

Division Details

Division Data Summary

RESEARCH AND TRAINING DETAILS

Number of Faculty	20
Number of Joint Appointment Faculty	5
Number of Research Fellows	1
Number of Research Students	1
Number of Support Personnel	11
Direct Annual Grant Support	\$577,597
Peer Reviewed Publications	91

CLINICAL ACTIVITIES AND TRAINING

Number of Clinical Staff	3
Number of Clinical Fellows	3
Number of Other Students	1
Inpatient Encounters	9627

Division Photo



Row 1: N Goyal, K Jerardi, C Schuler, L Brow er, C Lares
 Row 2: K Meier, A Schondelmeyer, A Statile, L Ambroggio, C Gosdin J Thomson, K Auger
 Row 3: L Solan, B Bolser, J Simmons, D Warner, E Shaughnessy, A Patel, B Volck, J O'Toole, A Beck, S Shah
 Row 4: N Unaka, E Kirkendall, P Brady, A Antommaria, A Spooner, C White M Vossmeier, J Schaffzin

Significant Accomplishments

Clinical Innovation Leads to Improved Outcomes

Our Hospital Medicine Surgical Service (HMSS), led by Erin Shaughnessy, MD, has had dramatic growth in the number of patients served as our surgical partners have recognized the benefit of having a pediatric hospitalist manage the medical needs of their complex patients. In partnership with Orthopaedic Surgery, we have developed a Posterior Spinal Fusion postoperative protocol that has increased reliability of providing the best evidence-based care. We have also implemented a standardized, early postoperative respiratory care pathway for children receiving major hip or spine surgery. The pathway incorporates novel strategies to improve lung health in patients with neurologic impairment (such as cerebral palsy). This effort has improved patient outcomes - such as less time requiring extra oxygen and shorter hospitalizations - and increased family empowerment to perform respiratory care. Surgical hospitalist and Division faculty member, Joshua Schaffzin, MD, PhD, received a PLACE Outcomes Research Award to further his work aimed at reducing rates of surgical site infection. We also lead a collaborative group of physicians developing a pediatric venous thromboembolism (VTE) prophylaxis evidence-based care guideline.

Improving Hospital Discharge Timeliness

Delays in patient discharge can result in slower admissions and delayed or canceled surgeries. A multidisciplinary team, led by Christine White, MD, MAT, and Angela Statile, MD, has developed medically-ready discharge criteria, based on available evidence and expert consensus, for 11 common inpatient

diagnoses. The criteria outline diagnosis-specific goals such as achieving “stable without supplemental oxygen for 6 hours” for patients admitted with bronchiolitis. The discharge criteria are embedded in admission order sets in the electronic medical record. Physicians modified the criteria as a patient’s clinical course evolved. Interventions then focused on four main areas: 1) key stakeholder buy-in and shared ownership; 2) pharmacy process redesign; 3) improving the timeliness of subspecialty consults; and 4) near real-time identification and mitigation of failures with data transparency. These changes were associated with an increase in the percentage of patients discharged within two hours of meeting their discharge goals from 42 percent at study start to 80 percent currently. Hospital lengths of stay for patients with one of these 11 conditions were reduced by 10 percent while readmission rates were unchanged. We estimate the shortened lengths of stay are saving almost \$6 million per year.

Improving Pediatric Care Through Regional Partnerships

Our Division worked with Business Development to establish an institutional affiliation with Niswonger Children’s Hospital/Mountain States Health Alliance (MSHA) and the Department of Pediatrics of East Tennessee State University (ETSU)/Quillen College of Medicine in Johnson City, TN. The affiliation seeks to improve child health in East Tennessee by implementing a hospital medicine program led by Cincinnati Children’s, which also will serve as a platform for providing other tertiary services. The Niswonger Hospital Medicine Program will be led by a Cincinnati Children’s-employed Hospitalist Director, staffed by ETSU faculty, and supported by our Division for operational leadership, quality improvement infrastructure and experience. This structure is designed to provide more evidence-based, standardized, and data-driven patient care. In addition to spearheading these efforts, Craig Gosdin, MD, MSHA, has partnered with Niswonger staff to implement a clinical pathway to improve inpatient asthma care. Next steps include improving communication with primary care providers and discharge efficiency, and implementing family-centered rounds.

Research Highlights

Angela Statile, Assistant Professor of Clinical Pediatrics

Dr. Statile received the Faculty Teaching Award from the graduating senior resident class for her exceptional teaching ability and commitment to resident education. As an example, Dr. Statile developed a new resident conference series to address controversies in clinical care. This series incorporated innovative teaching techniques and included faculty content experts to discuss emerging evidence that residents could incorporate into their clinical decision-making.

Hospital Medicine Recipient of the 2013 Teaching Award

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

Jennifer O’Toole, Assistant Professor of Clinical Pediatrics and Associate Director of the Combined Internal Medicine/Pediatrics Residency Program

Dr. O’Toole received the Cincinnati Children’s Educational Achievement Award. Dr. O’Toole’s research focuses on developing novel methods to improve physician communication in the hospital as a way to eliminate serious medical errors.

Jeff Simmons, Assistant Professor of Clinical Pediatrics and Andrew Beck, Assistant Professor of Clinical Pediatrics

Drs. Andrew Beck and Jeff Simmons were recognized by the journal *Hospital Pediatrics* for publishing the article most likely to impact practice, "Improved documentation and care planning with an asthma-specific history and physical."

PHIS+: Augmenting the Pediatric Health Information System with Clinical Data

This \$9 million project, funded by the Agency for Healthcare Research and Quality (AHRQ), links clinical data from six hospitals, including Cincinnati Children's, to a common administrative database to conduct comparative effectiveness studies. The project creates a new national data infrastructure for efficiently conducting clinical research. Study leaders include Hospital Medicine physicians Samir S. Shah, Jeffrey M. Simmons, and Eric Kirkendall. Accomplishments in the past year include successful merging of laboratory data from 2007-2012 for all six hospitals with the Pediatric Health Information Systems (PHIS) database.

The study team is now using the database to address important questions to improve the outcomes of hospitalized children. Ongoing studies include examining the comparative effectiveness of different antibiotics, including ampicillin, cephalosporins, and macrolides, in treating children with community-acquired pneumonia. This multicenter study will include approximately 10,000 children hospitalized with pneumonia.

Pediatric IntraVenous Versus Oral antibiotic Therapy (PIVVOT) study

This \$1.6 million grant, funded by the Patient-Centered Outcomes Research Institute (PCORI), will use data from 40 hospitals to determine whether oral antibiotics are a safe and effective alternative to prolonged intravenous (IV) antibiotic therapy for several common infections (complicated pneumonia, osteomyelitis, and complicated intra-abdominal infections). Leaders of this study include Dr. Samir S. Shah, Director of the Division of Hospital Medicine.

Infections are the most common reason for children to seek healthcare services. Several serious bacterial infections that require hospitalization may also require prolonged antibiotic treatment anywhere from one to six weeks. Intravenous (IV) administration of antibiotics is the most reliable method for achieving high concentrations of antibiotics in the blood and other body fluids. A special type of IV catheter called a PICC allows for IV therapy at home. However, PICCs are not risk-free. They require sedation for placement, x-ray radiation exposure to confirm proper placement, and ongoing home maintenance; 25% of children with a PICC experience complications (e.g., bloodstream infections, blood clots) or unplanned health service utilization (e.g., mechanical complications of the PICC). Administration of IV antibiotics at home also requires home delivery and maintenance of medical equipment such as portable IV poles, infusion pumps, heparin flush solutions, syringes, and IV antibiotic solutions. Prolonged oral antibiotic therapy for serious infections has become more widespread. However, the optimal approach to treatment is uncertain.

I-PASS: Accelerating Safer Sign-outs

Regulatory agencies estimate roughly two-thirds of sentinel events in hospitals involve miscommunication between caregivers during handoffs of patient care. As a result of more stringent duty hour requirements and intensifying clinical demands, handoffs are increasing in frequency in academic health centers. In response to these challenges, the I-PASS Study, with the support from a \$3 million grant from the Department of Health and Human Services, was initiated in 2010 at 10 residency programs across North America, including Cincinnati Children's, in order to study the effects of a novel resident handoff bundle on medical error rates and communication failures. Following the release of the study's curricular materials in May of 2012 investigators received 592 requests for access to the materials, representing 48 US states and 17 countries outside the US. The study concluded in the spring of 2013 and final results will hopefully be available in the fall of 2013.

With groundwork already in place from the I-PASS resident study, in terms of curricular materials and evaluation tools, investigators aspired to expand the program to other learners along the medical education continuum. In 2012, I-PASS Study investigators, under the leadership of Drs. Jennifer O'Toole, Amy Guiot, and Lauren Solan from Cincinnati Children's, began planning a modified study with 4th year medical students (pediatric sub-interns) at six study sites. This project will evaluate the implementation of an I-PASS medical student handoff bundle (MSHB) (including handoff and team communication training delivered either in-person or via a computer-based module, the I-PASS mnemonic, and a standardized handoff document) for pediatric sub-interns and compare the effectiveness of the delivery methods. Cincinnati Children's is serving as lead study site for the project and data coordinating center assisted by an education innovation grant from the Council on Medical Student Education in Pediatrics (COMSEP).

Significant Publications

P. W. Brady, S. Muething, U. Kotagal, M. Ashby, R. Gallagher, D. Hall, M. Goodfriend, C. White, T.M. Bracke, V. DeCastro, M. Geiser, J. Simon, K.M. Tucker, J. Olivea, P.H. Conway, D.S. Wheeler. Improving Situation Awareness to Reduce Unrecognized Clinical Deterioration and Serious Safety Events. *Pediatrics*. 2013 Jan;131(1): e298-308.

Throughout the nation, thousands of hospitalized children experience potentially preventable deterioration each year. Brady and colleagues used improvement science and complex interventions including structured huddles between nurses and physicians to proactively identify and treat patients at risk of deterioration.

The research team used methods and theory from high-reliability organizations such as aviation and nuclear power to improve the system of identifying and learning from surprises. The intervention was associated with >50% reduction in delayed recognition of clinical deterioration and serious safety events among hospitalized children. This work was chosen as one of the eight best papers of the year at the International Rapid Response Systems Conference in London.

Ambroggio, L., J. A. Taylor, L. P. Tabb, C. J. Newschaffer, A. A. Evans, and S. S. Shah. Comparative Effectiveness of Empiric Beta-Lactam Monotherapy and Beta-Lactam-Macrolide Combination Therapy in Children Hospitalized with Community-Acquired Pneumonia. *J Pediatr*. 2012 Dec;161(6): 1097-103.

This study compared beta-lactam monotherapy with beta-lactam and macrolide combination therapy on clinical outcomes in the treatment of children hospitalized with community-acquired pneumonia (CAP). We evaluated 20,743 patients hospitalized with CAP. Compared with children who received b-lactam monotherapy, children who received b-lactam plus macrolide combination therapy were 20% less likely to stay in the hospital an additional day (adjusted relative risk 0.80; 95% CI, 0.75-0.86).

This study has important implications for the treatment of children hospitalized with CAP. Ambroggio et.al.'s work was recognized as one of the top articles in pediatric hospital medicine at the recent national annual PHM meeting.

O 'Toole, J. K., A. T. Stevenson, B. P. Good, A. B. Guiot, L. G. Solan, L. L. Tse, C. P. Landrigan, Sectish TC, Srivastava R, Stamer AJ, Spector ND. Initiative for Innovation in Pediatric Education-Pediatric Research in Inpatient Settings Accelerating Safe Signouts Study Group. Closing the Gap: A Needs Assessment of Medical Students and Handoff Training. *J Pediatr*. 2013 May;162(5): 887-88 e1.

This article highlights work done by the award-winning I-PASS study group, under leadership of faculty in the Division of Hospital Medicine at CCHMC, in which they conducted a literature review and a needs assessment at six medical schools across North America in order to evaluate the current state of medical student handoff training and to develop recommendations on how to improve this training. A review of the current literature

found that there is an alarming lack of handoff training in medical schools across the U.S. and previous study in this area is limited.

The I-PASS study group's recommendations to the medical education community included designing a handoff training program that could be easily implemented during the preclinical or clinical years in medical school, reinforcing the skills learned during training with faculty observation and feedback during "live" patient handoffs, and incorporating flexible, multimodal educational delivery options into the training. These findings are being used to drive the development of a comprehensive I-PASS handoff curriculum for medical students, that will incorporate many elements from the award-winning curriculum for pediatric residents, and a study of its effect on decreasing communication errors by students during handoffs.

Mussman, G. M., M. W. Parker, A. Statile, H. Sucharew, and P. W. Brady. Suctioning and Length of Stay in Infants Hospitalized with Bronchiolitis. *JAMA Pediatr.* Mar 4 2013: 1-8.

Bronchiolitis, a viral infection of the lower airways, is the most common cause of hospital admission in the first year of life and has few evidence-based therapies. Nasopharyngeal suctioning is one of the most common yet least studied interventions. The investigators found that infants receiving more frequent suctioning during the first day of admission had shorter lengths of stay, and they also showed that patients who received increasing amounts of deep or catheter nasopharyngeal suctioning for mucous removal had a longer length of hospital stay. This study builds on previous bronchiolitis work at Cincinnati Children's Hospital and will lead to further improvement efforts at our institution. It additionally provides evidence for an informed re-examination of national bronchiolitis care standards. Mussman et.al.'s work was recognized as one of the top articles in pediatric hospital medicine at the recent annual national PHM meeting.

Kirkendall ES, Kloppenborg E, Papp J, White D, Frese C, Hacker D, Schoettker PJ, Muething S, Kotagal U. Measuring adverse events and levels of harm in pediatric inpatients with the Global Trigger Tool. *Pediatrics.* 2012;130(5):e1206-14. Epub 2012/10/10. doi: 10.1542/peds.2012-0179.

The Global Trigger Tool uses a sampling methodology to identify and measure harm rates. It has been shown to effectively detect adverse events when applied in the adult environment, but it has never been evaluated in a pediatric setting. Dr. Kirkendall and his co-investigators found that the Global Trigger Tool can be used in the pediatric inpatient environment to effectively measure adverse safety events. They detected a 2 to 3 times higher harm rate than was previously reported in other pediatric studies. This study helped prompt modifications to the trigger tool to address pediatric-specific issues.

Division Publications

1. Agrawal S, Conway PH. **Integrating emergency care into a patient- and outcome-centered health care system.** *Ann Emerg Med.* 2013; 61:301-2.
2. Alverson BK, Wilson KM, Shah SS. **A randomized trial of facilitated family-centered rounds.** *Hospital Pediatrics.* 2013; 3:156-161.
3. Ambroggio L, Smith MJ, Shah SS. **Quasi-Experimental and Interrupted Time-Series Design.** *Journal of the Pediatric Infectious Diseases Society.* 2012; 1:187-189.
4. Ambroggio L, Taylor JA, Tabb LP, Newschaffer CJ, Evans AA, Shah SS. **Comparative effectiveness of empiric β -lactam monotherapy and β -lactam-macrolide combination therapy in children hospitalized with community-acquired pneumonia.** *J Pediatr.* 2012; 161:1097-103.
5. Ambroggio L, Thomson J, Murtagh Kurowski E, Courter J, Statile A, Graham C, Sheehan B, Iyer S, Shah SS, White CM. **Quality improvement methods increase appropriate antibiotic prescribing for childhood pneumonia.** *Pediatrics.* 2013; 131:e1623-31.
6. Ambroggio LV, Shah SS. **Administrative data: expanding the infrastructure for pediatric research.** *J*

Pediatr. 2013; 162:681-4.

7. Antommara AH. **Empowering, teaching, and occasionally advocating: clinical ethics consultants' duties to all of the participants in the process.** *Am J Bioeth.* 2012; 12:11-3.
8. Antommara AH, Kaziny BD. **Ethical issues in pediatric emergency medicine's preparation for and response to disasters.** *Virtual Mentor.* 2012; 14:801-4.
9. Antommara AHM, Fallat ME, Katz AL, Mercurio MR, Moon MR, Okun AL, Webb SA, Weise KL. **Ethical controversies in organ donation after circulatory death.** *Pediatrics.* 2013; 131:1021-1026.
10. Aronson PL, Shah SS, Mohamad Z, Yan AC. **Topical corticosteroids and hospital length of stay in children with eczema herpeticum.** *Pediatr Dermatol.* 2013; 30:215-21.
11. Aronson PL, Yan AC, Mohamad Z, Mittal MK, Shah SS. **Empiric antibiotics and outcomes of children hospitalized with eczema herpeticum.** *Pediatr Dermatol.* 2013; 30:207-14.
12. Auger KA, Kahn RS, Davis MM, Beck AF, Simmons JM. **Medical home quality and readmission risk for children hospitalized with asthma exacerbations.** *Pediatrics.* 2013; 131:64-70.
13. Auger KA, Landrigan CP, Gonzalez del Rey JA, Sieplinga KR, Sucharew HJ, Simmons JM. **Better rested, but more stressed? Evidence of the effects of resident work hour restrictions.** *Acad Pediatr.* 2012; 12:335-43.
14. Beck AF, Klein MD, Schaffzin JK, Tallent V, Gillam M, Kahn RS. **Identifying and treating a substandard housing cluster using a medical-legal partnership.** *Pediatrics.* 2012; 130:831-8.
15. Beck AF, Sauers HS, Kahn RS, Yau C, Weiser J, Simmons JM. **Improved documentation and care planning with an asthma-specific history and physical.** *Hospital Pediatrics.* 2012; 2:194-201.
16. Beck AF, Simmons JM, Huang B, Kahn RS. **Geomedicine: area-based socioeconomic measures for assessing risk of hospital reutilization among children admitted for asthma.** *Am J Public Health.* 2012; 102:2308-14.
17. Blaschke AJ, Byington CL, Ampofo K, Pavia AT, Heyrend C, Rankin SC, McGowan KL, Harris MC, Shah SS. **Species-specific PCR improves detection of bacterial pathogens in parapneumonic empyema compared with 16S PCR and culture.** *Pediatr Infect Dis J.* 2013; 32:302-3.
18. Blum JD, Conway PH, VanLare JM. **Safety-net hospitals: other hospitals score similarly on patient experience.** *JAMA Intern Med.* 2013; 173:389-91.
19. Bonafide CP, Brady PW, Keren R, Conway PH, Marsolo K, Daymont C. **Development of heart and respiratory rate percentile curves for hospitalized children.** *Pediatrics.* 2013; 131:e1150-7.
20. Brady PW, Muething S, Kotagal U, Ashby M, Gallagher R, Hall D, Goodfriend M, White C, Bracke TM, DeCastro V, Geiser M, Simon J, Tucker KM, Olivea J, Conway PH, Wheeler DS. **Improving situation awareness to reduce unrecognized clinical deterioration and serious safety events.** *Pediatrics.* 2013; 131:e298-308.
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28. Conway PH, Cassel CK. **Engaging physicians and leveraging professionalism: a key to success for quality measurement and improvement.** *JAMA.* 2012; 308:979-80.
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emergency departments. *J Pediatr.* 2013; 163:230-6.

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Faculty, Staff, and Trainees

Faculty Members

Samir Shah, MD, MSCE, Professor

Leadership Division Director; CCRF Endowed Chair in Hospital Medicine

Research Interests Pediatric infectious diseases and pediatric hospital medicine physician whose research

focuses on improving the efficiency and quality of care of children hospitalized with common, serious infections such as pneumonia and meningitis. Ongoing projects include studying the comparative effectiveness of different antibiotics in the treatment of community-acquired pneumonia and developing novel databases to conduct comparative effectiveness research.

Patrick Brady, MD, MSc, Assistant Professor

Research Interests To design and evaluate a highly reliable system to identify, predict, and intervene on hospitalized patients at risk of clinical deterioration.

Dena Elkeeb, MD, Assistant Professor

Craig Gosdin, MD, MSHA, Assistant Professor

Leadership Medical Director, Hospital Medicine Liberty Campus

Research Interests Hospitalists workforce issues, identification of best practices and financial sustainability of hospitalist programs, and cost effectiveness.

Amy Guiot, MD, Assistant Professor

Leadership Associate Director of Medical Student Education

Research Interests Actively involved with the Council of Medical Students of Education in Pediatrics where she serves as a member of the curriculum task force.

Karen Jeradi, MD, Instructor

Research Interests Primary research interests focuses on medical education research and the development of quality measures for management of children hospitalized with common infections such as urinary tract infection and pneumonia.

Eric Kirkendall, MD, MBI, Assistant Professor

Leadership Medical Director of Clinical Decision Support

Research Interests Using technology and the electronic health record to improve the quality and safety in care delivering.

Jennifer O'Toole, MD, MEd, Assistant Professor

Leadership Medical Director, Education; Associate Director, Internal Medicine Pediatrics Residency Program

Research Interests In handoffs in care, educational innovation for bedside teaching, teaching residents to care for underserved populations and faculty development in medical education. She is the site PI for the I-PASS Handoff Study where she leads faculty development efforts and is a member of the educational team that developed the extensive curriculum for the study.

Michelle Parker, MD, Instructor

Research Interests Translational research in the area of hospital medicine. Main area of interest surround education and application of evidence-based medicine and evidence-based guidelines, with a focus of utilizing quality improvement science to drive outcomes.

Joshua Schaffzin, MD, PhD, Assistant Professor

Research Interests The system and human factors influencing surgical site infection prevention. Using epidemiological and quality improvement methods. Currently, designing and implementing an enhanced SSI prevention bundle that is reliable across a patient's care continuum.

Erin Shaughnessy, MD, Assistant Professor

Leadership Medical Director of Hospital Medicine Surgical Services

Research Interests Resident Education, Quality Improvement, Handovers, Family Centered Care, and Evidence Based Medicine

Patricia O'Brien, MD, Instructor

Jeffrey Simmons, MD, MSc, Assistant Professor

Leadership Associate Director, Clinical Operations and Quality; Director Pediatric Hospital Medicine Fellowship

Research Interests Integrate classical clinical research methods and quality improvement science to accelerate the integration of research and research findings into the general inpatient wards.

Angela Statile, MD, Instructor

Research Interests Medical education and quality improvement. Currently implementing an innovative hospital medicine resident conference series. Also involved in several quality improvement initiatives, including projects to improve timely patient discharges and to improve compliance with a national pneumonia guideline.

Ndidi Unaka, MD, Instructor

Leadership Associate Director, Pediatrics Residency Program

Research Interests Research interests center around resident education, curriculum development and quality improvement.

Brian Volck, MD, Assistant Professor

Research Interests Focus includes global child health; Native American child health; medical education; cross-cultural medicine; medical ethics; poverty, justice and health.

Michael Vossmeier, MD, Assistant Professor

Leadership Medical Director Hospital Medicine Community Integration

Research Interests Family-centered care, situation awareness and clinical quality improvement.

Christine White, MD, MAT, Assistant Professor

Leadership Medical Director Hospital Medicine Burnet Campus

Research Interests Quality improvement; efforts to increase medication reconciliation completion. Currently leading institute-wide improvement projects on improving capacity management and the patient/family experience.

Joint Appointment Faculty Members

Armand Antommara, MD, PhD, FAAP, Associate Professor (Ethics Center)

Andrew Beck, MD, MPH, Assistant Professor (General and Community Pediatrics)

Thomas Dewitt, MD, Professor (General and Community Pediatrics)

Neera Goyal, MD, Assistant Professor (Neonatology and Pulmonary Biology)

Melissa Klein, MD, Assistant Professor (General and Community Pediatrics)

Stephen Muething, MD, Associate Professor (James M. Anderson Center for Health System Excellence)

Sarah Riddle, MD, Adjunct (General and Community Pediatrics)

Andrew Spooner, MD, MS, FAAP, Associate Professor (General and Community Pediatrics)

Trainees

Lilliam Ambroggio, PhD, MPH, Children's Hospital of Philadelphia

Lauren Solan, MD, Cincinnati Children's Hospital Medical Center

Matthew Test, Case Western, Cleveland Ohio

Joanna Thomson, MD, Cincinnati Children's Hospital Medical Center

Amanda Schondelmeyer, MD, Cincinnati Children's Hospital Medical Center

Division Collaboration

General and Community Pediatrics » Melissa Klein, MD

Dr. O'Toole is Associate Director of the Master Educator Health Resources and Services Administration Fellowship directed by Dr. Melissa Klein.

Biostatistics and Epidemiology » Maurizio Macaluso, MD, DPH

Drs. Shah, Ambroggio, Simmons, Goyal, and Brady are collaborating with Dr. Macaluso on a series of multicenter studies aimed at examining the impact of medical response team on serious safety events in the hospital setting.

Grants, Contracts, and Industry Agreements

Grant and Contract Awards

Annual Direct

AMBROGGIO, L

Reduced Variability in the Management of CAP in the Community

Academic Pediatric Association

03/01/13-02/28/14

\$10,000

BRADY, P

Multicenter Evaluation of Rapid Response Teams on In-Hospital Mortality and Codes Outside the Intensive Care Unit

Academic Pediatric Association

03/01/13-02/28/14

\$10,000

GUIOT, A

Implementing IPASS Handoff in Medical School: Decreasing Miscommunication to Improve Care

Council of Medical Student Education in Pediatrics

05/01/13-04/30/14

\$2,499

SIMMONS, J

PHIS+: Augmenting the Pediatric Health Information System

Agency for Healthcare Research and Quality(Children's Hospital of Philadelphia)

R01 HS 019862

09/30/10-09/29/13

\$506,500

O'TOOLE, J

Building Effective Resident Handoff Practices to Improve Patient Safety

Department of Health and Human Services(Children's Hospital Boston)

R18 AE000029-01

09/01/2012-08/31/2013

\$48,598

Current Year Direct **\$577,597**

Total **\$577,597**