

Hospital Medicine

Division Details

RESEARCH AND TRAINING DETAILS

Faculty	38
Joint Appointment Faculty	7
Total Annual Grant Award Dollars	\$1,356,432
Total Annual Industry Award Dollars	\$2,500
Total Publications	75

CLINICAL ACTIVITIES AND TRAINING

Staff Physicians	6
Clinical Fellows	6
Inpatient Encounters	26,566



Row 1: M Parker, K Auger, L Herbst, S Patel, C Forster, L Brower, K Jerardi, A Schondelmeyer, S Shah, A Choe, A Ipsaro

Row 2: J O'Toole, M Klein, A Beck, J DeSante-Bertkau, A Shah, S Desai, A Statile, L Ambroggio, P Hagedorn, K Meier, L Benz, J Thomson

Row 3: B Volck, B Hubbell, J Simmons, N Unaka, P Brady, B Kinnear, C White, E Hoefgen, A Antommara, M Tchou, D Warner

Row 4: E Kirkendall, M Vossmeier

Research Highlights

Partnering to Improve Care at the Liberty Campus

The expanded [Liberty](#) campus opened in August of 2015. During the successful first year, Hospital Medicine led the way in providing high quality, family-centered safe care to a growing number of patients and their families. To meet the demands of this new campus, Hospital Medicine has developed an innovative model for care to meet the needs of patients of higher acuity and complexity, that includes residents, nurse practitioners, and telemedicine-facilitated co-management of high acuity patients with the [Division of Critical Care Medicine](#). Hospital Medicine physicians and nurses have also partnered with the [Division of General and Thoracic Surgery](#), the [Cancer and Blood Diseases Institute](#) and multiple divisions within the department of pediatrics to provide services at Liberty for patients requiring specialty care. This has resulted in growth in the number of patients receiving care at the Liberty campus and allowed more families the convenience of staying closer to home while still accessing the world-class clinical services of Cincinnati Children's Hospital Medical Center.

Reducing Length of Stay After Scoliosis Surgery

[Dr. Blair Simpson, MD](#), co-led a multidisciplinary team representing the Divisions of [Orthopaedics](#) and Hospital Medicine, as well as a A3N inpatient unit to standardize care for adolescents following corrective surgery for idiopathic scoliosis. The team created a standardized post-operative care algorithm that built upon prior Hospital Medicine partnerships focusing on standardized approaches to respiratory care, urinary retention, venous thromboembolism risk assessment, and surgical infection prevention. Implementation of the

post-operative algorithm reduced the length of stay from 3.7 to 3.0 days, which translates into a substantive cost savings for patients and the health system. Work is ongoing to spread this phase-based framework to other orthopaedic conditions as well as other surgical conditions across the institution.

Family Engagement and Partnership in Research

Patients and families can provide meaningful contributions throughout the research process. Most studies have focused on engaging parents of children with chronic illness. No studies have documented the feasibility or acceptability of family engagement of acutely ill children in research. Hospital Medicine faculty, including **Drs. Samir S. Shah, Jeffrey Simmons, Andrew Beck, Katherine Auger, Angela Statile,** and **Christine White**, partnered with the [Department of Patient Services](#) colleagues to pioneer a novel approach of serial, short-term focused engagement of families of children hospitalized with acute illnesses such as pneumonia, dehydration, and seizures. This approach allowed integration of the invaluable perspectives of families into research questions, intervention design, and outcome measurement in the Hospital-to-Home Outcomes (H2O) study which seeks to improve patient outcomes and reduce hospital readmissions. A grant from the Patient-Centered Outcomes Research Institute ([PCORI](#)) supports this work.

Detecting medical errors is important for identifying causative factors and measuring the effectiveness of prevention strategies. In the patient and family-centered I-PASS study, **Dr. Jennifer O'Toole** and colleagues found that including families in safety reporting increased overall error and adverse event detection, a finding that represents an important safety innovation. Families may identify otherwise unrecognized errors, providing new opportunities for prevention. A grant from the PCORI supports this work.

Children with developmental disabilities, or who require medical technology such as feeding tubes or tracheostomies, are at increased risk of emergency department visits, hospitalization and long stays once hospitalized. These children's families not only are experts in their children and their children's illnesses, but they also acquire substantial experience in how hospital care works. Unfortunately, the system of care in the hospital is not designed to fully benefit from these families' expertise with resulting inefficiencies, confusion and error. **Drs. Patrick Brady, Samir S. Shah** and colleagues have partnered with families of children with medical complexity to better understand families' experience and then co-design interventions to improve hospital care, experience and patient safety. A grant from the [Agency for Healthcare Research and Quality](#) supports this work.

Advancing Scientific Scholarship Nationally

Hospital Medicine faculty play an instrumental role in advancing scientific scholarship through leadership roles in leading scientific journals. Drs. **Katherine Auger, MD, MSc**, and **Erin Shaughnessy, MD, MSHCM**, joined the editorial boards of the [American Academy of Pediatrics](#) flagship research journals, *The Journal of Pediatrics* and *Hospital Pediatrics*, respectively. *The Journal of Hospital Medicine*, the official journal of the >15,000 member [Society of Hospital Medicine](#) selected **Dr. Joanna Thomson, MD, MPH**, as associate editor and promoted **Dr. Samir S. Shah, MD, MSCE**, to senior deputy editor. *The Journal of Clinical Ethics*, a journal written by and for physicians, nurses, attorneys, ethicists, and others whose decisions directly affect patients selected **Dr. Armand Antommara, MD, PhD, FAAP**, to the editorial board.

Safety Accreditation and Regulatory Readiness

In July, **Dr. Jeffrey Simmons, MD, MSc**, became the institutional safety officer as well as the executive co-lead with Dr. Mary Sitterding from the [Department of Patient Services](#). With an integrated mission of being Always Ready, Always Safe, and guided by both the care and people pillars of SP20, he will partner with medical and patient services operational leaders to reduce events of serious harm to patients and staff, and help improve our learning system to support regulatory readiness. In addition, he will partner with faculty in the [James M. Anderson Center for Health Systems Excellence](#) to further develop Cincinnati Children's portfolio of safety-related research to expand the impact of the great work done here to improve patient and staff safety.

Excellence of Division Faculty and Trainees

Fellows

Dr. Laura Brower, MD, received a Novice Research Award from the [Gerber Foundation](#) to implement a novel evidence-based pathway for the care of young infants with fever with a particular focus on standardizing the assessment for herpes simplex virus, an uncommon but serious infection that can cause neurologic disability or death.

Dr. Catherine Forster, MD, elected president of the fellows and junior section of the Society for Pediatric Research (SPR). She also co-chairs the SPR mentoring committee, and in this role, advocates for the needs of young investigators. The SPR fosters the research and career development of investigators engaged in creating new knowledge that advances the health and well-being of children. Dr. Forster is the recipient of two prestigious grants. The New Investigator Scholars Award from the [University of Cincinnati Center for Environmental Genetics](#) supports her work following molecular changes in bacteria from the urine of children who require clean, intermittent bladder catheterization to document the association of antibiotic use with these genetic changes. The Novice Research Award from the Gerber Foundation will allow her to investigate the association between a specific immune deficiency in the genitourinary tract and recurrent urinary tract infections in children.

Dr. Erik Hoefgen, MD, gave the American Academy of Pediatric Presidential Plenary presentation at the annual meeting of the [Pediatric Academic Societies](#). His presentation provided insight on healthcare utilization for children with chronic illnesses such as diabetes, depression, and asthma.

Dr. Anita Shah, DO, received the Presidential Scholarship Award for Child Health Policy from [AcademyHealth](#), a leading national voice in health policy and healthcare financing. She also received a Young Investigator Award from the [Academic Pediatric Association](#) to study how resilience may modify the effect of parental adverse childhood experiences on outcomes such as the parent's ability to cope with the stress of their child's hospitalization and subsequent healthcare utilization.

Current and former fellows. Drs. Catherine Forster, [Katherine Auger, MD, MSc](#), and [Amanda Schondelmeyer, MD](#), received [loan repayment Awards](#) from the National Institutes of Health (NIH). These awards support exceptional young investigators engaged in research that supports the NIH mission.

Faculty

The Division of Hospital Medicine faculty and fellows received the prestigious 2015-2016 Division Teaching Award from the graduating senior resident class for the Division's excellence in and commitment to resident education.

Dr. Katherine Auger received the 2016 Nemours Child Health Service Research Award from AcademyHealth. This award recognizes a body of scientific work from emerging scholars in the field of child health services research. AcademyHealth focuses on advancing the fields of health services research and health policy through the transfer of relevant information across the research and policy arenas.

Dr. Andrew Beck, MD, MPH, received recognition as part of the [Forty Under 40 Class of 2016](#) by the [Cincinnati Business Courier](#). This annual award program recognizes young professionals in Ohio, Kentucky, and the Indiana Tri-State area who have reached major milestones in their careers, and who also made significant contributions to the community.

Dr. Patrick Brady, MD, MSc, received the Cincinnati Children's [Junior Faculty Clinical Care Achievement Award](#) for his leading role in improving patient safety and engaging families in initiatives to improve hospital care. His appointment as a core faculty member of the new Academic Pediatric Association's Quality and Safety Improvement Scholars Program recognized his national expertise in patient safety. Dr. Brady also received the Best Faculty Oral Abstract Award from the [Academy for Healthcare Improvement](#) for his work titled "Developing an end-user designed data display for oxygen trends: an ethnographic study."

Dr. Craig Gosdin, MD, MSHA, received the honor of identifying and presenting the top articles in the field at Pediatric Hospital Medicine (PHM), an annual international scientific meeting jointly sponsored by the [American Academy of Pediatrics](#), the Academic Pediatric Association, and the [Society of Hospital Medicine](#).

Dr. Karen Jerardi, MD, MEd, is leading the national group of PHM fellowship directors in the development and dissemination of a standardized fellowship curriculum. This curriculum is already utilized in the subspecialty certification application process with the [American Board of Pediatrics](#) and [American Board of Medical Specialties](#). Moving forward, this curriculum will be the standard used for Accreditation Council for Graduate Medical Education (ACGME) accreditation of pediatric hospital medicine fellowships nationwide.

Dr. Jennifer O'Toole, MD, MEd, and colleagues received the 2015 Pediatric Hospital Medicine Award for the Best Paper in Quality and Patient Safety at the 2015 annual Pediatric Hospital Medicine Meeting. This award presented jointly by the American Academy of Pediatrics, the Academic Pediatric Association, and the Society for Hospital Medicine. Dr. O'Toole and colleagues demonstrated that

implementing a systematic approach to patient hand-offs (i.e., when one physician assumes the care of a patient from another physician) reduces preventable errors by one-third.

Dr. Samir S. Shah, MD, MSCE, received the 2015 Pediatric Hospital Medicine Award for Research Excellence. This inaugural award presented jointly by the American Academy of Pediatrics, the Academic Pediatric Association, and the Society for Hospital Medicine to recognize Dr. Shah's important research contributions on childhood pneumonia and systems of hospital care. Dr. Shah is also co-editor of *The Philadelphia Guide: Inpatient Pediatrics, 2nd edition* (McGraw-Hill Professional, 2016, ISBN-13: 978-0071829212), a handbook that provides practical guidance to improve the care of hospitalized children.

Dr. Brian Volck, MD, is author of *Attending Others: A Doctor's Education in Bodies and Words* (Cascade Books, 2016, ISBN-13: 978-1620327289). *Attending Others* is a highly personal account of what Dr. Volck learned about medicine after he completed his formal education. He recounts how through his own experiences, he learned to listen to children unable to talk, to assist in healing when cure is impossible, and to love those whose life and experiences are radically different from his own.

Significant Publications

DeSante J, Degrazia D, Danis M. **Parents of adults with diminished self-governance**. *Camb Q Healthcare Ethics*. 2016 Jan;25(1):93-107.

Pushing the chick towards the edge of the nest. While there are multiple philosophical theories on parenthood and the duties of a parent, all of them based on the assumption that the child will grow up to be an independent and autonomous adult. There is a dearth of guidance for the parents of medically complex children who will remain dependent on their parents for the remainder of their lives. Based on common characteristics of these parent-child relationships and several philosophical accounts of parental obligations, the team extrapolated the duties of parents to parents of semiautonomous adult children. Parents of these children have an obligation to promote autonomy and independence in their children from a young age, above and beyond the obligation of most parents.

Li Q, **Kirkendall ES**, Hall ES, Ni Y, Lingren T, Kaiser M, Lingren N, Zhai H, Solti I, Melton K. **Automated detection of medication administration errors in neonatal intensive care**. *J Biomed Inform*. 2015 Oct;57:124-33.

Stop that medication. The traditional reporting mechanism for medication errors is paper-based, voluntary incident reporting. However, electronic medical records provide opportunities for efficient, automated, and scalable ways to detect and alert prescribers to these errors. Using a computerized algorithm, identification of medication administration errors for patients in the neonatal intensive care unit was far more sensitive (82%) than traditional incident reporting (5%). In addition, the computerized algorithms also had increased precision (70%) over traditional incident reporting (50%). These algorithms are an important addition to existing safety systems that allow the identification of medical errors in real-time.

Auger KA, Mueller EL, Weinberg SH, **Forster CS, Shah A, Wolski C, Mussman G, Ipsaro AJ**, Davis MM. **A validated method for identifying unplanned pediatric readmission**. *J Pediatr*. 2016 Mar;170:105-12.

Towards more reliable measurement of quality of care. Some State Medicaid agencies view readmissions as a measure of quality of care and penalize hospitals with higher than expected readmission rates. In determining readmission rates, hospitals must distinguish planned or scheduled medical (e.g., initiation of a ketogenic diet) and surgical (e.g., gastrostomy tube placement) from unplanned readmissions. However, there is no widely accepted and validated method to distinguish unplanned from scheduled admissions. This study identified and validated a new method to easily and reliably identify unplanned readmissions by examining hospital registration time and patient arrival time. Widespread use of this metric permit meaningful comparison of readmissions across hospitals, offering a reliable metric for policy makers.

Parker MW, Shah SS, Hall M, Fieldston M, Fieldston ES, Coley BD, Morse RB. **Computed tomography and shifts to alternate imaging modalities in hospitalized children**. *Pediatrics*. 2015 Sep;136(3):e573-81.

Reducing risks and costs of medical care. Computed tomography or CT scans, special x-rays that allow doctors to see organs, bones, and blood vessels, can improve the diagnosis of certain conditions. However, they also expose the patient to ionizing

radiation, which likely increases the risk of future cancer. This study examined trends in CT use at 33 children's hospitals over a nine year period. The authors found that CT use decreased by as much as 40% for some conditions such as appendicitis and concussions. They attribute this decrease to several factors. First, there is a greater awareness of the potential harms of even relatively small amounts of ionizing radiation. A notion supported by their finding that much of this decrease was attributable to shifts to imaging modalities such as MRI or ultrasound that do not expose patients to ionizing radiation. Second, there is recognition through national campaigns such as "Image Gently," by the Alliance for Radiation Safety in Pediatric Imaging, and "Choosing Wisely," a cause championed by the Society for Hospital Medicine, that more testing does not necessarily improve patient outcomes.

Thomson J, Hall M, **Ambroggio L**, Stone B, Srivastava R, **Shah SS**, Berry JG. **Aspiration and Non-Aspiration Pneumonia in Hospitalized Children With Neurologic Impairment.** *Pediatrics*. 2016 Feb;137(2):e20151612.

Pneumonia in children with medical complexity. Children with neurologic impairment are commonly hospitalized with pneumonia. This study of >27,000 children from >40 U.S. hospitals found that neurologically impaired children with pneumonia caused by aspiration of stomach contents (i.e., aspiration pneumonia) have more complications, and greater hospital utilization, than children with other causes of pneumonia. Specifically, children with aspiration pneumonia were 20% more likely to have complications, such as respiratory failure, and 40% more likely to require intensive care unit transfer than children diagnosed with other causes of pneumonia. These findings highlight the need for more research into treatment and prevention of aspiration pneumonia in neurologically impaired children.

Division Publications

1. Ambroggio L, Sucharew H, Rattan MS, O'Hara SM, Babcock DS, Clohessy C, Steinhoff MC, Macaluso M, Shah SS, Coley BD. **Lung Ultrasonography: A Viable Alternative to Chest Radiography in Children with Suspected Pneumonia?** *J Pediatr*. 2016; 176:93-98 e7.
2. Ambroggio L, Test M, Metlay JP, Graf TR, Blosky MA, Macaluso M, Shah SS. **Beta-Lactam Versus Beta-Lactam/Macrolide Therapy in Pediatric Outpatient Pneumonia.** *Pediatr Pulmonol*. 2016; 51:541-8.
3. Ambroggio L, Test M, Metlay JP, Graf TR, Blosky MA, Macaluso M, Shah SS. **Comparative Effectiveness of Beta-Lactam Versus Macrolide Monotherapy in Children with Pneumonia Diagnosed in the Outpatient Setting.** *Pediatr Infect Dis J*. 2015; 34:839-42.
4. Aronson PL, Williams DJ, Thurm C, Tieder JS, Alpern ER, Nigrovic LE, Schondelmeyer AC, Balamuth F, Myers AL, McCulloh RJ, Alessandrini EA, Shah SS, Browning WL, Hayes KL, Feldman EA, Neuman MI, Febrile Young Infant Research Collaborative. **Accuracy of Diagnosis Codes to Identify Febrile Young Infants Using Administrative Data.** *J Hosp Med*. 2015; 10:787-93.
5. Auger KA, Davis MM. **Pediatric Weekend Admission and Increased Unplanned Readmission Rates.** *J Hosp Med*. 2015; 10:743-5.
6. Auger KA, Jerardi KE, Simmons JM, Davis MM, O'Toole J, Sucharew HJ. **It's Complicated: Overcoming Statistical Challenges of Group Learning in Medical Education Research.** *J Grad Med Educ*. 2015; 7:326-30.
7. Auger KA, Kahn RS, Davis MM, Simmons JM. **Reply: To Pmid 25241184.** *J Pediatr*. 2015; 167:213-4.
8. Auger KA, Mueller EL, Weinberg SH, Forster CS, Shah A, Wolski C, Mussman G, Ipsaro AJ, Davis MM. **A Validated Method for Identifying Unplanned Pediatric Readmission.** *J Pediatr*. 2016; 170:105-12 e1-2.
9. Balamuth F, Weiss SL, Hall M, Neuman MI, Scott H, Brady PW, Paul R, Farris RW, McClead R, Centkowski S, Baumer-Mouradian S, Weiser J, Hayes K, Shah SS, Alpern ER. **Identifying Pediatric Severe Sepsis and Septic Shock: Accuracy of Diagnosis Codes.** *J Pediatr*. 2015; 167:1295-300 e4.
10. Beck AF, Florin TA, Campanella S, Shah SS. **Geographic Variation in Hospitalization for Lower Respiratory Tract Infections across One County.** *JAMA Pediatr*. 2015; 169:846-54.

11. Brower L, Schondelmeyer A, Wilson P, Shah SS. **Testing and Empiric Treatment for Neonatal Herpes Simplex Virus: Challenges and Opportunities for Improving the Value of Care.** *Hosp Pediatr.* 2016; 6:108-11.
12. Colvin JD, Hall M, Gottlieb L, Bettenhausen JL, Shah SS, Berry JG, Chung PJ. **Hospitalizations of Low-Income Children and Children with Severe Health Conditions: Implications of the Patient Protection and Affordable Care Act.** *JAMA Pediatr.* 2016; 170:176-8.
13. Florin TA, Aronson PL, Hall M, Kharbanda AB, Shah SS, Freedman SB, Alpern ER, Mistry RD, Simon HK, Berry J, Coley BD, Neuman MI. **Emergency Department Use of Computed Tomography for Children with Ventricular Shunts.** *J Pediatr.* 2015; 167:1382-8 e2.
14. Forster CS, Jerardi KE, Herbst L, Brady PW. **Right Test, Wrong Patient: Biomarkers and Value.** *Hosp Pediatr.* 2016; 6:315-7.
15. Gallagher P, Shah S, Windle M, Carter B, Rosenkrantz T, Springer S. **Omphalitis.** New York: Medscape; 2016 [updated January 2, 2016].
16. Giuliano JS, Jr., Markovitz BP, Brierley J, Levin R, Williams G, Lum LC, Dorofaeff T, Cruces P, Bush JL, Keele L, Nadkarni VM, Thomas NJ, Fitzgerald JC, Weiss SL, Sepsis Prevalence Outcomes Therapies Study Investigators Pediatric Acute Lung Injury Sepsis Investigators Network. **Comparison of Pediatric Severe Sepsis Managed in U.S. And European IcUs.** *Pediatr Crit Care Med.* 2016; 17:522-30.
17. Goudie A, Dynan L, Brady PW, Fieldston E, Brilli RJ, Walsh KE. **Costs of Venous Thromboembolism, Catheter-Associated Urinary Tract Infection, and Pressure Ulcer.** *Pediatrics.* 2015; 136:432-9.
18. Hagedorn PA, Shah SS, Kirkendall ES. **Following the (Clinical Decision) Rules: Opportunities for Improving Safety and Resource Utilization with the Bacterial Meningitis Score.** *Hosp Pediatr.* 2016; 6:305-9.
19. Jerardi K, Meier K, Shaughnessy E. **Management of Postoperative Pediatric Patients.** Washington DC: MedEdPORTAL Publications; 2015.
20. Jerardi KE, Mogilner L, Turner T, Chandran L, Baldwin CD, Klein M. **Investment in Faculty as Educational Scholars: Outcomes from the National Educational Scholars Program.** *J Pediatr.* 2016; 171:4-5 e1.
21. Jones Y, Sisler S. **Atypical Presentation of Retropharyngeal Abscess.** *Consult Pediatr.* 2016; 15:230-31.
22. Kelley SV, Jerardi KE. **A 5-Year-Old Boy with Refractory Hypocalcemia.** *JAMA Pediatr.* 2016; 170:509-10.
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25. Kinnear B, O'Toole JK. **Care of Adults in Children's Hospitals: Acknowledging the Aging Elephant in the Room.** *JAMA Pediatr.* 2015; 169:1081-2.
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28. Mahant S, Hall M, Ishman SL, Morse R, Mittal V, Mussman GM, Gold J, Montalbano A, Srivastava R, Wilson KM, Shah SS. **Association of National Guidelines with Tonsillectomy Perioperative Care and Outcomes.** *Pediatrics.* 2015; 136:53-60.

29. Malik FS, Hall M, Mangione-Smith R, Keren R, Mahant S, Shah SS, Srivastava R, Wilson KM, Tieder JS. **Patient Characteristics Associated with Differences in Admission Frequency for Diabetic Ketoacidosis in United States Children's Hospitals.** *J Pediatr.* 2016; 171:104-10.
30. Menchise AN, Mezoff EA, Lin TK, Saeed SA, Towbin AJ, White CM, Guiot AB, Abu-El-Haija M. **Medical Management of Duodenum Inversum Presenting with Partial Proximal Intestinal Obstruction in a Pediatric Patient.** *J Pediatr Gastroenterol Nutr.* 2016; 62:e64-5.
31. Mueller EL, Hall M, Carroll AE, Shah SS, Macy ML. **Frequent Emergency Department Utilizers among Children with Cancer.** *Pediatr Blood Cancer.* 2016; 63:859-64.
32. Mueller EL, Hall M, Shah SS, August KJ, Radhi MA, Macy ML. **Characteristics of Children with Cancer Discharged or Admitted from the Emergency Department.** *Pediatr Blood Cancer.* 2016; 63:853-8.
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34. O'Toole JK, Klein MD, McLinden D, Sucharew H, DeWitt TG. **A Pilot Study of the Creation and Implementation of a Teaching Development Assessment Tool.** *J Grad Med Educ.* 2015; 7:638-42.
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39. Patrick S, Burke J, Biel T, Auger K, Goyal N, Cooper W. **Risk of Hospital Readmission among Infants with Neonatal Abstinence Syndrome.** *Hosp Pediatr.* 2015; 5:513-19.
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44. Sauers-Ford HS, Simmons JM, Shah SS, H. O. Study Team. **Strategies to Engage Stakeholders in Research to Improve Acute Care Delivery.** *J Hosp Med.* 2016; 11:123-5.

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57. Shaughnessy EE, White C, Shah SS, Hubbell B, Sucharew H, Sawnani H. **Implementation of Postoperative Respiratory Care for Pediatric Orthopedic Patients.** *Pediatrics.* 2015; 136:e505-12.
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Grants, Contracts, and Industry Agreements

Annual Grant Award Dollars

Investigator	Title	Sponsor	ID	Dates	Amount
Patrick Brady, MD	Family-Clinician Partnerships to Improve Child Safety in the Hospital	Agcy for Healthcare Research and Quality	K08 HS023827	5/1/2015 - 4/30/2020	\$148,292
Laura H Brower, MD	Standardizing Testing and Empiric Therapy for Neonatal Herpes Simplex Virus	The Gerber Foundation	Gerber_Brower	1/5/2016 - 1/4/2017	\$19,618
Catherine Forster, MD	Urinary NGAL Deficiency in	The Gerber Foundation	Gerber_Forster	1/5/2016 -	\$8,479

	Patients with Recurrent Urinary Tract Infections				1/4/2018	
Eric Kirkendall, MD Kristin R Melton, MD	Improving Intensive Care Medication Safety through EHR-based Algorithms	National Institutes of Health	R01 LM012230	9/15/2015	\$174,656	- 8/31/2019
Mia Lynn Mallory, MD	Pathways for Emerging Healthcare Leaders	Department of Health and Human Services (University of Cincinnati)	CPIMP151094	8/15/2015	\$7,219	- 7/31/2020
Jennifer O'Toole, MD	Bringing I-PASS to the Bedside: a Communication Bundle to Improve Patient Safety and Experience	Patient-Centered Outcome Research Inst. (Children's Hospital Boston)	CDR-1306-03556	4/15/2014	\$95,144	- 4/14/2017
Anita Shah DO	Effect of Parental Adverse Childhood Experiences and Resilience on Outcomes after Pediatric Discharge	Academic Pediatric Association	APA_Shah YIA	3/1/2016 -	\$10,000	2/28/2017
Samir Shah, MD	Children's Hospital's Initiative for Research in Pneumonia (CHIRP)	Ohio Department of Medicaid (ODM) (The Research Instit at Nationwide Hosp)	82125015	7/1/2015 -	\$39,930	6/30/2017
Samir Shah, MD	Improving Post-discharge Outcomes by Facilitating Family-centered Transitions from Hospital to Home	Patient-Centered Outcome Research Inst.	IHS-1306-00811	5/1/2014 -	\$834,829	4/30/2017
Samir Shah, MD	Understanding Quality and Costs in Congenital Heart Surgery	National Institutes of Health (University of Michigan)	R01 HL122261	4/1/2014 -	\$18,266	3/31/2019

Total Annual Grant Award Dollars

\$1,356,432

Annual Industry Award Dollars

Investigator	Industry Sponsor	Amount
Joanna Elaine Thomson, MD	Pfizer, Inc.	\$2,500
Total Annual Industry Award Dollars		\$2,500