh, Paradise, and Jelena Kovačević (department head, Electrical and Computer Engineering, Carnegie Mellon University), Hoberman continues to contribute articles regarding enhancement of symptomatic assessment in children with AOM and overall outcomes in AOM clinical trials.

*Developing a Novel Automated Algorithm for Classifying Diagnostic Categories of Otitis Media.* AOM represents a bacterial superinfection of the middle ear fluid, whereas otitis media with effusion (OME) represents a sterile effusion that tends to subside spontaneously. Diagnosing children with AOM is difficult, often leading to over-prescription of antibiotics, as they are beneficial only for children with AOM. This underscores the need for an accurate and automated diagnostic algorithm. In collaboration with colleagues at Carnegie Mellon University, the team developed such an algorithm; it achieved 89.9% classification accuracy and outperformed clinicians who did not receive special training and state-of-the-art classifiers. The researchers also completed a collaboration with Ricoh Innovations, Menlo Park, Calif., (grant support \$1,166,402) in developing a prototype light field otoscope. The team published a manuscript, “Light Field Oscope Design for 3D *In Vivo* Imaging of the Middle Ear,” in the *Journal of the Optical Society of America*, which described a light field digital otoscope designed to measure three-dimensional shape of the tympanic membrane (TM) and ear canal. The researchers have completed the collaboration with Ricoh and planned to review with the company a final report of the findings before the end of 2017.

*Pitt-CMU-iTM.* A team is developing a decision-support diagnostic aid to increase accuracy in diagnosis of AOM, which will reduce unnecessary antibiotics, adverse effects, and bacterial resistance, using off-the-shelf otoendoscopes coupled with smartphones to deliver high-resolution TM images. The overall objective is to complete development, test usability and implementation, and bring to the market



this point-of-care diagnostic aid/decision support with an automated algorithm that exhibited accuracy identifying diagnostic categories comparable to diagnoses made by expert otoscopists. The researchers will also explore a parallel approach of using deep learning to teach diagnostic categories and determine whether that strategy would achieve better results than those currently in use (low 90 percent in terms of classification accuracy), as well as assess usability and implementation in a busy primary care environment. Potential markets for the tool would be emergency departments, urgent care centers, pediatric/family medicine physician offices, and retail clinics. Intellectual property status: U.S. Patent Application Serial No. 15/483,133: “Method and Apparatus for Aiding in the Diagnosis of Otitis Media by Classifying TM Images.”

*Continuation of Enrollment of Children, in Collaboration With Investigators at Children’s Hospital of Philadelphia, for a Study in Response to a Broad Agency Announcement (NIAID) on Targeted Interventions to Reduce Antimicrobial Resistance Contract to Compare Short- Versus Standard-Duration Therapy for UTI in Children (SCOUT, Short-Course Therapy for Urinary Tract Infections in Children).* The SCOUT study is a multicenter, double-blind, placebo-controlled, non-inferiority clinical trial of 746 children ages 2 months to 10 years who will be enrolled over six years. Children will be stratified based on presence of fever at the initial presentation of UTI symptoms and by specific antibiotic therapy prescribed by the original treating clinician. Following documented clinical improvement (afebrile and asymptomatic) after the first four to five days of provider-initiated therapy, children are blindly randomized to the standard-of-care antimicrobial therapy arm (continued antibiotic) or the short-course antimicrobial therapy arm (placebo) of five more days to complete 10 days of therapy. Outcomes include treatment failure, UTI recurrences, occurrence of asymptomatic bacteriuria, and gastrointestinal colonization with resistant organisms *Escherichia coli* or *Klebsiella pneumoniae*. Enrollment of children in the study commenced in June 2012 and will continue for 18–24 months; a total of 547 children have been enrolled to date.

*UpToDate.* In collaboration with Shaikh, Hoberman continued to contribute to UpToDate in the area of UTI in children, with cards on clinical features and diagnosis, epidemiology and risk factors, management, imaging and prognosis, and long-term management and prevention of UTIs in children, all of which are widely accessed and require frequent revisions.

*Improvements in Research Methods to Be More Adaptable to the Needs of Participants.* Under the leadership of Evelyn Reis, the team continues to contribute to Pediatric PittNet, a practice-based clinical and behavioral health research network under the umbrella of CTSI at the University of Pittsburgh. Both PCCs (Oakland and Turtle Creek) participate in Pediatric PittNet, as do many of the Children’s Community Pediatrics practices, where pediatric residents also have their weekly continuity clinic experience. Hoberman is an active member of the Executive Committee of Pediatric PittNet; all of the program’s clinical trials enroll children in practices within the network. Accordingly, trainees observe and participate in clinical research; they see the immediate and long-term benefits of research through ongoing exposure.

*Mobile Research Service.* To bring research as close as possible to the family’s actual home, and for research visits that do not require imaging or complex procedures, the team developed a Mobile Research Service. The service consists of research coordinators from various divisions within the Department of Pediatrics who are cross-trained for various protocols and conduct research visits at a family’s home, at a pediatrician’s office, or at one of Children’s satellite locations. Of 567 parents who were offered those options for enrollment and follow-up visits for NIH contracts, of the 466 who chose off-campus visits, 341 (73%) were conducted at home, 72 (15%) at the primary care provider’s office, and 53 (11%) at Children’s Hospital of Pittsburgh (CHP) satellites. Only 101 (18%) of visits were conducted at the Clinical Trials Unit or at CHP, which were the only options prior to the Mobile Research Service.

*eConsent Manager.* To empower families and maximize participant recruiting, and in partnership with the CTSI at the University of Pittsburgh School of Medicine, the team developed a software program termed eConsent Manager. The clinical research platform includes a consent document that is approved by the Institutional Review Board. It is presented dynamically, permits video conferencing with the researcher, and shows animated videos about specific study procedures. It also provides alerts when a revised consent document is needed, and at completion, it triggers the data-management system to initiate collection of research data. The team completed in-depth interviews with parents as they used the system and will formally evaluate its impact on consent rates, adherence rates, and parental satisfaction.

Hoberman published 20 articles in the past three years in the *New England Journal of Medicine*, *JAMA Pediatrics*, *Pediatrics*, *Pediatric Infectious Diseases Journal*, *Academic Pediatrics*, *Journal of Pediatric Urology*, and *Journal of Pediatrics*.

**ADVISORY COMMITTEE MEMBERSHIPS**

- Minority Pre-K Career Education and Enhancement for Health Care Research Diversity Committee, University of Pittsburgh School of Medicine
- Research Advisory Committee, Children's Hospital of Pittsburgh
- Executive Committee, Department of Pediatrics
- Pediatric Development Scientist Steering Committee, Department of Pediatrics
- Promotions and Tenure Committee, Department of Pediatrics
- Non-Tenured Promotions Committee, University of Pittsburgh School of Medicine

**EDITORSHIPS**

- *Infectious Diseases in Children*

**MAJOR LECTURESHIPS AND SEMINARS**

- "UTI and VUR: After the Trials," International Pediatric Nephrology Association, Foz do Iguazu, Brazil, September 2016
- "Diagnosis and Management of AOM," visiting professor, Dupont Children's Hospital, Nemours Alfred I. DuPont Hospital for Children, Wilmington, Del., November 2016
- "UTI and VUR: After the Trials," visiting professor, Dupont Children's Hospital, Nemours Alfred I. Dupont Hospital for Children, Wilmington, Del., November 2016

- "Diagnosis and Management of AOM," grand rounds, Children's Hospital of Pittsburgh, Pittsburgh, Pa., December 2016
- "Infecciones Urinarias y Reflujo Vesicoureteral: Despues de los Estudios Clinicos," VI Congreso Internacional de Infectologia Pediatrica y Vacunas, Sociedad Argentina de Infectologia Pediatrica, Buenos Aires, Argentina, April 2017
- "Sabemos Diagnosticar y Tratar Otitis Media Aguda?" VI Congreso Internacional de Infectologia Pediatrica y Vacunas, Sociedad Argentina de Infectologia Pediatrica, Buenos Aires, Argentina, April 2017
- "UTIs and VUR," visiting professor, Children's of Alabama and the University of Alabama at Birmingham Department of Pediatrics, clinically focused research roundtable discussion, Birmingham, Ala., May 2017
- "Diagnosis and Management of AOM," visiting professor, Children's of Alabama and the University of Alabama at Birmingham Department of Pediatrics, Grand Rounds Dixon Lecture, Birmingham, Ala., May 2017

**PROFESSIONAL AFFILIATIONS/SOCIETY MEMBERSHIPS**

- Argentine Pediatric Society
- Academic Pediatric Association
- American Academy of Pediatrics
- Inter-American Society of Pediatric Otolaryngology
- Society for Pediatric Research
- American Pediatric Society

**Kristin M. Hannibal, MD****RESEARCH**

Kristin Hannibal has worked to facilitate the implementation of a variety of outside research projects within the clinical sites of the PCCs in Oakland and Turtle Creek. In the first of those projects, Hannibal collaborated with the UPMC Department of Family Medicine and continued to recruit participants at a PCC for a study sponsored by the Centers for Disease Control and Prevention (CDC) that helps determine the efficacy of the various influenza vaccines. Efficacy data gathered from children at the PCC resulted in the CDC's recommendation against administration of live attenuated influenza vaccine (FluMist) for children during the 2016–2017 respiratory-infection season.

Hannibal has been credited with developing a culture of quality improvement, building on projects she initiated, which have sparked many others. She has served as clinical director of the Division of GAP since 2004.

The clinical services of the PCCs (Oakland and Turtle Creek) have flourished under her leadership. Excellence in clinical practice, improved access for all levels of care, and solid continuity experience as part of the resident educational mission have been prioritized.

*Compliance With Early Periodic Screening, Diagnosis, and Treatment Medicaid Visit Requirements.* Hannibal has developed office work flow and provider education to ensure that children are receiving developmental and autism screening at the appropriate intervals, as well as being screened for lead and hemoglobin/hematocrit, getting dental home referrals, and following the appropriate preventive visit periodicity. Proper adherence to the latest immunization schedules also has been stressed through modifications in the electronic health record templates as well as continued provider (faculty, resident, and nursing) education.



*Dental Home for an At-Risk Population.* In cooperation with Hannibal, Deborah Moss, and Amanda Dumas, providers at the PCC in Oakland began the application of dental varnish to at-risk children with Medicaid insurance in March 2011. In coordination with Brian Martin in the dental department, public health dental hygienists come to the PCC to provide dental screenings for patients four days per week. Clinicians promote applications of dental varnish and provide patients with a dental home.

*Expansion of Behavioral Health Screening.* Providers at all sites have been conducting routine behavioral health screenings of all children ages 4–18 years. The screenings include psychosocial screens at the younger ages, depression and anxiety screening in the teen years, and screenings for attention-deficit and hyperactivity disorder symptoms as needed. Hannibal worked toward embedding a behavioral health specialist at the PCC in Oakland and participated in the selection process. The program added the availability of a psychiatrist to oversee the behavior therapist and be a referral resource for families. The division is also participating in the TIPS program, a telephone support line for providers who see Medicaid patients and have questions about their patients with behavioral concerns.

*Reach Out and Read Program.* Hannibal serves as medical director of the Reach Out and Read Program at the PCCs in Oakland and Turtle Creek. The program's goals are to promote early literacy through distribution of new books during well-child visits and to improve developmental outcomes in at-risk populations at the two PCC offices.

*Liaison to the MWH Administration and the Division of Neonatology as the Director of the Newborn Nursery Rotation.* Hannibal facilitates integrated care in the newborn nursery and the specialized care nursery for drug-exposed infants. Hannibal has joined with Jenna Zarit to update the MWH-NNN resident curriculum and enable the Web-based curriculum to serve as a showpiece for pediatrics. Many residency programs across the nation have adopted the Web-based curriculum.

*Educating Practices in Community-Integrated Care (EPIC-IC) Pennsylvania Medical Home Initiative.* Hannibal also has been instrumental in bringing this initiative to the PCC in Oakland and implementing it. The program is sponsored by the Pennsylvania chapter of the American Academy of Pediatrics and assists practices in the process of improving their functioning as true medical homes for their patients. Hannibal's

group has developed a children and youth with special health care needs patient registry for patient care use and earned a care coordination grant to improve care coordination. She also has chaired the pilot project on transition to adult care for children with special health care needs. She assisted the Medical Home Team to achieve National Committee for Quality Assurance level 3 recognition status in 2016 and provides further assistance to maintain the certification.

*Clinical Director, Child Development Unit.* Along with the division chief, Ira Bergman, Hannibal has improved access for patients requesting urgent evaluation at the Child Development Unit, increasing patient visits and decreasing wait times for appointments. More academic rigor has been established, with weekly seminars on research, clinical, educational, and administrative topics.

#### ADVISORY COMMITTEE MEMBERSHIPS

- EPIC-IC Medical Home Implementation Project, Pennsylvania Chapter, American Academy of Pediatrics
- Clinical Effectiveness Committee, Division of GAP, Children's Hospital of Pittsburgh of UPMC
- Continuous Quality-Improvement Work Group, Maternal Addictions, MWH
- Newborn Committee, MWH
- OB Bundle Pediatric Work Group, MWH
- Preemie Health Coalition, National Healthy Mothers, Healthy Babies Coalition
- Screening in Primary Care and Neonatal Intensive Care Unit follow-up work groups, Society of Developmental Behavioral Pediatrics

#### PROFESSIONAL AFFILIATIONS/SOCIETY MEMBERSHIPS

- American Academy of Pediatrics
- Academy of Breastfeeding Medicine
- Society of Developmental Behavioral Pediatrics
- Pediatric Academic Association

#### Sonika Bhatnagar, MD, MPH

##### RESEARCH

Sonika Bhatnagar's research portfolio includes diagnosis and treatment of common infections in children, including UTI, AOM, sinusitis, and pneumonia. Bhatnagar was a co-investigator and served on the Steering Committee with Hoberman and Shaikh on the multicenter, National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)-sponsored Randomized Intervention for Children with VesicoUreteral Reflux (RIVUR) and Careful UTI Evaluation (CUTIE) studies.

Bhatnagar presented a poster, “Prognosis of Children with UTI: A Systematic Review,” with Shaikh at the International Conference on VUR in Children in Göteborg, Sweden. Bhatnagar, together with Hoberman, Shaikh, and Research Manager Diana Kearney, created a parent toolkit for the NIDDK RIVUR study, which is available online.

Bhatnagar’s research role expanded to include analysis of strategies to increase recruitment of children in randomized, controlled trials. She served as a physician consultant for the RIVUR study and presented “Recruitment Strategies for NIH-Sponsored Trial Sites” to the Steering Committee of the NIDDK RIVUR study. She conducted site visits at 18 children’s hospitals across the United States and evaluated the use of various recruitment strategies to compose site-specific recommendations and then provide one- and four-month post-intervention reports. She found a significant increase in enrollment at all 17 sites at 120 days post-intervention and determined that repeated interventions may be required to sustain the increases. The results of that work, “Development and Impact of an Intervention to Boost Recruitment in a Multicenter Pediatric Randomized Clinical Trial,” were published in *Clinical Pediatrics* and presented at the Pediatric Academic Societies in Washington, D.C., and the NIH Workshop on the Enrollment and Retention of Participants in NIH-Funded Clinical Trials in Bethesda, Md.

Her current research involves assessing the impact of offering a Mobile Research Service on recruitment in pediatric clinical trials. She chairs the Steering Committee that created and launched the Center for Excellence in Child and Adolescent Health Research at Children’s Hospital of Pittsburgh of UPMC and the University of Pittsburgh CTSI to promote the health of children, adolescents, and young adults by advancing clinical research. Bhatnagar created an Academic Toolkit for Clinical Researchers, available online through the center, and incorporated the curriculum into the Institute for Clinical Research Education Special Topics in Clinical Trials Course at the University of Pittsburgh. The mission of the center is to bring participants, families, researchers, health care providers, and the community into the research home to learn from one another to develop innovative, collaborative strategies and demonstrate the impact of stakeholder-engaged approaches to translate evidence-based practice into measurable outcomes for children, adolescents, and young adults.

Bhatnagar also studies prevention of disease and injury. On a local level, she has served as one of two Children’s Hospital physician contributors to the Allegheny County Child Death Review Team, which also includes law enforcement, child-protective services, the office of the coroner/medical examiner, the district attorney’s office, and school superintendents. She contributed to the systematic review of child deaths, identification of preventable contributing factors, and the creation of a public health model of prevention of child fatality that stresses the roles of legislation and public education. With the Child Advocacy Center and the Division of Adolescent Medicine, she created a public health and advocacy continuity clinic curriculum module. On a state level, she has served as a consultant to the Pennsylvania chapter of the American Academy of Pediatrics to analyze statewide child death review findings and propose educational and legislative strategies. On a national level, she was appointed to serve on the CDC Steering Committee for the National Action Plan for Child Injury Prevention. In 2015, Bhatnagar received the American Medical Association Physician’s Recognition Award.

#### ADVISORY COMMITTEE MEMBERSHIPS

- Chair, Steering Committee, Center for Excellence in Child and Adolescent Research
- Representative, Allegheny County Child Death Review Team
- Representative, Federal Advocacy Action Network, American Academy of Pediatrics
- Representative, Mentoring Committee, Drexel University College of Medicine
- Representative, Prevent Child Injury Advisory Committee, CDC
- Representative, Senior Executive Committee, National Action Plan for Child Injury Prevention, CDC

#### PROFESSIONAL AFFILIATIONS/SOCIETY MEMBERSHIPS

- Academic Pediatric Association
- American Academy of Pediatrics
- Society for Clinical and Translational Science

#### Aimee Biller, MD

##### ADVISORY COMMITTEE MEMBERSHIPS

- Director, Combined Ambulatory Medicine and Pediatrics Clerkship, University of Pittsburgh School of Medicine
- Consultant, Ethics Consult Service for Inpatients, Children’s Hospital of Pittsburgh of UPMC

- Research ethics consultant, CTSI, University of Pittsburgh
- Clinical Ethics Committee, Children's Hospital of Pittsburgh of UPMC
- Third- and Fourth-Year Retention Committee, University of Pittsburgh School of Medicine
- Stakeholder Advisory Group, CTSI, University of Pittsburgh
- Clerkship Directors Committee, University of Pittsburgh School of Medicine
- Independent Data and Safety Monitoring Board, "Safety and Preliminary Efficacy of Donor-Derived D-Creg Infusion and Immunosuppression Withdrawal in Living Donor Liver Transplant Recipients," University of Pittsburgh School of Medicine
- National Advisory Council on Protection of Minors, Conference of Major Superiors of Men

#### PROFESSIONAL AFFILIATIONS/SOCIETY MEMBERSHIPS

- American Academy of Pediatrics
- American Society of Bioethics and Humanities
- Quality Improvement Innovation Networks, American Academy of Pediatrics
- Council on Clinical Information Technology, American Academy of Pediatrics Council on Medical Student Education in Pediatrics
- Section on Bioethics, American Academy of Pediatrics Children's Hospital of Pittsburgh representative, Southwestern Pennsylvania Consortium Ethics Program

#### HONORS

- *Best Doctors in America*, Woodward/White, Inc.
- Best Doctors, *Pittsburgh Magazine*
- Patient Satisfaction Award 2016, Children's Hospital of Pittsburgh of UPMC

#### Debra L. Bogen, MD

##### RESEARCH

Debra Bogen's research focuses on improving health outcomes for infants born to women with substance use and mood disorders. She serves as a co-investigator on a variety of studies of early-childhood nutrition and breastfeeding, including the following.

- Pamela Morris (New York University) and Daniels Shaw's (University of Pittsburgh, Psychology) multicenter trial funded by the National Institute of Child Health and Development (NICHD): Integrated Model for Promoting Parenting and Early School Readiness in Pediatrics

- Mary Marazita's study funded by the National Institute of Dental and Craniofacial Research: Factors Contributing to Oral Health Disparities in Appalachia
- Richard Beigi's Microbicides Trials Network studies
- Ariadna Forray's (Yale) study funded by the National Institute on Drug Abuse: Progesterone for Postpartum Smokers: Feasibility, Breastfeeding, and Infant Safety
- Melissa Bartick's study funded by the W.K. Kellogg Foundation: Comprehensive Analysis of the Costs of Suboptimal Breastfeeding in the United States, which considers maternal and pediatric health costs
- Ty Ridenour's study funded by the National Institute on Drug Abuse: Substance Use Screening and Prevention for Adolescents in Pediatric Primary Care
- Lori Uscher-Pine's (RAND) study funded by the Health Resources and Services Administration (HRSA) Maternal and Child Health Bureau: Feasibility and Acceptability of Lactation Consultations Via Telehealth: A Pilot Randomized, Controlled Trial in Rural Pennsylvania
- Lisa Maillart's (University of Pittsburgh, Industrial Engineering) study funded by the National Science Foundation: Optimal Management of Donor Milk Banks
- Elizabeth Salisbury's (University of Massachusetts) multisite study funded by the National Institute on Drug Abuse: Stochastic Vibro-Tactile Stimulation: A Non-Pharmacological Intervention for Neonatal Abstinence Syndrome and Drug Withdrawal in Newborns
- Catherine Chappell's (Magee-Womens Research Institute) study funded by NICHD: A Phase I Pharmacokinetic Trial of Ledipasvir/Sofosbuvir Fixed-Dose Combination in Pregnant Women with Chronic Hepatitis C Virus Infection

#### RESEARCH AND MEDICAL EDUCATION TRAINING

Bogen completed five years of funding (2011–2016) from the HRSA National Research Service Award T32 Primary Medical Care Research Program to train postdoctoral fellows in primary care research. The grant was renewed in July 2016 for another five years (2016–2021). The training program prepares a diverse interprofessional group of primary health care research fellows to conduct research that significantly impacts the nation's primary health care research agenda.

The division recruited fellows for all available slots, and the fellows represent diverse backgrounds and training. All physician fellows have completed a master's degree in either clinical research or public health. Nearly all have received career-development funding to continue their research careers after fellowship, and all have remained at academic medical centers. Current fellows



are: Stacey Engster, MD (completed residency training at St. Christopher's Hospital), Jonathan Arnold, MD (completed internal medicine residency training at UPMC), Anne-Marie Rick, MD (completed residency training at the University of Colorado), and Patricia Bamwine, PhD (completed a doctoral degree in social work from the University of Pittsburgh).

Bogen serves as a research mentor for trainees at all levels, including undergraduates, medical students, residents, fellows, and junior faculty. She serves on the faculty for a number of T32 training programs.

Bogen directs the Newborn Research Support Program (NuRSERy) at MWH for the University of Pittsburgh CTSI (NIH/National Center for Advancing Translational Sciences/CTSA Grant UL1 RR024153). The NuRSERy facilitates research starting in the immediate newborn period to improve the health of the region's children.



#### ADVISORY COMMITTEE MEMBERSHIPS

- Patient and Family-Centered Care Lactation Experience Working Group
- Allegheny County Breastfeeding Coalition
- Vice president, Three Rivers Mothers' Milk Bank
- Scholarly mentor for CSTP student Gabriela Algarroba

#### PROFESSIONAL AFFILIATIONS/SOCIETY MEMBERSHIPS

- American Academy of Pediatrics
- Member, Hyperbilirubinemia Clinical Practice Guideline Subcommittee
- Member, Section on Breastfeeding
- Pennsylvania Chapter, American Academy of Pediatrics Section on Breastfeeding
- Course director, Educating Physicians in Their Community: Breastfeeding Education Support and Training Program
- Academic Pediatric Association
- Member, Research Committee, Better Outcomes Through Research for Newborns
- Codirector, Fellowship Special Interest Group
- Member, Academic General Pediatric Accreditation Committee
- Member, Governance Committee, Academy of Breastfeeding Medicine
- Member, Research Committee, Organization for Teratology Information Specialists
- Member and Fellow, Academy of Breastfeeding Medicine

#### HONORS

- Vice chair for education, Department of Pediatrics, Children's Hospital of Pittsburgh
- *Best Doctors in America*, Woodward/White, Inc.

#### MAJOR LECTURESHIPS AND SEMINARS

- "Cultural Perspectives on Breastfeeding Practices: Latina, African-American, Jewish, and Muslim Context," panel presentation, International Lactation Consultant Association conference, Chicago, Ill., July 2016
  - "Moving the Needle: From Initiation to Duration," Annual Breastfeeding Forum, Allegheny County Health Department, Pittsburgh, Pa., August 2016
  - "Drugs in Pregnancy and Lactation," breakout session, American Association of Birth Centers Institute, Pittsburgh, Pa., September 2016
  - "Reflections on Recovery: A Panel Discussion With Experts in the Field," 14th Annual Perinatal and Neonatal Health Care Conference for Nurses and Allied Health Staff, MWH, Pittsburgh, Pa., November 2016

**Diego Chaves-Gnecco, MD, MPH**

Diego Chaves-Gnecco is an associate professor in the University of Pittsburgh School of Medicine's Department of Pediatrics. Chaves-Gnecco is also the director and founder of the program Salud Para Niños, the first pediatric bilingual-bicultural clinic in Southwestern Pennsylvania. At Salud Para Niños, culturally and linguistically competent primary care for children and families is complemented with activities oriented toward empowerment of the community regarding its own health. Some of the activities of Salud Para Niños include weekly clinics in Oakland at the Children's Hospital PCC; two monthly free clinics; participation in organizing community fairs; a literacy program in which children are given bilingual books to promote early literacy and learning of English as a second language; translation of wellness materials into Spanish; and Hispanic/Latino car-seat checks, which emphasize car safety.

**ADVISORY COMMITTEE MEMBERSHIPS**

- Salud Para Niños, Children's Hospital of Pittsburgh of UPMC's first bilingual (Spanish/English), bicultural pediatric clinic
- Reach Out and Read Advisory Board, Leyendo Juntos (Reading Together)
- Board of Directors, Jewish Family and Children's Service Legal Services for Immigrants and Internationals

**MAJOR LECTURESHIPS AND SEMINARS**

- "Providing Social Services for an Invisible Community—Medical–Social Work Partnership—Salud Para Niños Celebrating Our 15th Anniversary: Race and Child Welfare National and Local Perspectives on Refugees, Immigrants, Human Trafficking, and Social Services," 2017 Child Welfare Summer Institute, School of Social Work, University of Pittsburgh, Pittsburgh, Pa., June 2017

**PROFESSIONAL AFFILIATIONS/SOCIETY MEMBERSHIPS**

- American Academy of Pediatrics
- Society for Developmental and Behavioral Pediatrics
- National Hispanic Medical Association
- American Society of Clinical Pharmacology and Therapeutics
- C.F. Reynolds Medical History Society
- Sociedad Colombiana de Pediatría
- Sociedad Colombiana de Historia de la Medicina

**HONORS**

- CDC Childhood Immunization Champion
- *Best Doctors in America*, Woodward/White, Inc.

- Best Doctors, *Pittsburgh Magazine*
- Clerkship Preceptor of the Year Award, University of Pittsburgh School of Medicine
- Hispanic Heritage Leadership Award, Hispanic Heritage Foundation and the National Football League
- Founding Faculty Advisor Certificate of Appreciation, Latino Student Medical Association, University of Pittsburgh School of Medicine
- Fuerza Award, Association of Latino Professionals for America, Pittsburgh, sponsored by Café con Leche
- F. Edwards Rushton Community Access to Child Health (i.e., CATCH) Award, American Academy of Pediatrics

**Stacey Cook, MD, PhD**

Stacey Cook is the medical director of the Complex Care Center (C3 Clinic), which officially opened in July 2017 and acts as a patient-centered medical home for children with special health care needs within the main campus of Children's Hospital of Pittsburgh. The goal of the clinic is to improve patient outcomes, increase family satisfaction, and provide an opportunity for trainees to gain experience caring for our most medically fragile children.

Cook serves as the physician leader for the GAP Medical Home Committee. The PCC is recognized as a Level III Patient-Centered Medical Home by the National Centers for Quality Assurance. Plans for the upcoming year include quality-improvement projects focusing on emergency department utilization and immunization rates in the infant population.

**ADVISORY COMMITTEE MEMBERSHIPS**

- Combined Ambulatory Medicine and Pediatrics Clerkship Committee, University of Pittsburgh School of Medicine

**PROFESSIONAL AFFILIATIONS/SOCIETY MEMBERSHIPS**

- American Academy of Pediatrics

**HONORS**

- Award for Commitment and Excellence in Service, UPMC, 2017
- 2014 Clinical Preceptor of the Year Award, University of Pittsburgh School of Medicine

**Alicia Haupt, MD**

Alicia Haupt is the lead faculty on the Asthma Quality Improvement Project. The project strives to create more consistency among providers with regard to

diagnosing asthma and managing asthmatic patients in the clinic. Haupt works to improve consistent acute and maintenance care of asthmatics in the PCC. Past cycles have included the use of asthma action plans and asthma-control tests during acute visits, well visits, and maintenance visits. Current cycles involve the use of spirometry in conjunction with the CHP Pulmonary Division and the use of healthy home referrals in conjunction with Gateway Health Plan and the Allegheny County Health Department. Under the direction of Haupt, future cycles will include asthma diagnosis/characterization of asthma, correct use of controller medication, flu-vaccine administration, and additional electronic medical record quality-improvement projects.

#### ADVISORY COMMITTEE MEMBERSHIPS

- Mentor, CORE
- Assistant editor, Children's Hospital of Pittsburgh Continuity Curriculum Committee
- Pediatric support clinician, Early Childhood Education Linkage System
- Reviewer, Oakstone Practical Reviews in Pediatrics

#### PROFESSIONAL AFFILIATIONS/SOCIETY MEMBERSHIPS

- American Academy of Pediatrics

#### Sanjay Lambore, MD

Sanjay Lambore is the medical director of the Turtle Creek PCC. He joined the faculty about 14 years ago after collecting a wealth of national and international teaching and clinical experience. Under his leadership, the Turtle Creek office is considered to be a stellar practice and a center for clinical and educational excellence. He is admired and adored by his patients and is an asset to the community his office serves. His teaching and clinical acumen is unparalleled, and he represents the front line of the GAP division in providing the bulk of evidence-based clinical care and teaching to medical students and residents while upholding the values and educational mission of the Department of Pediatrics and Children's Hospital of Pittsburgh of UPMC.

Lambore is considered a master clinician-educator by his peers and trainees. He has demonstrated exemplary leadership and outstanding and sustained accomplishments in academic pediatrics in the areas of teaching and patient care. Despite very busy patient and teaching loads, an objective assessment of his billed services consistently reported an audit score of 10/10. He has also consistently exceeded the 75th percentile

of productivity for many years. Most recently, he has received a five-star rating on the UPMC doctor profile.

#### RESEARCH

This year, Lambore was selected as a recipient of the Drue Heinz British Pediatric Fellowship, which will enable him to work as a physician observer at the Royal Manchester Children's Hospital in Manchester, United Kingdom. The purpose of the fellowship is the exchange of ideas between the United Kingdom consultants and trainee doctors with regard to managing various pediatric medical issues. He was also invited to present grand rounds in the Department of Pediatrics at Royal Manchester Children's Hospital on his research interest, "Sudden Cardiac Death in Adolescent Athletes."

Lambore has collaborated with faculty members within GAP on various research projects. His efforts and research interest in sudden cardiac death in adolescent athletes resulted in the adoption of a clinical questionnaire for sports physicals at the PCCs in Oakland and Turtle Creek to detect risk factors for sudden cardiac death in adolescents.

#### PROFESSIONAL AFFILIATIONS/SOCIETY MEMBERSHIPS

- American Academy of Pediatrics
- Academy of Medical Educators
- Alpha Omega Alpha Honor Medical Society, University of Pittsburgh

#### HONORS

- Clerkship Preceptor of the Year Award, University of Pittsburgh School of Medicine, 2016
- William I. Cohen Teacher of the Year Award, University of Pittsburgh School of Medicine
- Award for Commitment and Excellence in Service, UPMC

#### Ana Malinow, MD, MSHCPM

Ana Malinow has focused her energies on the use of geographic information systems to investigate missed appointments. She completed work on focus groups with funding from the American Academy of Pediatrics Community Access to Child Health and subsequently received funding from the Beckwith Institute to start a satellite clinic in the Homewood neighborhood of Pittsburgh, a neighborhood with a high no-show rate. The clinic is in the Homewood-Brushton Family Support Center, which works to improve parenting and life skills for parents and school readiness for children. The clinic will allow a second-year pediatric resident to have a continuity clinic there. Malinow is collaborating with the University of



Pittsburgh School of Nursing to offer a community elective at the Homewood clinic for senior nursing students. A community health worker has been hired to ensure the best show rate possible. Malinow is collaborating with the Wolff Center to track metrics in the new clinic.

Malinow has collaborated with several individuals outside pediatrics to author “Transportation Characteristics Associated With Non-Arrivals to Pediatric Clinic Appointments: A Retrospective Analysis of 51,580 Scheduled Visits,” which has been accepted for publication in *BMJ Quality and Safety*.

*Clinical Effectiveness Committee.* Malinow has served for two years as co-chair for this multidisciplinary committee, which addresses issues related to clinical efficiency, improvements in clinical care, and access to care. Along with Hannibal, she has implemented important enhancements, including a focus on retention of staff by developing “Common Grounds,” a support group for staff that meets monthly. The committee is currently redesigning the primary care rotation. She continues to use the process of design thinking to enhance group productivity and creativity.

#### ADVISORY COMMITTEE MEMBERSHIPS

- Codirector, Clinical Effectiveness Committee, Primary Care Clinic, Children’s Hospital of Pittsburgh of UPMC
- Co-editor, Pediatric Resident Continuity Clinic Curriculum, Children’s Hospital of Pittsburgh of UPMC

#### PROFESSIONAL AFFILIATIONS/SOCIETY MEMBERSHIPS

- American Academy of Pediatrics
- American Pediatric Association
- Board member, Physicians for a National Health Program

#### AWARDS

- Best Doctors, *Pittsburgh Magazine*, 2017

### Judith M. Martin, MD

#### RESEARCH

Judith Martin is a clinical researcher who works collaboratively to design clinical studies, then recruit, enroll, and follow participants. She serves as the director of the GAP Clinical Trials Unit. The long-term goal of the unit is to evaluate frequently performed pediatric treatments and procedures that entail substantial use of health care resources but whose value has not been substantiated. The studies evaluate the prevalence, diagnosis, treatment, and follow-up of children with a variety of common outpatient infections, including UTI, pneumonia, sinusitis, and AOM. She also assists

with data analysis, manuscript preparation, and grant proposals related to those activities. In addition, she continues her investigations of respiratory tract infections in children, including the epidemiology of infections caused by *Streptococcus pyogenes*. She has received funding in the past from the American Heart Association and the NIH for clinical studies of streptococcal pharyngitis in a local school setting, the results of which were published in the *New England Journal of Medicine* and *Pediatrics*. Other notable work has included a review of the past 20 years of experience at Children’s Hospital of Pittsburgh of UPMC regarding acute rheumatic fever, published in the *Journal of Pediatrics*.

Martin has directed numerous clinical studies, including a study of ethanol locks to prevent catheter-related bloodstream infections, a study of children with acute rheumatic fever, and studies describing trends in nasopharyngeal colonization in children with AOM. She has been working with Rick Zimmerman and the CDC on studies of the immune response to the influenza vaccine. The work was published recently and contributed to the recommendation that the nasal influenza vaccine (LAIV-live attenuated influenza vaccine) should no longer be used for immunization. She also serves as a member of the Children’s Hospital of Pittsburgh Research Advisory Committee, the UPMC Technology and Innovative Practice Committee, and the Institutional Review Board (IRB) for the University of Pittsburgh. She has served as vice chair of the IRB in the Human Research Protection Office since 2013 and oversees two committee meetings per month. She is involved in educating and mentoring students, residents, and fellows and is a member of several scholarship oversight committees.

The following list represents Martin’s grant submissions.

- A Randomized Trial to Evaluate Short-Course Versus Standard-Course Outpatient Beta-Lactam Antimicrobial Therapy of Community-Acquired Pneumonia in Children (SCOUT-CAP); submitted June 2015, funded August 2015, recruitment November 2016; site principal investigator (PI)
- Child Care Knowledge and Readiness for Seasonal and Pandemic Influenza, American Academy of Pediatrics and CDC Survey of Influenza Immunization Practices in Daycare Providers; submitted May 2015, funded September 2015; site co-investigator; study completed and manuscript published
- National Vaccine Surveillance Network, Enhanced Active Surveillance of Pediatric Infectious Diseases and Vaccines and Enhanced Active Surveillance of Pediatric

- Respiratory Infections and Vaccine Preventable Diseases; PI: John Williams, MD; Martin sub-investigator for healthy control participants
- CDC, Option C Child and Adolescent, Pittsburgh: Immunological Response to Influenza Vaccination in Different Demographic Groups; submitted and renewed summer 2016; PI: Rick Zimmerman, MD; Martin sub-investigator for healthy control subjects
- Immune Pathways Associated With Influenza Vaccines, CTSI Translational Research Pilot Awards (T3/T4 clinical practice and population health); awarded March 2017, funding through March 2018; PI: Martin
- Efficacy of Tympanostomy Tubes for Children With Recurrent AOM Site Protocol, Tympanostomy Tubes Grant; NIDCD; submitted fall 2013 and resubmitted fall 2014, funded July 2015, recruitment ongoing; PI: Hoberman
- Efficacy of Antibiotics in Children With Acute Sinusitis: Which Subgroups Benefit? NIAID; submitted May/September 2014, funded June 2015, recruitment ongoing; PI: Shaikh

Martin is involved with the following funded clinical studies.

- A Phase 2b, Randomized, Double-Blind, Placebo-Controlled Study to Evaluate the Safety and Efficacy of MEDI8897, a Monoclonal Antibody With an Extended Half-Life Against Respiratory Syncytial Virus, in Healthy Preterm Infants; PI: Martin
- Efficacy of Tympanostomy Tubes for Children With Recurrent AOM, Site Protocol, Tympanostomy Tubes; PI: Hoberman
- Efficacy of Antibiotics in Children With Acute Sinusitis: Which Subgroups Benefit? PI: Shaikh
- 1R01 DK087870-01: Corticosteroids for Children With Febrile UTIs; PI: Shaikh
- CHP Research Advisory Council: Urinary Biomarkers for Pyelonephritis; PI: Shaikh
- BAA-NIAID-DMID-NIHAI2008025: The SCOUT Study: Short-Course Therapy for UTIs in Children; PI: Zaoutis, site PI: Hoberman
- CDC, Option C Child and Adolescent, Pittsburgh: Immunological Response to Influenza Vaccination in Children and Adolescents When No Change in Vaccine Strain Antigens; PI: Zimmerman

Other ongoing projects that Martin is involved with include the following.

- Center for Excellence in Pediatric and Adolescent Health Research (development of Web site)

- Quantitation of Sialic Acid in Individual Salivary Samples; project with saliva samples from the Falk School Streptococcal Study, Patti Ryan, PhD, Rockefeller University in New York

#### ADVISORY COMMITTEE MEMBERSHIPS

- IRB, University of Pittsburgh
- Vice chair, IRB, University of Pittsburgh
- Technology and Innovative Practice Committee, UPMC
- Codirector, Center for Excellence in Adolescent and Child Health Research
- Research Advisory Committee, Children's Hospital of Pittsburgh of UPMC
- Scholarship Oversight Committee, University of Pittsburgh School of Medicine
- Faculty Mentor Committee, University of Pittsburgh School of Medicine

#### PROFESSIONAL AFFILIATIONS/SOCIETY MEMBERSHIPS

- Public Responsibility in Medicine and Research
- Society for Pediatric Research
- Lancefield Society
- Infectious Diseases Society of America
- Pediatric Infectious Diseases Society
- American Academy of Pediatrics
- Alpha Omega Alpha Honor Medical Society

#### Deborah Moss, MD, MPH

##### SCHOLARLY AND ADVOCACY ACTIVITIES

This year, Deborah Moss continued her work on public and population health issues. Along with her team at UPMC Health Plan, she published findings from a Medicaid payment reform project in the *Journal of Healthcare Quality* in an article titled "Advancing Value-Based Population Health Management Through Payer-Provider Partnerships: Improving Outcomes for Children With Complex Conditions." Moss contributes to educating practicing providers on public health topics such as oral health access and practices and pediatricians' role in addressing the opioid epidemic. She is also leading a project to prevent childhood obesity at UPMC Health Plan as part of a Robert Wood Johnson Foundation-funded national initiative run by the Association of Community Affiliated Plans to address childhood obesity in the Medicaid population.

Moss has extended her public health focus through advocacy activities and has provided testimony for public hearings related to prohibition of e-cigarettes and vaping products in indoor public spaces as well as

legalization of medical marijuana, written letters of support for policies on universal lead screening and the expansion of donor milk use, and advocated in numerous ways to support the continuation of Medicaid and CHIP insurance services for children. Most recently, she was appointed by the county executive to serve on the Allegheny County Lead Task Force to develop best-practice recommendations for addressing lead exposure in the county.

From a teaching perspective, she began mentoring a second-year medical student on her long-term scholarly research project, “Assessing Factors Related to Successful Transition of Care from Pediatric to Young Adult Sickle Cell Disease.” She continues teaching a variety of courses at the medical school, including Population Health and Behavioral Health for second-year medical students, Combined Ambulatory Medicine and Pediatrics for third-year students, and a mini-course on health care reform called Practicing Medicine: What Awaits You for fourth-year medical students.

#### ADVISORY COMMITTEE MEMBERSHIPS

- Allegheny County Health Department Dental Task Force
- Allegheny County Lead Task Force
- Connections4Health Advisory Board
- IRB, University of Pittsburgh
- Healthy Teeth Healthy Children program, Pennsylvania American Academy of Pediatrics
- President-elect, Pennsylvania American Academy of Pediatrics
- Treasurer, Medical Executive Committee

#### PROFESSIONAL AFFILIATIONS/SOCIETY MEMBERSHIPS

- Vice president of the Pennsylvania chapter, American Academy of Pediatrics
- Academic Pediatric Association

#### MAJOR LECTURESHIPS AND SEMINARS

- “Limiting Screen Time,” 5-2-1-0 program, Phipps Conservatory and Botanical Gardens, Pittsburgh, Pa.

#### HONORS

- Best Doctors, *Pittsburgh Magazine*, 2017
- *Best Doctors in America*, Woodward/White, Inc., 2017

## Gysella Muñiz, MD

### RESEARCH

Gysella Muñiz is an assistant professor in the University of Pittsburgh School of Medicine, Department of Pediatrics. Her research interests are focused on the diagnosis and treatment of common pediatric infections, including AOM, UTI, sinusitis, and pneumonia. She also assists with data analysis, manuscript preparation, and grant proposals related to those activities.

Muñiz is spearheading a multicenter study evaluating the ability to diagnose constipation based on scout x-ray associated with performance of a voiding cystourethrography obtained as part of the RIVUR study. The study looks at correlation between UTI diagnosis and the degree of constipation.

Muñiz is leading a study looking at the importance of renal contour change in the diagnosis of UTIs. Renal function and contour change with age. The goal of the study is to determine whether contour change and the diagnosis of renal scarring are correlated, thus whether changes in renal contour are required to diagnose renal scarring.

In close collaboration with Shaikh and medical student T. Elliott, Muñiz works on a study titled “Meta-Analysis to Predict the Risk of High-Grade VUR in Children With First Febrile UTI.” The aim is to add data on procalcitonin, age, gender, C-reactive protein, and family history to the already established renal bladder ultrasound in order to create a prediction rule for high-grade VUR in children with first febrile UTI with sensitivity and specificity of 80%.

She is also involved with the following funded clinical studies.

- A Phase 2b, Randomized, Double-Blind, Placebo-Controlled Study to Evaluate the Safety and Efficacy of MEDI8897, a Monoclonal Antibody With an Extended Half-Life Against Respiratory Syncytial Virus, in Healthy Preterm Infants; PI: Martin
- Efficacy of Tympanostomy Tubes for Children With Recurrent AOM, Site Protocol, Tympanostomy Tubes; PI: Hoberman
- Efficacy of Antibiotics in Children With Acute Sinusitis: Which Subgroups Benefit? PI: Shaikh
- 1R01 DK087870-01: Corticosteroids for Children With Febrile UTIs; PI: Shaikh
- CHP Research Advisory Council: Urinary Biomarkers for Pyelonephritis; PI: Shaikh
- BAA-NIAID-DMID-NIHAI2008025: The SCOUT Study: Short-Course Therapy for UTIs in Children; PI: Zautis, site PI: Hoberman



- CDC, Option C Child and Adolescent, Pittsburgh: Immunological Response to Influenza Vaccination in Children and Adolescents When No Change in Vaccine Strain Antigens; PI: Zimmerman

In the global health field, Muñiz is the leader of the Remote Village Project in rural Honduras. The project is a sustainable initiative that trains 10–15 community health workers and equips three clinics in isolated mountainous areas to deliver year-round treatment for common health issues like diarrhea, bronchitis, and parasites. The project also provides clean water, smokeless stoves, sanitation, and general health education.

#### ADVISORY COMMITTEE MEMBERSHIPS

- Assistant editor, Children’s Hospital of Pittsburgh Pediatric Residency Program Continuity Curriculum Committee
- Assistant editor, Children’s Hospital of Pittsburgh’s *Guide to Care for Your Newborn*, Spanish version board member, Hope for Honduras/Virginia Hospital Center Medical Brigade
- Chair, Remote Village Project, Hope for Honduras/Virginia Hospital Center Medical Brigade

#### PROFESSIONAL AFFILIATIONS/SOCIETY MEMBERSHIPS

- American Academy of Pediatrics
- Peruvian Medical College

#### MAJOR LECTURESHIPS AND SEMINARS

- “Hope for Honduras: A Model of Sustainable Community Development for Global Health Non-Governmental Organizations,” University of Pittsburgh Health Sciences Diversity 2016–2017 Speaker Series, Pittsburgh, Pa., September 2016

### Jack L. Paradise, MD

#### RESEARCH

Jack Paradise continued to consult with faculty in the division concerning their research efforts. He formally retired in September 2005 but remains involved in reporting findings of research studies, submitting novel NIH applications, and serving as scientific advisor and mentor to multiple research endeavors.

#### ADVISORY COMMITTEE MEMBERSHIPS

- Data and Safety Monitoring Board, National Institute on Deafness and Other Communication Disorders, NICHD, Xylitol Syrup for the Prevention of AOM in Otitis-Prone Children

- Reviewer, Clinical Practice Guideline and Technical Report on Diagnosis and Management of AOM, American Academy of Pediatrics Subcommittee on Diagnosis and Management of AOM

#### PROFESSIONAL AFFILIATIONS/SOCIETY MEMBERSHIPS

- American Public Health Association
- Johns Hopkins Medical and Surgical Association
- American Academy of Pediatrics
- Section on Developmental and Behavioral Pediatrics, American Academy of Pediatrics
- American Cleft Palate Association
- Academic Pediatric Association
- Society for Ear, Nose, and Throat Advances in Children
- American Pediatric Society
- Fellow, American Association for the Advancement of Science

### Kumaravel Rajakumar, MD, MS

#### RESEARCH

Kumaravel Rajakumar’s clinical research is focused on vitamin D nutrition in children, with an emphasis on minority health and health disparities, and it is currently funded by an NIH/National Heart, Lung, and Blood Institute R01 grant (R01HL112985, 2013–2018). Rajakumar has received extramural funding support from NIH since 2006 (NIH/NICHD R03 [R03HD053479, 2006–2009] and NIH/NICHD K23 [K23HD052550, 2007–2013]), as well as intramural funding support from Children’s Hospital of Pittsburgh’s Research Advisory Committee (2008–2010, 2016–2018). In the context of his vitamin D research, he has also been exploring the racial differences in parental trust and their implications for research enrollment of children, as well as other factors pertaining to research participation in children.

*Vitamin D and Vascular Function in Obese Children (R01HL112985, 2013–2018).* The research goals of this multidisciplinary clinical trial are: (a) to determine the efficacy of enhanced vitamin D3 supplementation in improving vascular endothelial function, arterial stiffness, insulin sensitivity, and metabolic syndrome risk status in obese and overweight vitamin D–deficient 10- to 18-year-old children; and (b) to examine the vitamin D supplementation–induced effects on adipokines and inflammatory markers relevant for cardiovascular disease risk. This study is funded by an R01 grant from the NIH/National Heart, Lung, and Blood Institute (2013–2018).

A total of 229–252 eligible children will be randomized to 600 IU versus 1,000 IU versus 2,000 IU of vitamin D3 once daily for six months. Vascular function assessments and other study outcomes will be completed at randomization and at the three- and six-month follow-up visits. The clinical trial was opened for enrollment on August 19, 2013. As of October 9, 2017, a total of 1,542 children had been assessed for eligibility, 609 of the 986 eligible children had been screened for participation, and 219 of them had been randomized.

#### ADVISORY COMMITTEE MEMBERSHIPS

- Research Committee, Division of GAP, 2006 to the present
- Center for Excellence in Child and Adolescent Health Research, Division of GAP, 2014 to the present

#### PROFESSIONAL AFFILIATIONS/SOCIETY MEMBERSHIPS

- Fellow, American Academy of Pediatrics
- American Society for Nutrition
- Society for Pediatric Research
- Endocrine Society
- Editorial Board, *Metabolism—Clinical and Experimental*
- Editorial Board, *Frontiers in Child Health and Human Development*

### Kristin Ray, MD, MS

#### RESEARCH

Kristin Ray joined the faculty of the Division of GAP in 2014 after completing her GAP fellowship at the Children's Hospital of Pittsburgh of UPMC. Ray's research is currently funded by the NICHD. Her overall research goal is to develop and implement strategies to improve the efficiency, equability, and value of pediatric health care systems. Using qualitative and quantitative methods, recent projects have examined family perspectives on the use of telemedicine for pediatric subspecialty care and have documented the growing role nationally of nurse practitioners and physician assistants in the provision of outpatient specialty care. Ray is the director of health systems improvement for Children's Community Pediatrics and is also affiliated faculty within the University of Pittsburgh Health Policy Institute.

#### PROFESSIONAL AFFILIATIONS/SOCIETY MEMBERSHIPS

- American Academy of Pediatrics
- Academic Pediatric Association
- Academy Health

#### HONORS

- CHP Scholar
- CHP Department of Pediatrics Endowed Instructorship

### Evelyn Reis, MD

#### RESEARCH

*CTSI Pediatric PittNet.* Evelyn Reis serves as the medical director for the University of Pittsburgh CTSI pediatric PBRN, Pediatric PittNet. The network strives to facilitate the translation of pediatric research discoveries into practice to improve the health of the region's children. Pediatric PittNet consolidates and builds on previous physical and mental health research networks that have successfully supported federally and industry-sponsored clinical research studies based in local pediatric primary care practices over the preceding decade. To meet the goal of effective translation, Pediatric PittNet promotes collaboration between pediatric clinical investigators and practitioners, as well as collaboration among PBRNs.

Pediatric PittNet currently includes more than 50 research protocols covering a range of common childhood behavioral health issues (e.g., attention-deficit hyperactivity disorder, anxiety) and physical health concerns (e.g., ear infections, UTIs, vaccine effectiveness). Numerous large-scale clinical trials are conducted in Pediatric PittNet practices each year. From July 2007 to June 2016, more than 4,800 children were enrolled in Pediatric PittNet studies. During fiscal year 2017, 595 participants were enrolled. New studies and investigators are added regularly to the research network, which spans the University of Pittsburgh School of Medicine; the departments of Pediatrics, Psychiatry, Psychology, Neurobiology, Family Medicine, and Obstetrics/Gynecology; the School of Nursing; and the Graduate School of Public Health.

Pediatric PittNet member practices include 24 Children's Community Pediatrics practices, an independent pediatric practice, a federally qualified community health center, the Children's Hospital PCCs (including Oakland and Turtle Creek), and the Children's Hospital Center for Adolescent and Young Adult Health. Together, the 29 practices include 50 office sites in six counties in Western Pennsylvania. Approximately 200 Pediatric PittNet providers serve more than 240,000 privately and publicly insured patients, ages birth to 21 years, in urban, suburban, and rural settings.

Pediatric PittNet actively disseminates research opportunities and findings to providers, staff, and parents in the practice community. Outreach to parents is conducted through original videos and slides on eMessage boards in practice waiting rooms, screen-saver messages on exam room monitors, and posts on the Children's Hospital blog.

Outreach to providers and practice staff is conducted through lunchtime teleconferences; on-site practice visits with investigators; our network newsletter, “The Paw”; and regular email updates, including a featured study of the month.

*University of Pittsburgh CTSI.* The University of Pittsburgh CTSI serves as the integrative academic home for clinical and translational scientists across Health Sciences, Carnegie Mellon University, UPMC, and the region. CTSI’s primary focus is to develop, nurture, and support a cadre of clinical and translational scientists by building on the University’s existing clinical research training programs (K30, Roadmap K12). Through integration and innovation, CTSI fosters development of new biomedical knowledge and the translation of that knowledge from the basic and preclinical research settings to individuals, communities, and health practices.

*Influenza Surveillance and Vaccine Effectiveness in a Large, Diverse Network.* Reis serves as a co-investigator for this high-impact, CDC-funded, national study. It aims to estimate annual seasonal influenza vaccine immunogenicity and effectiveness. Pittsburgh, one of only five participating sites, completed the sixth of its 10 funded years of enrollment. Results led to the CDC recommendation against intranasal vaccine FluMist due to ineffectiveness.

*An Enhanced 4 Pillars Toolkit for Increasing Adolescent Immunization: A Randomized, Controlled Cluster Trial in Pediatrics and Family Medicine.* Reis serves as a co-investigator for this practice-improvement study in Pediatric PittNet, which focuses on human papillomavirus and influenza vaccination.

*Balint Group Experience for Pediatric Residents.* Reis is the PI for an annual survey study of Children’s Hospital residents to assess their perceived impact of the Balint group experience. Survey findings have revealed that Balint participation enhances perceived professional development and stress management among pediatric residents.

*Center for Excellence in Child and Adolescent Research.* Reis is a member of this design team, which aims to disseminate high-quality, effective research practices to a wide national audience of children/adolescents, parents, pediatricians, and investigators.

#### MEDICAL EDUCATION LEADERSHIP

*Pediatric Resident Balint Group.* Reis is the co-leader of the CHP resident Balint group, a weekly, facilitated case discussion about the doctor-patient relationship. The goals

of the experience are to build empathy among residents and to sustain them through the stress of training. Reis conducts the annual resident evaluation of the Balint group experience and has led national presentations on the novel approach of block scheduling of Balint groups.

*Pediatric Resident Communication Course.* Reis codirects this course, in which residents practice communication skills with simulated patients. She has led national workshops on this experiential skills training.

*Pediatric Resident Continuity Clinic Curriculum Committee.* Reis is the co-editor of this case-based, biweekly online curriculum, which guides the primary care education of all residents and preceptors, both academic and community based.

*Medical Interviewing.* Reis has cofacilitated small-group, experiential learning for MS-1 students in the introductory Medical Interviewing course, focusing on the content of the medical interview and communication skills.

*Faculty and Students Together (FAST).* Reis serves as a leader and faculty advisor of the School of Medicine’s FAST groups, which support MS-1 through MS-4 students through both faculty and near-peer mentoring.

#### ADVISORY COMMITTEE MEMBERSHIPS

- Faculty member, Pediatric and Adolescent Medicine Interest Group, University of Pittsburgh School of Medicine
- Faculty member, Student Wellness Committee, University of Pittsburgh School of Medicine

#### PROFESSIONAL AFFILIATIONS/SOCIETY MEMBERSHIPS

- American Academy of Pediatrics
- Academic Pediatric Association
- University of Pittsburgh School of Medicine Academy of Master Educators
- National Council member and co-chair of the Scholarship Committee, American Balint Society

#### HONORS

- Top 10 Teaching Faculty, Children’s Hospital of Pittsburgh of UPMC
- *Best Doctors in America*, Woodward/White, Inc.
- Best Doctors, *Pittsburgh Magazine*

#### MAJOR LECTURESHIPS AND SEMINARS

- “A Bolus of Balint: Is Block Scheduling of Balint Groups Effective for Pediatric Residents?” Second National Meeting of the American Balint Society, Oak Brook, Ill., July 2016



**Nader Shaikh, MD, MPH****RESEARCH**

*NIAID Clinical Trial (U01) Evaluating the Efficacy of Antibiotics in Children With Acute Sinusitis.* This is a multicenter, randomized trial (five years, \$4.9 million) in children meeting clinical criteria for acute sinusitis. The primary aim of the study will be to determine whether some subgroups of children do not benefit from treatment with antibiotics. Enrollment started in February 2015, and 190 children have been enrolled to date. Other sites participating are: Kentucky Pediatrics and Adult Research in Bardstown, Ky.; American Family Children's Hospital in Madison, Wis.; Legacy Pediatrics in Rochester, N.Y.; and General Pediatric and Adolescent Care in Morgantown, W.Va.

*NIDDK-Sponsored Clinical Trial (R01) Evaluating the Efficacy of Adjuvant Dexamethasone in Reducing Renal Scarring in Children With Febrile UTI.* This randomized, double-blind, placebo-controlled trial (five years, \$3.1 million) aims to determine the effects of three days of daily adjuvant dexamethasone on the incidence of renal scarring six months after a first febrile UTI and to determine whether previously identified markers of renal parenchymal involvement, along with clinical information, can accurately predict which children will develop renal scarring. Apart from Pittsburgh, children were enrolled from Nationwide Children's Hospital in Columbus, Ohio; the American Family Children's Hospital, which is a children's hospital within the University of Wisconsin system; and Hasbro Children's Hospital in Rhode Island. The study is in its fifth year. Enrollment was scheduled to finish in March 2018. 250 children have been enrolled to date.

*Data Analysis on a Study (R21) Sponsored by the NIDDK Aimed at Finding Biomarkers for Acute Pyelonephritis.* This study is examining whether blood and urine tests at the time of diagnosis can accurately differentiate children with pyelonephritis from children with cystitis. Transcriptomics was performed with high-throughput methods. Samples were also tested for proteins involved in the immune response to UTI. The study enrolled 202 patients, and data are being analyzed.

*SCOUT Study.* The SCOUT study is a multicenter, double-blind, placebo-controlled non-inferiority clinical trial of 746 children ages 2 months to 10 years who will be enrolled over four years. As a co-investigator, Shaikh has been enrolling patients.

*Additional Data Analysis on the NIAID-Sponsored, Randomized, Placebo-Controlled Study in Young Children With AOM Leading to a Revised AOM-Severity of Symptoms Scale (AOM-SOS v. 5.0).* An FDA guidance document for clinical trials in children with AOM has recommended the use of time-to-resolution of symptoms as the primary outcome when evaluating the efficacy of antimicrobial treatment. Shaikh, Hoberman, and Paradise conducted additional analyses of data collected in the AOM placebo-controlled trial that led to a revision of the AOM-SOS scale and the MICD to increase its sensitivity to detect change. The statistical analyses discriminated between two treatment groups, rather than between treatment and placebo. A document outlining the analyses and proposed revision to the AOM-SOS scale was submitted to the Division of Antimicrobials, Center for Drug Effectiveness Research, FDA. Three manuscripts were published.

*Additional Data Analysis on the NIAID-Sponsored Observational Study of Children With Acute Sinusitis Aimed at Development of a Symptom Severity Scale.* Through several rounds of studies, the team has developed a Pediatric Rhinosinusitis Symptoms Scale (PRSS). The data support the use of the PRSS as a measure of change in symptom burden in clinical trials of children with acute sinusitis. A manuscript is being prepared.

*Additional Data Analysis on the NIDDK-Sponsored, Randomized, Placebo-Controlled Study in Children With VUR (RIVUR) Examining the Association Between Delay in Antimicrobial Treatment and Treatment Delay.* As published in *JAMA Pediatrics*, delayed treatment was associated with increased risk of renal scarring.

*Investigation Examining the Association Between the Presence of Pyuria and Results of Urine Culture.* The team used data on 46,158 children evaluated at the Children's Hospital of Pittsburgh emergency department between 2007 and 2013 who had symptoms of UTI and paired urinalysis and urine cultures. As published in *Pediatrics*, uropathogens are less likely to be associated with pyuria in symptomatic children. The study provides a biological explanation for the relatively low sensitivity of pyuria for the diagnosis of UTI and suggests that more accurate biomarkers are needed for screening.

*Two Studies Comparing Diagnosis of AOM in Experts Versus Pediatricians and Trainees.* The first study showed that bulging of the tympanic membrane (TM) was the main finding that otoscopists used to discriminate AOM from OME; information regarding the presence or absence of other signs and symptoms added little to the diagnostic

process. An algorithm using bulging and opacification of the TM correctly classified 99% of ears in an independent dataset. The second study tested the hypothesis that difficulties in diagnosis were related to differences in the relative importance placed on redness and bulging of the TM in the diagnostic process. The paper reported that experts and non-experts differed in their interpretation of redness of the TM; experts placed much lower importance on redness compared to bulging of the TM.

*UpToDate.* In collaboration with Hoberman, Shaikh continued to contribute to UpToDate in the area of UTI in children, with cards on clinical features and diagnosis, epidemiology and risk factors, management, imaging and prognosis, and long-term management and prevention of UTIs in children, all of which are widely accessed and require frequent revisions.

*Videos in Clinical Medicine.* Shaikh was the first author on two *New England Journal of Medicine* videos in clinical medicine. The first video describes the steps involved in tympanocentesis in young children with AOM in the outpatient setting. The second video, titled “Diagnosis AOM,” focuses on demonstrating the proper technique for pneumatic otoscopy and cerumen removal. A third video was produced in collaboration with Jennifer Marin, Robert Hickey, Steven Docimo, and Hoberman on suprapubic aspiration of the bladder.

#### ADVISORY COMMITTEE MEMBERSHIPS

- Sinusitis Guideline Committee, American Academy of Pediatrics
- IRB, University of Pittsburgh

#### PROFESSIONAL AFFILIATIONS/SOCIETY MEMBERSHIPS

- Academic Pediatric Association
- American Academy of Pediatrics
- Society for Pediatric Research

#### Timothy R. Shope, MD, MPH

##### RESEARCH

Timothy Shope’s research focuses on the diagnosis and treatment of common pediatric infectious diseases. With colleagues, Shope completed a five-year, NIH-funded study, “Targeted Interventions to Reduce Antimicrobial Resistance to Compare Short- Versus Standard-Duration Therapy in Children 6–23 Months with AOM,” which was published in the *New England Journal of Medicine*. He actively enrolled patients in five ongoing federally funded protocols: “Steroids to Actively Reduce Renal Scarring,” “Efficacy of Tympanostomy Tubes for

Children With Recurrent Otitis Media,” “Short-Course Antimicrobial Treatment of UTI,” “Short-Course Antimicrobial Treatment of Pneumonia,” and “Efficacy of Antibiotics in Children With Acute Sinusitis: Which Subgroups Benefit?”

In addition, Shope is working as a sub-investigator on private-industry studies in the following areas.



*Improving the Diagnosis of AOM: The Light Field Otoloscope for Diagnosis of AOM (Ricob).* This study involves a three-dimensional technology using an algorithm to aid in diagnosis of AOM. In collaboration with Carnegie Mellon University investigators, he is working on a hand-held cell-phone capture of images of the TM and using image capture to develop an algorithm for enhanced diagnosis of AOM.

*Prevention of RSV Infection.* Funded by Medimmune, this is a phase IIB, randomized, double-blind, placebo-controlled study to evaluate the safety and efficacy of MED19997, a monoclonal antibody with an extended half-life against respiratory syncytial virus in healthy preterm infants.

Shope is funded by the American Academy of Pediatrics and CDC to do national work on influenza preparedness in early education and child care settings. This ongoing project resulted in a publication in *Pediatrics*. He is evaluating seasonal influenza vaccine requirements for licensed child care centers in the United States.

Shope completed a randomized trial of different methods of cerumen removal in young children, and manuscript preparation is under way. This is the first study in young children evaluating the efficacy of irrigation methods, which do not require the presence of a physician.

Shope also completed a project examining emergency department clinicians' adherence to UTI testing guideline recommendations—the first study of its kind since revision of the American Academy of Pediatrics UTI guideline in 2011. He is also working closely with Shaikh on developing and publishing an online prediction rule for determining when to test and treat febrile young children with possible UTIs.

#### ADVISORY COMMITTEE MEMBERSHIPS

- National Advisory Committee, National Resource Center for Health and Safety in Child Care and Early Education, 2011 to the present
- Pediatric Residency Intern Selection Committee, Children's Hospital of Pittsburgh of UPMC, 2013 to the present

#### MAJOR LECTURESHIPS AND SEMINARS

- "Preparing Head Start/Child Care and Communities for Seasonal Influenza," hosted by the American Academy of Pediatrics and the National Center on Early Childhood Health and Wellness, November 2016

- "Who's in and Who Snot?: Exclusion Criteria for Early Education and Child Care Settings," grand rounds, Children's Hospital of Pittsburgh, Pittsburgh, Pa., July 2017

#### Katherine Watson, DO

Katherine Watson is an associate program director for the pediatrics residency. In that role, she focuses on making resident-focused program improvements and increasing community pediatrician outreach. Watson has increased primary care educational opportunities for residents by coordinating biannual GAP teaching sessions for residents who complete their continuity clinic in a community office.

Watson is partnering with Community Health and Health Improvement Partnerships to create a new rotation for first-year residents, encompassing primary care and community engagement. The rotation will provide educational opportunities on the Care Mobile, during home visits, and within the Pittsburgh Public Schools and Pittsburgh Parks Conservancy.

Watson is leading the CHP Resident and Fellow Well-Being Taskforce and also serves on the UPMC Graduate Medical Education WELL committee. Both groups are working to provide structured educational opportunities for residents to increase physician well-being and decrease burnout.

Clinically, Watson continues to work to establish HH4L as a sustainable clinic model at the PCC in Oakland. She has launched research initiatives relating to lifestyle modification and increased activity for patients. Watson works with CHP residents in the HH4L clinic during their continuity rotation. The goal for the experience is improvement in their motivational interviewing skills and increased medical knowledge about childhood obesity.

#### PROFESSIONAL AFFILIATIONS/SOCIETY MEMBERSHIPS

- Fellow, American Academy of Pediatrics
- Academy of Pediatric Program Directors

#### HONORS

- Clerkship Preceptor of the Year, University of Pittsburgh School of Medicine
- Top Ten Educators at Children's Hospital of Pittsburgh

#### SERVICE

- Clinical lead, Let's Move Pittsburgh Clinical Advisory Team, Parks Rx



**Jennifer Zarit, MD**

Jennifer Zarit is the primary teaching attending for the GAP well newborn service at MWH, which trains medical students from the University of Pittsburgh School of Medicine and residents from the Children's Hospital Pediatric Residency Program and the combined Family Medicine Programs from the UPMC Shadyside, McKeesport, and St. Margaret hospitals. In addition, she is focused on breastfeeding support and education.

*Lactation Elective Course Director.* Zarit is the director for the lactation elective for medical students, pediatric residents, and family medicine residents. It is a two- to four-week elective with academic and hands-on learning to assist breastfeeding dyads.

**ADVISORY COMMITTEE MEMBERSHIPS**

- Newborn Committee, MWH of UPMC
- Clinical Effectiveness Committee, Division of GAP, Children's Hospital of Pittsburgh of UPMC
- Allegheny County Breastfeeding Coalition
- Magee Newborn Hospitalist Committee

**PROFESSIONAL AFFILIATIONS/SOCIETY MEMBERSHIPS**

- American Academy of Pediatrics
- Academy of Breastfeeding Medicine
- International Lactation Consultant Association
- Academic Pediatric Association

**TEACHING ACTIVITIES**

**T**he Division of GAP plays a considerable role in the education and training of medical students, residents (pediatrics, medicine-pediatrics, triple-board, and family medicine), fellows, and faculty. The GAP teaching program is a product of set division goals, including:

- High-quality, standard curricula for learners of all levels
- Faculty development, with emphasis on attaining a critical-mass interest in improving medical knowledge and skills
- Ongoing curriculum development by division members

The goals are inspired by the Accreditation Council for Graduate Medical Education Outcomes Project, adult-learning theory, the importance of evidence-based medicine, and the experience of master educators.

**CURRICULUM DEVELOPMENT AND ONLINE OFFERINGS**

Because trainees are placed in a wide variety of ambulatory care settings, the division ensures that all trainees have access to standard learning experiences regardless of their clinical home base. Thus, GAP has developed a wide range of formal primary care curricula in more than 45 topics to accompany clinical experiences. The curricula are available online via a dedicated pediatric education Web site. Oversight and editing of the three-year online curriculum are conducted by a faculty team composed of Watson (primary care education director), Reis, Haupt, and Muñiz. Administration of the Web site at the division level allows the division to track and support users, generate reports, and quickly update curricula. The Web site hosts more than 90 offerings within six major topic areas. It is used primarily by CHP of UPMC trainees, but specific curricula also are available to other institutions and the public at large.

At CHP, online offerings accompany the critical supervised hands-on experiences that all trainees receive. In addition, the modules serve as continuing medical education faculty-development opportunities and are made available to all faculty in the division as well as the more than 40 community pediatricians who supervise a subset of residents for their continuity clinic experience.

**PRIMARY CARE TRACK (PALS)**

Children's Hospital initially received a \$1.9 million, five-year grant from HRSA to develop a primary care track in the residency program to prepare pediatricians to provide effective, compassionate, culturally sensitive care to children from underserved urban and rural settings. The program recruits two residents every year, and 75% of PALS graduates practice primary care in a medically underserved area. Watson is establishing a leadership curriculum for PALS residents to be completed as a longitudinal experience.

**PRIMARY CARE INTEREST GROUP**

This resident-led group is composed of 10–15 individuals every year who are interested in pursuing a career in primary care. The group meets four to six times per year at a faculty member's home for dinner. The goals are to promote collegiality, mentorship, and career guidance and to allow discussion of primary care topics. Topics this year included a scholarly talk by a resident on atopic dermatitis and a panel of community pediatricians on career options. The group has also developed a primary care mentor resource for residents with questions about a career in primary care.

**MEDICAL STUDENT TEACHING**

GAP faculty members serve in leadership roles and actively participate in teaching medical students. In the preclinical years, faculty members educate students in courses such as Medical Interviewing and Advanced Physical Examination. In the clinical years, Biller directs the Combined Ambulatory Medicine and Pediatrics Clerkship, an eight-week exposure to outpatient medicine. In that course, GAP faculty members have developed and lead didactic sessions for third- and fourth-year medical students. Biller also is a facilitator for the weekly ethics sessions for third- and fourth-year medical students, which are held during the Pediatric Inpatient Medicine Clerkship.

Additionally, faculty members precept students in busy clinical settings, including acute, preventive, and newborn care. Chaves-Gnecco has developed and oversees a one-week elective that focuses on the care of Pittsburgh's Latino population. Bogen has developed and oversees a breastfeeding elective for fourth-year students. Cook is developing a new one-week rotation in the Complex Care Clinic.



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