

**University of Louisville, School of Medicine, Department of Pediatrics
2013-2014 Paul Weber Award for Departmental Excellence Application**

From the moment we are born, our parents', grandparents', and pediatricians' focus is on our development. Will we take those first steps on time? Will we roll over, sit, and talk when we're supposed to? We progress, step by step, and stage by stage as each milestone builds on previous achievements. Each step must follow in a logical and progressive order to produce an independent adult, and medical education is no different. A strong foundation of knowledge, skills, and attitudes starts at the medical student level with the progression of educational milestones and continues through residency and fellowship. Once maturity as a practicing physician is attained, competency is distinguished by the ability to continually reflect on clinical practice and actively pursue additional levels of skill.

Section 1: Brief Profile of Departmental Mission for Teaching and Learning

The educational mission of the Pediatrics Department is to excel in the education of future and current physicians across the developmental continuum of medical teaching by providing the ideal faculty, curriculum, and clinical milieu; by constant innovation in teaching; and by motivating individuals to achieve their highest potential. We strive daily to prepare the complete physician of tomorrow and enrich the practicing pediatricians of today.

Section 2: Activities that Represent Commitment to Teaching and Learning Excellence

The Department of Pediatrics consists of 21 divisions with more than 180 faculty across multiple disciplines of pediatric medical health care. While most faculty have substantial daily patient care duties, our faculty devote an average of 22% of their work assignments to teaching. This commitment is widespread. The small sampling of department teaching activities described below includes contributions of 63 faculty and five subspecialty fellows from 13 divisions. The Department Chair is involved in several of these initiatives and clearly champions the teaching mission of the department as we provide opportunities for teaching and learning across the continua and milestones of adult personal and professional development. We encourage our teachers to model life-long learning and to strive to prepare our learners to value effective teaching as a key milestone—for themselves, their peers, younger trainees, and their future patients.

Our attention to the continuum of learners starts with education of students in the "infancy" of their medical education, the introductory classroom years of medical school. One of our neonatologists assumed leadership of the first-year embryology class and completely rejuvenated the course during the last academic year. Her focus now includes pioneering an integrated anatomy curriculum that includes embryologic development and the clinical implications of abnormal development in the fall of 2014. Three of our pediatric infectious diseases specialists, including the chairman of our department, teach microbiology course sessions to provide "real-life" cases that apply the concepts of microbiology students are learning in the classroom. Another of our faculty members with certification in clinical epidemiology is the curriculum lead in the biostatistics, epidemiology, and evidence-based medicine curriculum that prepares students for scientific clinical decision-making.

Early medical students often find themselves straddling the bridge between traditional pedagogy and andragogy, displaying characteristics of the young student and the adult learner almost simultaneously. The Pediatric Summer Externship Program, developed by our department in 1997, helps students apply their newfound knowledge immediately and transfer

it to the clinical context. Annually, 25 medical students participate in a four-week clinical experience in the summer between their first and second years that immerses them in clinical pediatric care across a variety of environments. In 2007, the program expanded to send more students to clinical training in rural settings with the hope of inspiring them to pursue a career in primary care in the underserved rural setting.

The “toddler” stage of medical education is analogous to the clinical years of medical school. In this stage, our department has creatively adapted a technique traditionally used in the pre-clinical years and applied it to the clinical setting. Since 2007, our pediatric clerkship has instituted a peer-assisted learning program (PALP) or near-peer education (NPE) in the junior clerkship. Senior students who excelled and have chosen a career in Pediatrics mentor junior students by helping them learn how to approach national board-style questions in preparation for their final exam. The results of this experience have been published and as a result, we have developed and now co-lead a Medical Students as Teachers elective. This elective now has about 60 4th-year students enrolled (approximately 40% of the class.) PALP-type teaching has also spread from its initial implementation in our department to full implementation in eight different clinical departments.

Pediatric residency is most analogous to the “teenage” years because learners must cope with situational demands for rapid changes in their knowledge base, increased responsibility, and more independence with less supervision. Drawing on adult learning theory, the residency program has implemented several curricula that focus on experiential learning, problem solving, and critical reflection. Our simulation program-Simulation for Pediatric Assessment, Resuscitation and Communication-uses high-fidelity mannequins to simulate clinical crisis situations to teach residents teamwork and communication as well as the necessary medical knowledge and skills for critical patient situations. The simulation program, originally staffed by one faculty member in one division, now consists of 20 participating physician faculty members, 12 nursing leaders, and eight unit-based teams. In addition, it has expanded to a high-impact multidisciplinary educational intervention that includes pharmacists, respiratory therapists, and outreach to other facilities. Another new curriculum intervention launched in 2012 is the procedure rotation, a 2-week experience for new residents that uses didactic teaching, procedure simulation, and supervised practice to increase resident exposure, comfort, and competence in performing necessary pediatric procedures. At the end of the first year, interns on the procedure rotation were averaging more procedures in two weeks than their cohorts logged in two years previously and rated the rotation as very valuable in improving their procedural skills. Similarly, we developed a unique communication curriculum that includes didactics, role play, workshops and video assessment and culminates with resident assessment in the Program for the Approach to Complex Encounters. These sessions use standardized patient actors to teach residents important skills in delivering difficult news to patients and their families, followed by a video-assisted debriefing session to provide opportunities for reflection and feedback. Both of these unique programs have been presented in multiple venues including oral presentations at the International Conference for Communication in Healthcare.

The residency program model expanded in 2012 to include peer mentorship and advising as a necessary part of the advanced educational process. The peer mentoring process utilizes a group format instead of traditional dyadic mentorship, and our initial survey analysis shows it has been very well received. Additionally, this model has recently been extended to a near-peer

mentoring model that includes mentoring relationships between medical students and residents.

Our department recognizes that education is a continuum that encompasses mature practicing physicians as well as trainees. Our department's robust faculty development curriculum has grown over the past four years and now includes more than 50 topics focusing on helping faculty become more effective teachers, role models and mentors for younger generations of physicians as a top-down method of improving education. The department honors its Top 5 and Top 10 teaching faculty (out of 180+ faculty) each year during our graduation ceremonies and a Clinical Professor of the Year for both full time and gratis faculty. Additionally, Top Two Teaching Divisions (out of 21), peer teaching and mentoring awards are offered annually to reward commitment to teaching.

Faculty are also supported in disseminating their knowledge and encouraged to take their teaching skills to the national arena. Several are involved as teaching faculty in national continuing medical education programs within the American Academy of Pediatrics. Many are routinely invited to present in their areas of expertise at regional and national CME venues. Multiple educational research projects are now underway and are supported by the new Child and Adolescent Research Design and Support (CARDS) Unit. Department faculty received the Ruth Greenberg Award for Research in Medical Education at Research!Louisville in 2011 and 2012. Role modeling in research has translated to the resident scholarly activity program, which pairs residents with one or more faculty members to pursue feasible research or other scholarly endeavors during their residency. The program culminates in a unique scholarly activity poster session as part of the graduation activities for our senior residents.

Section 3: Assessment of Competency, Quality Improvement, and Reflective Practice

A source of pride in the Department of Pediatrics is our willingness to incorporate learner feedback and performance into improvements in our curricula and teaching. After receiving feedback from students regarding organization, consistency, and relevance of student morning conferences during their clinical clerkship, one of our hospitalist faculty created a curriculum of concise, high-yield topics appropriate for the third-year medical student. Student ratings of lecture quality improved from 2.7 to 5 on a 5-point Likert scale in just one year. Annual review of American Board of Pediatrics exam performance leads to adjustments in the didactic lecture schedule to meet the needs of our resident learners. An intensive board review course was designed and implemented in 2009 as a result of this same exam performance and continues to be one of our most popular conference activities five years after its introduction. In the last five years alone, our residency program has developed new curricula in parenting, evidence-based medicine, communication, and quality improvement, as well as enhancing the existing "business side of medicine" curriculum. Nine new clinical rotations, including Poverty and Social Justice, international pediatrics, and child advocacy have been created around resident interest and suggestions. The response to these programs has been so outstanding that we launched a Global Child Health certificate program in July 2013, and the resident-led PUSH (Pediatricians Urging Safety and Health) program continues to expand exponentially. Additionally, the residency program is on the national forefront of a new learner evaluation process using descriptive anchors as milestones in training that will revolutionize the way residents are assessed and promoted.