



*Committee for the Future observes a Critical Care Transport Simulation*

# Pediatric Simulation Center Annual Report 2014



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Pediatric Simulation Center

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# Making a Difference

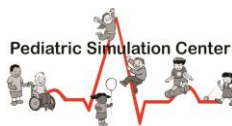
In 2014, the Pediatric Simulation Center celebrated its 6<sup>th</sup> year and 36,000<sup>th</sup> learner. The Center first began working with the Committee for the Future in 2008 and revamped the experience for committee members in 2014 to give them a view into the care of a patient who is transported from an outside hospital by Critical Care transport via helicopter and cared for in the PICU. The Committee for the Future gives emerging community leaders throughout Alabama the opportunity to experience Children's of Alabama's surgical, medical and family centered care services first hand, in addition to learning about hospital operations and research initiatives. The Center creates a safe, realistic environment allowing health care providers and students to increase their knowledge, hone their skills, and practice teamwork in the context of real life patient scenarios.



*Members of the 2015 Committee for the Future observe an educational training event in the Pediatric Intensive Care Unit at Children's of Alabama during a rotation day at the hospital.*



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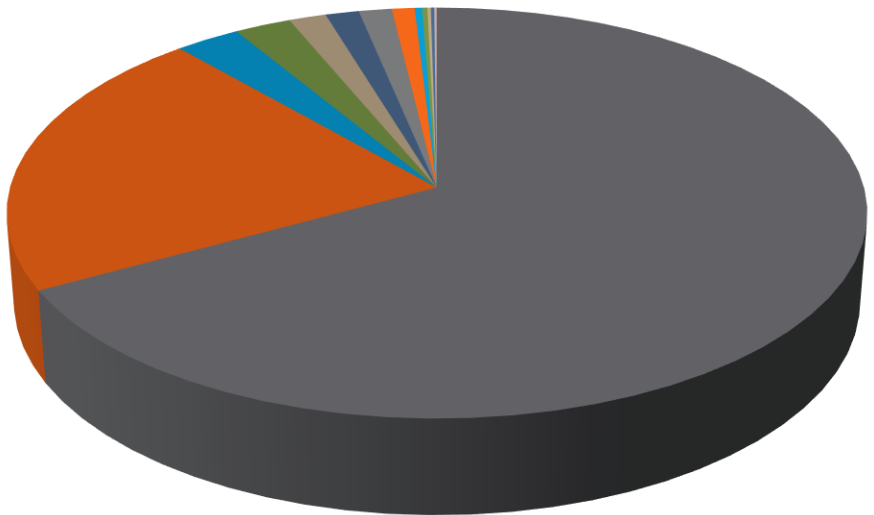
*Physical and occupational therapists prepare to transfer a child in halo traction to a chair.*

# Improving the Care We Provide

In 2014, the Pediatric Simulation Center encountered 14 different types of internal learners including patient family members. The Center provided training for 4,794 internal staff members and 69 patient family members. Our mission is to integrate simulation throughout the hospital in a structured learning environment to promote excellence in clinical care, patient safety, and education for all pediatric healthcare practitioners and teams. Focusing on interprofessional education as well as patient and family education furthers the Center's impact and helps ensure safe and quality care for our patients.

## Our In-House Learners in 2014\*

- RN (3260)
- MD (1046)
- Respiratory Therapy (134)
- Clinical Assistant (117)
- Pharmacy (77)
- Patient & Family (69)
- Radiology Tech (68)
- PT / OT (47)
- Registered Dietician (15)
- Lab (11)
- Chaplain (7)
- Dental (7)
- Pharmacy Tech (4)
- Social Work (1)



\*Numbers do not include students.



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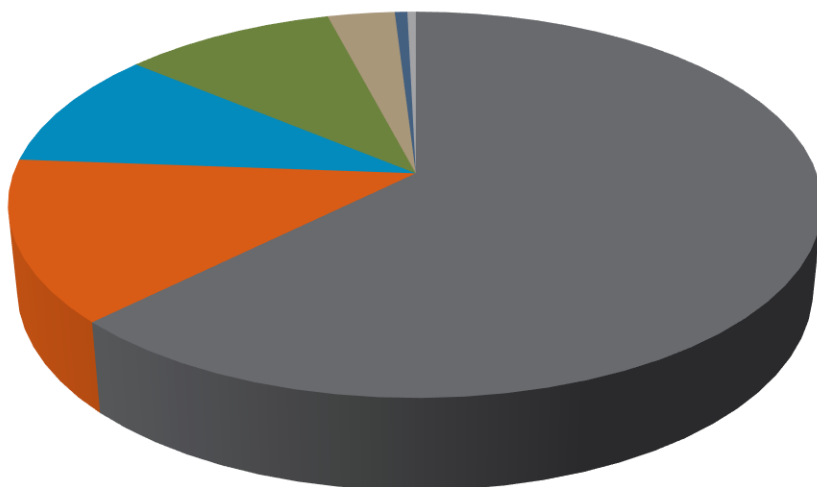
*Pharmacy students and medical students work together to take care of a pediatric patient.*

# Educating Future Clinicians

In 2014, the Pediatric Simulation Center conducted:

- 37 medical student simulations
- 37 nursing student simulations
- 12 simulations for genetic counseling students
- 8 courses for pharmacy students
- 2 simulations for Master of Science in Health Administration (MSHA) students

The Center also mentored 10 third year medical students during their two month Scholarly Activity Block and 17 fourth year medical students during two and four week elective periods.



- Medical Students (1288)
- Nursing Students (279)
- Pharmacy Students (203)
- High School Students (203)
- Middle School Students (64)
- Genetic Counseling Students (12)
- MSHA Students (8)

In 2014, the Center educated 2,057 students.



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# Serving the Community

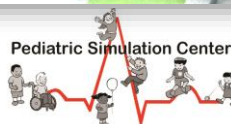
In 2014, the Pediatric Simulation Center led a variety of simulations focused on improving pediatric care for community members and parents.

*(Left) A mom practicing tracheostomy emergencies. (Bottom) Students from the Science Career Scholars Program pose for a photo at their closing ceremony.*

- 327 school nurses attended 2 hour simulation sessions focusing on common chronic illnesses in school children
- 22 teenagers observed a simulation during the Trauma Prevention Program
- 69 patient family members attended simulation to practice tracheostomy and/or home ventilator emergencies prior to discharge
- 64 middle school students participated in the monthly Science Career Scholars program which introduces students to healthcare careers
- 209 middle school and high school students from 8 different schools toured the center to learn more about health related careers



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# Offering Quality Programs

In 2014, the Pediatric Simulation Center saw 7,055 learners and facilitated 17,654 learner hours of simulation. Throughout the year, the Center conducted:

- 690 simulation sessions
- 1045 hours of simulation
- 18 Mock Codes / 6 Mock Traumas
- 22 sessions for New Graduate nurses
- 33 family education simulations
- 30 Neonatal Resuscitation simulations
- 17 Nursing Orientation simulations
- 16 Anesthesia simulations
- 14 PALS simulations
- 8 ECMO simulations
- 76 Nursing Vigilance simulations



*A staff nurse cares for a pediatric patient in a Nursing Vigilance simulation.*

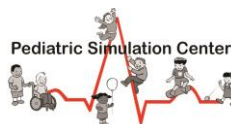
Nursing Vigilance is an ongoing course that was designed and implemented for inpatient nurses in 2014. It is an educational initiative that involves simulation focusing on assessment, communication and thinking patterns that influence the daily decisions of our clinicians. The course has been well received by staff with positive reviews. As of December 2014, 76 sessions were conducted with a total of 280 participants.

The Center also implemented 10 new simulation courses in 2014, bringing our total number of course offerings to 100 courses.

- |                              |                                    |
|------------------------------|------------------------------------|
| • Cardiology Simulation      | • Nursing Vigilance                |
| • CRNP Skills                | • Nutrition Simulation             |
| • ED iConnect                | • PT/OT Simulation                 |
| • ED Nurses (New Graduates)  | • Pulmonary/Smoking Cessation Sims |
| • Mock Medical Resuscitation | • Registered Dietician Simulation  |



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# Investigating Best Practice

Our team is actively involved in research projects to determine best practice in simulation education including teaching communication skills, clinical skills, and procedural skills. We currently have Institutional Review Board approval for the following research projects:

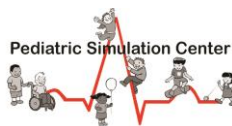
- Education and Training on the use of the Epi-Pen
- Nursing Triage Decision Making for Nurses in the Emergency Department
- Tracheostomy Education for Patient Families
- Endocrine Simulations for Residents and Nurses who Care for Diabetic Patients
- Gastrointestinal Simulations for Residents
- Nutrition Simulations for Residents on their Ward Rotation
- Critical Actions for Nurses during the First Five Minutes of a Code
- Pediatric Resident Procedures
- Pediatric Anesthesiology Resident Simulations
- Pulmonary Simulations focusing on Smoking Cessation for Family Members
- Cardiology Simulations for Residents and Nurses who care for Cardiac Patients
- Rapid Cycle Deliberate Practice for the Neonatal Resuscitation Program
- Needle Aspiration Simulation for Neonatology Residents and Nurse Practitioners
- Breaking Bad News to Families
- Code Cart Quality Improvement
- Nursing Vigilance Simulations for all Nurses in the hospital



*Residents use rapid cycle deliberate practice to improve neonatal resuscitation skills.*



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# Sharing Our Expertise

*This page and the following pages include publications and presentations from 2014. For a comprehensive list of our publications and presentations, please visit [www.childrensal.org/PediatricSimulationCenter](http://www.childrensal.org/PediatricSimulationCenter)*

## **Publications**

Tofil NM, Peterson DT, Harrington KF, Perrin BT, Hughes JT, Zinkan JL, Youngblood AQ, Bartolucci A, White ML. Fellows as Teachers: A Novel Iterative-Learner Simulation Model. *Journal of Graduate Medical Education*. 2014;6(1): 127-132. PMID:24701323. doi: 10.4300/JGME-D-13-00067.1.

Tofil NM, Morris JL, Peterson DT, Watts P, Epps C, Harrington KF, Leon K, Pierce C, White ML. Interprofessional simulation training improves knowledge and teamwork in nursing and medical students during internal medicine clerkship. *Journal of Hospital Medicine*. 2014;9(3):189-192. PMID:24420579. doi: 10.1002/jhm.2126. Epub 2014 Jan 13. [Accompanying Editorial: O'Leary KJ, Woods DM. Making the potential benefit of teamwork training a reality. *Journal of Hospital Medicine*. 2014;9(3):201-2. PubMed PMID: 24420675].

Tofil NM, Peterson DT, Wheeler JT, Youngblood AQ, Zinkan JL, Lara D, Jakaitis B, Niebauer JM, White ML. Repeated versus Varied Case Selection in Pediatric Resident Simulation. *Journal of Graduate Medical Education*. 2014;6(2): 275-279. PMID:24949131. doi: 10.4300/JGME-D-13-00099.1.

Tofil NM, Dollar J, Zinkan JL, Youngblood AQ, Peterson DT, White ML, Stooksberry TN, Jarrell SA, King C. Performance of anesthesia residents during a simulated ventricular fibrillation in an anesthetized pediatric patient. *Pediatric Anesthesia*. In Press. PMID:24725284. doi: 10.1111/pan.12406. [Epub ahead of print]

Jones NE, White M, Tofil N, Pickens M, Youngblood A, Zinkan L, Baker M. Randomized trial comparing two mass casualty triage systems in a simulated pediatric mass casualty incident. *Prehospital Emergency Care*. 2014 Jul-Sep;18(3):417-23. PMID:24601857. doi:10.3109/10903127.2014.882997. Epub 2014 Mar 6

Cheng A, Brown L, Duff JP, Spruyt J, Overly F, Tofil NM, Peterson DT, Bhanji, Bank, Gottesman, Adler, Zhong, Grant V, Grant D, Sudikoff, Marohn, Charnovich, Hunt, Kessler, Wong, Doan, Nadkarni, V for the INSPIRE QCPR. Improving CardioPulmonary Resuscitation with a CPRCard Feedback Device And Refresher Simulations (CPR CARES Study): A Multicenter, Randomized Trial. *JAMA Pediatrics* 2014; Published on line December 22, 2014. E1-8.

## **Book Chapters**

Peterson DT, White ML. *IRB*. In: Palaganas J, Maxworthy J, Epps CA, Mancini MB, eds. Defining Excellence in Simulation Programs. New York, NY: Lippincott, Williams, and Wilkins; 2014.

White ML, Peterson DT. *Quantitative and Qualitative Research and Resources*. In: Palaganas J, Maxworthy J, Epps CA, Mancini MB, eds. Defining Excellence in Simulation Programs. New York, NY: Lippincott, Williams, and Wilkins; 2014.

## **Abstracts**

Tofil NM, Peterson DT, Youngblood AQ, Zinkan JL, Doughton J, White ML. Impact of ACGME 2011 Resident work hours on PICU resident's vigilance. *Academic Pediatrics*. 2014; 14(4):e9.



Larson-Williams LM, Youngblood A, Epps N, Peterson DT, Abdullatif H, Zinkan JL, White ML, Tofil NM. A Multidisciplinary, Longitudinal Simulation to Teach Pediatric Residents and Nurses How to Diagnose, Treat, and Manage Pediatric Patients with Diabetic Ketoacidosis. *Simulation in Healthcare*. 2014;9(6):453.

Cheng A, Brown L, Duff J, Davidson J, Overly F, Tofil NM, Peterson DT, White ML, Bhanji F, Gottesman R, Adler M, Zhong J, Grant V, Sudikoff S, Charnovich A, Duval-Arnould J, Hunt E, Kessler D, Lin Y, Robertson N, Doan Q, Wong H, Nadkarni V. Improving CardioPulmonary Resuscitation with a CPR Feedback Device And Refresher Simulations (CPR CARES Study): A Multicenter, Randomized Trial. *Simulation in Healthcare*. 2014;9(6):394.

Youngblood A, Zinkan JL, Cooper A, Peterson DT. Family Centered Simulation. *Simulation in Healthcare*. 2014;9(6):476.

Cravens MG, Benner K, Beall J, Worthington M, Denson B, Youngblood A, Zinkan JL, Peterson DT, Tofil NM. Evaluating the education of pharmacy students and pharmacists at a pediatric hospital using and educational module and simulation training versus educational module alone. *Simulation in Healthcare*. 2014;9(6):405.

### **Presentations**

Youngblood AQ, Zinkan JL, Peterson DT, Parsons G, Prier M, Leonard MK, Tofil NM, White ML. The use of simulation in a School Nurse Workshop. 6<sup>th</sup> International Pediatric Simulation Symposia and Workshops, Vienna, Austria, April 2014.

Peterson DT, Holt RL, Zinkan JL, Youngblood AQ, White ML, Tofil NM. A hybrid simulation for genetic counselors utilizing a standardized patient and infant manikin. 6<sup>th</sup> International Pediatric Simulation Symposia and Workshops, Vienna, Austria, April 2014.

White M, Peterson D, Sawyer T, Youngblood A, Lemke D, Doughty C, Chang T. Simulation for procedural and psychomotor skills. 6<sup>th</sup> International Pediatric Simulation Symposia and Workshops, Vienna, Austria, April 2014.

Youngblood AQ, Zinkan JL, Peterson, DT. The Magic of Simulation in a School Nurse Workshop. 2014 International Nursing Simulation/Learning Resource Centers Conference, Orlando, Florida, June 2014.

Youngblood AQ, Zinkan JL, Cooper A, Peterson DT. Family Centered Simulation. 2014 International Nursing Simulation/Learning Resource Centers Conference, Orlando, Florida, June 2014.

Watts P, Dailey K, Youngblood A. Facilitating the facilitator: Training Embedded Simulation Participants. 2014 International Nursing Simulation/Learning Resource Centers Conference, Orlando, Florida, June 2014.

Gore T, Watts P, Lioce L, Pence J, Youngblood AQ, Childress RM, Hallmark B, Freeze D. Developing a Statewide Simulation Alliance and Consortium: Panel Discussion. 2014 International Nursing Simulation/Learning Resource Centers Conference, Orlando, Florida, June 2014.

### **Posters**

Tofil NM, Harnish K, Casson J, Rahman S, White ML, Eberhardt A. Capillary Refill Simulator. 14<sup>th</sup> Annual Meeting on Simulation in Healthcare. San Francisco, CA, January 2014.

Zinkan JL, Youngblood AQ, Peterson DT, Parsons G, Prier M, Leonard MK, White ML, Tofil N. Perceptions of Simulation at a School Nurse Workshop. 14<sup>th</sup> Annual Meeting on Simulation in Healthcare. San Francisco, CA, January 2014.

Belle A, Watts P, King J, Brown M, Langston S, Peterson DT, Epps C, Skipper MW, Prince C, White ML, An Interprofessional Intensive Care Unit Simulation Experience—Laboratory Science, Medicine, Nursing and Respiratory Therapy Students. 14<sup>th</sup> Annual Meeting on Simulation in Healthcare. San Francisco, CA, January 2014.

White ML, Tofil NM, Bateman L, Youngblood A, Zinkan JL, Dure L, Needham B, Use of High-Fidelity Simulation to Explore Pediatric Critical Care and Emergency Physicians Communication Surrounding End-of-Life Care. 14<sup>th</sup> Annual Meeting on Simulation in Healthcare. San Francisco, CA, January 2014.

White ML, Zaveri P, Seelbach B, Mehta R, McAnich B, Fein D, Chang T, Burns R, Auerbach M, Jang J, Kessler D, Infant Lumbar Punctures Success Rates Report by Upper Level Residents. 14<sup>th</sup> Annual Meeting on Simulation in Healthcare. San Francisco, CA, January 2014.

Tofil NM, Peterson DT, Youngblood AQ, Zinkan JL, Doughton J, White ML. Impact of ACGME 2011 Resident work hours on PICU resident's vigilance. APPD 2014 Annual Spring Meeting. Chicago, IL, April 2014.

McDonald JM, Tofil NM, Winter LW. Rapid Cycle Deliberate Practice: Implementing a new approach to team building and education in neonatal resuscitation team training. Research and Innovations in Medical Education Week – University of Alabama at Birmingham, Birmingham, AL, September 2014.

Kebbel K, White ML, Peterson DT, Watts P, Hall R, DeMoss j, Epps C. Pilot of Master's of Science in Health Administration student participation in simulation-based education. Research and Innovations in Medical Education Week – University of Alabama at Birmingham, Birmingham, AL, September 2014.

Peterson DT, Watts PI, Jaleel A, White ML, Epps C, Leon K. Intensive Care Unit Interprofessional Education Simulation. Research and Innovations in Medical Education Week – University of Alabama at Birmingham, Birmingham, AL, September 2014.

Chuang JC, White ML, Youngblood A, Peterson DT, Davis V, Zinkan JL, Woods J. In situ simulation of precipitous labor in a pediatric emergency department. Research and Innovations in Medical Education Week – University of Alabama at Birmingham, Birmingham, AL, September 2014.

Epps N, Larson-Williams L, White ML, Youngblood A, Peterson DT, Zinkan JL, Abdullatif H, Tofil N. A multi-disciplinary, longitudinal simulation to teach pediatric residents and nurses how to diagnose, treat, and manage pediatric patients with diabetic ketoacidosis. Research and Innovations in Medical Education Week – University of Alabama at Birmingham, Birmingham, AL, September 2014.

Harper J, Tofil N. Knowledge of anaphylaxis and epinephrine autoinjectors among pediatric fellows and residents. Research and Innovations in Medical Education Week – University of Alabama at Birmingham, Birmingham, AL, September 2014.

Wise KM, Youngblood AQ, Zinkan JL, Trenina A, Peterson DT, White ML, Tofil NM. First five minutes of the code. Research and Innovations in Medical Education Week – University of Alabama at Birmingham, Birmingham, AL, September 2014.

# Faculty & Staff



## Supplemental Nursing Staff

Leslie Hallmark, RN  
Annitrice Young, RN

## Adjunct Faculty

Steve Baldwin, MD, Pediatric Emergency Medicine  
Michael Barnett, MD, Palliative Care Medicine  
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Carl Coghill, MD, Neonatology  
Jerry Cox, MD, Pediatric Anesthesiology  
James Gambrell, MD, General Pediatrics  
Chris Jolliffe, RN, Sexual Assault Nurse Examiner  
Shruti Kant, MD, Pediatric Emergency Medicine  
Collin King, MD, Pediatric Anesthesiology  
Linnea Larson-Williams, MD, Pediatric Endocrinology  
Jeannine Maclin, MD, Pediatric Gastroenterology  
Lauren Nassetta, MD, General Pediatrics  
Ashley Nichols, MD, Palliative Care Medicine  
Tammy Pope, BSN, RN, RNC  
Robert Richter, MD, General Pediatrics  
Paul Scalici, MD, General Pediatrics  
Amanda Soong, MD, General Pediatrics  
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Susan Walley, MD  
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Lindy Winter, MD, Neonatology  
Mary Worthington, PharmD

## Medical Director

Nancy M. Tofil, MD, MED

## Medical Co-Director

Marjorie Lee White, MD, MPPM, MED  
(through September 30, 2014)  
Chrystal Rutledge, MD  
(effective October 1, 2014)

## Nurse Educators

Amber Q. Youngblood, BSN, RN, CPN  
J. Lynn Zinkan, MPH, RN, CPEN, CHSE  
Kandi Wise, BSN, RN

## Director, Simulation Education & Research

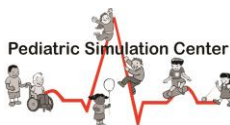
Dawn Taylor Peterson, PhD

## Support Staff

Andrea Benz



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