Poster Session 1: Tuesday, May 17, 5:30 - 6:30pm Pacific

HOW FELLOWS GROW-UP: EVALUATING AUTONOMY DEVELOPMENT OF PEDIATRIC SUBSPECIALTY FELLOWS

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INTRODUCTION: Fellowship programs have the dual responsibility of preparing physicians for independent practice while providing appropriate supervision to ensure safe patient care. Prior research has shown that fellows report their autonomy may be limited by programmatic requirements for supervision. The method by which fellows develop autonomy in the course of their training has not been studied.

OBJECTIVE: To explore the perspectives of pediatric subspecialty fellows about their autonomy development during training.

METHODS: Using the epistemological framework of social constructivism, we performed a qualitative study to investigate the perspective of fellows from all pediatric subspecialty fields at four university-based institutions across the United States. We conducted semi-structured interviews to explore fellow perspectives regarding their experience with autonomy development. Using a phenomenological approach, we inductively and iteratively identified codes and organized them into themes after sequential group discussions until consensus and thematic sufficiency were achieved.

RESULTS: We interviewed 26 pediatric subspecialty fellows. Data analysis yielded three themes: individual factors/actions of fellows and attendings, team structure and dynamics, and academic learning environment. Fellow actions included asking for help. Attending actions included positioning during rounds, using both direct and indirect supervision, and encouraging fellows' decision-making. Team considerations included being respected and seen, acting as a leader, trust and communication among team members, and collaborating with advanced practice providers (APPs). The learning environment included attributes associated with the training program (e.g., taking transport call) and patient care issues such as acuity.

CONCLUSION: We identified individual, team, and academic learning environment factors perceived to influence autonomy development of pediatric subspecialty fellows. Fellows may be a unique population of learners due to the dynamics of their team structure and interaction with APPs. Fellows expressed a need to be "respected and seen" to support their autonomy development. Strategies to enhance autonomy development include allowing fellows flexibility for decision-making when possible, structuring call schedules to allow patient care decisions, setting clear expectations around communication, and providing time to build relationships of trust. Such actions may promote fellows' autonomy and readiness for independent practice.

TABLE 1: Themes and subthemes with representative codes

Theme	Subthemes	Codes
Individual factors or actions	Fellow factors or actions	- Background and prior experiences, includes staying at the same program - Self-directed actions (asking for help, working on own autonomy, advocating for self, etc.) - Agency and decision-making - Involving supervisors - Building relationships, including mutual trust with attending - Teaching and providing feedback to others - Attributes and Interaction style (confidence, control, competence) - Fellow beliefs - Passion for field
	Attending factors or actions	- Encourage/prompt decision-making and flexibility with allowing trainees to make decisions - Positioning and level of supervision (direct and indirect supervision/oversight) - Setting goals/expectations and providing feedback - Style of practice - Role modeling - Transparency - Attributes (confidence, control, competence, humility, dedication to teaching) - Experience ("years since training", research time of faculty) - Serving as safety net or backup
Team structure and dynamics	Team structure	- Being a leader of the team - Size and composition of the team - Specialization and subspecialization - Learner density
	Team dynamics	- Being respected or seen - Competition for learning - Communication/collaboration with team - Relationship with team (trust with team, team culture, etc.) - Many different opinions (and synthesis of plan of care for the patient) - External or side discussions - Balancing roles and tasks - Sense of responsibility
Academic learning environment	Training program	- Scheduling/organization (call schedule, procedures, telemedicine/telehealth, etc.) - Curricular features (individualized opportunities, summative program evaluation/feedback) - Leadership - Different levels of supervision/entrustment within the program - Billing or legal considerations - Peer group - Time constraints - Training/subspecialty differences from pediatrics
	Patient care and System factors	- Communication with and helping patients/families - Having the knowledge needed in patient care (e.g., diagnoses) and knowing patients themselves - Time constraints (and time to think) - Setting/environment - Difficult conversations/situations (including acuity, complexity, etc.) - Family and patient values and beliefs - Incorrect or bad outcome - Patient population - Hospital or service factors - Doing procedures

A UNIQUE LENS: UNDERSTANDING WHAT NURSES ARE BEST POSITIONED TO EVALUATE ABOUT PEDIATRIC RESIDENTS

Kimiko Dunbar, MD, Children's Hospital of Colorado; Carolyn Marcus, MD; Ariel Winn, MD; Laura Chiel, MD, Boston Children's Hospital; Dennis Doherty , PhD, Boston Children's Hospital

Background: Residents interact with multiple healthcare professionals throughout training; however, much of the structured feedback elicited for residents has historically been from attending physicians. Studies have found

that nurses can provide feedback on domains different from those of attending physicians but that physicians

may be hesitant to accept feedback from nurses if nurses do not understand the physician's role or are asked about areas outside nurses' expertise. Therefore, understanding the specific resident behaviors that nurses are best suited to evaluate is critical to the successful delivery and receipt of feedback.

Objective: To understand the specific behaviors of pediatric residents that nurses are uniquely positioned to evaluate from the perspective of both pediatric nurses and residents.

Methods: We performed a qualitative study using thematic analysis of 5 focus groups with 20 pediatric residents and 5 focus groups with 17 pediatric nurses at a large free-standing children's hospital. Two reviewers developed an initial codebook with which they subsequently analyzed all the transcripts. We then organized the codes into themes and sub-themes. Thematic saturation was achieved prior to analyzing the final transcript.

Results: We identified three major themes. Nurses are uniquely positioned to provide: (1) feedback on residents' interprofessional collaborative practice; (2) feedback on residents' communication with patients and their families; and (3) feedback on behalf of patients and families. Additionally, participants felt that medical decision making should not be a part of nurse-resident feedback and that resident responsiveness is a complicated area of feedback. Both residents and nurses described the benefits and barriers of nurse-to-resident feedback. The specific behaviors nurses can evaluate identified in this study provide a framework for potential questions to be included in a nurse feedback form.

Conclusions: Nurses and residents value nursing feedback and expressed that it provides a unique perspective not captured by other evaluators. There are barriers that need to be addressed to achieve successful implementation. Future studies can focus on implementation of verbal and written feedback and feedback form design.

TRAINING RESIDENTS IN THE SCREENING TOOL FOR AUTISM IN TODDLERS: LEARNING OUTCOMES AND RESIDENT PERCEPTIONS

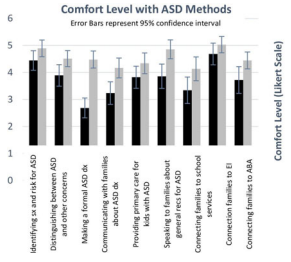
Kira Belzer, MD, Madigan Army Medical Center; Michelle Kiger, MD, Wright Patterson Medical Center ; Eric Flake, MD, Madigan Army Medical Center

Autism Spectrum Disorder (ASD) affects 1 in 54 children. While best outcomes occur when autism-specific interventions are initiated prior to age 3, the average age of diagnosis in the US is 4. Delays in diagnosis stem from long wait times to access specialty care and primary care providers (PCPs) feeling inadequately prepared to diagnose and manage ASD. The objective of this study was to develop an autism curriculum to train pediatric residents in the use of the Screening Tool for Autism in Toddlers (STAT), a level 2 screening tool, and assess the impact of this training on their knowledge and comfort in managing ASD.

Pediatric residents completed in-person training in the STAT that included interactive video and practice-based elements. Residents completed pre- and post-tests assessing their knowledge of ASD diagnosis and managment; pre- and post-training surveys assessing their experience and comfort with ASD; and post-training interviews exploring their perceptions of the training and barriers to ASD diagnosis and treatment. We performed an inductive thematic analysis of interview responses.

Thirty-two residents attended the training; 29 completed the evaluations. There was a significant increase in test scores following the STAT training (M=9.8 vs 11.7, t(28) =4.93, p<0.0001), significant increases in resident comfort levels with ASD management (figure 1), increased resident comfort using the STAT (M=1.00 vs 3.24, t(28)=15.35, p<0.0001), and increased likelihood of using the STAT to make an ASD diagnosis (M=1.07 vs 3.52, t(28)=13.99, p<0.0001). We identified 4 themes in interview responses: 1) while STAT training increased residents' sense of empowerment in managing patients with ASD, they remained reluctant to make a formal autism diagnosis due the implications of the diagnosis; 2) residents felt that logistical barriers would impede successful long term implementation of the STAT in their clinics; 3) access to a Developmental-Behavioral Pediatrician impacted resident's comfort levels with utilizing the STAT in their clinics; and 4) residents most valued the interactive components of the curriculum.

An autism curriculum that included training in the STAT increased resident knowledge and comfort level diagnosing and managing ASD, and empowered residents to manage autism as a PCP. While logistical barriers impact the ability of PCPs to identify and diagnose autism earlier in clinical practice, providing a rich area for future study, use of this curriculum has potential to improve the long-term outcomes for children with ASD.



TELEMEDICINE IN PEDIATRIC TRAINING (TIPT): A MULTI-INSTITUTIONAL PILOT OF A TELEMEDICINE CURRICULUM FOR PEDIATRIC TRAINEES

Nicole Paradise Black, MD, MEd; Melissa Fitzgerald, MD; Aaron Thomas, PhD; Lindsay Thompson, MD, MS, University of Florida; Dana Schinasi, MD, Northwestern University Feinberg School of Medicine; Lynne Huffman, MD, Stanford University School of Medicine; Jaclyn Otero, MD, University of Florida; Theresa Scott, DO, MS, NewYork-Presbyterian/Columbia University Irving Medical Center & NewYork-Presbyterian/Weill Cornell; Ragan DuBose-Morris, PhD; Kelli Garber, MSN, APRN, Medical University of South Carolina; Mary Moffatt, MD, University of Missouri Kansas City; Jonathan Hron, MD, Harvard Medical School; Julie Thomas, MEd, University of Florida; Pamela Carpenter, MEd, University of Utah

Background: Telemedicine has been increasingly used in pediatrics, especially with the COVID-19 pandemic. Few studies have focused on pediatric telemedicine curriculum development for GME trainees. A needs assessment of pediatric GME program directors revealed that a majority agree that a telemedicine curriculum in training is important.

Objective: The purpose of this study was to evaluate the effect of a pediatric telemedicine curriculum on knowledge and attitudes concerning telemedicine for pediatric trainees.

Methods: In this multi-site study, from January to April 2021, participating pediatric residents and fellows completed a newly developed self-paced online curriculum designed to foster telemedicine skills. Pre- and post-knowledge tests and attitudes surveys, based on the Technology Acceptance Model, were used to evaluate the effectiveness of the curriculum. Repeated measures paired t-tests were used to determine whether significant improvements in knowledge and attitudes were observed and specific areas of telemedicine impacted based upon completion of the curriculum.

Results: A total of 108 (92.3%) of 117 participating trainees, from over 40 institutions, completed all study components. Knowledge assessment mean scores significantly increased after completing the curriculum ($p<.0001$), from pretest (5.54/8; 69.2% correct) to posttest (6.4/8; 80.0% correct), moderate effect size ($d=0.66$). The effect sizes for those with 0 years' experience ($d=0.95$) and <1 year experience ($d=0.75$) can be classified as large and large to moderate, respectively. The telemedicine attitudes survey composite scores significantly increased after completing TIPT, $t(107)=8.22$ ($p<0.0001$). The effect upon attitudes was especially large for participants with 0 years' experience ($d=1.15$). TIPT had the largest effect among participants on awareness of legal issues ($d=1.15$), and moderate effects on perceptions of productivity ($d=0.53$) and ability to deliver care ($d=0.53$).

Conclusions: The results of this study support the efficacy of TIPT in facilitating pediatric trainee knowledge of telemedicine best practices and improving trainee attitudes, especially for trainees with less years of experience with telemedicine. These findings support its use in pediatric training programs.

TIPT Tables

Table 1
Knowledge Assessment- Pre-Posttest Composite Score and Percent Correct Measures- Descriptives and Inferential Statistics by Telemedicine Experience

Measure	Test	All Participants (N=108)	None (N=13)	<1 year (N=72)	≥1 year (N=23)
Descriptives					
Mean Score	Protest	5.54	5.23	5.50	5.83
	Posttest	6.40	6.62	6.43	6.17
Mean% Correct	Protest	69.2%	65.4%	68.8%	72.9%
	Posttest	80.0%	82.8%	80.4%	77.1%
Median	Protest	6	6	6	6
	Posttest	7	7	7	6
SD	Protest	1.13	1.48	1.13	0.89
	Posttest	1.21	1.39	1.11	1.40
SE	Protest	0.11	0.41	0.13	0.18
	Posttest	0.12	0.38	0.13	0.29
Paired t-test					
t		6.99	3.45	6.56	1.28
df		107	12	71	22
p-value		<0.001	0.004	<0.001	0.21
mean of difference		0.86	1.38	0.93	0.34
Cohen's d		0.66	0.95	0.75	*NA
Effect size interpretation		Moderate	Large	Moderate-Large	*NA

*Effect sizes were note calculated where significant differences were not observed.

Table 2
Pre- and Post-Curriculum Telemedicine Attitudes Survey Descriptive Statistics for Total Survey Scores

Measure	Survey	All Participants (N=108)	None (N=13)	<1 year (N=72)	≥1 year (N=23)
Descriptives					
Mean Total Score	Initial survey	69.32	66.23	70.17	68.43
	Final survey	76.06	73.31	76.58	76
Median Total Score	Initial survey	71	68	73	70
	Final survey	78	72	78	78
SD	Initial survey	11.06	11.08	11.71	8.79
	Final survey	10.97	8.64	11.85	9.25
SE	Initial survey	1.06	3.07	1.38	1.83
	Final survey	1.06	2.39	1.40	1.93
Paired t-test					
t		8.22	11.39	3.31	4.30
df		107	12	71	22
p-value		<0.001	0.001	<0.001	<0.001
mean of difference		6.74	2.06	.256	.416
Cohen's d		0.44	1.15	0.31	0.41
Effect size interpretation		Small-Moderate	Large	Small	Small

THE IMPACT OF RESILIENCY TRAINING ON PEDIATRIC RESIDENT WELL-BEING, BURNOUT, AND QUALITY OF CARE

Phoebe Long, PhD; Krista Gregory, MDiv, Dell Children's Medical Center; Nalinda Charnsangavej, MD; Kartik Pillutla, MD, University of Texas at Austin Dell Medical School

Background: Burnout is a well-recognized condition among physicians and residents, and rates of healthcare professional burnout have increased during the COVID-19 pandemic. In this study, pediatric resident physicians learned brief resilience tools to recognize and regulate stress, empathy fatigue and burnout through a longitudinal, 6-hour Resiliency Training. The training was embedded into an existing program curriculum and all pediatric senior resident physicians participated during protected educational sessions in small group cohorts.

Objective: To assess the effectiveness of resiliency training for improving pediatric residents' well-being, professional fulfillment and perceived quality of care.

Methods: A 6-hour Resiliency Training was offered over a period of 7 months (September 2020 - March 2021) to forty-three pediatric senior residents in groups of ten to eleven. Residents were surveyed 2-weeks before the training, midway through the training, and 2-weeks after the training. Surveys included standardized measures of resilience skills, well-being, physician-specific measures of burnout, and quality of care, as well as open-ended questions. Quantitative data was assessed using linear mixed models.

Results: All 43 residents who participated in the training completed the surveys. Self-compassion, mindfulness, and professional fulfillment scores increased significantly from pre to post test ($p<.01$). Perceived stress decreased significantly from pre to post test ($p=.037$). Work exhaustion decreased significantly from pre to mid test ($p<.01$). Residents' perceived quality of care increased significantly from pre to post test ($p=.017$). No significant changes were observed in measures of resilience or interpersonal disengagement ($p>.05$), although scores moved in the expected direction over time.

20 residents provided open-ended feedback about the program. Nine out of 20 (45%) enjoyed connecting with peers, 6 out of 20 (30%) emphasized learning techniques in the training that could help them during their work, and 5 out of 20 (25%) enjoyed connecting with peers and learning techniques to manage stress. On average residents attended 5.6 out of 6 sessions.

Conclusions: An existing program structure that included protected time in small cohorts made a 6-hour Resiliency Training program accessible for pediatric residents. Offering practical resiliency tools that can be used during work to manage stress, as well as space to discuss the difficulties of their work among peers, may bolster resident well-being, professional fulfillment, and quality of care.

FEELING LIKE A GUEST: A QUALITATIVE STUDY OF RESIDENT EXPERIENCES WITH CLINICAL EVENT DEBRIEFING

Laura Goldstein, MD; Meghan Galligan, MD MSHP; Stephanie Garcia, MPH; Katherine Kellom, AB; Heather Wolfe, MD MSHP; Mary Haggerty, DO; Dawn DeBrocco, PsyD, Children's Hospital of Philadelphia; Frances Barg, PhD MEd, University of Pennsylvania Perelman School of Medicine; Eron Friedlaender, MD MPH, Children's Hospital of Philadelphia

Background:

Clinical event debriefing (CED) can improve interprofessional (IP) team performance and patient outcomes. CED can also promote learning, reduce burnout, and provide emotional support following a challenging encounter. However, resident involvement in CED has historically been limited due to insufficient training. Targeted curricula can promote CED literacy, but little is known about subjective resident CED experiences.

Objective:

To characterize CED experiences of pediatric residents, with a specific focus on understanding the barriers and facilitators of resident involvement in CED in order to inform CED curricular design.

Methods:

In this qualitative study, we conducted virtual focus groups comprised of pediatric residents. Focus groups were digitally recorded, de-identified, and transcribed. We analyzed data using a modified grounded theory approach, developing a codebook to match themes and priorities identified by respondents.

Results

We conducted 4 focus groups with 25 residents. Our analysis identified several key themes related to 1) the mental model of CED, 2) barriers to resident CED participation and engagement, and 3) facilitators of resident CED participation and engagement. Residents generally indexed CED along two dimensions: the participant mix and the primary objective(s). Overwhelmingly, respondents identified the rotational nature of residency as a barrier to both participation in CED and engagement in reflective discussion, particularly among IP groups. They described feeling like "guests" among IP unit-based teams who otherwise work together regularly. Other barriers to CED participation and engagement (including among both IP and physician-only groups) included unclear expectations for CED initiation, competing responsibilities, dearth of in-person resources to support their involvement, and the vulnerability of being a trainee who is both a learner and "the doctor" leading the medical team. Facilitators of resident involvement in CED included a desire to learn, professional growth, and intentional inclusion in CED by other team members.

Conclusions

Overall, residents value CED, but many factors affect their involvement, including most notably the transience of their role. Our study also identified several other barriers and facilitators to resident involvement in CED, all of which may inform CED curricular design. We propose several resident-derived recommendations for CED practice that are targeted at organizers of CED, at residency programs, and at academic institutions as a whole.

WHO'S THE BOSS? LAYPEOPLE'S UNDERSTANDING OF SENIORITY AMONG MEDICAL STUDENTS, RESIDENTS, FELLOWS, AND ATTENDINGS

Emily Hause, MD, MPH, University of Minnesota; Corinne Praska, BS, University of Minnesota Medical school; Katherine Allen, MD, MPH, University of Minnesota; Rachael Gotlieb, BA; Victoria Charpentier, BS, University of Minnesota Medical School; Marissa Hendrickson, MD; Jordan Marmet, MD; Scott Lunos, MS; Michael Pitt, MD, University of Minnesota

Objective: Medical providers in academic settings often introduce themselves by their role on the team (i.e. medical student, fellow, attending, etc.). We aimed to determine how well the general public understood what these roles meant in terms of seniority on a medical team.

Methods: We surveyed fairgoers over three days at the 2021 Minnesota State Fair to assess the understanding of medical seniority by a cross-section of the Minnesota public. Adults >18 years old who did not have a history of any medical or nursing training volunteered to complete a brief REDCap survey on an iPad. We asked participants to rank different levels of medical trainees - medical student, intern, senior resident, fellow, attending - in ascending order of experience using a 5-point scale (1 representing the least experience and 5 representing the most experience). We used descriptive statistics to summarize the responses.

Results: The survey was completed by 204 people, 55% of whom were female with a mean age of 43. Two thirds of respondents (67%) had a bachelor's degree or higher. The table summarizes the responses. Only 12% of study participants were able to correctly place the medical roles in order from least experienced to most experienced. Most (74%) of study participants correctly identified the medical student as the least experienced. However, the senior resident was most commonly identified as the most experienced member of the team (44%) and just 27% of respondents correctly placed the attending in that position.

Conclusions: Even among a relatively educated group of volunteers from the general public, the terminology surrounding different levels of experience among medical professionals was not well understood. Healthcare professionals should take the time to describe their role beyond the title to minimize confusion among patients and families.

	Ranked in the Correct Position				
	Ranked as **LEAST** Experienced	Ranked as Second Least Experienced	Ranked in Middle of Experience	Ranked as Second Most Experienced	Ranked as **MOST** Experienced
Medical Student	**74%**	13%	4%	9%	1%
Intern	16%	**63%**	16%	5%	1%
Senior Resident	1%	3%	25%	29%	**44%**
Fellow	5%	13%	26%	29%	27%
Attending	5%	9%	**30%**	**29%**	27%

Bolded number = most commonly chosen for that role; Shaded square = correct ranking for that role

IMPROVING FREQUENCY AND QUALITY OF FEEDBACK IN USING A RESIDENT-DRIVEN QUALITY IMPROVEMENT TEAM

Ali Mientus, MD; Julie Springate, MD; Addie Dodson, MD; Sara Multerer, MD, University of Louisvlle

Results

By the end of the academic year 2017-18, 90% of residents reported receiving weekly feedback on the inpatient wards and the program scored above the national mean in resident satisfaction with feedback. In 2018-19, we were able to maintain feedback rates at 70% and expanded the feedback project to include the Hematology/Oncology rotation where feedback was maintained. In 2019-2021, we were able to improve the quality of feedback by presenting strategies for effective feedback to attendings and encouraging more focused feedback sessions.

Conclusions

Through systematic, measured interventions, pediatric residents received more timely and focused in-person feedback.

Funding

The initial aim of this QI project was to increase the percentage of pediatric residents who receive accurate, timely, in-person formative feedback from faculty members on their inpatient wards rotation from 25% to 75% by the end of the 2017-2018 academic year. Over time, additional aims were added to the project to include maintenance of 75% feedback rate on wards, expansion to other rotations, and enhancing the quality of given feedback.

A NEEDS ASSESSMENT OF FELLOWSHIP TRAINING FOR PEDIATRIC SUBSPECIALTY MENTAL HEALTH CARE

Rebecca Sanders, MD, PhD; Susie Buchter, MD, Emory University School of Medicine; Richard B. Mink, MD, MACM, The Lundquist Institute for Biomedical Innovation

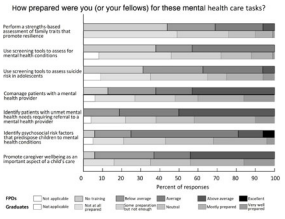
BACKGROUND: Increased mental health training in general pediatrics is a well-recognized need. However, subspecialists are often the primary medical home for children with chronic conditions, a group at increased mental health risk. The role of subspecialists in providing pediatric mental health care and their training needs have not been characterized.

OBJECTIVES: Describe the current state of mental health care training, perceived needs, and opportunities for improvement in pediatric fellowships.

METHODS: Fellowship program directors (FPDs) and graduates who completed fellowship within the past 18-66 months across 16 subspecialties at one institution were invited to complete a web-based survey. Participants were asked about their attitudes toward mental health care delivery by subspecialty physicians, mental health needs encountered in practice, and the level of mental health care training provided in fellowship.

RESULTS: All FPDs (16/16) and 61% (80/132) of fellowship graduates responded to the survey. The majority reported caring for patients with common mental health diagnoses (anxiety, depression, suicidality, post-traumatic stress disorder, somatoform disorders, substance use disorders, disruptive behavior/aggression). Nearly all participants (95/96) believed mental health was an important part of care for children with chronic conditions, and 88% (84/96) felt fellowship should include mental health training. Only 26% (25/96) thought mental health was better addressed by primary care physicians. Most respondents reported engaging in mental health care for patients, yet 71% (57/80) of graduates reported receiving no mental health training during fellowship and many graduates felt unprepared to perform key mental health care tasks after fellowship training (Figure 1). In contrast, FPDs' most often rated current fellowship training as average or better. The most desired mode for further training by both graduates (72%) and FPDs (75%) was clinical experience with a mental health provider.

CONCLUSIONS: Mental health is viewed as an important part of subspecialty care. Most subspecialists encounter patients with mental health needs and address them as part of their practice. However, graduates view their training as inadequate, counter to FPD's perceptions. Although this was a single site study, it likely reflects conditions within the broader pediatric subspecialist community. Increased training in fellowship and additional clinical experience with mental health providers could help to improve mental health care for children.



"TEACH"ING: EVALUATION OF YEAR 1 & 2 OF A MULTIMODAL CHILD POVERTY CURRICULUM

Olanrewaju Falusi, MD, MEd; Jessica Weisz, MD; Lin Chun-Seeley, MA; Cara Lichtenstein, MD, MPH; Dale Coddington, MD, MA, Children's National Hospital; Mary Ottolini, MD, MPH, MEd, The Barbara Bush Children's Hospital at Maine Medical Center

Background:

Understanding and addressing the effects of child poverty is critical for equitable care. Few curricula on poverty exist, and even fewer include multimodal teaching coupled with robust evaluation.

Objective:

To evaluate the effect of Years 1 and 2 of a three-year child poverty curriculum on resident knowledge and attitudes.

Methods:

The goal of the Trainee Education in Advocacy and Community Health (TEACH) curriculum is to train pediatric residents to recognize and address the effects of poverty, with learning objectives modified from the US Child Poverty Curriculum. The first 2 years of the curriculum included interactive modules with case simulations. Year 1 (Epidemiology of Child Poverty) also involved completing a government benefits application, an online housing

(Epidemiology of Child Poverty) also involved completing a government benefits application, an online housing insecurity activity, and a debrief with study staff to reflect upon the experience. Year 2 (Population Health &

Social Determinants of Health and Biomedical Influences of Child Poverty) involved partnership with community-based organizations for in-person (pre-pandemic) or virtual home visits. Learning was evaluated by pre/post knowledge tests, pre/post questions assessing attitudes and confidence, and oral and written reflection questions. Reflections were reviewed for themes.

Results:

From June 2018 to October 2021, 66 residents completed the Epidemiology of Child Poverty component, 50 residents completed Population Health & Social Determinants of Health, and 61 residents completed Biomedical Influences of Poverty. Residents demonstrated improved knowledge, comparing pre- and post-test responses in each set of modules ($p<0.001$). Post-participation, Year 1 and Year 2 residents reported they felt more prepared to address social needs ($p<0.001$) and more effective in assisting families ($p<0.001$). Other attitudes showed statistical interval change in Year 1 but not Year 2. Themes from resident reflections included increased empathy for families experiencing poverty, increased importance of continuous reflection on their biases, and a recognition of their role in identifying social determinants of health during clinic visits.

Conclusion:

Residents increased in their knowledge, preparedness, and perceived effectiveness after participation in the TEACH curriculum. Notably, the attitudes that did not change significantly after the curriculum were already rated high at baseline. The simulations, home visit activities, and reflections were key elements of the learning experience. Next steps include assessment of Year 3 and evaluation of skills during a clinic visit.

INTO THE UNKNOWN: CHARACTERIZING FELLOW TRAINEE UNCERTAINTY IN THE TRANSITION TO INDEPENDENT PRACTICE

Daniel Herchline, MD, MSEd, Cincinnati Children's Hospital Medical Center; Margot Cohen, MD, MSEd; Marietta Ambrose, MD, MPH, MSEd, University of Pennsylvania; Jennifer Hwang, MD, MHS, MSEd, Children's Hospital of Philadelphia; Daniel Kaminstein, MD, DTM&H, FACEP, MSEd, Medical College of Georgia at Augusta University; Marissa Kilberg, MD, MSEd; Samuel Rosenblatt, MD, MSEd, Children's Hospital of Philadelphia; Justin Ziemba, MD, MSEd, University of Pennsylvania; Donald Boyer, MD, MSEd, Children's Hospital of Philadelphia

Background: Helping trainees confront and manage uncertainty in the course of diagnosis and treatment of patients has been a growing focus of medical education. How these same trainees confront uncertainty as they make a transition in their professional identity is less commonly a focus of training programs.

Objectives: This study aimed to explore how fellow trainees experience uncertainty during the transition to independent practice.

Methods: Using McManus and Hastings' framework for understanding uncertainty as our conceptual framework, we invited participants to engage in semi-structured interviews exploring experiences with uncertainty. Between September 2020 and March 2021, we interviewed 18 physicians in their final year of fellowship training from two large academic institutions. Data analysis was conducted using both inductive and deductive coding.

Results: Experiences with uncertainty during the transition process were individualized, dynamic, and laden with emotion. Unable to see the entire landscape of their transitions, participants largely focused on the nearest issue at hand and shifted attention with the passage of time and changing context. Primary sources of uncertainty identified included clinical competence, employment logistics, and career vision. The most crucial relationship for participants navigating transitions was between sources of uncertainty and the strategies used to mitigate perceived risks stemming from these sources. Participants employed a number of different strategies to mitigate perceived risk including compromise and clinical preparation while leveraging numerous available resources ranging from professional networks to established program supports.

Conclusion: Fellows' experiences with uncertainty during their transitions to independent practice are individualized, contextual, and dynamic; similar to the phenomenon of wayfinding (moving from point to point rather than seeing the journey as a whole). Fellows rely on various supports and strategies to mitigate the risks they associate with this uncertainty, which allows them to strive toward desired short and long-term outcomes related to their transitions. Building support systems and tailoring them to the specific needs of trainees may allow training programs to provide optimal support for fellows as they navigate a crucial period in their career development.

IMPLEMENTATION OF A LONGITUDINAL OUTPATIENT CURRICULUM TO ENHANCE EDUCATION FOR OUR MODERN PEDIATRIC RESIDENTS

Selda Ishkin, MD, MPH; Adam Halpern, BS, Staten Island University Hospital - Northwell Health; Janelle Singh, MBBS, Maimonides Infants and Children's Hospital of Brooklyn; Anna Cornish, DO; Eleny Romanos-Sirakis, MD, MS, Staten Island University Hospital - Northwell Health

BACKGROUND: Data on the implementation of successful pediatric ambulatory curricula in residency are limited. Although the majority (63%) of pediatric residents pursue a career in primary care, the educational focus in residency training sways towards inpatient medicine. In addition, barriers exist to standardized and consistent teaching in an outpatient clinic.

OBJECTIVE: We created a novel longitudinal ambulatory curriculum focusing on high-yield topics delivered over short sessions during weekly resident continuity clinic to meet the needs of modern learners.

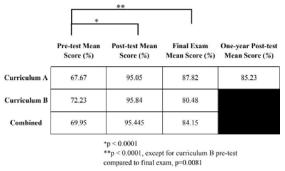
METHODS: Over two academic years, 32 pediatric residents were exposed to an 18-month curriculum, consisting of 62 high-yield ambulatory topics. A brief topic guide was created by content experts to standardize teaching across preceptors and was taught in 10-15 minutes during weekly continuity clinic. Pre and post-tests were used to assess knowledge. Topic guides were emailed to residents for self-study. Cumulative exams were given after each half (Part A and B) of the curriculum to assess knowledge retention. A one-year follow-up exam was given to assess long-term knowledge retention. A Likert scale (1=not at all, 5=very much) assessed satisfaction and use of the curriculum in clinical practice. Continuous variables were described by mean and standard deviations. Categorical data were summarized as frequency counts and percentages. Paired t-test compared continuous variables between pre and post-intervention. Analysis of variance method compared mean differences between PGY years.

RESULTS: Mean weekly pre-test scores increased from 69.95% to post-test scores of 94.4% ($p<0.0001$). The mean final exam score was 84.15%. The one-year follow-up mean test score for Part A was 85.23%. Mean knowledge scores increased from pre-test to post-test ($p<0.0001$) and from pre-test to final exam for each half curriculum

(p<0.0001). The mean test score one year later was sustained at over 85%. Mean scores for overall satisfaction and effectiveness after Part A were 4.6 and 4.5, respectively. When asked how much the curriculum was used in clinical practice, the mean score was 4.45.

CONCLUSION: Ambulatory education in residency is often inconsistent and varies across preceptors and programs. We created an approach that provided consistent pediatric outpatient education of high-yield topics, was well-received, and led to a sustained knowledge increase. This curriculum can be utilized in busy clinic settings to improve resident knowledge and enhance patient care with minimal interruption to clinical sessions.

Mean Test Scores Pre and Post Curriculum



	Pre-test Mean Score (%)	Post-test Mean Score (%)	Final Exam Mean Score (%)	One-year Post-test Mean Score (%)
Curriculum A	67.67	95.05	87.82	85.23
Curriculum B	72.23	95.84	80.48	
Combined	69.95	95.445	84.15	

*p < 0.0001
**p < 0.0001, except for curriculum B pre-test compared to final exam, p=0.0081

NEEDS ASSESSMENT EVALUATING PERCEIVED READINESS FOR POST-RESIDENCY CAREERS

Mahati Pidaparti, MD; Karen Mangold, MD, MEd; Priya Jain, MD, MEd, Ann & Robert H. Lurie Children's Hospital of Chicago

OBJECTIVE: As a needs assessment for a future curriculum, a survey was designed to determine which skills residency graduates felt were important to their faculty careers and those they wished they had obtained during residency.

METHODS: An IRB approved anonymous survey was distributed in May 2021 to all Northwestern McGaw/Lurie Children's categorical pediatric graduating residents and residency graduates from 2017-2021 regarding skills they wished they had obtained prior to graduation. Parametric testing measured distribution of clinical variables.

RESULTS: 67 residency graduates completed the survey, including outpatient (OP) general pediatricians (n=16), fellows of procedural (NICU, PICU, PEM, Cardiology) and non-procedural subspecialties (n=17 and 16 respectively), hospitalists (n=9) and urgent care providers (n=2). All graduates rated themselves as confident in their abilities with the skills of bag-mask ventilation, lumbar puncture, and simple laceration repair. Most participants did not feel confident in their abilities to perform other procedures/skills including: bladder catheterization, peripheral IV placement, reduction of simple dislocation, umbilical catheter placement, venipuncture, billing for clinic office visits, ICD coding and statistical analysis with average confidence level of 2.5 out of 5. However, there were differences based on career path in graduates' perception of importance in future career and desire for more practice with certain skills during residency. More than 50% of graduates who pursued a procedural fellowship desired more practice in neonatal endotracheal intubation (n=11), peripheral intravenous catheter (n=12) and umbilical catheter placements (n=10), and venipuncture (n=10) prior to graduation. Meanwhile, more practice for billing for clinic office visits was desired by at least 50% of graduates who pursued non-procedural fellowship (n=8) or OP general pediatrics (n=12), along with ICD coding (n=12) practice desired by a majority of those in OP general pediatrics.

CONCLUSION: While confidence in various skills did not seem to be as correlated with career path following residency, the differences noted in importance for future career and desire for more practice during residency of certain skills affirmed the need for career-specific bootcamps prior to graduation. Using this needs assessment, we plan to develop career-specific Pediatric Residency Bootcamps to be held at the end of the 3rd year of residency to focus on skills that graduates feel are both important to know and inadequately covered during residency.

PEDIATRIC RESIDENT PERCEPTIONS OF A MULTI-FACETED COMPLEX CARE ROTATION: A QUALITATIVE CONTENT ANALYSIS

Tanuja Kothinti, MD, University of South Florida; Jacqueline Battistelli, MD, San Antonio Uniformed Services Health Education Consortium Department of Obstetrics/Gynecology; Ruchi Kaushik, MD, MPH, Baylor College of Medicine - The Children's Hospital of San Antonio

Intro: Pediatric residents typically do not receive formal training in the care of children with medical complexity (CMC) in a medical home setting. Recently an expert panel developed 11 Complex Care entrustable professional activities (EPAs). Interest and momentum in the design of Complex Care curricula to achieve these EPAs is building; however, an understanding of which facets of such a curriculum are effective has yet to be determined. We aimed to conduct qualitative content analysis of pediatric resident perceptions of a multi-faceted Complex Care rotation.

Methods: Pediatric residents who participated in a 4-week Complex Care rotation engaged in didactic, clinical, and experiential training. Upon rotation completion residents wrote a one-page Reflection to describe which curricular elements they found most impactful and likely to inspire behavior change. We collected Reflections electronically and, using Dedoose, 3 co-authors individually reviewed Reflections and created and revised a codebook; 2 co-authors individually identified themes and sub-themes, met to resolve disagreement, and confirmed agreement with the third co-author through an iterative process.

Results: Of 47 trainees who participated in the rotation, 34 completed Reflections. Five themes emerged: The Medical Home–Caring for children with medical complexity (CMC) requires a compassionate "village" mentality that positions the patient/family at the center of the "village", or medical home, and pediatricians serve as expert facilitators who ensure communication across all partners and through the life continuum; Communication–Engaging in "clear and precise," honest, empathetic, non-judgmental, person-first, two-way, values-driven communication with families of CMC is vital to developing trusting relationships; preventing medical errors; clarifying team roles; eliciting families' fears, concerns, and needs; and ensuring they are addressed; Education–A Complex Care rotation teaches knowledge, skills, and attitudes from a unique outpatient, primary care perspective; Advocacy–Caring for CMC requires advocacy beyond the hospital/clinic room by collaborating across spheres; and Humanism–All children's lives have meaning and purpose; bearing this in mind helps residents reconnect with humanism.

Conclusion: Analysis of resident Reflections upon completion of a Complex Care rotation reveals insightful perceptions of its educational value. Emergent themes align with those of families of CMC and with leaders in pediatric Complex Care and GME and inform future design of Complex Care curricula.

PERCEPTIONS OF LACTATION-RELATED DISCRIMINATION EXPERIENCED BY PHYSICIAN MOTHER TRAINEES

Caitlin Billingham, MD, MPH; Jessica Gold, MD, MS; Caroline Rassbach, MD, MA Ed, Stanford University School of Medicine

Background: Due to a variety of unique barriers in the workplace, physician mothers are less likely to meet their desired breastfeeding goals, despite policies that may exist to protect them. Aggregate survey data suggests that instances of maternal bias and discrimination in the workplace are high, often directly related to breastfeeding practices. These barriers are even more pronounced for female physician trainees than their faculty counterparts. To date, no prior studies have explored the collective lived experience of breastfeeding trainees across disciplines.

Objective(s): 1) Explore the experience of female trainees as they navigate lactation at work while fulfilling clinical duties, 2) Understand workplace culture as it relates to lactation, 3) Describe perceptions of lactation-related bias or discrimination witnessed or experienced, 4) Summarize barriers and strategies for improving the institutional environment surrounding lactation.

Methods: This is an IRB-approved, exploratory study using qualitative methods with a phenomenological framework. We conducted semi-structured focus groups of physician mother trainees (residents and fellows) across disciplines within the Stanford housestaff community between January—May 2020. Sessions were audio recorded and transcribed verbatim. Two authors independently coded transcripts, with validation by a third author for consensus of thematic analysis and member checking for accuracy. Results were analyzed through the lens of Cruess et al.'s conceptual framework of professional identity formation in medicine.

Results: Data analysis from 4 focus groups (n = 16), representing 12 different medical and surgical subspecialties, revealed 5 overarching themes (see Table 3). Trainees reported significant breastfeeding barriers in the healthcare system and learning environment, including but not limited to, emotional toll, discrimination, and mistreatment. We summarized participants' asks and suggestions in a comprehensive guide for institution-level change.

Conclusions/Next Steps: Our data demonstrates a pressing need for comprehensive institutional policy, education, and workplace culture change to better support breastfeeding trainees. Participants advocated for improved paid parental leave benefits, financial coverage for wearable pumps, and more robust and protected avenues for reporting breastfeeding discrimination, among other priorities. This study has direct implications for the assurance of a safe and nondiscriminatory work environment for medical trainees at our own institution and beyond.

Table 3. Focus Group Themes Representing the Experiences of Breastfeeding Trainees[a]

Generated Themes
1. Health care systems and learning environments (program/institutional culture, workflow, facilities, and policies) are not optimally designed to support breastfeeding trainees.
2. Breastfeeding trainees face significant—and often disproportionate—logistical, emotional, and physical burdens within the health care system and learning environment and feel stuck navigating lactation at work primarily by themselves.
3. Breastfeeding trainees are subject to perceived maternal discrimination in many forms: overt mistreatment, microaggressions from supervisors and peers, lack of (and sometimes denial of) accommodation and support, and unrealistic expectations.
4. Breastfeeding trainees harbor considerable maternal guilt as a result of their dedication to their identities as both physicians and mothers, which causes them to sacrifice their wellbeing, their breastfeeding goals, and may impact their career decisions.
5. Role models in the form of successful breastfeeding physicians and supportive supervisors play a vital part in sustaining and improving the experience of breastfeeding for trainees.

[a]Themes were analyzed through the lens of a professional identity formation framework.

QUALITATIVE CONTENT ANALYSIS OF A STATEWIDE ADVOCACY COLLABORATIVE FRAMEWORK: A ONCE IN A DECADE OPPORTUNITY

Lauren Gambill, MD, MPA; Jennifer Duc, DO, University of Texas at Austin Dell Medical School; Hilda Loria, MD, MPH, University of Texas Southwestern Medical School; Ruchi Kaushik, MD, MPH, Bayor College of Medicine San Antonio

Background: Advocacy education is integral to pediatrics residency training. Participation in advocacy projects is noted to improve resident knowledge, skills, attitudes, self-efficacy, and engagement with overwhelmingly positive learner feedback. Barriers exist, however, in the implementation of advocacy projects at the individual residency program level. Little is known about the potential impact of Statewide Advocacy Collaborative (SAC) Frameworks on advocacy project implementation, particularly for multi-site projects.

Objective: To qualitatively examine the impact of a SAC Framework on the implementation of 2020 Census advocacy projects at individual residency programs.

Methods: *Texas Educators in Advocacy and Community Health* (TEACH TX) is a SAC that aims to advance advocacy education and support scholarly advocacy activity for 13 Texas pediatric residency programs. Using Connectivism Learning Theory, we designed a framework that included an animated 2020 Census Educational Video, a Discussion Guide, and a Census Resource List. We recruited programs via listserv email, presented the framework, and facilitated monthly phone calls. Semi-structured interviews of faculty and residents at participating residency programs were conducted. Four co-authors collected and analyzed interview data using an iterative qualitative content analysis approach.

Results: Seven programs opted to utilize the Framework and six programs agreed to participate in interviews. Programs exhibited geographic, size, and structure diversity. All participating programs implemented a 2020 Census advocacy project. We identified the following themes upon interview content analysis: a SAC Framework 1) can create facilitators for the implementation of an advocacy project; 2) does not fully alleviate certain barriers to the implementation of advocacy projects, and 3) specifically may not overcome challenges in metric development and tracking when it allows for residency program adaptations.

Facilitators included awareness, momentum, adaptability, self-efficacy, reduced burden, inspiration to collaborate with stakeholders, and a space to collaborate. Barriers included time constraints, administrative hurdles, and COVID19. Despite support afforded by SAC's adaptable framework, programs found measuring and tracking of outcomes challenging.

Discussion: A SAC Framework facilitates pediatric residency program implementation of advocacy projects; however, barriers remain and frameworks should allow for adaptability and guidance in identifying and tracking measurable outcomes.

Qualitative Content Analysis of a SAC Framework for Census 2020 Advocacy Projects: Themes and Subthemes

THEME	SUBTHEMES
A framework can create facilitators for the implementation of an advocacy project.	The framework *raised awareness and built momentum* among residents and faculty members toward initiation of advocacy projects.
	The framework *allowed for adaptations* in the implementation of a project to fit diverse academic structures
	The framework *improved pediatric resident comfort levels* when incorporating advocacy efforts into daily clinical experiences.
	The framework *reduced overall burden* when designing and implementing a project by sharing materials.
	The framework *inspired individual pediatric residency programs to navigate obstacles and collaborate with stakeholders*, both internal and external to their individual institutions.
	The framework *created a space* for geographically dispersed advocacy champions to meet and collaborate.
Some barriers are not fully alleviated by the introduction of a framework.	The framework did not adequately address *longitudinal time constraints*.
	The framework created a project that *became an additional constraint* on clinical workday time.
	The framework and implementation of a project helped residents to recognize the role of institutional administrative stakeholders, but *did not necessarily support their ability to overcome administrative obstacles*.
	The *COVID-19 pandemic served as a significant barrier* to successful implementation and completion of the project.
A framework that allows for residency program adaptations may pose challenges in metrics development and tracking	Census Champions *asserted the need for clear and measurable metrics* linked to meaningful outcomes.
	Individually defined *goals were vague and difficult to track* over time.

MENTOR THE MENTORS: A NOVEL CERTIFICATE COURSE FOR TRAINING FACULTY TO MENTOR PEDIATRIC RESIDENT SCHOLARLY ACTIVITY

Katelyn Gerth, BA; Edgardo Szyld, MD, MSc; Lise DeShea, PhD; Will Beasley, PhD; Casey Hester, MD; Erynn Bergner, MD, University of Oklahoma Health Science Center

Background: All residents in ACGME-accredited programs are required to participate in scholarly activity. Common challenges include inadequate time, resources, and faculty mentorship.

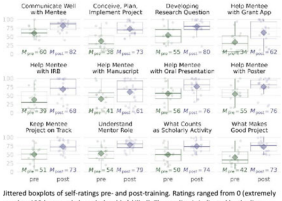
Objective: To describe and evaluate a novel approach to improve mentorship quality and breadth for pediatric resident scholarly projects.

Methods: Using a Train the Trainer approach and Kerns' Curriculum as an educational framework, we designed a certificate course consisting of 5 one-hour monthly sessions (July-November 2020). Pediatrics faculty were recruited via email, completed one hour of pre-work, and engaged in interactive sessions featuring small group work and large group discussion. Anonymous pre- and post-course surveys asked participants to rate their knowledge and skills related to mentoring resident projects from 0 (extremely poor) to 100 (extremely knowledgeable/skilled). Participants rated their confidence in mentoring residents as excellent, good, average, poor or terrible. Descriptive statistics were conducted, and overall pre- and post-surveys were analyzed and compared.

Results: All 22 participants completed the course, with diversity across gender, specialty, faculty rank, and research experience. Post-training means and medians were higher than pre-training on all survey questions. All individual participants' post-training ratings were higher than the pre-training means on items about (a) understanding what a good resident project is and (b) ability to plan and implement a project. The 25th percentile of post-training ratings were nearly equal to or higher than the 75th percentile pre-training ratings for (c) conceiving, planning and implementing a resident project, (d) developing a resident's research question, (e) helping mentees with posters, (f) understanding the mentor's role, and (g) what makes a good resident project. On overall confidence in mentoring a resident scholarly project, 18 of 22 respondents (82%) rated themselves above average post-training, compared with 3 of 17 (18%) pre-survey.

Conclusions: A novel course was successfully implemented to train faculty to mentor pediatric resident scholarly projects. It substantially increased participants' knowledge, ability, and confidence to mentor a resident scholarly project from conception through dissemination of results.

Figure 1: Pre and Post Course Survey



Jittered boxplots of self-ratings pre- and post-training. Ratings ranged from 0 (extremely poor) to 100 (extremely knowledgeable/skilled). The median is indicated by the line dividing the box, while mean is shown with a diamond. Random horizontal variation was added to points to jitter them and prevent overlaps in scores. *M* = mean, App = Application, IRB = Institutional Review Board.

RESIDENT INDEPENDENT ROUNDS: ATTENDING PHYSICIAN PERSPECTIVE

Peggy Guo, MD; Leonard (Barry) Seltz, MD; Sonja Ziniel, PhD, University of Colorado School of Medicine

Background

Post-graduate clinical education aims to provide pediatric residents with opportunities to practice autonomously in preparation for independent practice. Resident independent round (RIR) is an educational model where the inpatient team conducts family-centered rounds without the attending physician. This study focused on the attending physician perspectives which have not been well described in published literature.

Methods

In July 2020, we implemented weekly RIR on pediatric hospital medicine services at our institution. A REDCap survey was developed for attending physicians and fellows on service. The survey focused on the impact of RIR on the plan of care, teaching, learner assessment, efficiency, and patient safety compared to traditional rounds. Surveys were sent to physicians at the end of each service week from October 2020 through May 2021. Statistical analysis focused on descriptive statistics and bivariate analyses accounting for clustering of surveys by physicians using design-based Pearson Chi-Square tests. Two investigators performed content analysis of answers to open-ended questions.

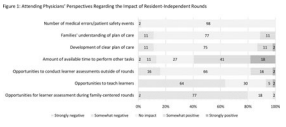
Results

Twenty-eight physicians (26 faculty, 2 fellows) completed 44/54 survey requests (81% response rate). Most physicians reported RIR had no impact on number of medical errors or safety events (98%), and no or positive impact on developmental of a clear plan of care (89%), family's understanding of plan of care (89%), or learner assessment outside of rounds (84%). In addition, 59% reported that RIR positively impacted the amount of time physicians have for other tasks for that day. However, most reported decreased opportunities to teach (64%) and assess (80%) learners during rounds for the week. Bivariate analysis of the data based on years of physician experience and weeks on service did not find any significant differences.

Qualitative data analysis found that RIRs were successful in promoting resident autonomy and satisfaction. Seeing patients on their own, attending physicians valued the time to connect with families, but reported decreased opportunities for teaching and role modeling. Losing a day of direct observation of family-centered rounds also limited their ability to assess learners. Some expressed challenges with care coordination and team communication for new or complex patients.

Conclusions

Attending physicians felt RIR enhanced resident autonomy and they enjoyed the opportunities to connect with families. Further work is needed to mitigate the challenges with learner assessment and care coordination for some patients.



CHALLENGING COMMUNICATION: IMPLEMENTATION AND ASSESSMENT OF A CURRICULUM FOR PEDIATRIC RESIDENTS

Ann Prybylowski, MD; Lucas Bruton, MD; Natalia Henner, MD, Lurie Children's Hospital; Katie Wolfe, MD, St Louis Children's Hospital

Background: Residents are spending less time in direct patient care in the era of more restrictive work hour limits and the COVID-19 pandemic. This has a negative impact on learning opportunities, including training in communication, with few physicians feeling adequately prepared to deliver difficult news by the end of training. Delivery of difficult news curricula for pediatric residents typically only focus on life-altering news and rarely are longitudinal, timely, or objectively assessed.

Objective: We developed a longitudinal, rotation-integrated simulation and case-based curriculum for PL-2 pediatric residents focused on developing skills for communication of difficult news evaluated with an objective structured clinical examination (OSCE).

Methods: We utilized Kern's Model of Curriculum Development to (1) complete an initial needs assessment of graduating pediatric residents in a single large pediatric residency program; (2) develop a multi-faceted difficult news curriculum including lectures, case discussions, and simulated scenarios during PL-2 clinical rotations; and (3) design and implement an assessment OSCE on delivery of difficult news, scored using the Modified Breaking Bad News Assessment Scale (m-BAS). Subjective differences in residents' comfort with difficult conversations were evaluated using a pre- and post-curriculum survey, using paired t-tests. Objective m-BAS scores on the OSCE will be compared pre- and post-curriculum implementation and differences will be assessed using two-sample t-tests.

Current/Expected Results: The needs assessment was completed by 50% of residents, with 54% of responding residents reporting feeling comfortable or very comfortable with breaking bad news to families. Both the pre- and post-curriculum surveys were completed by 50% of residents. Prior to curriculum implementation, most participating PL-2 residents had little comfort with delivery of difficult news. Following implementation of the curriculum, resident comfort scores increased significantly for breaking bad news, de-escalation, providing an appropriate amount of information, eliciting parental expectations, and providing closure at the end of the conversation. These results are summarized in Figure 1. Data collection for post-implementation OSCE performance is ongoing and will be complete by April 2022 and then compared with m-BAS scores from 2021.

Conclusion: Implementation of a multi-faceted communication curriculum for pediatric residents improves resident comfort in interaction with families in challenging situations.

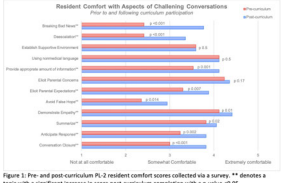


Figure 1: Pre- and post-curriculum PL-2 resident comfort scores collected via a survey. ** denotes a topic with a significant increase in score post-curriculum completion with a p-value <0.05.

MULTI-INSTITUTIONAL GLOBAL HEALTH TRAINEE YEARLONG (MIGHTY) CURRICULUM: A VIRTUAL CASE SERIES FOR PEDIATRIC RESIDENTS

Kristin Maletsky, MD, Children's Hospital of Philadelphia; Kimberley Farr, MD; S. Aya Fanny, MD, MPH; Heather Crouse, MD, Texas Children's Hospital; Morgan Congdon, MD, MPH, Children's Hospital of Philadelphia; Justin Moher, MD, MPH, Boston Medical Center

Background: The COVID-19 pandemic disrupted global health (GH) education as travel restrictions and safety concerns led to canceled international electives for residents and a shortage of experiential learning in limited resource settings. To meet this need, fellows and faculty from the Children's Hospital of Philadelphia and Baylor College of Medicine/Texas Children's Hospital developed a virtual case series for pediatric residents. Objectives: 1) To expand contextual knowledge on best practices and challenges in the field of pediatric GH using a virtual platform. 2) To create an opportunity to build a worldwide GH network for residents and faculty. Methods: Our planning group commenced in November 2020. Recognizing the utility of the traditional case report format supported by the communities of practice theoretical framework, we adapted to a virtual format. Interactive case

presentations have been led by pediatric trainees with international experience with in-depth discussion

facilitated by faculty content experts. Participants are recruited via national email distribution lists. We developed a website (mightycurriculum.org) to house session recordings, learning objectives, and resources. Post-session surveys assess participant knowledge gain and satisfaction. Informal semi-structured interviews with key stakeholders were done to assess perceived benefits and areas for improvement. Results: Five sessions with presenters representing 4 institutions and experiences from 5 countries have been conducted. There have been 20-30 participants per session, with more (Range: 48-129) registering in advance. The website has over 535 views by 247 visitors with 49 views of session recordings to date. Feedback from post-session surveys demonstrated knowledge gain and high satisfaction rates. One main takeaway is that key stakeholders appreciate the inclusion of international colleague expertise. Additional themes from semi-structured interviews with participants, presenters, and experts included: educational value, opportunity to network, and challenges with attendance of live sessions. Conclusion: Our initial sessions have been well-received among a diverse group of globally minded residents and faculty. Based on data from semi-structured interviews, we are adjusting the post-session survey and considering additional ways to foster resident engagement in a virtual GH community in the post-pandemic climate. We are using this data to conduct a formal evaluation to ensure the curriculum is meeting our stated aims and the needs of our key stakeholders.

Theme	Representative Quotes
Inclusion of international colleague expertise adds richness to session dialogue	"I thought it was also cool when you actually involved somebody who is from an LMSC and is currently working in an LMSC...I think that [including them] adds a kind of reality to the case being able to hear their perspective from being in the field. So that part has been nice." (Faculty attendee)
Educational value of case-based global health content during a time of extremely restricted international travel; also relevant to practice at home in the U.S.	"…to increase my exposure to global health, especially in this time of COVID. I know the pre-survey always asks, 'has your life been disrupted with global health missions?' and for me, COVID has very much affected my entire residency. So I was just really excited to see what topics were going to be talked about…. I feel not only is it relevant to global health and major topics that are affecting other countries, but it's also still relevant for being a resident and learning medicine as a whole… and for the boards." (Resident attendee) "You have selected topics that are very relevant, and I think using a case-based approach and sort of gradually unveiling the diagnosis and guiding the whole session around a particular topic like you did but allowing enough discussion and freedom to explore related issues, has been really successful…In fact, the only downside was I felt like we didn't have enough time." (Faculty expert)
Networking opportunities for trainees and faculty to both meet and learn from colleagues they may have never been exposed to otherwise	"…a sense of network building and community building. Getting to meet and even hear names in the field that you may have never heard of before at other institutions who are passionate about global health. And collaboration with others is cool because now I added [these experts] into the pool of people that I kind of know, which is nice because it's not a big pool of people doing global critical care." (Trainee presenter) "I think you've figured out a really good way to harness talents across multiple institutions. And in doing so, you know, I've been exposed to a lot of people who are working in global health that I didn't know before. I think it was also just really smart in terms of kind of resources and bringing together different types of experts and cases to use the multi-institutional approach." (Faculty attendee)
Challenges of session timing given national and international audience spanning multiple time-zones; issues with attendance	"And from a trainee standpoint, that's probably the best time of the day for the U.S. because you're not going to get them early in the day and you're not going to get them in the middle of the day, right? Probably going to get them in the early evening like you have been targeting." (Faculty expert) "I think the biggest area to improve is like actually expanding the attendance levels because the quality of the case discussions is great and you're bringing experts in. But I think I would love to see even more people participate." (Faculty attendee)

Table 1. Major themes and representative quotes from informal semi-structured interviews with key stakeholders.

SEATTLE HEALTH EQUITY ROUNDS: JOINING DISCIPLINES TO DEVELOP AN INCLUSIVE HOSPITAL-WIDE CONFERENCE ADDRESSING EQUITY, BIAS, AND RACISM

Anthony Bui, MD, MPH; Melissa Martos, MD; Austin DeChalus, MD; Georgia Griffin, MD; Julia Hadley, MD; Emily Kemper, MD, University of Washington / Seattle Children's Hospital; Samantha Kunze Garcia, DNP, ARNP, Seattle Children's Hospital; Gabriel Mendoza, MD; Chinenyenwa Mpamaugo, MD, MPH; Dennis Pang, MD; Sruti Pisharody, MD; Francesca Ross, MD; Kelly Shontell, MD; Courtney Gilliam, MD; Tracy Seimears, MD, MEd, University of Washington / Seattle Children's Hospital

Background: In 2020 we established Seattle Health Equity Rounds (HER), an interdisciplinary, hospital-wide, case-based conference series to address health inequity, bias, and racism in medicine.

Objective: Our goal was to join disciplines (physicians, nurses, social workers, pharmacists, and the larger hospital workforce) to build community, effect change, and advance dialogue about how race and equity affect our patients, their care, and the way we work with one another.

Methods: We recruited 6 interdisciplinary teams who researched and presented on topics inspired by patient cases, including indigenous family separation, bias towards parents with substance use disorders, safety and policing in the hospital, inequities in language access, climate justice, and perspectives of Black women in medicine. Team structures across all sessions included 3-6 disciplines (administration, care coordination, nursing, pharmacy, physicians, and social work). Each session included bias reduction techniques (e.g., perspective taking), review of historical context, case engagement, and empowerment towards actions with active engagement through the virtual conference platform. We obtained post-conference surveys of participants.

Results: Approximately 1000 individuals attended the first 5 conferences in 2020-2021. Of the 340 participants (34%) who completed post-conference surveys, 131 (39%) were physicians; 87 (26%) direct clinical staff excluding physicians (e.g., nurses, pharmacists, etc.); 41 (12%) social work and patient/family support; 69 (20%) administrators; and 12 (4%) students. Each session received feedback from 14-30 unique self-identified roles in the hospital. Participants rated an average of 4.8 of 5 on a Likert scale for overall value; 98% reported interest in attending a subsequent HER conference, and 90% reported the session would change their practice. Descriptive evaluations indicated reflections on personal biases and recognition of personal resolve and eagerness to engage with equity on an interdisciplinary, institution-wide scale. Post-session hospital engagement led to policy changes.

Conclusion: Racism and discrimination persist in healthcare and impact the lives of minoritized individuals. Seattle HER has facilitated discussion, community-building, and engagement with our interdisciplinary hospital workforce, allowing for reflection of racism or bias that exist and identification of interventions to advance

equity. Participants felt sessions were valuable and meaningful. HER directly led to discussions to alter hospital workplace practices.

THE SIGNIFICANCE OF A WORKPLACE-BASED FACULTY DEVELOPMENT INITIATIVE ON EDUCATORS' PERCEPTION OF FACULTY DEVELOPMENT OPPORTUNITIES

Martha Elster, MD; Farrah Regalado, BS; Sandrijn van Schaik, MD PhD; Twinkle Patel, MPA; Amisha Thakkar, MPH, University of California, San Francisco

Objective:

To examine the effect of standardized, structured workshops designed for busy faculty on educators' perception of faculty development opportunities at a large university-based institution as measured by compliance scores on the annual ACGME faculty survey.

Background:

The ACGME requirements state that, "faculty development is intended to describe structured programming developed for the purpose of enhancing transference of knowledge, skill, and behavior from the educator to the learner"[1]. Although our institution offers faculty development resources, a recent pediatrics faculty ACGME survey showed scores for faculty development opportunities below the national mean (Table 1). Furthermore, according to the Beme Guide No. 40, participants who engage in faculty development initiatives reported increased confidence and enthusiasm, as well as observed elevated leadership opportunities and higher academic output[2]. In response, the UCSF Department of Pediatrics Medical Education implemented a workplace-based faculty development initiative, "The Roadshow," to offer educational development sessions for educators to augment skills essential in the learning environments.

Methods:

A 5-topic workshop curriculum was developed and launched in 2018 after a needs assessment of evaluations and focus groups. Sessions ranged from 60-90 minutes and were offered sporadically and at division meetings. Workshops were small to allow for maximal engagement and participants received CME credit following completion of a post-session evaluation. In 2021, based on a repeat needs assessment, we updated the curriculum to include new topics with a diversity-equity-inclusion focus and now offer workshops on a recurring monthly schedule.

Results:

To date, 23 workshops have been held, covering six different topics, and averaging eight attendees per workshop with a total of 194 attendees overall (Table 2). After one year of The Roadshow, ACGME faculty development opportunity scores increased from 3.8 to 4.7, which is above the national benchmark goal of 4.3 (Table 1). We are looking forward to reevaluating the success of the workshops after our 2021 updates.

Conclusion:

Through the implementation of a workplace-based faculty development series, "The Roadshow," we have seen an improvement in faculty perception of opportunities for faculty development. Although we are in the early stage of the model, we hope to expand our curriculum in the future school-wide to further enhance faculty development opportunities for busy faculty.

Martha Elster MD, Farrah Regalado, Twinkle Patel MPA, Sandrijn van Schaik, MD PhD, Amisha Thakkar MPH, Department of Pediatrics, University of California San Francisco

Title: The Significance of a Workplace-Based Faculty Development Initiative on Educators' Perception of Faculty Development Opportunities

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[2] Yvonne Steinert, Karen Mann, Brownell Anderson, Bonnie Maureen Barnett, Angel Centeno, Laura Naismith, David Prideaux, John Spencer, Ellen Tullo, Thomas Viggiano, Helena Ward & Diana Dolmans (2016) A systematic review of faculty development initiatives designed to enhance teaching effectiveness: A 10-year update: BEME Guide No. 40, Medical Teacher, 38:8, 769-786, DOI: 10.1080/0142159X.2016.1181851

Completeness of Data:

Table 1. "The Roadshow": Number of Workshops and Attendees by Topic

Workshop Topic	Number of Workshops (n)	Total Attendees (n)
Feedback and Assessment for Learning	9	76
Written Evaluations	2	18
Creating an Inclusive Learning Environment	6	48
Teaching in the Clinical Setting	4	35
Teaching in the E-Learning Environment	1	10
Recognizing and Addressing Structural Racism in Medicine	1	7
Totals	23	194

Table 2. Faculty Development Scores from UCSF Faculty ACGME Surveys

Survey Item	Benchmark (National Average)	2018-19 scores	Benchmark (National Average)	2019-20 scores
Faculty development opportunities	4.3	3.8	4.3	4.7

COVID-19 PANDEMIC IMPACT ON PEDIATRICIANS ENTERING THE PEDIATRIC WORKFORCE

Su-Ting Li, MD, MPH, University of California Davis; Adam Turner, MPH, American Board of Pediatrics; Monique Naifeh, MD, MPH, University of Oklahoma Health Sciences Center; Michelle Stevenson, MD, MS, University of Louisville School of Medicine/Norton Children's Research Institute; Erika Abramson, MD, MS, Weill Cornell Medical College; Ariel Winn, MD, Boston Children's Hospital; Crista Gregg, MR; Laurel Leslie, MD, MPH, American Board of Pediatrics

Background:

The COVID-19 pandemic disrupted pediatric clinical volumes and training.

Objective:

Determine extent of impact of the pandemic on career choice and employment.

Methods

We performed a national, cross-sectional electronic survey of pediatricians registering for the 2021 American Board of Pediatrics (ABP) initial general certifying examination on impact of COVID-19 pandemic on career (choices, employment search, and offers). We used descriptive statistics and multivariate logistic regression to determine factors associated with impact of COVID-19 pandemic on overall career choice, employment search, and offers.

Results

Over half (52.3%; 1767/3380) of pediatricians registering for the ABP examination responded. Most reported planned post-residency positions in fellowship (48.4%), outpatient general pediatrics (32.4%), pediatric hospital medicine (8.5%), or chief residency (12.2%). Overall, 29.1% of respondents reported that the pandemic impacted their overall pediatrics career (career choice (10.4%), employment search (15.6%), or offers (19.0%). Of those, the highest proportion impacted were applying to outpatient general pediatrics (GP) (52.9%) or pediatric hospital medicine (PHM) (49.3%) positions. However, even among pediatricians outside the U.S. GP/PHM job market, including those completing a chief residency or a fellowship, 11.4% reported their career was impacted. On multivariate logistic regression modeling, those applying to GP (OR: 3.83; 95% CI: 2.22-6.60), PHM (OR: 9.02; 95% CI: 5.60-14.52), and those who were International Medical Graduates (OR: 1.90; 95% CI: 1.39-2.59) were more likely to be impacted. Medicine-Pediatrics graduates also were more likely to be affected (OR: 1.53; 95% CI: 1.04-2.25) (Table). However, this may reflect adult medicine circumstances as findings with GP (OR: 4.87; 95% CI: 2.73-8.70) and PHM (OR: 13.49; 95% CI: 7.87-2312) were even more pronounced when categorical pediatric graduates were analyzed separately. We found no association with gender, debt, or geographic location.

Conclusions:

A significant minority of all pediatricians taking the ABP initial general pediatrics certifying examination reported their careers were impacted by the COVID-19 pandemic, with 10% of respondents reporting the pandemic impacted their career choice, and half seeking employment reported being impacted, particularly International Medical Graduates. As the COVID-19 pandemic continues to evolve, career advising will be very important to support trainees in their career choices and employment.

Table. Factors Associated with Impact of COVID-19 Pandemic on Pediatric Career in Multivariate Regression Model

Factor	Categorical Pediatrics and Medicine-Pediatrics	
	Adjusted Odds Ratio	95% Confidence Interval
Post Residency Plans		
Out of general pediatrics/PHM job market	Reference	Reference
Outpatient general pediatrics	**3.83**	**2.22-6.60**
Outpatient/inpatient general pediatrics	**9.36**	**7.12-12.29**
Pediatric Hospital Medicine	**9.02**	**5.60-14.52**
Unknown, unable to secure a job yet	**23.97**	**15.00-38.31**
Gender		
Female	Reference	Reference
Male	0.94	0.72-1.24
Medical school graduate location		
American Medical Graduate	Reference	Reference
International Medical Graduate	**1.90**	**1.39-2.59**
Debt		
<$200,000	Reference	Reference
≥$200,000	1.09	0.85-1.4
Unknown/Declined/Missing	1.47	0.86-2.49
Geographic location		
South	Reference	Reference
Midwest	0.84	0.65-1.55
Northeast	0.76	0.55-1.04
West	1.15	0.80-1.66
Training Area		
Categorical Pediatrics	Reference	Reference
Medicine-Pediatrics	**1.53**	**1.04-2.25**

LONGITUDINAL IMPLICIT BIAS CURRICULUM IMPROVES KNOWLEDGE, ATTITUDES AND BIAS MITIGATION SKILLS IN PEDIATRIC RESIDENTS

Alissa Darden, MD, Phoenix Children's Pediatric Residency Program Alliance, University of Arizona COM- Phoenix; Raegan Vanderput, MD; Jennifer Hall, MD; Atsuko Koyama, MD; Vasudha Bhavaraju, MD, University of Arizona College of Medicine - Phoenix

Background: Physician bias contributes to healthcare disparities, but current implicit bias curricula have done little to combat disparities. Research suggests that a sustainable curriculum that goes beyond knowledge and helps physicians develop skills and attitudes to mitigate bias may improve patient outcomes and eventually reduce health disparities. To date, no longitudinal curricula on implicit bias have addressed this specific goal. Our primary objective was to evaluate how well a longitudinal curriculum on knowledge of bias, self-reflection and mitigation skills would influence physicians' knowledge, attitudes and behaviors related to reducing implicit bias.

Methods: At an academic pediatric center, we performed a quantitative study grounded on the educational theories of situated learning, experiential learning, and reflective practice. An implicit bias knowledge assessment was administered to a cohort of pediatric residents. This needs assessment was informed by the implicit bias literature and implemented after evidence of validity (namely content and response process) was obtained. Next, we implemented a 3-year longitudinal curriculum for residents that included didactics, reflective exercises and skill development related to implicit bias and mitigation strategies. Following completion, residents repeated the knowledge assessment and we compared pre-and post-scores using an unpaired t-test. An additional assessment of comfort, attitudes, and self-reported skills used a retrospective pre-post format and was analyzed by paired t-test.

Results: In all, 34 residents participated in the curriculum. They reported a 59% increase in awareness of their own biases and 81% increase in awareness of the impact of bias on healthcare disparities. We found a statistically significant improvement in pre vs. post scores on knowledge of bias ($p<.05$) and comfort with bias mitigation ($p<.001$). Specifically, 86% reported feeling confident intervening when they witnessed bias/microaggressions (3.96/5 on Likert scale), 30% put new skills into practice, and 93% perceived feeling confident (4.4/5) in supporting peers/patients who have experienced bias/microaggressions. All surveyed residents felt that the curriculum should continue.

Conclusion: Despite challenges in transforming implicit bias education into definitive changes in healthcare disparities, this study suggests that a longitudinal implicit bias curriculum focusing on skills and reflection, as well as knowledge, can improve residents' self-awareness and increase comfort and confidence with bias mitigation.

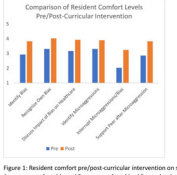


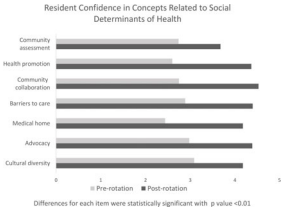
Figure 1: Resident comfort pre/post-curricular intervention on six key skills. 5pt Likert scale used with 1=very uncomfortable and 5= very comfortable. All noted to be statistically significant with p<.001.

IMPLEMENTATION AND EVALUATION OF A COMMUNITY PEDIATRICS CURRICULUM EMPHASIZING SOCIAL DETERMINANTS OF HEALTH

Melissa Adams, MD; Sravya Gedela, BS; Terri McFadden, MD; Valerie Hutcherson, PhD; Rebecca Sanders, MD, PhD, Emory University

Background: Social determinants of health (SDoH) are critical to pediatric health outcomes, yet many residents feel inadequately prepared to address them. Objectives: We aimed to improve resident knowledge, skills and attitudes regarding SDoH through implementation of a focused curriculum during their community pediatrics

rotation. Methods: We designed a 4 week curriculum emphasizing SDoH for all residents on their second year community rotation. Covered topics include racism, immigrant and refugee health, food insecurity, social justice, adverse childhood experiences, trauma-informed care, advocacy, and school-based health. Residents interact with local community partners and faculty content experts to discuss these topics, engage in advocacy skill-building and learn about community resources. Experiential learning is supplemented with selected readings and videos. From June 2019 through December 2021, residents were surveyed at the beginning and end of their community pediatrics rotation to assess confidence with concepts relating to SDoH and pediatric healthcare. Residents rated their confidence with each topic on a 5-point scale (1 = not confident to 5 = very confident). Residents' mean confidence ratings pre- and post-rotation were compared using a paired sample t-test. Results: A total of 68 residents took part in the community pediatrics rotation during the evaluation period, and 57 (84%) completed both pre- and post-rotation surveys. After completing the rotation, respondents' reported confidence significantly increased in all assessed domains: cultural diversity/beliefs and effects on health outcomes in children; child advocacy and the role of physicians in identifying patient needs; basic concepts of the medical home; barriers to care for underserved populations and effects on health outcomes; benefits to children of collaboration between pediatricians and community agencies/advocacy groups; ability to observe, interpret and report observations about the community they serve; and the basic principles of health promotion. Conclusions: A focused curriculum emphasizing SDoH increases resident confidence in these topics, and we anticipate that increased confidence will translate into greater engagement surrounding SDoH in clinical practice. Next steps will focus on determining whether post-rotation changes result in sustained confidence in child advocacy and improved understanding of the needs of underserved patients over time, and assessing whether increased confidence results in improved incorporation of SDoH-related principles in patient care.



DEFINING CRITICAL COMPONENTS FOR AN IMPLICIT BIAS AND HEALTH DISPARITIES CURRICULUM FOR NEONATAL-PERINATAL MEDICINE PROVIDERS: A DELPHI STUDY

Stephanie Mavis, MD, Mayo Clinic; Catherine Caruso, DO, Oregon Health and Science University; Cara Beth Carr, MD, UH Rainbow Babies & Children's Hospital; Nicolle Dyess, MD, University of Colorado; Heather French, MD, MSEd, Perelman School of Medicine at the University of Pennsylvania; Lindsay Johnston, MD, MEd, Yale School of Medicine; Margarita Vasquez, MD, The University of Texas Health Science Center at San Antonio; Melissa Carbajal, MD, Texas Children's Hospital; Rita Dadiz, DO, University of Rochester School of Medicine and Dentistry; Susan Izatt, MD, MEd, Duke University; Maria Krakauer, MD, MEd, Vanderbilt Children's Hospital; Alison Falck, MD, University of California San Francisco; Patricia Chess, MD, MSEd, University of Rochester; Allison Payne, MD, MS, Case Western Reserve University; Elizabeth Bonachea, MD, Nationwide Children's Hospital; Megan Gray, MD, University of Washington School of Medicine

Objectives: We aimed to delineate the essential curricular components of a national implicit bias (IB) and health disparities (HD) curriculum specific to neonatal medicine providers using a modified Delphi of national experts in these fields.

Methods: The initial Delphi questionnaire was created after a literature review of IB/HD curricula. We used purposive and snowball sampling to identify experts meeting two broad criteria: 1) content expertise in IB and/or HD and 2) educational relationship to neonatal medicine learners/providers. Delphi experts provided Likert-scale responses for inclusion of each proposed curricular component as well as free-text responses for explaining their rationale, rewording existing items or suggesting new ones. Consensus was defined a priori as 70% of experts responding as "strongly agree" or "agree" with item inclusion. Subsequent rounds addressed items reaching indeterminate consensus or expert-suggested items. Summarized responses and comments were provided to participants after each round.

Results: Twenty-four invited experts participated in Round 1, with 18 (75%) participating in Round 2 and 15 (62%) in Round 3. Figure 1 details the flow of curricular items throughout the Delphi. After three Delphi rounds, consensus was reached for inclusion of 66 of the 82 total items posed to the expert group: 9 goals, 23 objectives, 26 teaching methods/strategies, and 8 educator considerations. Objectives related to concepts of bias and the self, the impact of race in society, ideas surrounding power and privilege, and clinician skills and behaviors. Educational strategies related to general teaching and facilitation strategies, use of the IAT, and incorporation of strategies to reduce bias and respond to it. Consensus on critical educator principles related to unintended consequences of the curriculum, participant and educator factors that may influence curricular efficacy, and the ideal learning climate.

Conclusions: Experts in IB/HD and neonatal medicine education reached consensus on many core components for an IB/HD curriculum. These will serve as critical foundational elements in the development of an equity in neonatal medicine national curriculum.

INCLUSION OF STUDENT ASSESSMENT TRAINING IN AN EXISTING RESIDENTS AS TEACHERS CURRICULUM

Aaron Wallace, MD, Maine Medical Center; Alex Jones, MD, UT Southwestern Medical Center; Anya Cutler, MS, MPH; Shannon Bennett, DO; Christopher Motyl, DO; Thomas Reynolds, DO, Maine Medical Center

Results

27/34 residents attended the training session and 19 also completed all surveys/assessments.

73.8% of resident evaluation scores prior to training agreed with the scores given by our pediatric clerkship director, compared to 77.0% post-training, but results were not statistically significant (p=0.2615).

Reviewer evaluations of the residents' 'task' score increased by an average of 0.54 points (on a 3-point scale) following the training (p = 0.00053). There was no significant change in the 'gap' or 'action' score (p = 0.771 and 0.158, respectively).

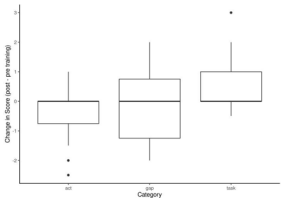
Prior to the training session, 41.4% of residents said they were confident in the accuracy of their evaluations, compared with 69.5% after the training (p=0.0036). Similarly, 55.2% of residents said they were confident in the helpfulness of their evaluations, compared with 70.8% after the training (p = 0.0231).

Conclusions

Following this training, residents were found to have increased accuracy, quality, and confidence in their assessment of medical students. This training session is easily adaptable to other clerkships and other institutions and can serve as a starting point for others wishing to improve quality and decrease bias in resident evaluations of medical students.

Funding

The purpose of this project is to improve the veracity of and reduce bias in resident evaluations of medical students on their pediatric clerkship.



RESIDENT DRIVEN RESEARCH PROGRAM: MULTIYEAR IMPACT ASSESSMENT

Adeline T. Yang, MD, MS, University of Texas Southwestern Medical School; Pamela J. Okada, MD, MS, MBA, University of Texas Southwestern; Mackenzie S. Frost, MD, MEd, Childrens Hospital of Philadelphia

Background
Scholarship in residency is an ACGME requirement and AAP Committee on Pediatric Research recommendation, yet barriers persist. Previous work demonstrated our residents and faculty had specific areas of need that, when addressed, could lower the barrier to resident scholarship. There remains substantial opportunity for improvement in pediatric resident research programs and scholarly productivity.

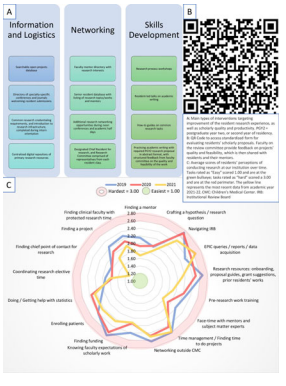
Objectives
Analyses from internal studies drove the design of interventions around 1) centralizing resources digitally, 2) curating databases of prior resident works and available faculty projects, 3) establishing research project milestones, 4) creating standardized forms for faculty feedback on resident research proposals, and 5) designing an experiential research curriculum with courses starting at intern orientation. We aimed to improve the resident research experience, with additional goals of increasing scholarly quality and productivity.

Methods
Annual voluntary resident surveys were collected electronically. Residents rated tasks on a three-point scale, from "hard" 3 points to "easy" 1 point. Interventions were prioritized based on feedback. Additional surveys were sent before and after specific interventions such as workshops and resident-led lectures.

Results
From academic year 2019 through 2022, 195 resident responses were obtained. In 2020 residents reported a 3-6% increase in coordination time - attributable to both preparatory work and the COVID-19 pandemic (Fig. 1). Positive gains were seen in finding points of contact, with a 29% improvement in residents' perception of this task; residents also reported greater ease finding: mentors (22% improvement), research resources (20%), projects (18%), funding (16%), and clinical faculty with protected research time (12%); as well as gaining face time with mentors (19% improvement), completing pre-research training (17%), and knowing faculty expectations (11%).

Conclusion
A multifaceted approach providing both scheduled, experiential learning opportunities as well as resources to explore at an individual's convenience had a positive effect on residents' perception of scholarly work at our institution within a relatively short time. While this comes at the expense of additional pre-research work (credentialing, proposals, scheduling, workshops), the increased preparedness has led to improvements in finding and working with the right mentors / projects and setting expectations. We hope this will ultimately translate to improved scholarship for both our residents and the academic community.

Average scores of residents' perceptions of conducting research at our institution over time. Tasks rated as "Easy" scored 1.00 and are at the green bullseye; tasks rated as "hard" scored a 3.00 and are at the red perimeter. The yellow line represents the most recent data from academic year 2021-22. CMC: Children's Medical Center. IRB: Institutional Review Board



CREATION OF AN ANTI-RACISM BOOK CLUB FOR INTERNAL MEDICINE-PEDIATRICS AND PEDIATRIC RESIDENTS AND PROGRAM FACULTY

Hillary Spangler, MD; Asantewaa Boateng, MD; Robin Howard; Hannah Coletti, MD, MPH, University of North Carolina School of Medicine

Background: Due to the increasing recognition and discussion regarding acts of racism in both local and national contexts, our internal medicine-pediatrics residency program desired to create a safe place for critical conversations to occur. In order to provide a program-wide platform for anti-racism education and improve resident comfort with conversations about racism within and outside the workplace, we created a book club curriculum based on Ibram X. Kendi's *How to be an Antiracist* book and workbook.

Methods: All medicine-pediatrics and pediatric residents and program faculty at our institution were offered participation in the book club, of which 30 participated. Participants were split into four small groups for a planned six meetings throughout the year. Facilitators for each small group provided suggested workbook pages for group discussion. Pre-participation surveys (four Likert-based questions and one free response question) were administered during the first meeting assessing comfort with and preparation to mitigate racism in the workplace, and to elicit desired topics for future exploration. The same survey will be given at completion of the program.

Results: Of 30 participants, 19 completed the pre-program survey. At baseline, 47% of participants felt *somewhat equipped* to mitigate racism in the workplace, but a majority (68%) did not feel comfortable with *directly addressing* racism in the workplace. Residents and faculty desired future topics of history of race relations in the US, taking care of vulnerable populations, and implicit bias training. Small group meetings included in-person and virtual sessions in the context of the ongoing COVID-19 pandemic.

Conclusions: There is a need for anti-racism education in residency programs to support and provide residents and faculty with tools to counteract racism in the workplace. We hope that this program-wide initiative will foster collegiality and improve our ability to provide equitable patient care. Limitations of this study are small sample size and variable small group participation. Next steps include post-survey administration to determine program effect, tracking perspectives across training years, and optimizing resident schedules to allow improved participation.

THE DEVELOPMENT OF A PEDIATRIC RESIDENCY REMEDIATION PROGRAM

Laurie Marzullo, MD; Michele Nichols, MD; Chrystal Rutledge, MD, University of Alabama at Birmingham

Background: One of the most challenging issues that residency programs face is determining how to help the resident who is performing below expectations. A thoughtful, timely, organized approach to identifying, evaluating and developing a plan to help struggling residents is needed to position them for future success.

Objectives: To develop a remediation program for Pediatric residents who require improvement in clinical performance, and identify common reasons for referral based on ACGME Core Competency assessments and evaluations.

Methods: The UAB Pediatric Residency Program developed an Office of Professional Success (OPS) to provide confidential, one-on-one evaluation, counselling, and coaching to residents who are facing challenges or not performing as expected. Referrals can be made by the residency leadership, a faculty member, or the resident. An intake form is completed to assist with delineating areas of challenge for the learners based on ACGME Core Competencies with specific clinical examples given. Residents meet with OPS faculty to discuss concerns and to develop individualized remediation plans. This plan is implemented, and may involve practice either in the format of simulation, reading, organizational and time management tools, prioritization methods, or other modalities. Follow-up and methods for measuring success are set in place.

Results: Since 2020, 19 residents have been referred to OPS. The most common reasons for referral are related to Patient Care (time management, prioritization of tasks, making diagnostic and therapeutic decisions), Professionalism (timely completion of administrative tasks), and Medical Knowledge. Of the 19, 4 have successfully graduated residency with the remainder still in training. All 19 have demonstrated growth, either by self or faculty report, or documented through evaluations. No residents have been terminated from the residency program.

Conclusions: Remediation for residents will continue to be necessary given the complexities of patient care and rising acuity, new knowledge and emerging technology. The development of a standardized remediation process is essential to enhance resident potential for success in residency and beyond.

TEST FAILURE OR FAILED TEST: EVIDENCE OF BIAS IN THE STEP 2 CLINICAL SKILLS EXAM

Jeffrey Edwards, MD MPH, Boston Combined Residency Program (Boston Children's Hospital/Boston Medical Center; Evida Dennis-Heyward, MD PhD, Boston Children's Hospital/Boston Medical Center; Colin Sox, MD MS, Boston Medical Center

Background:

Racial disparities in Step 1 and Step 2 Clinical Knowledge examination scores have been demonstrated by other researchers. While the subjective nature of scoring the USLME Step 2 Clinical Skills examination (S2-CS) may have perpetuated racial bias, the impact of race on this recently discontinued exam has not been explored.

Methods:

To fill this gap in the literature, a retrospective cohort study of applicants to one large pediatric residency program in the Northeastern United States between 2014 and 2019 was conducted. The primary outcome was failing to pass the S2-CS exam at the time of application to residency. The primary independent measure was a self-identified race/ethnicity that is underrepresented in medicine (URiM). Applications that did not include a self-reported race/ethnicity or S2-CS exam score were excluded. Chi-square and t-tests were used to assess the relationship between S2-CS failure and subject characteristics.

Results:

Within the cohort of 8,550 subjects who met inclusion criteria,18.4% self-identified as URiM, 32.5% attended medical school outside of the United States ("IMS"), and 0.23% failed to pass the S2-CS exam. S2-CS failure was significantly more common among subjects who attended IMS (n=16, 0.57%) than those who attended medical school in the US ("USMS". n=5, 0.09%; $p < 0.0005$). Among all subjects, S2-CS failure was not significant different between URiM and non-URiM applicants (0.40% vs. 0.22% respectively, $p < 0.22$). Of the 20 subjects who failed S2-CS and reported speaking any language fluently, 60% spoke native English (n=12).

After stratifying by medical school location, URiM subjects who attended USMSs were significantly more likely to

After stratifying by medical school location, URiM subjects who attended USMSs were significantly more likely to fail S2-CS than non-URiM subjects from USMS (0.57% vs 0%, $p < 0.0005$). However, rates of S2-CS failure among

IMS graduates did not significantly differ between URiM (0.16%) and non-URiM subjects (0.69%, $p = 0.12$). Among USMS subjects who failed S2-CS, 60% spoke English fluently, as did 60% of IMS subjects who failed S2-CS.

Conclusions:

This study contributes to the growing body of literature demonstrating the continued impact of systemic racism on the evaluation of URiM medical students. As state medical licensing boards and national medical education committees decide how to replace the recently discontinued S2-CS exam with another means of assessing medical trainees' clinical competence, it is critical that health equity principles be incorporated into the new assessment system.

TEACHING BRAVE SKILLS SAFELY: TRAINEE PERSPECTIVES ON TRAUMA-INFORMED RACIAL MICROAGGRESSION TRAINING

Michelle Shankar, MD, Children's Hospital of Philadelphia; Evelyn Wang, MD, Dell Children's Medical Center of Central Texas; Joshua Kurtz, MD, Children's Hospital of Philadelphia; Sheyla Richards, MD MS, Lucile Packard Children's Hospital Stanford; Herodes Guzman, MD MPH, Children's Hospital of Philadelphia; Lillian Jin, MD MPH, Icahn School of Medicine at Mount Sinai; Ashley Martin, MPH; Diana Worsley, MPH; Tara Bamat, MD; Jay Mehta, MD MS; Nicole Washington, MD; Jennifer Hwang, MD MHS MSEd, Children's Hospital of Philadelphia

Microaggressions are a pervasive and routine burden experienced by trainees who are underrepresented in medicine (URM) (1-3) and lead to increased rates of depression, anxiety, and burnout. The burden of responding to microaggressions is often placed on URM trainees, and this is exacerbated by power dynamics and fear of retribution (2). The purpose of our study is to understand pediatric trainee perspectives on learning how to respond to microaggressions, focusing on how to create a psychologically safe and trauma-informed learning environment.

We recruited pediatric residents (n=157) at our institution by email to voluntarily participate in a needs assessment for a racial microaggression training. We facilitated focus groups using a literature-informed and resident-reviewed semi-structured interview guide. We transcribed focus groups recordings and conducted thematic analysis using the constant comparative method in an open-coding process to analyze the data and generate themes. We used Atlas.ti v7 qualitative data analysis software to assist with coding.

We selected 23 residents of mixed racial and gender backgrounds to participate in five focus groups; four groups consisted of residents of the same class year and one group included mixed years. Themes from qualitative analysis are included in Table 3. Participants felt that all trainees should play the role of bystander and that scenarios may be based on real experiences. Suggested scenarios include: navigating power dynamics between residents and families, nurses, and superiors (such as fellows and attendings). Approaches to create a psychologically safe learning environment included establishing clear ground rules, allowing opportunities for "time outs" and role swaps, and including a post-training debrief.

Pediatric trainees feel it is important to develop skills to respond to microaggressions that occur in the clinical setting, particularly as active bystanders to support their colleagues. These insights highlight the importance of not only developing microaggression trainings for pediatric trainees at all levels but also including their input on how to create a trauma-informed learning environment that provides psychological safety to learners. Future steps include dissemination of such training to be used for trainees and to faculty across clinical roles and disciplines.

Themes or Subthemes	Illustrative Quotation
Racial microaggressions are common and require new communication skills	
Skill development	*"I'm really excited to develop skills, as a resident and as an almost senior resident, to empower my peers to navigate challenging circumstances that happen that we often internalize and let pass without knowing what in the moment we can do to act on them."* *"I think microaggressions happen all of the time. I think that we have become very desensitized to experiencing them and not really directly addressing them head-on. So I agree developing a curriculum…to have a framework essentially to address the things that may bother us…would be extremely helpful. I also think that it would be very helpful, just in terms of learning new communication styles, to have a way to think about how we might address something like this."*
Understanding both the bystander and recipient roles is important for trainees	
Assigning vs. choosing roles during training	*"I think that you should have a choice in that situation…I'd imagine that people's level of comfort being in the hot seat and receiving the microaggression could be triggering. I'm pretty confident someone should be able to elect or opt out of that."* *"In a [training] like this it has to be a unilateral [role] because I think that you lose the educational value of this experience if people, wherever their discomfort is coming from, can elect to not be in that position and then [not learn to] empathize in that position."* *"You could potentially have multiple scenarios so people could experience being in different roles…[but] pushing people outside of the roles that they're normally in, in everyday life is helpful."*
Navigating power dynamics	*"As someone who has experienced microaggressions from direct supervisors, attendings, fellows, I definitely think that that is extremely important because the power dynamic there can be very difficult to navigate. And then on the complete opposite end of the spectrum, I've heard of scenarios with other co-residents where they've had interactions with patients and families, and experienced [or been bystanders to] microaggressions from that direction. And so, in maintaining professionalism, in trying to maintain that doctor-patient rapport when you're experiencing something like that, I think that that is extremely important and something to definitely talk through."* *"It's the [scenarios] where there's a power dynamic that I feel like are much more challenging to me… we've all probably heard attendings talk about families in a way that would be perceived as having…bias or some microaggression kind of coded in that interaction and so I think those would be helpful scenarios to talk through."*
Case scenario content should be realistic and objective-directed	
Structure of case scenarios	*"We have so much great data, from [an institutional] reporting tool, of experiences that residents have had and recorded, so that could be a way to develop cases based on resident experiences."* *"There [should be] a wide array of experiences being represented to make sure that the matter of discussion is being portrayed sensitively and that you're getting the most out of the cases."* *"I think that having clearly defined objectives for a particular case and having a framework that is fictional I think would, it's still going to be emotional, but I think that having a framework and a direction for the conversation would be a lot more productive than having someone rehash a personal experience with a microaggression or trying to extemporaneously make something up on the spot."*
Psychological safety of participants must be considered when creating a role-playing curriculum	
Many components of psychological safety	*"I want to make sure that we don't end up creating a scenario where we're putting an enormous amount of…negative attention on the non-white, black minority members of our residency."* *"From a safety standpoint…if someone is triggered and they're in a scenario where I guess it's a little bit too real or too much, I think that they should be able to step out altogether."* *"[There should be] some way to introduce a topic just so people kind of know what they're getting into….I think that's kind of usually presumed in these situations, but I think [we should be] setting that stage [to say] this is serious and we all are in a safe space."*
Debriefing together	*"I think it's good to…[have] a time to debrief where people could share experiences because I think we learn a lot from each other. So if people…are open to sharing, it's good to learn [from] whatever [a co-resident] lived through and understand what the reality is in everyone's life."*

A CHARACTERIZATION OF ECMO TRAINING PRACTICES IN PEDIATRIC FELLOWSHIPS: ARE WE DOING ENOUGH?

Loren Farley, MD; Joshua Frazier, MD, Nationwide Children's Hospital; Richard Mink, MD, Harbor UCLA Medical Center; Donald Boyer, MD, The Children's Hospital of Philadelphia; Angela Czaja, MD, University of Colorado At The Children's Hospital; Bradley Robinson, MD; Shubhika Srivastava, MD, Nemours Children's Hospital; Christiane Dammann, MD, Tufts Medical Center; Patricia Chess, MD, University of Rochester

Introduction/Hypothesis: Extracorporeal membrane oxygenation (ECMO) is a potentially life-saving modality for critically ill patients, but its high-risk, low-volume nature increases the risk of deployment. Studies have found high variability and lack of standardization in approaches to training in adult programs but there are no similar published studies in pediatrics. The objective of this study is to characterize current training practices across institutions and subspecialties that train pediatric fellows in ECMO. We hypothesize that training practices of pediatric fellows will vary widely and that many programs will not have standardized guidelines by which to determine competency. In addition, we hypothesize that simulation-based medical education use will be incorporated variably but with increasing frequency.

Methods: This is a 21-question survey of Pediatric Critical Care Medicine (PCCM), Neonatology, and Pediatric Cardiology Program Directors (PD). Responses are summarized as frequencies and percentages and compared using chi-squared or Mann-Whitney tests.

Results: Of the 75 responses (31% response rate), 45% represent NICU, 43% PCCM and 12% Pediatric Cardiology. Fellows are described as an observer in nearly 30% of programs, most commonly in pediatric cardiology and NICU subspecialties. More than 20% of PD's feel that fellows are not able to independently manage ECMO at the time of graduation and 55% feel there are gaps in ECMO education provided. The most common barriers to education are few patients canulated, fellow time constraints, and lack of simulation capabilities/experience. Didactics, simulation, and "bootcamps" are the most common teaching modalities with simulation used in 62-75% of respondents. Thirty-five percent of programs have no specific criteria to determine competency in ECMO (47% of NICU, 33% of cardiology and 22% of PCCM programs). Methods of competency determination most frequently cited are attendance of didactic lectures, attendance of simulation exercises, and ECMO specialist recommendation of advancement. Programs in which PD's felt fellows can not independently manage ECMO were more commonly low volume, with fellows described as observers, more likely to have no competency requirements, and less likely to use simulation, journal clubs, and "bootcamps".

Conclusion: Wide variability exists in fellow role, frequency of training, PD confidence in independent management, and competence determination. Standardization of ECMO training approaches through a longitudinal curriculum could improve fellow education.

Fellows in my program are trained to independently manage pediatric ECMO					
	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)
NICU	35.3	8.8	11.8	32.4	11.8
PCCM	3.1	3.1	9.4	46.9	37.5
Pediatric Cardiology	0	0	55.9	33.3	11.1
TOTAL	17.3	5.3	16	38.6	22.7

A WORKSHOP ON ECG ACQUISITION FOR PEDIATRIC RESIDENTS IMPROVES CONFIDENCE IN ACQUISITION AND COMPETENCE IN ASSESSMENT OF ECG QUALITY

Christopher Teng, MD; Alexandra Divito, CCT; Ashley Dziadon, CCT; Gia Yannekis, MD; Erin Sieke, MD, MS; Katherine Donches, MD; Bhavesh Patel, MD; Keith Widmeier, BA, NRP, FP-C, CHSE; Nicholas Santaniello, MD; Mary Tereszcuk, MD; Beth Rezet, MD; Jeanine Ronan, MD, MS, MSEd; Christopher Janson, MD, Children's Hospital of Philadelphia

Background: Pediatric residents are frequently responsible for independently acquiring electrocardiograms (ECGs) as part of routine clinical care. However, formal education on pediatric ECG acquisition skills varies widely.

Aims: A team including physicians, ECG technicians, and a simulation educator collaborated to develop a short, interactive ECG acquisition workshop to teach basic technique, review common pitfalls, and provide hands-on practice for pediatric interns prior to clinical service.

Methods: During intern orientation, all pediatric interns (n=58) were divided into five groups that each participated in a 45-minute ECG acquisition workshop. First, a brief didactic reviewed the process of ECG ordering, machine use, and lead placement. Next, interns practiced lead placement on manikins of various sizes. Finally, three common barriers to good ECG quality were demonstrated and corrected on a live model: limb lead reversal, motion artifact, and poor lead contact. Interns were invited to complete surveys before and after the workshop, assessing prior educational experience, comfort with ECG acquisition, and ability to assess the quality of sample ECGs. Likert data on resident perceptions and rates of identification of specific ECG findings were compared using a two-proportion z-test. Change in test performance was evaluated with a paired t-test.

Results: 53 interns (91%) completed the baseline survey. 55% (n=29) had previous ECG acquisition training, but only 13% (n=7) had pediatric-specific training. Only 43% (n=23) had previously performed an ECG. 38 interns (66%) also completed the post-workshop survey. The percentage of participants who reported comfort performing ECGs improved from 11% to 87% ($p < 0.01$), and the percentage of participants who reported knowing how to troubleshoot common problems in ECG acquisition rose from 5% to 79% ($p < 0.01$). Participants' test performance on ECG quality assessment improved by a mean of 1.1/7 points ($p < 0.01$), with most notable improvement in correct identification of limb lead reversal, from 11% to 71% of respondents ($p < 0.01$). All respondents felt that the session was valuable and recommended that it be repeated for future interns. Qualitative themes included the value of both hands-on experience and learning from the ECG technicians.

Conclusion: Pediatric interns have little exposure to formal training on pediatric ECG acquisition prior to residency. A brief interprofessional training workshop can increase both confidence in acquiring ECGs as well as competence in assessing quality of ECGs.

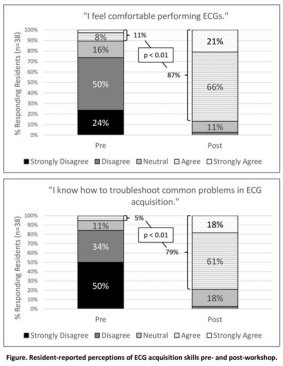


Figure. Resident-reported perceptions of ECG acquisition skills pre- and post-workshop.

PROCEDURAL COMPETENCY AND THE CLINICAL LEARNING ENVIRONMENT OF A PEDIATRIC RESIDENCY PROGRAM

Jenna Erickson, MD; Jon McGreevy, MD; Romy Shane, MD; Ted Swing, PhD, Phoenix Children's Hospital

Background: Procedural competency is an important component of residency training across multiple specialties. In the field of pediatrics, the ACGME specifies 13 necessary procedures for successful completion of residency requirements. However, there are no clear guidelines on what constitutes competency, and if requirements align

with trainee exposures. Thus, a detailed description of resident procedural exposures would greatly contribute to the understanding of what constitutes up-to-date, relevant, and necessary procedures for newly trained pediatricians.

Objective: To define the procedural clinical learning environment for a large pediatric residency training program.

Methods: Retrospective data was collected from the procedure logs of three consecutive categorical pediatric residency classes from Phoenix Children's Hospital (n=90). The average number of procedures performed per resident was calculated in total and for each ACGME-required procedural category. Procedures were also quantified for core rotations and elective rotations. The impact of resident career choice on procedures was investigated using the reported first position post-residency. Careers were grouped into outpatient (n=34), hospitalist (with or without fellowship, n=21), and procedure-heavy fellowships (n=15). ANOVA was utilized to calculate statistical significance.

Results: The average number of procedures per resident was 41 (SD 27). Lumbar puncture was the most commonly reported procedure (7 per resident) and also the only category in which all residents reported at least one procedure. Significant differences in core rotations were identified, with an average of 44% of procedures performed in the emergency department, 20% in the NICU, 11% in clinic, and 5% in PICU ($f=166$, $p<0.001$). Electives varied significantly, with anesthesia as the highest to offer procedures at 18% ($f=7$, $p<0.001$). There was no significant difference in procedures based on career choice ($f=2.5$, $p=0.09$).

Conclusions: There was a respectable number of procedures per resident at 41, but wide variation (max 152, min 11) which is likely due to inaccuracies of self-reporting. As predicted, the emergency department provides the best opportunity for resident procedures, despite the presence of fellows. Additionally, with the high percentage of procedures on anesthesia elective it may be beneficial to incorporate this exposure into all resident training. Finally, career pathway proved to be less of an influence than predicted, though this may indicate a well-balanced procedural clinical learning environment.

A NARRATIVE APPROACH IMPROVES TRAINEE FEEDBACK IN PEDIATRIC FELLOWSHIP

Stacy Cooper, MD, Johns Hopkins University; Richard Mink, MD, Harbor- UCLA Medical Center

Background: Effective assessment and feedback are critical components of competency-based education, but many programs struggle in these areas. To improve trainee feedback and formative assessment, our pediatric hematology-oncology fellowship instituted a novel approach that bundles assessment and feedback into an email-based narrative format at the end of time on clinical service.

Objective: To evaluate the efficacy of our narrative assessment program on trainee feedback.

Methods: Previously, face-to-face feedback occurred after time on service, with the attending completing an online assessment based on the milestones with optional comments. In 2016, we began a new approach. After face-to-face feedback occurs, the faculty member summarizes the session using a written template, and sends it by email to the trainee and incoming attending. To evaluate efficacy, a survey was sent to fellows who graduated in 2015 and 2016, fellows starting training in 2018 and 2019 and faculty asking about satisfaction with assessment and feedback.

Results: Survey response rates were 69% (9/13) for alumni, 91% (11/12) for current fellows, and 73% (22/30) for faculty. Current fellows and faculty rated their satisfaction with feedback in the new system (9.0/10 and 7.7/10, respectively) much higher than that compared with alumni (4.7/10). The use of narratives promoted face-to-face feedback (Fig 1) and improved trainee ability to identify strengths and weaknesses (Fig 2). Alumni noted the prior approach was "minimally helpful", "largely meaningless", and "brief and unsubstantial" whereas current trainees described the narrative system as "a helpful way to consistently get feedback and build on prior evaluations" and a tool to "hold both the trainee and attending accountable for trainee improvement". 95% (21/22) of faculty preferred the newer system stating that it was "a marked improvement" and that it "takes longer but that's only because feedback only rarely actually happened before." Program compliance with "satisfaction with feedback" on the ACGME trainee survey improved from a mean of 76% (2014-2016) to 92% (2019-2021). Over the most recent academic year, 78% of faculty sent the email narrative within 3 days of finishing time on service.

Conclusions: These data suggest that narrative faculty assessments are feasible with high compliance and is preferred by trainees and faculty. It provides a vehicle for accountability and normalizes constructive criticism. Further work is needed to determine if our experience can be replicated in other pediatric fellowships.

Fig 1

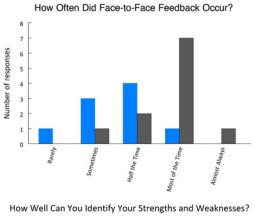
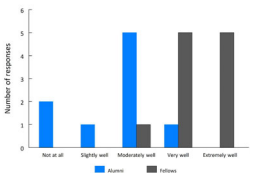


Fig 2



IDENTIFYING GAPS IN CLINICAL INPATIENT EDUCATION DURING THE COVID-19 PANDEMIC

Deepa Kulkarni, MD; Esther Jun-Ihn, MD; Elayna Ng, MD, UCLA Mattel Children's Hospital; Nicholas Jackson, PhD, UCLA

Background

During the first year of the COVID-19 pandemic, there was a marked decrease in pediatric admissions nationally. This decrease in volume impacted pediatric trainee education, with prior studies showing fewer hours spent on clinical work or redeployment to non-pediatric fields of medicine.

Objective

In this study, we aim to describe the epidemiology of admissions to the pediatric ward during the first year of the pandemic and how it compares to prior years to identify gaps in the inpatient clinical education of pediatric house-staff that trained during this period.

Methods

We performed a retrospective chart review of all pediatric admissions to our tertiary care center that serves as a core residency training site from 3/1/2018 to 2/28/2021. We reviewed the first three ICD-10 codes to categorize the admission diagnoses into educational domains defined by the American Board of Pediatrics content outline for Pediatric Hospital Medicine. Differences between pre-pandemic (3/1/2018 – 2/29/2020) and pandemic (3/1/2020 – 2/28/2021) years were compared using logistic regression with robust standard errors and adjusting for seasonal trends.

Results

Overall, admissions decreased from an average of 4240 patients per year pre-pandemic to 3061 during the studied pandemic period (95% CI 4113,4369). Diagnoses of viral illnesses including upper respiratory infections, bronchiolitis, gastroenteritis, and influenza were significantly less during the pandemic period (10.4% vs 6.2, p<0.01). The proportion of patients with admission diagnoses within the head and neck, pulmonary, and hematologic/oncologic domains was decreased; and the proportion of patients with admission diagnoses within the cardiovascular, orthopedics, child maltreatment, allergy/immunology, “other conditions,” and behavioral/mental health domains was increased during the pandemic. Hospital utilization by children with medical complexity was similar across periods (Table).

Conclusions

The reduced volumes of pediatric admissions during the pandemic led to significantly less in-person clinical exposure to patients overall. Except for child maltreatment, even domains that had a relatively higher representation among inpatient admission diagnoses had an overall lower total number of patients during the pandemic. As educators, it is important to recognize that house-staff that trained during the pandemic may require supplemental curricula across all content domains within the inpatient setting, with particular emphasis on head and neck, pulmonary, and hematologic/oncologic conditions.

Table. Percent of pediatric admission diagnoses by Pediatric Hospital Medicine content domain pre-pandemic vs during pandemic.

Pediatric Hospital Medicine Content Domain [1]	Pre-Pandemic [2]	During Pandemic [3]	p-Value
	N = 8480	N = 3061	
Neurology	21.0%	22.5%	0.11
Head and Neck	5.1%	2.8%	*<.01*
Pulmonary	12.0%	5.4%	*<.01*
Cardiovascular	6.0%	8.8%	*<.01*
Gastrointestinal	9.9%	8.8%	0.06
Renal/Genitourinary/Gynecology	3.7%	4.4%	0.12
Orthopedics	2.1%	2.8%	*0.01*
Rheumatologic/Vasculitis	0.8%	1.0%	0.42
Endocrine/Metabolic	2.3%	2.3%	0.84
Child Maltreatment	0.1%	0.3%	*0.01*
Dermatologic	1.1%	1.2%	0.67
Hematologic/Oncologic	11.0%	9.3%	*<.01*
Allergy/Immunology	0.7%	1.1%	0.05
Injuries and Exposures	2.2%	2.6%	0.18
Other Conditions [4]	4.5%	5.2%	*0.01*
Behavior/Mental Health Conditions	3.5%	6.0%	*<.01*
Newborn Care	3.2%	3.4%	0.60
Children with Medical Complexity [5]	61%	63%	0.09

1. Pediatric Hospital Medicine Content Outline. American Board of Pediatrics website https://www.abp.org/sites/abp/files/pdf/hospital_medicine_content_outline.pdf. Accessed February 1, 2021.
2. Pre-Pandemic: 3/1/2018 – 2/29/2020
3. During Pandemic: 3/1/2020 – 2/28/2021
4. Includes brief resolved unexplained events, failure to thrive, bloodstream infections, fever in infants <60 days, fever of unknown origin, electrolyte abnormalities, acid/base disorders, and pain
5. As defined by Feudtner C, Feinstein JA, Zhong W, Hall M, Dai D. Pediatric complex chronic conditions classification system version 2: updated for ICD-10 and complex medical technology dependence and transplantation. *BMC Pediatr*. 2014;14:199.

EVALUATION OF A NOVEL PATIENT-FOCUSED CURRICULUM ON CARING FOR CHILDREN WITH MEDICAL COMPLEXITY

Brittany Lattanza, MD; Theresa Scott, DO, MS; Divya Lakhaney, MD; Sumeet Banker, MD, MPH, NewYork-Presbyterian Morgan Stanley Children's Hospital

Background: Children with medical complexity (CMC) comprise a rising proportion of hospitalizations and health care costs. Providing them effective care requires specialized knowledge and skills, yet there are no standardized curricula for residents.

Objectives: To evaluate resident acceptance of a patient-focused curriculum and to assess the change in reported self-efficacy on caring for CMC.

Methods: This was a prospective curriculum evaluation study using a quasi-experimental controlled design. Using Kern’s 6-step approach for curriculum development, a patient-focused, case-based curriculum was developed for 1 of 2 inpatient pediatric teams at our tertiary children’s hospital. Pediatric residents and medical students received 2 sessions per 4-week rotation on topics that were identified through a needs assessment. The other team received a curriculum unrelated to CMC, serving as a control group. Multidisciplinary sessions occurred at the end of morning rounds and focused on feeding/nutrition or pain/irritability concepts for a patient on the team. After literature review, an 8-item survey was developed to assess self-efficacy of this curriculum using a 5-point scale (1= beginner, 5=expert). Nine items queried their acceptance of the curriculum using a 5-point scale (1=strongly agree, 5=strongly disagree). Surveys were administered using a retrospective pre/post approach. Categorical data were analyzed using paired and independent t-tests.

Results: All respondents agreed the sessions were an engaging and effective way to learn, relevant to clinical practice, an appropriate amount of information, and wished to have future sessions. All respondents agreed these sessions improved their knowledge and ability to care for CMC.

A statistically significant improvement in self-efficacy was seen in all 8 items for the intervention group, and in 5 of the 8 items for the control group (*Table*). The improvements seen in the intervention group were greater when compared with the control group for all 8 items ($p<0.05$). The greatest differences between groups were in troubleshooting problems with feeding tubes, knowledge of different feeding tubes, and discussing the risk/benefits of feeding tubes.

Conclusion: An integrated real-time case-based curriculum led to greater improvement in resident self-efficacy as compared to expected improvement through the course of the inpatient rotation. Trainees found this rounds-style format acceptable and feasible. Next steps should focus on expanding the topics included in order to broaden residents’ skills in caring for CMC.

Table: Mean pre- and post-rotation self-efficacy scores within groups and mean difference comparisons between intervention and control group

Survey item	Within-group comparison			Between-group comparison	
	Mean pre-rotation score	Mean post-rotation score	*p*	Mean difference	*p*
Knowledge of different feeding tubes					
Intervention (n=40)	1.75	2.6	<0.001	0.85	<0.001
Control (n=32)	1.97	2.22	0.003	0.25	
Understanding of different formulas					
Intervention (n=41)	1.54	2.18	<0.001	0.65	0.01
Control (n=32)	1.72	2.03	<0.001	0.31	
Risks/benefits of feeding tubes					
Intervention (n=41)	1.73	2.63	<0.001	0.90	<0.001
Control (n=32)	1.97	2.31	<0.001	0.34	
Troubleshoot problems with feeding tubes					
Intervention (n=41)	1.44	2.33	<0.001	0.89	<0.001
Control (n=32)	1.59	1.75	0.057	0.16	
Ability to evaluate pain					
Intervention (n=40)	1.95	2.63	0.001	0.66	<0.001
Control (n=32)	2.09	2.22	0.30	0.13	
Interventions for pain					
Intervention (n=40)	1.90	2.55	<0.001	0.65	<0.001
Control (n=32)	1.94	2.16	0.006	0.22	
Ability to evaluate irritability					
Intervention (n=40)	1.88	2.33	<0.001	0.63	<0.001
Control (n=32)	2.06	2.28	0.006	0.22	
Interventions for irritability					
Intervention (n=40)	1.83	2.3	<0.001	0.48	<0.001
Control (n=32)	1.75	1.88	0.21	0.13	

A NEEDS ASSESSMENT TO DETERMINE PEDIATRICIANS' (RESIDENTS, ACADEMIC FACULTY, AND COMMUNITY PROVIDERS) CONFIDENCE IN MANAGING COMMON PEDIATRIC MENTAL HEALTH CONCERNS

Daniel Oheb, BS, University of Arizona College of Medicine Phoenix; Jennifer Farabaugh, MPH; Kristen Samaddar, MD, Phoenix Children's Hospital

Many pediatricians report lack of training and confidence in addressing patients' mental health needs. The COVID pandemic has intensified problems with a fragmented mental healthcare system. Pediatricians need to be equipped to take a more active role in addressing this important aspect of health.

Objectives:

1. To determine pediatricians' confidence in addressing common mental health issues and factors that predict higher confidence in order to develop effective curriculum and practical experiences across the spectrum of training

Methods:

In fall 2021, an anonymous 14-question survey was sent to residents, academic general faculty, and community physicians affiliated with Phoenix Children's Hospital. On a 5 point Likert scale, providers ranked confidence in managing common mental health conditions (depression, anxiety, ADHD, substance use, school/behavioral problems, coping with chronic illness, and well-being) and predictive factors (education, time dedicated to these issues, and access to support staff). Surveys were analyzed using Wilcoxon and Chi Square Analysis.

Results:

Across all respondents (residents=64, teaching faculty=17, community= 34) higher median confidence was reported with anxiety, depression, well-being and lowest with substance use. Faculty and community pediatricians rated higher confidence than residents for ADHD (p=0.0082, p=0.0005), and faculty rated higher confidence than residents for school/behavioral Issues (p=0.0037). Compared to interns, upper level residents reported increased ability to connect patients with outside specialists (p=0.0079). Throughout training, residents did not report a statistically significant increase in confidence for personally managing any of the mental health conditions. As years in training increased, residents reported a statistically significant increase in feeling burdened by their patients' mental illness (p= 0.0032).

Conclusions:

Addressing substance use was identified as a knowledge gap across all levels. In other areas, residents reported mid to high level of confidence, which did not increase with training. Residents did express increased burden by patients' mental health needs over time. This could be due to an increase in duties, burnout, lack of continuity, or increased awareness of needs without sufficient tools to meet them. Focus groups could more accurately determine causes and solutions. Study limitations include surveying a single site in which some interventions had already been implemented and uncertainty in the correlation between confidence and practice habits.

ADDRESSING THE GAP IN PARENTING EDUCATION FOR PEDIATRIC RESIDENTS: AN INTERDISCIPLINARY INTERACTIVE CURRICULUM FOCUSED ON PARENTING INFANTS

Naveen Kanji, MD; Elan Green, DO, Advocate Children's Hospital

Results

Twenty-six pediatric residents participated in the pre-workshop survey and twenty participated in the post-workshop survey. When focusing on the "very confident" and "extremely confident" responses for each of the competencies in the survey, at a minimum, self reported confidence rose 34% between the pre and post-workshop responses. The competencies of car seat safety and swaddling showed the highest rise in self-reported confidence, 15% to 90% and 4% to 75%, respectively.

Conclusions

Our infant parenting curriculum offers an interactive multidisciplinary approach to bridging the gap pediatric residents have between anticipatory guidance and realistic, applicable parenting advice. Within just one workshop, there is a significant increase in self-reported competencies in topics of infant feeding, car seat safety, and parenting resources. Our program also highlights the success of resident small group learning with experts within various fields of pediatrics.

Next steps include:

1. Integrating this session into the program's 18 month curriculum.
2. Development of similar workshops for toddlers, children, and teenagers.

Funding

The goal of this quality improvement project is to address the gap in parenting education in the residency curriculum through a two-hour interdisciplinary and interactive workshop.

PEDIATRIC TRAINEE PERSPECTIVE ON VIRTUAL INTERVIEWS DUE TO COVID-19 PANDEMIC

Priya Jain, MD MEd; Brian Cleary, MD; Mary McBride, MD, Lurie Children's Hospital; Walter Eppich, MD, RCSI University of Medicine and Health Sciences

BACKGROUND: The National Residency Match Program has shifted to virtual interviews, introducing challenges in program evaluation while saving time and money relative to traditional interviews.

OBJECTIVE: To assess the effectiveness of the virtual interview for pediatric residents and to inform program leadership as they consider a return to in-person interviews when current COVID-19 mitigation strategies are not necessary.

METHODS: Interns from five pediatric residency programs in Chicago received surveys to gather their perspective on virtual interviews, including the effectiveness of specific elements of the interview day, their perceived fit with their residency program after working there for several months, and their preference regarding interviews going forward.

RESULTS: First-year pediatric residents (n=31), completed surveys after four months of work at their respective residency programs. 24.6% of respondents rated time speaking with current residents via virtual social events as the most helpful element, followed by 1-on-1 time with program leadership (19.2% of respondents), then electronic documents and live-hosted presentations providing an overview of the program (15.4% each). Pre-recorded video or virtual tours of facilities were rated the least helpful element of the virtual day (38% of respondents). When considering specific elements of the residency program itself, 81% of respondents felt that virtual interviews are less effective at portraying culture or livability of a given geographic location. Many respondents (52.2%) felt that assessing personality of faculty was more difficult virtually, with 39% expressing difficulty getting to know the residency program director when compared to traditional interviews. Ultimately, when given the opportunity to choose, assuming no COVID restrictions, 26% of respondents would vote to keep interviews exclusively virtual, 56.6% would prefer a mix of in-person and virtual interviews, and 17.4% would choose exclusively in-person interviews.

CONCLUSIONS: While many of the residency program characteristics that applicants value most are more difficult to assess virtually, the majority of respondents felt virtual interviews should continue in some capacity, citing interactions with current residents and program leadership as helpful elements of their interview day.

ACQUIRE'ING SCHOLARLY ACTIVITY DURING RESIDENCY: AN ANALYSIS OF RESIDENT ATTITUDES TOWARDS SCHOLARSHIP BEFORE AND AFTER A CURRICULAR INTERVENTION

Thomas Reynolds, DO; Amy Buczkowski, MD; Gina Trachimowicz, MD; Sarah Gabrielson, MPH, BSN, Barbara Bush Children's Hospital/Maine Medical Center

Background:

Promoting scholarship in a small residency at an independent academic medical center poses unique challenges. Understanding resident attitudes towards scholarship is critical to making successful interventions to improve scholarship. Implementing a new curriculum in residency requires both an initial needs analysis and an ongoing assessment of both faculty and trainee attitudes towards the subject. We used this framework to monitor attitude change related to a new longitudinal curriculum aimed to promote resident-led scholarship known as ACQUIRE (Advocacy/Community, Quality Improvement, Research, and Education).

Objective:

Determine resident attitudes regarding scholarship before and after implementation of ACQUIRE and analyze trends in their opinions about various facets of scholarship.

Methods:

A validated survey (Research Capacity and Culture Tool) was distributed to all pediatric residents before and after introduction of ACQUIRE. Respondents had the opportunity to provide their opinion about various facets of scholarship on a 10 point interval rating scale. Free text responses about barriers and motivators for completing scholarly activity were also used. Descriptive statistics were used to analyze rating scale responses and an inductive approach in thematic analysis of free text responses was employed.

Results:

50% of residents completed the pre-intervention survey and 33% completed the survey again 15 months later after 2 rounds of ACQUIRE. At the department level, improvements were noted in perceptions of the following: leadership support and planning, providing opportunities for scholarship relevant to practice, support for multi-disciplinary approaches to scholarship, the peer review process, identifying experts, and monitoring of scholarship quality. At the individual level, improvements in understanding the Institutional Review Board (IRB) and how to submit to the IRB were seen. Additionally, qualitative analysis revealed opportunities for improvement in support for identifying a mentor/project and time to both develop and complete an ongoing project.

Conclusion:

ACQUIRE, a curricular intervention designed to introduce residents to scholarship and support their work, has resulted in initial improvements in attitudes towards scholarship. Additionally, this process has identified ongoing opportunities for improvement and will inform further interventions. This curricular intervention may be a model worth exploring at other independent academic medical centers with smaller pediatric training programs.

SBP-5: EXPANDING A DEI CURRICULUM TO ADVANCE RESIDENTS' STRUCTURAL COMPETENCY AND UNDERSTANDING OF HEALTH INEQUITIES

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Per Pediatric Milestones, residents are expected to "promote and improve health across communities and populations through patient care and advocacy including…elimination of structural racism," (SBP-5) in part through awareness of health disparities. Over the last several years, our DEI curriculum expanded to include Grand Rounds presentations (5 per AY since 2017) and resident noon conferences (6 in AY 2020-21) to address health disparities and structural racism, but we felt that a deeper commitment to DEI as part of everyday practice was warranted. In 2021, 63 residents were surveyed regarding their knowledge about structural violence (including racism) and health inequities (HI) (response rate 69%). Most residents were not substantially familiar with the terms "structural violence" (55%) and "structural competency" (71%). A minority of residents reported substantial knowledge regarding health inequities related to ethnicity (41%) and sex/gender identity/sexuality (39%), while more reported substantial knowledge regarding health disparities related to socioeconomic status (59%) and race (52%). Most residents reported not having substantial knowledge about underlying causes of HI (55%), and that knowledge about HI does not inform their daily practice in a substantial way (52%). In response, we began a two-pronged expansion of our DEI curriculum. First, starting in AY 2021-22, structural competency training was added to intern orientation (100% participation). After the training, 90% of participating residents reported that structural competency is an effective framework to help healthcare professionals understand and respond to the social, political and economic structures that affect health. Second, DEI-specific objectives were added to each clinical rotation with the intent of promoting longitudinal and specialty-specific education about health inequities and their underlying causes. As of January 2022, 23 of 30 clinical rotations (77%) have incorporated DEI objectives, with a goal of 100%. Our next intervention is to document completion of DEI-specific objectives in all rotation evaluations to encourage wider participation by faculty and residents. Following six months of this intervention, a follow-up survey will be conducted to assess for changes in residents' knowledge of the aforementioned subjects. We will further refine the curriculum to not only fulfill SBP-5, but also provide a foundation for residents to combat structures that perpetuate health inequities.

DEVELOPING A MULTI-DISCIPLINARY ROTATION TO ENHANCE PROCEDURAL EXPERIENCE

Erica Evans, MD; Duncan Henry, MD; Ellen Laves, MD; Laura Rubinos, MD, University of California San Francisco

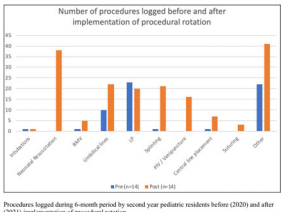
Background
The Accreditation Council for Graduate Medical Education (ACGME) requires pediatric programs train residents to competently perform 13 procedures. While most residents receive training in each procedure and perform them at least once, a recent study of graduating pediatric residents highlighted unmet educational needs in this area. Resident reports in our own program supported this finding. In response, we developed a new rotation, Intensive Care Nursery-Procedure (ICN-PRO) in July 2021.

Methods
We used Kern's six step model to develop the ICN-PRO curriculum. We engaged in the following processes and report the results of each below.

Results
(1) We reviewed resident procedure logs (AY2018-2020) demonstrating limited exposure to the majority of ACGME required procedures consistent with nationally reported data. (2) We reviewed procedural experiences with our resident education committee and surveyed all residents (n=84) about experiences/exposure relative to required procedures and generated themes. (3) We developed goals and objectives for a required rotation that included supervisory and procedural experiences and created specific objectives for 8 common procedures. (4) We partnered with three divisions and care teams (Neonatology, Orthotics, Vascular Access) to identify regular and recurring times for participation in apprenticeship roles affording repeated practice and feedback in these procedures. (5) We created a 2-week rotation for all PGY-2 residents utilizing half day blocks of time rotating between the Intensive Care Nursery (ICN) and the services/teams above. We scheduled this rotation as a program requirement to ensure parity in procedural opportunities. (6) Since implementation in July 2021, 14 (58%) residents have rotated through ICN-PRO. Review of procedure logs for ICN-PRO residents compared to historical data from PGY-2 averages showed marked increases (~2-14 fold) in ICN-PRO affiliated procedures. (Figure 1)

Conclusions
We designed and implemented a procedure-based rotation for second year residents with a substantive increase in procedures. We plan to review this rotation for satisfaction and ideas for improvement at the end of the academic year. We anticipate making curricular adjustments and expanding this model to address additional ACGME required procedures. In reflecting on design and implementation, the team notes several barriers including resident schedule variability due to pre-existing requirements (eg. continuity clinic) and significant time spent by chief residents coordinating these experiences.

Figure 1. Comparison of procedures logged before and after creation of new procedural rotation



Procedures logged during 6-month period by second year pediatric residents before (2020) and after (2021) implementation of procedural rotation.

FINDING THE RESIDENT VOICE AMIDST STRESSORS ASSOCIATED WITH THE COVID-19 PANDEMIC.

Lynne Rosenberg, MD ; Elizabeth McGinn, MD, University of Colorado ; Grace Chandler, MD ; Leonard Seltz, MD , University of Colorado

Background: The COVID-19 pandemic has threatened resident mental health. In previous studies, effective residency leadership has been associated with lo[illegible] Earlier in the pandemic [illegible]

residency leadership has been associated with lower burnout rates. Earlier in the pandemic, a survey at our institution showed an inverse association between resident stress and perceived leadership response

effectiveness. However, optimal communication strategies from residency leadership during times of crisis have not been thoroughly explored.

Objective: To describe residents' emotional stressors and explore the impact of program leadership communication on stress during the COVID-19 pandemic.

Methods: Informed by the crisis and emergency risk communication model as a conceptual framework, our qualitative study used grounded theory methodology to interview 25 pediatric (n=9), medicine-pediatric (n=4), and internal medicine (n=12) residents from a single institution between May-September 2020. Four coders, in mixed pairs, analyzed the data with the constant comparative method. Codes were inductively built using an iterative approach and organized into categories describing themes. Sampling continued until reaching thematic saturation. Discrepancies were resolved by consensus.

Results: Data analysis yielded six themes (Table 1). Residents described increased stress attributed to COVID-19 and noted a sense of the pandemic's omnipresence, permeating all domains of their lives. In the clinical setting, uncertain best practices, personal protective equipment availability, and missed learning due to changes in patient volume/illness types and cancelled electives increased resident stress. Residents described their role as healthcare providers with mixed feelings of pride, guilt, and vulnerability. Some residents worried about personal safety; many feared exposure and infecting others. Restrictions to visiting loved ones led to feelings of social isolation. Program leadership communication varied, both mitigating and exacerbating resident stress. Rapidly changing information, inconsistent messaging, and high email volume increased stress. Residents valued communication from the program director, numerical patient trend reports, and Town Hall meetings. Effective communication was characterized by timeliness, transparency, leadership availability, openness to feedback, and bidirectional discussions.

Conclusion: The resident perspective offered deeper understanding of the unique stressors associated with training during COVID-19. Our study provides insight into key communication strategies for program leadership that can likely be applied in any crisis.

Table 1. Representative resident quotes demonstrating six themes identified in qualitative analysis.

Theme	Quotes
Resident Stress	*"I felt that the general level of stress and anxiety was higher than usual, and it's usually pretty high."*
COVID Omnipresence	*"You just feel like it's everywhere…to the point where you don't want to talk about it anymore…But it's inevitable because it's affecting everybody."*
Clinical Education and Environment Changes	*"Everything was focused on COVID and not necessarily on other pathologies that [we] still need to be learning about."*
Healthcare Provider's Role in Society	*"It's actually been empowering in a lot of ways to be able to get out and be in a field that can make an impact during a major global crisis."*
Emotional Stressors and Coping	*"I think having a work-life balance took a big hit for me; specifically, because I didn't get a lot of time… when I did have time, it was not really spent doing things that I could enjoy."*
Residency Leadership Communication	*"Residents are in a vulnerable position. We work the hardest. We don't have a say in a lot of different things. You don't want to feel like everyone's making decisions except you. When people are effectively communicating, it makes you feel like you have control over some things."*

GAME ON! EMAIL-FACILITATED CASE COMPETITION AS A FORMAT FOR HIGH-VALUE CARE EDUCATION

Hannah Kay, MD; Michael Tchou, MD; Barry Seltz, MD; Kimberly O'Hara, MD, Children's Hospital of Colorado

Background

Overdiagnosis and overtreatment contribute to high costs and potential harm to patients. One strategy to reduce costs is to train physicians to deliver high-value care (HVC). The Accreditation Council for Graduate Medical Education also mandates residents incorporate cost awareness into patient care. Yet, no standardized curricula exist to best teach residents how to deliver HVC. Our team sought to develop, implement, and evaluate a longitudinal, email-facilitated HVC case competition curriculum.

Methods

Informed by the conceptual frameworks of social cognitive theory and communities of practice, we developed a team-based case competition where 5 self-constructed clinical cases (with input from content experts) were emailed to all residents (N=114) every other month from August 2020 to May 2021. Each residency class had 3 days to collaborate with classmates and request diagnostic testing results via e-mail to the faculty facilitator before submitting their diagnosis. We piloted this format to offer flexibility for participation. The correct diagnosis, cost of each teams' evaluation, optimal HVC evaluation, and HVC concepts were then provided. We surveyed all residents and conducted 2 focus groups of residents (N=5). Using basic interpretative qualitative methodology, focus group transcripts were analyzed by three faculty and one resident iteratively until consensus of themes was obtained.

Results

A mean of 28 residents participated in each case, which included 17% of PGY-1s, 9% of PGY-2s, and 16% of PGY-3+s. Survey results (response rate 36%) revealed 81% of residents reported this case competition was very or moderately useful for their clinical practice, and 78% felt email was very or moderately effective as an educational method. Table 1 shows themes and quotes from focus group data. Qualitative analysis found the case competition increased resident appreciation and awareness of HVC and promoted discussions about HVC in clinical settings; gamification facilitated resident engagement; collaboratively working through cases enhanced learning and motivated some residents to become a better physician; and email enabled many residents to participate in learning.

Conclusion

A longitudinal email-facilitated case competition may be an effective strategy to improve resident cost awareness. Gamification increased resident engagement, and the email format allowed for flexibility for some residents. Further work is needed to incorporate other HVC principles such as patient/family experience into the curriculum.

Theme	Illustrative Quotes
Enhancement of HVC attitudes, behaviors, and awareness	"It [the cases] was a nice reminder sporadically throughout the year, of, 'Yes, I should think about that,' because I think particularly at [our hospital], we get a little swept away in every consultant [recommendation], every lab recommendation for all the things, so we just do it, instead of really considering, will this change management, will this change your diagnosis, or [is it] an academic exercise?... But it's that application, then you're practicing that skill, and more likely to use it." "I think for me, it reinforced that this really factors into the day to day.... This was a nice exercise in demonstrating that the day-to-day work that we do even as residents, can be exercises in high-value care, and the decisions we make... does this test actually change what we're going to do for this patient? Would it change my post-test probability in terms of thinking about whether or not this is the diagnosis at play?"
Game On! Case Competition element increased engagement	"I feel it was helpful with buy-in. I think in general, I'm one of the least competitive humans, but I will say it fostered collaboration among our class, and there was an element of yeah, I want an ice cream party, and just the pride of, we want to beat the third years. I think it was effective in getting people engaged. I think had it not been a competition, there might have been less engagement." "I love competition... It's fun to make it a game. There's some camaraderie there."
Active learning through cases and collaboration	"I think it's been some of the most efficacious email learning I've experienced, where, because virtual learning has obviously been a big highlight for the last year, so... from the med ed perspective, thinking about how you get people to participate, and actively engage in something without a gathering like this, and it worked. I think I learned more from that than morning reports and things like that, because if I participated at all in high-value care, it was my own choice." "I thought it was a nice way to pause and have that hands-on experience in participating in the value equation in healthcare, because I think the actual day to day clinical work things are so, so busy that sometimes it's hard to see that element, especially when you're the drowning intern..." "I think it's been motivating for me to just become a better doctor and a better clinician... And be inspired by each other and each other's commitment to doing right for the patient in a system in which we work... Then I feel like having conversation in that setting, invites conversation on the wards as we're rounding, as we're in clinic..."
Email as a mode for delivery of HVC education	"I think also this is another benefit to virtual... our class being in a group of 30, there are probably some voices that would be maybe heard less. Whereas when we're doing it virtually, and just over a more prolonged period, everyone has the opportunity to provide input that might not occur in an in-person format with such a large group." "I think it gave us more time to percolate and to think. Whereas we might have to make really quick decisions, not actually be looking up things. It'd be like, "We have 15 minutes to solve this case." I feel like that would be a benefit to still having it virtual. Sometimes I feel like it takes me a little bit to absorb things, and takes me looking into it on my own, like a focused way, that if we were in person, maybe feeling like I'm not up to speed, or I don't want to say something because I didn't really have time to look into it."

PEER-TO-PEER FEEDBACK: UPDATING EVALUATIONS TO IMPROVE FEEDBACK PROCESS

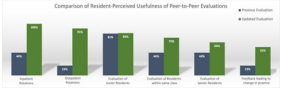
Dan Borman, MD; Namun Srivastava, MD, University Hospitals Cleveland Medical Center/Rainbow Babies and Children's Hospital; Kira Sieplinga, MD, Spectrum Health/Helen DeVos Children's Hospital/Michigan State University

Introduction: Feedback is crucial to the professional development of residents. Peer-to-peer feedback is important for professional development; however, it introduces unique challenges - lack of formal feedback experience, unfamiliarity with evaluation methods, and lack of anonymity. Addressing these challenges requires changes to the traditional structure, collection, and distribution of evaluations. This quality improvement project was designed to improve peer-to-peer feedback of pediatric residents by creating a new evaluation format and distribution process for peer-to-peer evaluations.

Methods: A pre-intervention survey was distributed to Pediatric residents at Helen DeVos Children's Hospital to determine perceived weaknesses of the peer evaluation process. The results were used to design a new peer-to-peer evaluation to be released as de-identified, aggregated feedback on a bi-annual basis. The updated evaluation process was presented to Pediatric residents prior to implementation. The number of evaluations and free-text comments was collected by program leadership for three academic blocks before and after implementation of the updated evaluation. A post-intervention survey was distributed to the residents three months after introducing the new peer evaluation.

Results: The pre-intervention survey suggested difficulty evaluating peers on both inpatient and outpatient rotations. Pediatric residents had difficulty assessing peers at or above their level of training. Only half of residents felt the feedback was honest and less than 20 percent reported that a peer evaluation had changed their practice. After implementing the new evaluation, peer evaluations increased by 44 percent. The number of free-text comments was similar. Based on the post-intervention survey, nearly all Pediatric residents felt the updated evaluation was appropriate for inpatient and outpatient rotations. Most residents felt comfortable evaluating peers within their class (73 percent) and above (64 percent). Over 50 percent of Pediatric residents agreed that feedback from the updated evaluation had changed their practice. The residents agreed unanimously that that the updated evaluation and distribution process improved anonymity and was preferred over the previous process.

Conclusion: Pediatric resident peer-to-peer feedback was improved by updating the evaluation to reflect typical peer-to-peer interactions and releasing aggregated feedback on a bi-annual basis. More residents were able to use peer-to-peer feedback to make changes to their practice.



TAKING PROGRAM VITALS: APPLYING MASLOW'S ADAPTED HIERARCHY OF NEEDS TO EVALUATE WELLNESS INFRASTRUCTURE

Erica Ting, MD; Maren Olson, MD MPH MEd; Erin King, MD; Andrew Piropato, MD; Stephanie Kerkvliet, MD; Caleb Hocutt, MD; Patricia Hobday, MD; Michael Pitt, MD; Sonja Colianni, MD; Emily Borman-Shoap, MD FAAP, University of Minnesota

Background: Since the ACGME revised its Common Program Requirements in 2017 to address trainee wellbeing more comprehensively, many programs have implemented wellness interventions, largely focused on individual skills to mitigate burnout. However, work from the Pediatric Resident Burnout-Resilience Study Consortium demonstrates that structural factors like scheduling contribute significantly to burnout. Interventions emphasizing individual coping strategies neglect the outsized role program and institutional structures play in influencing resident wellbeing. From availability of nutritious food to quality of clinical feedback, the training environment is vital in fulfilling many of a resident's needs - all of which contribute to wellbeing. Recognizing that wellness is not simply the absence of burnout, we apply a previously proposed adaptation to Maslow's Hierarchy of Needs as a framework for evaluating resident wellness.

Objective: We aim to examine the robustness of wellness infrastructure at our program by developing a set of Program Vitals based on Hale et al.'s adapted Maslow's framework.

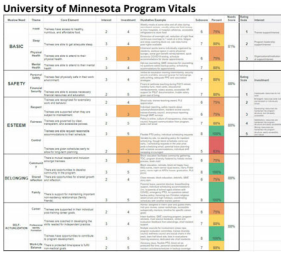
Methods: By Delphi method, program leadership at the University of Minnesota Pediatrics Residency Program devised Core Elements of each adapted Maslow's need (basic needs, safety, esteem, belong, and self-actualization) and listed features of the program supporting each need. Chief residents then evaluated this

existing wellness infrastructure and graded the program's interest and investment in each core element of the adapted Maslow's needs. The composite scores and subscores made up our Program Vitals.

Results: We generated a list of 85 unique aspects of the program that collectively represents our wellness infrastructure. For each of the adapted Maslow's needs, our Program Vitals ranged from 80 to 88% (mean 85%) with lowest subscores in advance scheduling (63%) and highest subscores in areas of scheduling accommodations, opportunities to contribute to program development and community, and support for maintaining non-residency relationships (100%).

Conclusions: Trainee wellbeing is a multidimensional concept that requires individual, program, and organizational interest and investment. Program Vitals is one way for programs to systematically and objectively evaluate their wellness infrastructure, identify areas where disparities in needs and resources exist, and invest in creating more robust training environments that allow trainees to truly thrive.

University of Minnesota Program Vitals



BRIDGING THE GAPS IN INFORMATION RELAY DURING THE CONSULTATION PROCESS

Sonali Ramesh, MD; Marcos Estrada, MD, BronxCare Health Systems; Tanya Rogo, MD, Hasbro Children's Hospital; Joselyn Salvador- Sison, MD, BronxCare Health Systems

BACKGROUND: Collaborating with specialists to diagnose and treat patients involves active information transfer among the healthcare team. Poor communication results in problematic patient care and decreased patient satisfaction [(1)]. Furthermore, ineffective communication and lack of standardization can lead directly to inefficiency and harm to patients [(2)].

OBJECTIVES: (1) To identify the important communication elements during consultations. (2) To formulate an outline that will help the trainees to effectively relay information during consults. (3) To improve resident's comfort level in at least one domain i.e., providing a one-line assessment during consults from 20% to 50% in 6 months.

METHODS: Ours is a Quality Improvement, Interventional study conducted at the Department of Pediatrics at BronxCare Health Systems over a year. An initial anonymous and voluntary survey was administered to 42 residents and 42 attendings to identify the areas for improvement during the referral-consultant interaction, with questions designed from existing literature [(3),(4)]. Based on the results, we designed a mnemonic tool "HI HOLA" to target our second and third objectives (*Figure1*). Our tool was implemented to residents and faculty through interactive didactic sessions, and frequent reminders were given using emails, consult cards placed on workstations. After one PDSA cycle (July- October 2021), we administered a post-intervention survey to identify the success of our intervention and to assess the resident's comfort level with consultations.

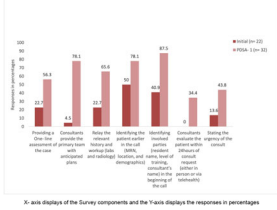
RESULTS: From our initial survey responses, we identified the following elements as important for completing a consult request: providing a one-line assessment (91%); relaying the relevant history and workup (91%); stating the urgency of the consult (72.7%); identifying the involved parties (63.6%), and consultant discusses anticipated plans with the primary team (86.4%). Our intervention "HI HOLA" was designed to include two sections: pre-consult and consult proper to address the above-identified areas. The post-intervention survey shows that our stakeholder's perspective of the important element remains the same and that there has been significant improvement in their consultation practice (*Figure2*).

CONCLUSION: Our intervention tool showed improvement in stakeholders' practices with communication of information during consults. The implication of this on resident education is yet to be explored. Additional PDSA cycles are required to make the consulting process satisfactory for both residents and consultants.

Figure 1: Consult card : Our center-specific intervention tool

	Pre-consult work	
H	**H**istory Who What Where	significant elements of - medical history - current illness course - recent physical exam - significant diagnostics/labs - relevant input from other consults/previous consults (if any)
I	**I**ndication Where Why	Level of urgency - emergent (immediate input is required) - urgent (as soon as able) - routine (within 24 hours for inpatients Formulate the question to ask! - Review question with PICO in mind - Verify with attending/supervisor when in doubt
	Consult Proper	
H	**H**ello	- Introduce self - Introduce the patient- MRN, location and demographics.
O	**O**ne-liner	- Explain the situation behind the consult in ONE LINE followed by your question
L	**L**ayout Learning Points	- Layout the story (summarize relevant history, Labs and imaging) - Discuss the issues. - Clinical pearls
A	**A**ffirm the Plan	- Review recommendations - Decide follow-up timeframe. - Close the LOOP

Figure 2. Changes in Consulter's actions/ practices pre and post intervention



X- axis displays of the Survey components and the Y-axis displays the responses in percentages

NEW JERSEY PEDIATRIC RESIDENCY ADVOCACY COLLABORATIVE (NJPRAC): LEVERAGING A VIRTUAL PLATFORM FOR ADVOCACY CURRICULA ACROSS THE STATE

Kristin Pyne, MD, The Unterberg Children's Hospital at Monmouth Medical Center; Tyree Winters, DO, Goryeb Children's Hospital - Morristown Medical Center; Nicole Leopardi, MD, Cooper Health; Christin Traba, MD, MPH, Rutgers New Jersey Medical School; Shilpa Pai, MD, Rutgers Robert Wood Johnson Medical School

Objective: The New Jersey Pediatric Residency Advocacy Collaborative (NJPRAC) includes all nine residency programs in the state, with faculty and resident champions from each program. One of its objectives is to create a statewide advocacy and community health curriculum, which builds upon the strength of each program's

resources.

Methods: NJPRAC leveraged the professional relationships formed from the collaborative and virtual platform technology highly utilized during the pandemic to launch a virtual grand rounds and morning report series across the state. The quarterly NJPRAC Grand Rounds focuses on key advocacy and community health issues, such as social determinants of health, human trafficking, and structural racism. Topics and speakers are selected by the faculty and resident champions, elevating faculty to speak on areas of expertise with sponsorship through their own institution's grand rounds series. Simultaneously, NJPRAC launched the Health Equity Morning Report series in November 2021, with the inaugural session focused on immigrant health. The resident presents a patient in the traditional case-based format while focusing on the patient's social determinants of health. NJPRAC leadership help in reviewing content and inviting speakers from relevant community based organizations, to provide their expertise. This unique inter-professional approach emphasizes to our learners the importance of collaboration in optimizing health outcomes.

Results: To date, 241 number of individuals attended the grand rounds series and nearly 100 faculty, residents, and students joined the inaugural Health Equity morning report. Preliminary survey results from the morning report demonstrated that only 41.6% of individuals felt prepared for the topic (immigrant health and insurance) presented before the morning report and 83.3% agreed/strongly agreed that they were more comfortable after the morning report; 91.6% agreed/strongly agreed that the topic chosen was relevant to the patient population at their institution.

Conclusion: While pediatric residency programs strive to implement advocacy and community health curriculum, programs often lack individuals with areas of expertise in all of the needed fields. Leveraging relationships formed through a statewide collaborative along with a virtual platform allows a shared resource model across residency programs, bringing together experts across disciplines to educate future pediatricians using a health equity lens.This also lends itself to identify and amplify statewide advocacy legislative issues.

THE VALUE OF A "LIKE:" TRENDS IN PEDIATRIC APPLICANT ENGAGEMENT WITH RESIDENCY PROGRAM SOCIAL MEDIA DURING RECRUITMENT SEASON

Rebecca Hart, MD, MSc; Sara Multerer, MD; Brittney Luckett, BA; Dakota Williams, BS, University of Louisville/Norton Children's Medical Group

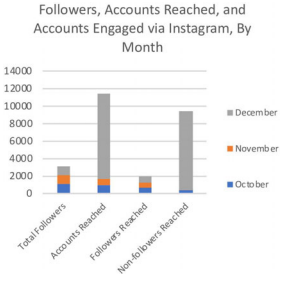
Background: Social media use among residency programs has increased significantly over the past decade, with particularly sharp climbs since the onset of the COVID-19 pandemic. While prior literature has described program social media presence, the impact of utilization of such platforms on resident recruitment is unknown.

Objective: To describe the number of social media accounts reached and engaged by a mid-large pediatric residency program during the 2021-2022 recruitment season

Methods: Our program has had an established social media presence on Instagram and Twitter for five years, with Instagram the most frequently utilized account by both the program and applicants. From October-December 2021, we documented the number of individual accounts reached (defined as the number of unique accounts viewing our content at least once) or engaged (defined as the number of accounts interacting with our content). Content includes posts, stories, reels, videos, and live videos. We also report the total number of followers of our primary program account over time, number of interactions with posted content (such as comments, replies, or "likes"), and the topics of content that generated the most interactions.

Results: Between October 1 and December 31, 2021, our pediatric residency Instagram account had a net gain of 75 new followers compared to September 2021, with the largest increase (+ 60 followers) in October. Followers were majority female, age 25-34. Total accounts reached per month ranged from 693 (November) to 9756 (December); accounts engaged ranged from 152 (November) to 232 (December). Top posts reached as many as 731 users and generated up to 402 content interactions. Instagram posts typically reached and engaged more accounts than "stories," with top stories reaching up to 336 accounts and engaging up to 44. Up to 535 users reviewed our program's profile each month. Content topics that generated the most engagement and interactions typically centered on wellness-related programming (such as resident and faculty appreciation week, holiday celebrations), resident "takeovers," or question and answer interactive stories.

Conclusion: Followers, accounts reached and engaged, and interactions with our program social media accounts increased significantly during recruitment season. Topics of popular content may help shape future programming to reach additional users and potential applicants. After Match Day in March 2022, we plan to compare account utilization and interactions between applicants who matched to our program and those who did not.



PEDIATRICIANS' PERCEPTIONS OF SUBSPECIALTY CORE CONTENT IN PEDIATRIC RESIDENCY TRAINING

Joni Hemond, MD, FAAP, University of Utah School of Medicine; Wade Harrison, MD, FAAP, University of North Carolina at Chapel Hill; Deirdre Caplin, PhD, University of Utah School of Medicine

Background:

Subspecialty exposure is an important component of training for categorical pediatric presidents. The Accreditation Council for Graduate Medical Education requires that all residents complete adolescent medicine, behavior and development, and at least four other subspecialties that come from a predetermined list of "key" subspecialties. Subspecialty content varies widely between U.S. pediatric residency programs, with some having set internal requirements and others giving residents the flexibility to structure their own experiences. When the University of Utah transitioned to a new scheduling system, an opportunity arose to gather information from our

University of Utah transitioned to a new scheduling system, an opportunity arose to gather information from our practicing graduates to determine how to best offer subspecialty content to our pediatric residents.

Objective:

To conduct a descriptive analysis of practicing pediatricians' perceptions on how best to offer and structure subspecialty experiences in pediatrics training.

Design/Methods:

A survey was sent to all University of Utah categorical pediatrics alumni from 2006-2019. Reminder emails were sent out three times over a six-week period. Participants were asked which key subspecialties should be required by the program and how each of those subspecialties would best be structured (either longitudinally or as block rotations).

Results:

Of the 207 surveys that were sent, we received 111 responses (54% response rate). Demographics: 62% general pediatricians, 20% subspecialists, 9% fellows, 6% hospitalists, 3% other. The majority of respondents felt that seven of the subspecialties should be required for all categorical pediatric residents: cardiology (89%), gastroenterology (86%), infectious diseases (84%), neurology (82%), psychiatry (72%), nephrology (67%) and hematology/oncology (65%). The top three subspecialties were consistent between those practicing within and outside our institution, and between practicing generalists and subspecialists. In terms of structure, those subspecialties seen as the best fit for a longitudinal rotation experience were behavior and development, adolescent medicine, and psychiatry.

Conclusion(s):

Based on information from recent University of Utah alumni, the subspecialties of cardiology, gastroenterology, and infectious diseases should be required rotations during residency, while behavioral and development, adolescent medicine, and psychiatry may best be structured longitudinally. Other residency programs should consider the perceptions of practicing pediatricians when structuring subspecialty experiences to best meet trainee educational needs.

SELF-DIRECTED TRAINING FOR PEDIATRIC RESUSCITATION SKILLS COMPETENCY AND CONFIDENCE: A PILOT STUDY

Hung Ho, MD; Jennifer Myszewski, MD; Angela Wratney, MD, Upstate Medical University

Background

Pediatric residents rarely have the opportunity to utilize resuscitation skills in clinical practice to develop competency and confidence.

While scenario-based simulation training provides resuscitation skills exposure, individual resident learning is difficult to assess. Further,

barriers to attendance during clinical service time exists. Task training provides individual performance-based skills assessment.

We developed a pilot program of self-directed task trainer stations with study materials of brief videos and validated task scoring

tools as a practical and feasible way to increase task performance competency and confidence among pediatric residents.

Objective

To improve resuscitation skill competency and confidence in pediatric residents. Secondary objective is to assess interest in a skills training program.

Design/Methods

We conducted a prospective observational study, June to September 2021, at a university-affiliated hospital of 15 pediatric residents

just prior to entering PGY2 year. Participants rotated through each skills station at two timepoints 3 months apart: bag-mask-ventilation,

motor and manual intraosseous access, neonatal oro-endotracheal intubation, and CPR. Each station provided a low-fidelity manikin, written

prompt and maximum of 5 minutes for task completion. We evaluated skill competency based on modified versions of the validated

RESCAPE and OCAT tools (Faudeaux C et al, 2017; Rekman et al, 2016). Residents were encouraged to access the study materials of the scoring tools and videos demonstrating each skill for self-review between the two sessions.

Results

9 of 15 learners participated in both timepoints of the study. Improvement in all procedural skills between baseline and

post-intervention sessions occurred in all skills except infant CPR. Between testing timepoints, 8 of 11 residents reviewed the

validated scoring tools; 7 of 11 practiced the simulated task training stations, and 7 of 11 watched the videos. Self-rated OCAT scores correlated with expert rater scores for level of supervision required to perform procedure. Residents expressed high interest and level of commitment to skills training program for PGY1 and 2.

Conclusion(s)

Our pilot study provides a self-directed pediatric resident resuscitation skills curriculum with validated task completion

scoring tools and assessment of level of competency. This low fidelity training program provides accessible, practical,

and goal-directed skills training even in the busy clinical training program for PL-2 residents.

and goal-directed skills training even in the busy clinical training program for PL-2 residents.

IMPACT OF THE COVID-19 PANDEMIC ON THE TRAINING AND WELLNESS OF PEDIATRIC SUBSPECIALTY FELLOWS

Monique Naifeh, MD, MPH, University of Oklahoma Health Sciences Center; Erika Abramson, MD, MS, Weill Cornell Medicine; Michelle Stevenson, MD, MS, Norton Children's and University of Louisville; Pnina Weiss, MD, MHPE, Yale School of Medicine; Jennifer Duncan, MD, Washington University School of Medicine; Jennifer Rama, MD, MEd, Texas Children's Hospital; Christopher Aston, PhD, University of Oklahoma Health Sciences Center; Su-Ting Li, MD, MPH, University of California Davis

Background:

The COVID-19 pandemic has disrupted pediatric clinical care and training.

Objective:

Examine impact of COVID-19 pandemic on education and wellness of pediatric subspecialty fellows.

Methods:

We conducted a national survey of pediatric fellowship program directors (FPDs) via the APPD Subspecialty Pediatric Investigator Network starting in March of 2021. Data analysis included descriptive statistics, X^2 and Wilcox rank sum tests.

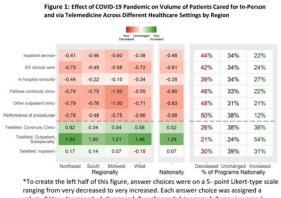
Results:

Response rate was 34% (300/891). FPDs reported decreased in-person clinical care in nearly all care areas and increased participation in telemedicine (figure 1). Most FPDs reported the COVID-19 pandemic negatively affected clinical education in outpatient (69%) and inpatient (54%) areas, overall fellow wellbeing (55%), procedural competence (46%), fellowship program morale (42%), and fellow preparation for more senior roles (34%). 33% of FPDs reported their fellows cared for patients who were older than usual and 15% reported redeployment of fellows, primarily within the hospital network to care for adults. 70% of FPDs reported that at least some of their fellows missed work due to the COVID-19 pandemic, though less than 1% reported fellows missed work due to COVID-19 illness. Most (81%) FPDs reported being concerned that fellows missed key educational experiences due to the COVID-19 pandemic, though only 12% of FPDs reported their graduating fellows would use the American Board of Pediatrics waiver for reduced clinical time. In addition, while most FPDs reported at least some of their fellows had major disruptions to their primary scholarly activity (63%) and ability to present their scholarly work (62%), only 5% reported their graduating fellows failed to complete their required scholarly work product. 36% of FPDs reported fellows' ability to find a job was negatively impacted. Finally, fellowship program funding was decreased for 20% of programs.

Conclusion:

The COVID-19 pandemic has affected nearly all facets of pediatric subspecialty training. As the pandemic evolves, programs must carefully consider how to ensure clinical competence and preserve fellow wellbeing. Focusing on prioritizing continued in person clinical care of patients and maintaining adequate infrastructure to support frequent assessments of competence, fellow scholarly projects, and help with networking and job search will likely be necessary going forward.

Figure 1: Effect of COVID-19 Pandemic on Volume of Patients Cared for In-Person and via Telemedicine Across Different Healthcare Settings by Region



*To create the left half of this figure, answer choices were on a 5- point Likert-type scale ranging from very decreased to very increased. Each answer choice was assigned a value: -2 Very decreased, -1 decreased, 0 unchanged, 1 increased, 2 very increased. Programs were sorted by region and the mean score for programs in that region is presented.

IMPROVEMENT IN FOLLOW-UP COMMUNICATION FOR RESIDENT-IDENTIFIED PATIENT SAFETY AND HOSPITAL PROCESS ISSUES

Ross Newman, DO, MHPE; Angela Etzenhouser, MD; Emily Killough, MD; Danielle Reed, MD; Allison Adam, MD; Michelle Brown, DO; Kelly Meyer, MD; Denise Bratcher, DO; Nicholas Clark, MD, Children's Mercy Kansas City

Results

RESULTS: Over 20 weeks, 83 QH were identified with 45 requiring escalation beyond residency program leadership for resolution including to physician safety officer and CEO huddles. Outcome measure showed sustained, special-cause improvement from 0% to 100% by Week 15 following Cycle #2 (Fig 1). Process measure remained unchanged at 4.2 QH averaged per week.

Conclusions

CONCLUSIONS: Using improvement methodology, we were able to achieve sustained improvement above our goal of communicating findings of resolved QH to all residents. Audit and feedback appeared to have the greatest impact on our outcome measure. Further study is needed, but this closed-loop communication process may also provide beneficial impacts to patient safety.

Funding

OBJECTIVE/AIM: We aimed to improve the weekly percentage of findings from resolved QH communicated to every resident (rather than only those in attendance at the daily readiness huddle) from 0% to >95% within 6 months.

PHM TRIAGE CURRICULUM ENHANCES RESIDENTS' SKILLS AND COMFORT OF LEADING TRIAGE CALLS

Sheridan Jost, MD; Jason Burrows, MD; Michelle Howell-Smith, PhD, University of Nebraska Medical Center

Background

Though hospital triage is typically considered a role of pediatric hospitalists, these skills are important for residents to learn for any pediatric subspecialty. Additionally, many of these skills are addressed in the Accreditation Council for Graduate Medical Education's (ACGME) Pediatric Milestones and the American Board of Pediatrics' (ABP) Entrustable Professional Activities (EPA) as competencies expected of residency graduates. Currently, the pediatric residents at our medium-sized midwestern program do not participate in hospital triage, leaving this as a large gap in their education.

Objective

To evaluate how a Pediatric Hospital Medicine (PHM) Triage Curriculum enhances pediatric residents' knowledge, skills, and attitudes pertaining to hospital triage.

Design/Methods

After developing learning goals and objectives (Figure 1), we implemented a 2-week rotation for third- or fourth-year pediatric residents to lead supervised hospital triage phone calls. Asynchronous self-study materials included a triage guide and handoff checklist, and learning occurred through the Experiential Learning Cycle with explicit self-reflection and instructional guidance from the supervising attending. The curriculum was evaluated through a case study-mixed methods explanatory sequential design with 1. A quantitative retrospective post-pre survey assessing self-perceived knowledge and skills, and 2. A qualitative post-rotation interview. Results to date have been reviewed with descriptive statistics and a general qualitative approach.

Results

12 residents have completed the rotation with a 10/12 (83%) response rate. 10/10 (100%) residents agreed or strongly agreed that it is important to learn skills of triage hospital medicine and stated that they are comfortable leading triage calls much more or somewhat more than before. Self-assessment of specific knowledge and skills can be seen in Figure 2 and Figure 3. Themes identified in the qualitative interview include increased comfort in leading triage calls; improved assessment of patients over the phone to determine disposition and level of care; improved patient care; and applicability to all their future careers.

Conclusions

All residents had perceived improvements in knowledge and skills pertaining to triage medicine after completing the rotation, and they recognized the utility of these skills for their future careers. We will continue to address the logistical and systemic barriers to resident and faculty engagement in the curriculum.

Goal:
To enhance pediatric residents' knowledge, attitudes, and skills of medical triage through a Pediatric Hospital Medicine Triage Curriculum
Objectives:
By the end of the rotation, each resident will be able to:

1. **Facilitate handovers from another health care provider to ensure seamless transitions of care through:** • Obtaining key history and physical exam findings necessary to ensure safe transition • Summarizing information • Asking clarifying questions to fill any perceived gaps • Restating key action items • Exemplifying professionalism • Communicating clearly and effectively	2. **Coordinate patient care within the healthcare system through:** • Providing pediatric consultation to outside providers • Identifying correct modality of transport • Consulting pertinent subspecialists • Utilizing available hospital resources and knowing their limitations • Determining appropriate level of care and disposition	3. **Initiate management of new admissions and interfacility transfers through:** • Appraising clinically relevant information (history, physical exam, laboratory results) • Formulating a differential and leading diagnosis with supporting evidence • Prioritizing next steps in management once admitted

Figure 1. PHM Triage Curriculum Learning Goals and Objectives

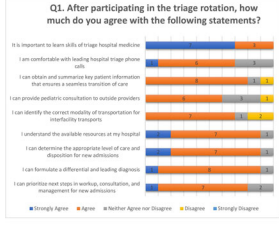


Figure 2. Responses to Retrospective Survey Question 1

IMPACT OF THE COVID-19 PANDEMIC ON PEDIATRIC RESIDENT MEDICAL EDUCATION AT KAPI`OLANI MEDICAL CENTER FOR WOMEN AND CHILDREN

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Introduction: The effects of the COVID-19 pandemic resulted in a decreased number of hospitalized pediatric patients (1). This change in patient volume along with additional trainee pandemic restrictions has impacted pediatric medical education.

Objectives: To review both the volume and diagnoses of pediatric patients seen by residents across all inpatient pediatric care areas at Kapi`olani Medical Center for Women and Children (KMCWC) before the COVID-19 pandemic and following the onset of the pandemic as noted by electronic medical record documentation.

Methods: An IRB exemption and a HIPAA waiver were obtained. All notes authored by pediatric residents on inpatients (ages 0-21 years) at KMCWC during a 20 month pre-pandemic period (July 2018 - February 2020) were pulled from the electronic health record as a baseline. Data included frequency and type of notes, including histories and physicals, progress notes and discharge summaries, as well as patient diagnoses and ages. This was then compared to the same data from notes authored by pediatric residents during the identified pandemic period (March 2020 - Sept 2021). Chi-square test/Fisher's exact test was used for comparing categorical variables, and the Mann-Whitney test was used for comparing non-normal continuous variables between these

two time periods.

Results: 46 pediatric residents and 6891 patients were included. First and second year pediatric residents wrote significantly more notes per month in the pre-pandemic vs pandemic time: 1st year 334 vs. 257 notes (p=0.0039), 2nd year 206 vs. 142 notes (p=0.024). First year residents saw 113 vs 93 patients per month (p=0.059), and second year residents saw 67 vs 43 patients per month (p=0.0003). The proportion of bronchiolitis and pneumonia diagnoses were significantly reduced in the pandemic vs. pre-pandemic period (4.12% vs. 1.0% and 2.72% vs. 0.76% respectively, p<0.0001).

Discussion: Pediatric residents experienced a decrease in the number of patients and diagnoses to which they were exposed during the COVID-19 pandemic. Common respiratory illnesses of bronchiolitis and pneumonia were not seen as frequently in the identified pandemic period. Residents may require additional education and clinical exposure to fill these gaps.

Reference:

1. Pelletier JH, Rakkar J, Au AK, Fuhrman D, Clark RSB, Horvat CM. Trends in US Pediatric Hospital Admissions in 2020 Compared With the Decade Before the COVID-19 Pandemic. *JAMA Netw Open.* 2021;4(2):e2037227. doi:10.1001/jamanetworkopen.2020.37227

DEVELOPMENT, IMPLEMENTATION, AND ASSESSMENT OF A FOUR-TARGET DIVERSITY, EQUITY, INCLUSION, AND IDENTITY (DEI&I) CURRICULUM AND ACTION PLAN: A PILOT INTERVENTION TO IMPROVE RESIDENT EXPOSURE AND INVOLVEMENT IN DEI&I TRAINING.

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BACKGROUND: Advocate Children's Hospital – Park Ridge is in a northwest suburb of Chicago, one of the most diverse cities in the nation. Here, our pediatric residents serve patients from various ethnic, cultural, and socioeconomic backgrounds. When trainees arrive, they come with their own experiences regarding the complex relationship between the healthcare system and the diverse populations it serves.

OBJECTIVE: Recognizing the importance of training physicians who are equipped to serve these diverse populations and provide culturally responsive care, our program seeks to build a standardized learning experience that cultivates an environment of diversity, equity, inclusion, and identity inquiry, while promoting the increased diversification of our program.

METHODS: To develop this experience, a task force of faculty and residents was created. After an initial needs assessment, we proposed four core targets that focus on education, support, outreach, and study. We followed Kern's 6 step approach to curriculum development to support our four targets (table 1). We used descriptive statistics to analyze perceptions of usefulness and application of concepts highlighted in the curriculum, as well as to analyze match statistics, focusing on both interview offers and completed interviews by under-represented minority applicants.

RESULTS: We obtained mid-implementation survey results from 32 residents at 6 months. Respondents reported improvements in culturally competent care in all areas such as LGBTQ terminology, health literacy, identity, and medical interpreter use, with 75-100% of residents agreeing they have gained skills. 72% of residents agree the implementation of the DE&I curriculum has changed how they approach patient encounters. 81% of residents agree they feel better equipped to answer questions about diversity, equity and inclusion when asked by applicants. 78% of residents agree they feel more open to having their own views challenged. Regarding recruitment, we found an increase in the number of Black/African-American applicants who completed interviews for entrance into our pediatric residency program, from 56% of applicants in 2020 to 92.9% of applicants in 2021.

CONCLUSIONS: Our four-target curriculum has proven effective in helping to prepare residents for the challenges that arise in caring for patients of diverse backgrounds. The results of this survey provide information on further expansion and direction for the curriculum. Additionally, a targeted approach to interview completion by URM applicants yields significant results.

DEVELOPING AND IMPLEMENTING A PROGRAM FOR UNDERREPRESENTED IN MEDICINE STUDENTS, MERCY+ME

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Introduction: Recent recognition of the effects of systemic racism emphasized the need to incorporate diversity, equity, and inclusion (DEI) into medical academia programs. Medical institutions have begun taking action to increase diversity and inclusion within training programs with historically limited representation of diverse students. We created a clinical elective for 4th year underrepresented in medicine (UIM) medical students to gain exposure to residency training at a free-standing, midwestern, children's hospital. We aimed to describe the rotation's impact on medical students and the potential for increased UIM matching at our residency program.

Objective: To determine if a clinical elective for UIM medical students effectively increased the diversity in a pediatric residency at the same institution and the personal impact of elective participation.

Methods: The Children's Mercy Kansas City (CMKC) UIM Elective, Mercy+ME, was created in 2018. Prior to implementing Mercy+ME, UIM trainees comprised 8% of the 2017-2018 residency and fellowship programs with 2% and 5% identified as African American, respectively. Up to four medical students were selected annually to participate in a month-long elective. Participants received a stipend for travel, lodging, and meals. They rotated in a pediatric specialty of their choosing and received exposure to other clinical units i.e., Genome Center, Severe Asthma Care Team, Spanish language coaching clinic, and a pediatric practice housed within a Head Start program. Students received mentorship from UIM faculty and residents and met with the residency director. Students evaluated their experiences during the elective to allow for future improvements. The authors calculated the frequency of elective participants matching into the CMKC residency program and used qualitative data to assess the personal impact of elective participation on UIM medical students.

Results: Two out of seven medical students (28%) participating in the elective matched into the residency program increasing the number of UIM learners by 3%. A participant was selected to serve as Chief Resident during the 2022-2023 academic year. A common theme identified by Mercy+ME participants included the elective demonstrating the commitment of the institution and Graduate Medical Education to support DEI initiatives.

Conclusion: A UIM medical student elective effectively increased the diversity within a residency program. Additional interventions and strategies are needed for meaningful and sustained improvement in diversifying pediatric training.

RESIDENT ROTATIONS AND IMPACT ON IN-TRAINING EXAM PERFORMANCE

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Background: The American Board of Pediatrics offers an annual In-Training Examination (ITE) to pediatric trainees to assess general pediatric knowledge, monitor yearly progress, and compare scores nationally. At our institution, we use the ITE scores to identify trainees who need additional board preparation. Residents select the date of the exam based on their preference and availability. While the relationship between ITE scores and academic curricula and interventions has been studied, there is a paucity of literature on the impact of external factors on ITE scores. Research suggests that sleep deprivation prior to the emergency medicine ITE impacts scores. However, in a pediatric residency program with variable rotations, their impact on exam performance has not been described.

Objectives: The study aims to evaluate the effect of resident rotation on in-training score for different training years.

Methods: 2021 American Board of Pediatrics ITE scores for all categorical pediatric residents able to take the exam were recorded along with the level of training and assigned rotation at the time of the exam. Residents were then categorized based on their assigned rotation. Group “A” rotations were either inpatient 24-hour call, emergency center, or night float rotations. Group “B” rotations were outpatient or elective rotations. A two-way ANOVA was performed to analyze the effect of the rotation and resident year on ITE scores.

Results: A total of 36 PGY1 residents, 34 PGY2 residents, and 35 PGY3 residents were analyzed. Twenty-one (58%) PGY1 residents, thirteen (38 %) of PGY2 residents, and four (11 %) of PGY3 residents were on Group A rotations, reflective of the distribution of rotations by year. There was not a significant interaction between rotation and resident year (p=0.43). There was no significant difference in board scores between group A and B rotations (p=0.77). There was a significant difference in board scores between training years (p =.001).

Conclusions: In this single center experience, there was no significant difference found in board scores based on resident rotation assignment. As expected, the only difference in mean scores was found between training years with a trend for scores to increase as residents progressed through training (Figure 1). Given the prior data highlighting the effects of sleep deprivation and exam performance, future studies could focus on the relationship between specific shifts and test performance. This would aid residency programs in correctly identifying residents at-risk for poor performance.

IMPACT OF A SCHOLARLY CONCENTRATION PROGRAM ON RESIDENTS’ SCHOLARLY OUTPUT, POST-RESIDENCY RESEARCH INVOLVEMENT, AND CAREER DEVELOPMENT

Rasika Behl, MPH; Clea Sarnquist, DrPH, MPH; Rebecca Blankenburg, MD, MPH; Carrie Rassbach, MD, MA(Ed), Stanford University School of Medicine

Objective: Evaluate the impact of a residency Scholarly Concentrations (SC) Program on career overall, understanding of academic medicine, and scholarly output during and after residency.

Methods: The full Stanford Pediatric Residency Scholarly Concentration program began in 2012, with cohorts across six concentrations: basic science/translation research; clinical research; global health; community engagement and advocacy; quality and performance improvement; and medical education. We developed an anonymous electronic survey in Qualtrics, which was distributed in summer 2021 via email to all 175 pediatric resident alumni who graduated between 2015-2020. Data on scholarly and career outcomes was analyzed descriptively and with Chi square tests.

Results: 91 alumni (52%) participated in the survey; 31.5% (n=29) were fellows, 21.7% (n=20) were in non-university based clinical practice, and 34.8% (n=32) were in university-based clinical practice. Self-reported impact of the SC program was high, with 69.2% (n=63) reporting that the program impacted their careers to a moderate or great extent, and 69.2% (n=63) reporting the SC program changed their understanding of academic medicine. Participants who are currently fellows or in university-based clinical practice reported a greater impact of the SC program when compared to those who are currently non-university clinical (X^2 (6, n=86) = 14.5, p=.03). Reported research output was also high, with 58.2% (n=53) of participants having been an author and 40.0% (n=40) a first author on a manuscript for their SC project or other research undertaken during residency. Post-residency, 76.9% (n=70) of participants report taking part in at least one type of research.

Conclusions: The aim of the SC program is to provide research training and experiential learning through a tailored curriulum, individual mentoring, and completion of a scholarly project during residency. This program allows trainees to practice incorporating scholarship into clinical careers in order to improve children’s health broadly. Preliminary results indicate the SC program has had an overall positive impact on residents’ scholarly activities, outputs, and careers, and may have helped support nearly half of our responding graduates in publishing first-author manuscripts early in their careers.

PERCEPTIONS OF CENTRAL DRIVERS FOR IMPROVING WELL-BEING IN PEDIATRIC RESIDENTS

Mason Walgrave, MD; Michael Lugo, MD, Medical University of South Carolina; Brynn O'Laughlin, MD, Children's

National; Dave Mills, MD; Natasha Ruth, MD; Whitney Marvin, MD, Medical University of South Carolina

Background: Burnout rates among pediatric residents are rising, further compounded by the COVID-19 pandemic with mental health crises impacting both patients and providers. Mechanisms promoting trainee well-being are common in residency training, but the benefits are unclear given the novelty and variability of these interventions. Additionally, individual well-being may vary and depend on burnout contributors.

Objective: To explore pediatric resident perceptions, beliefs, and practices related to well-being curricular initiatives.

Design/Methods: Prior to their semi-annual performance evaluations with assigned Program Directors (APDs), pediatric residents at a tertiary care academic center completed open-ended survey questions about their personal approaches to wellness, ways the program could assist with wellness, and the preferred method of support when stressors arise at work. The initial coding scheme builds on the Mayo Framework of key drivers for physician burnout and engagement and responses were coded by two independent reviewers. Any differing codes were discussed, and a third reviewer was utilized to assign codes in these situations. Common themes were then abstracted for the largest drivers of reported well-being.

Results: Responses from 64 resident-APD meetings were recorded in total. Personal wellness was promoted via emotional wellness (39%) such as making time for fun activities and self care unrelated to physical activity, physical wellness (29%) which includes healthy eating, exercise, and sleep, followed by social wellness (12%). Regarding program-driven interventions, responses were more narrow as vocational health was most frequently cited (52%) with sub-themes such as workflow and time management as areas of suggested intervention. Finally, when facing stressful events at work, residents felt that emotional (42%) and social (39%) interventions were highly important with sub-themes of participating in structured debrief sessions, and other resident support groups as essential ways to promote resiliency.

Conclusions: Burnout remains a significant risk to trainees, and providing targeted interventions is critical to improving their wellness. While various factors contribute to residents' personal wellness, vocational interventions such as improving work flow and time management along with emotional and social interventions such as structured debriefing after stressful events are most preferred by residents.

VIRTUAL PEDIATRIC ADVISING AND MENTORING FOR PREMEDICAL AND MEDICAL STUDENTS THROUGH PEDIATRIC MENTORING CIRCLES FROM TOUR FOR DIVERSITY IN MEDICINE

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We need to rethink traditional strategies for providing outreach and support to attract diverse applicants for health professional schools as current measures haven't met the growing needs of patients. An AAMC study showed that increased exposure to mentorship helps minority students become more successful applicants to medical school. To strengthen the pediatrician pathway, Tour for Diversity in Medicine (T4D) adapted its model of academic advising, storytelling, hands-on experiences, and tiered mentorship to educate, inspire, and cultivate future pediatricians through virtual career-specific mentorship. The Pediatric Mentoring Circles (PMC) were developed to provide underrepresented minorities and students from disadvantaged backgrounds with increased exposure to pediatrics, including the knowledge and skills needed to successfully apply to medical school and residency. Recruitment was conducted through T4D social media channels. Two programs were run in 2020-2021 (pre-medical & medical). Faculty included six pediatrician mentors from T4D, representing various training levels with different specialty backgrounds. Monthly sessions were conducted for each group. Grant funding was from the AAP "Pediatric Pipeline Innovation Program" mechanism. Fifty-five pre-medical students were selected, representing 16 states. Thirty-four medical students were selected, representing 30 medical schools (M1-M3s, physician-scientist trainees) with 100% of students interested in pediatrics for residency. More than half had career goals that included patient care, advocacy, and academic medicine. Table 1 compares experiential points between groups. From pre-assessments, we know students have high levels of self-awareness of their own identity and biases. They take time to reflect on their own professional development and often utilize peer mentors. However, the premedical students were less likely to have found supportive mentors and learning environments, which they felt impacted their development. After participating, students felt overall more knowledgeable about the addressed topics but also felt more motivated and more comfortable in applying the knowledge gained. A common thread in conversations, though, was how students felt connected within the program. Overall, PMC combined virtual recruitment with virtual advising and mentorship working to increase the diversity of the future pediatric physician workforce. Students appreciated the virtual model as it gave them a network of peers and mentors across the country who may have shared backgrounds and lived experiences.

SENSE OF BELONGING AND PROFESSIONAL IDENTITY FORMATION AMONG COMBINED PEDIATRICS-ANESTHESIOLOGY RESIDENTS

Elena Brandford, MD, Stanford School of Medicine; Tammy Wang, MD, Stanford School of Medicine ; Clarice Nguyen, MD; Caroline Rassbach, MD, MA Ed, Stanford School of Medicine

Background: Although many applicants to combined residency programs in pediatrics and anesthesiology intend to practice both pediatric anesthesiology and pediatric critical care (PCC), few graduates pursue PCC fellowship due to length of training and lifestyle factors. While these factors are important, it is well established that a sense of social belonging is an important predictor of motivation and is protective against burnout. No prior studies have examined residents' experience or sense of belonging while enrolled in the combined program.

Objectives: To examine combined pediatrics-anesthesiology residents' sense of belonging within both specialties.

Methods: In 2020, all residents who matriculated into one of the seven combined programs nationally between 2015-2019, were invited to participate in an anonymous survey. Sense of belonging in anesthesiology and pediatrics was assessed using a 20-item scale adapted from Walton and Cohen's Sense of Social Fit Scale. Responses were analyzed to generate a mean sense of belonging score in anesthesiology and in pediatrics (1= least belonging, 5= most belonging) for each participant. Open-ended responses were qualitatively analyzed using an inductive coding process and thematic analysis.

Results: 32/36 residents completed the survey (89% response rate). 90% of respondents had a lower sense of belonging in pediatrics than anesthesiology (3.32 vs 3.94; p <0.001). Thematic analysis yielded five themes: 1) the team-based nature of pediatrics results in strong initial bonds, but feelings of isolation as training pathways diverge; 2) the individual nature of anesthesiology results in less social interaction within daily work, but easier transitions in and out of anesthesiology; 3) divergent training timelines for the combined residents result in feeling left behind socially and academically; 4) residents identify different professional and personal characteristics of pediatricians and anesthesiologists that impact their sense of belonging; and 5) the structure of the program results in experiences unique to combined residents.

Conclusions: Most residents in combined programs had a higher sense of belonging in anesthesiology than pediatrics. Divergent training timelines, increased social isolation in pediatrics, and a preference for the acuity, autonomy, and clinical practice of anesthesiology negatively impacted residents' sense of belonging in pediatrics. These findings can be used to develop targeted interventions to help improve combined residents' sense of belonging in pediatrics.

IMPLEMENTING AND EVALUATING A SENIOR RESIDENT LED NIGHTTIME URGENT EVENT SIMULATION CURRICULUM

Amanda Rogers, MD, Medical College of Wisconsin; Svetlana Melamed, MD, Medical College of Wisconsin ; Swathi Prasad, MD; Krista Parran, MD; Abigail Schuh, MD, Medical College of Wisconsin

Objective: To implement a senior resident led (SL) night urgent event simulation (UES) curriculum and assess its impact on the frequency of night education and intern confidence managing urgent clinical events.

Methods: We developed five UES toolkits, one to align with the clinical content of each of our acute care teams. The kits contained a clinical scenario addressing the initial management of an urgent event, relevant supplies, and a debriefing guide. We also developed a Residents as Educators workshop including debriefing best practices to prepare seniors to facilitate UES. We first implemented UES as faculty-led (FL) day sessions and then expanded to SL night UES with seniors facilitating UES for interns.

Interns completed the Satisfaction with Simulation Experience Survey (SSES) and reported confidence managing urgent events on a 5-point Likert scale pre/post UES. Qualitative data through an open-ended survey assessed lessons learned.

Descriptive statistics assessed education frequency. Mann Whitney U assessed for changes in intern confidence pre/post sessions and between SL and FL sessions. Qualitative content analysis identified themes for lessons learned.

Results: We conducted 46 day FL and 56 night SL UES sessions. There was an increase in frequency of night education following implementation of SL night UES. All sessions were well received (median 5/5 on SSES). No participants reported UES interfered with clinical duties. Intern confidence managing urgent events improved following UES (pre median 3, interquartile range (IQR) 2-3, post 4, IQR 4-5, $p<0.001$). Similar improvements were seen for both SL and FL UES with no difference in post confidence between the two groups (FL 4; SL 4, p=0.9).

Qualitative analysis identified three themes of lessons learned: communication skills, clinical knowledge, and resources/logistics. Lessons from FL sessions related to all three themes equally, while SL sessions focused primarily on clinical knowledge.

Conclusions: A SL night UES curriculum is a feasible method to increase night education and is associated with improved intern confidence managing urgent events. Next steps include assessing for change in senior facilitators' confidence managing urgent events and resident urgent event management in the clinical environment.

IMPROVING PEDIATRIC TRAINEES' SELF-EFFICACY IN CARING FOR YOUTH AT RISK FOR SUICIDE THROUGH TRAINING USING VIRTUAL SIMULATION WITH STANDARDIZED PATIENTS

Alexandra Huttle, MD, New York Presbyterian Hospital (Cornell Campus); Cori Green, MD, MS; Linda M. Gerber, PhD, NYP-Weill Cornell Medicine

Objectives: 1) To assess pediatric residents' experiences, attitudes, practices, and self-efficacy in identifying and managing suicide risk 2) Pilot an evidence-based curriculum on suicide prevention incorporating didactic and virtual simulation with standardized patients for improved self-efficacy. Methods: A web-based survey was sent to pediatric residents at one training program to assess prior experiences, attitudes (perceived responsibility in identifying and managing suicide risk), and frequency of assessing for suicide risk, stratifying and managing suicide risk, and developing a safety plan. Self-efficacy of these specific skills was assessed before and after participation in the suicide prevention training session (highly ineffective=1 to highly effective=6). Data analysis included descriptive statistics along with post-hoc pairwise Wilcoxon signed-rank tests to assess changes in self-efficacy. Results: 55% (n = 33) completed the baseline survey. Over 95% agreed suicide is preventable and it is the responsibility of pediatricians to identify and manage suicide risk. 85% were interested in receiving more training on suicide prevention. 79% reported screening for suicide using verbal inquiry; only 6% using suicide-specific screening tools. The multi-modal curriculum was piloted in 24% (n = 8) of trainees. The immediate post-survey demonstrated improved self-efficacy in 5 of the specific skills assessed (Table 1). Conclusions: Self-reported practices suggest missed opportunities to identify those with suicide risk. Pilot data suggests improved self-efficacy following didactic with virtual simulation. An improved curriculum based on respondents feedback will become part of the 2nd year simulation program and changes in practices will be assessed over time.

IMPLEMENTATION OF A FLEXIBLE COMBINED RESIDENCY AND FELLOWSHIP TRACK FOR PEDIATRIC INVESTIGATOR DEVELOPMENT

Andrew Nowalk, MD, PhD; Jacqueline Ho, MD; Claire McCorkle, MA, UPMC Childrens Hospital of Pittsburgh

Title: Implementation of a Flexible Combined Residency and Fellowship Track for Pediatric Investigator Development

Background: Curricula for physician scientist development are not standardized in pediatric residency and fellowship, despite the dire need for pediatric investigators. We designed our Pediatric Scientist Development Program (PedSDP) based on national models to improve recruitment, training and retention of pediatric investigators using a combined residency and fellowship track framework.

Objective: Our primary objective was the development of an integrated six-year program, spanning residency and fellowship, for development and retention of successful pediatric physician scientists.

Methods: We reviewed existing pediatric residency tracks for scientist development. An integrated six-year program was constructed using the non-standard American Board of Pediatric pathways (Accelerated and Integrated Research Pathways) and individual components modeled on programs reviewed from other residencies. A steering committee comprised of departmental leadership provided support for curriculum development and acceptance of candidates into fellowship at residency entry, a key obstacle. We implemented a didactic curriculum and a six-year leadership development cycle targeted for knowledge, skills and attitudes around investigator training. (See Figure for overall design)

Results: From 2015-2021, the PedSDP recruited 20 residents (50% female, with 65% MD/PhD and 35% MD). The majority (90%) continued in or finished the program. Milestones were above peers for all years of training, while scholarship was increased (average 1 publication per year compared to 0.2 for categorical). Residents have pursued diverse fellowships (13 divisions among 18 trainees). Funding rate for fellowship (100%) was higher than non-PedSDP fellows (30%), including two AMSPDC PSDP awards. We retained 4/5 graduates (80%) in physician scientist positions in the Department.

Conclusions: We successfully implemented a PedSDP which increased both MD PhD recruitment and provided opportunity for MD residents to pursue research careers. We identified improved strategies for recruitment (a dedicated ERAS track) but continue to struggle to identify and attract MD/DO only applicants interested in physician-scientist careers. Retention as research faculty thus far is excellent. Combined tracks for scientist training may be a strategy to address the declining pediatric investigator workforce.

URL https://www.pediatrics.pitt.edu/education/residencies/pediatric-scientist-development-program

DEMOGRAPHIC CHARACTERISTICS OF PATIENTS/FAMILIES RECEIVING AGGRESSION PREVENTION TEAM CONSULTS IN A PEDIATRIC HOSPITAL

Angela Amaniampong, DO; Kristin Fauntleroy, MD; Katie Krause, MD, Indiana University School of Medicine; Rachel Peterson, MD, Riley Hospital for Children at Indiana University Health; Audrey Todd, MS3, Indiana University School of Medicine

Background: Incidences of aggression from patients towards healthcare workers are unfortunately frequent, even in pediatric hospitals. In response, hospitals in the U.S. have increased the presence of security. Aggression Prevention Teams (APTs), a potential mitigation tool for patient aggression toward healthcare providers, have been widely used for patients or families displaying aggressive behavior. APTs vary in structure and function by institution and may include social workers, hospital police officers, nurses, and medical providers. The goal of these teams is to improve workplace safety. However, studies have shown that police exposures are associated with poor health outcomes for Black youth. Racial disparities in health outcomes and healthcare delivery are well documented in literature, and contribute to inequities across the U.S. healthcare system. It is important to examine whether utilization of APTs is equitable across patient groups.

Objective: The intent of this study was to determine whether demographics for a patient admitted to a pediatric hospital resulted in increased rates of APT consults when compared with the general population admitted to the hospital.

Design: We conducted an IRB approved retrospective chart review of all APT consults at Riley Hospital for Children in Indianapolis, Indiana between January 1, 2018 and December 31, 2020. Patient medical record numbers for APT consults were obtained from hospital police records then used to perform chart analysis via the electronic medical record. Patients' race and ethnicity were self-reported upon registration, then verified by chart review. Primary payor from the hospital encounter was obtained by chart review.

Results: APT consults for patients, parents, or visitors were 2.36 times more likely when the patient was Black/African American, and 1.99 times more likely when the patient had Medicaid listed as their primary payor. APT consults for Black/African American patients with Medicaid were 1.80 times more likely when compared with White/Caucasian patients with Medicaid insurance.

Conclusion: Hospitals take the health and safety of their patients and team members very seriously, hence many hospitals have implemented APTs to reduce workplace violence. This study has identified that APT consults in one pediatric hospital occur more often for patients, families, and visitors who are Black and have Medicaid insurance. Understanding the degree of impact APTs have on our patients is vital to optimizing greater health equity by identifying and eliminating further inequities.

AS X+Y SCHEDULING EXPANDS, RESIDENT PERCEPTIONS REMAIN HIGH

Joanna Lewis, MD, Advocate Children's Hospital - Park Ridge; Ross Myers, MD, UH Rainbow Babies & Children's Hospital; Sara Multerer, MD, Norton Children's Hospital; Mary Beth Wroblewski, MD, University of Toledo; Joni Hemond, MD, University of Utah; Alan Chin, MD, UCLA Mattel Children's Hospital; Andrew Yu, MD, UT Southwestern Medical Center; Lynn Thoreson, DO, Dell Medical School, The University of Texas at Austin; Heather Howell, MD, NYU Langone Health

Introduction: In 2018, an initial cohort of five residency programs began X+Y scheduling through the AIRE program of the ACGME. In 2019, six additional programs joined as a second cohort, and in 2020, seven more programs began scheduling with this model. The now 18 programs, with over 900 residents, have all completed at least one year of X+Y and can, therefore, enhance the previously reported knowledge about resident perceptions.

Method: All programs distributed resident perception surveys pre-implementation and at 12-months post-implementation. Surveys were sent using either RedCAP or Survey Monkey and were anonymous. Results were analyzed using z tests for proportion differences on Microsoft Excel.

Results: Residents of PGY2 year or higher were sent the pre-survey at the beginning of the academic year with an 87% response rate (686/787). At 12-months, all residents in all programs were surveyed, and resulted in a 57% response rate (627/1082). In all areas surveyed, perceived improvements from a change to X+Y scheduling were statistically significant ($p<0.01$). Response choices of strongly agree/agree were evaluated together. For outpatient clinic experience, perceived continuity with patients improved from 32% to 57% reported ability to see patients for repeat visits improved from 20% to 48% and satisfaction with clinic schedules improved from 21% to 57%. For inpatient rotations, perceptions that continuity clinic impacts workflow of a rotation decreased from 84% to 18% and that continuity clinic schedules affect patient handoffs decreased from 76% to 14%. In analysis of time for teaching, there was a perceived increase in time for teaching outside of rounds from 28% to 64% and time for clinic teaching from 29% to 65%.

Discussion: With the addition of a third cohort of residency programs, X+Y scheduling continues to be perceived as overwhelmingly favorable to residents in both the inpatient and outpatient settings. This has now been studied in large, medium and small programs and in all regional areas of the country. This method continues to show positive perceptions among residents regarding workflow and time for teaching and has the potential to be widely adapted.

ADAPTING TO A DECREASE IN NICU RESIDENT ROTATION DURATION WITH AN ABP-TOPIC SPECIFIC SIMULATION CURRICULUM

Aaron Germain, MD; Ashley Bonham, C-TAGME; Joana Machry, MD, Johns Hopkins All Children's Hospital

Background: Pediatric residency training has evolved to include less cumulative neonatal intensive care unit (NICU) rotation experience. Simulation has emerged as an innovative approach to many aspects of medical education. In response to changes in the structure of our pediatric residency's NICU rotation, including reduction of the duration of the first-year resident's rotation to three weeks, asynchronous with the second-year resident's rotation of six weeks, we designed a cyclical topic-based simulation curriculum to meet learning objectives of both the intern and senior resident learners.

Objective: Adapt to a decrease in pediatric residency NICU rotation duration with an ABP-topic specific rotation simulation curriculum and assess.

Methods: We piloted a resident NICU simulation course designed to complement a comprehensive curriculum based on the ABP topic specifications for Fetal and Neonatal Care. The simulation curriculum was adapted to the asynchronous schedules of first- and second-year residents by incorporating two 3-week cycles of weekly simulations within the 6-week course. Each cycle begins with a delivery room-based resuscitation, followed by two NICU-based resuscitation/stabilization scenarios. Emphasis was placed on team-based skills including coordination of technical skills and effective communication. Resident learners voluntarily completed an anonymous pre- and post-simulation 5-point Likert scale assessment distributed electronically via Qualtrics. Assessments were analyzed with two-sample t-Tests.

Results: 54 simulation scenario learning experiences were completed by 12 residents (6 first-year and 6 second-year residents; Figure 1 and Table 1). All residents perceived improved understanding of the diagnoses/pathologies following participation in the simulation series ($p<0.0001$). All residents perceived greater confidence in performing team-based resuscitation/stabilization skills following participation in the simulation series ($p<0.0001$). There was no statistically significant difference in first-year versus second-year resident assessments.

Conclusion: Participation in a clinical simulation scenario curriculum is useful to enhance adult learner engagement in topic-specific learning as part of a comprehensive pediatric residency NICU rotation curriculum. We present an adapted model for a pediatric residency NICU rotation simulation curriculum designed to address the needs of both the inexperienced and senior learners, variations of which may be generalized to other programs.

THE ROUTINE INCORPORATION OF HEALTH EQUITY, DIVERSITY, AND INCLUSIVITY TOPICS IN A PEDIATRIC MULTIDISCIPLINARY, CASE-CONFERENCE SERIES

Kristina Bianco, MD; Alyssa Churchill, MD; Timothy Brandt, MD; Stephen Barone, MD, Cohen Children's Medical Center

Background: The development of clinical competence in the management and care of a culturally and socioeconomically diverse patient population is important to the professional development of pediatric residents. Prior to our modification of the guidelines for our clinical case conference series, a cross-cultural care survey of pediatric residents at our institution revealed that approximately two-thirds felt unprepared to deliver cross-cultural care because of a lack of experience and formalized education. Addressing this lack of formal education on health care disparities can have positive impacts on patient experiences and clinical outcomes.
Objective: To incorporate Health Equity, Diversity, Inclusivity (HEDI) topics in a case-conference series to increase pediatric residents' knowledge.
Methods: Thirty-five pediatric residents each lead a multidisciplinary, case conference during their PGY2 year. Traditionally, residents present a thought-provoking clinical case in conjunction with faculty from the appropriate clinical departments. In July 2021, in addition to the presentation of the clinical aspects of the case, residents were required to discuss HEDI related issues germane to the case. A mixed-methods approach was used to evaluate the innovation. The analysis included a Likert scale to assess the awareness, knowledge, and comfort of the residents with HEDI topics post intervention, as well as an analysis of thematic data to determine the most common HEDI themes that were discussed during the conferences.
Results: In the first six months of implementation of the new guideline, the most common themes included race/ethnicity (n=7), socioeconomic status (n=6), health insurance/cost (n=5), language barriers (n=3), global and immigrant health (n=2), health literacy (n=2), and LGBTQ (n=2), Table 1. Pediatric residents were queried on whether the addition of HEDI topics to the case conference series helped improve their awareness, comfort, and knowledge of health equity principles. Of the twenty-nine respondents, 69% of residents strongly or somewhat agreed that the addition of HEDI topics was beneficial to their learning.
Conclusions: The inclusion of HEDI topics into a multidisciplinary case conference series is a feasible way to improve awareness, knowledge, and comfort about health equity topics for pediatric residents. This can be easily adaptable to improve HEDI training across other institutions and pediatric residency programs.

DEVELOPING A HEALTH EQUITY SCHOLARS PROGRAM FOR PEDIATRIC RESIDENTS IN THE HEART OF THE CIVIL RIGHTS MOVEMENT

Chrystal Rutledge, MD; Morissa Ladinsky, MD; Tina Simpson, MD, MPH, University of Alabama at Birmingham

BACKGROUND: Alabama ranks 47th nationally in overall child health. Critical determinants of children's health and well-being are rooted in socioecological and behavioral factors that are beyond the typical purview of the health care system. To adequately address health, pediatricians must unpack these through the lens of child health equity.

OBJECTIVES: To develop a longitudinal and experiential health equity curriculum and evaluate resident knowledge, attitudes and perceived competencies related to health equity topics.

METHODS: In March 2021, the UAB Pediatrics Residency Program launched the Health Equity Scholars (HES) Program as a 3-year longitudinal curriculum for pediatric and medicine-pediatric residents. Residents, including recently matched interns, were invited to apply by direct email and class announcements. A holistic evaluation process was utilized to select scholars. Throughout the year, monthly two-hour didactic and experiential learning opportunities facilitated by trained faculty are held. Additionally, scholars experience two weekend long community-based immersive experiences across Alabama per year. These experiences enhance resident insight into the historical antecedents behind today's pediatric health inequities. They simultaneously derive insight into systems-based opportunities to improve health equity. Scholars also participate in a health equity quality improvement project. After each session, an outcome evaluation is completed by participating residents to assess knowledge, attitudes, and perceived competencies related to health equity topics. Ongoing process evaluation is being conducted to assess the effectiveness of program activities.

RESULTS: Eight pediatrics and medicine-pediatrics residents were chosen to participate in the program. Residents have participated in 1 weekend-long immersive experience and 2 didactic sessions thus far. Evaluations of the immersive experience were completed by all residents in attendance. All residents rated the immersive experiences positively (excellent, 71%; very good, 29%). Residents commented specifically on the experience being "eye-opening" and "impactful". Evaluations for the didactic sessions are underway.

CONCLUSION: Preliminary findings suggest the HES Program may be effective in improving resident insight into health inequities. Ongoing assessments and evaluations are needed to determine the impact of the program on resident knowledge, attitudes and competencies in addressing the socioecological determinants of health, thus improving the health and well-being of children.

IMPROVING RESIDENT PREPAREDNESS FOR ROTATIONS IN THE PEDIATRIC INTENSIVE CARE UNIT: A PEDIATRIC CRITICAL CARE FELLOW-DRIVEN QUALITY IMPROVEMENT INITIATIVE TO OPTIMIZE ORIENTATION

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Results

We found that residents felt less nervous about the rotation; in response to "I am nervous for my upcoming PICU rotation", 25% of residents strongly agreed on the pre survey decreasing to only 11% strongly agreed on the post survey. There was an increase in understanding the expectations; in response to "I understand the expectations of me as a resident in the PICU", 41% of residents disagreed on the pre survey, while 0% disagreed on the post survey. Residents reported an increase in feeling adequately prepared; in the pre survey, 33% of residents disagreed, only 0% disagreed on the post survey, achieving our goal of 80%. In the post-orientation survey, 83% of residents reported the orientation as helpful. Feedback from the post orientation survey suggested including high-yield PICU basics into the orientation and to change the timing, informing iterations of our PDSA cycles.

Conclusions

We have found that pediatric resident comfort before starting their PICU rotation can be improved via group interactive session at the beginning of the year and via monthly fellow-led orientation virtual sessions. We next hope to determine in fellow-led simulations for residents will augment this orientation experience.

Funding

To improve pediatric resident self-reported preparedness to 80% for their PICU rotation via a novel orientation curriculum by December 2021.

PEDIATRIC RESIDENT CONFIDENCE IN THE DE-ESCALATION OF AGITATED PATIENTS IS ENHANCED BY TARGETED EDUCATIONAL INTERVENTIONS

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Objective: To utilize a multimodal teaching approach to increase pediatric residents' confidence in the de-escalation of agitated inpatients, and to observe its effects on burnout and fulfillment.

Methods: An educational intervention was designed in a flipped-classroom model composed of educational videos, in-person, case-based discussions, and written resources. It was offered to all pediatric residents across training levels with voluntary participation. The primary outcome was assessed using the Clinical Confidence in Coping with Patient Aggression (CCPAI) tool. Secondary outcomes, burnout and fulfillment, were both assessed by the Professional Fulfillment Index (PFI). Measurements were collected via SurveyMonkey™, an online survey platform, in November 2020 ("baseline"), March 2021 ("midpoint"), and June 2021 ("endpoint"). Statistical analyses were conducted using SAS 9.4 (SAS Institute Inc., Cary, NC, USA). Statistical significance was defined as $p<0.05$.

Results: Mean scores on the CCPAI tool increased over the study period (16.7 points, $p<0.0001$). Participation in de-escalation training was associated with a significant increase in confidence on the CCPAI tool independent of gender, time, and level of training. PGY1 learners at endpoint were significantly more confident in the management of agitated patients than PGY2 learners at baseline (10.6 points, $p=0.03$). Burnout (score ≥ 1.33) increased with time (0.66 points, $p<0.0001$) while fulfillment (score ≥ 3) decreased (-0.3 points, $p=0.01$). However, participation in de-escalation training was associated with a decrease in burnout (-0.62, $p<0.0001$)

independent of time, though there was no impact on fulfillment. The PGY1 learners at endpoint were significantly less fulfilled than PGY2 learners at baseline (-0.51, p=0.05), and the difference in burnout between the two groups was negligible (0.09, p=0.67) (Table 1).

Conclusions: Our study demonstrated that a multimodal educational intervention focused on de-escalation training significantly improved pediatric residents' confidence when managing agitated or aggressive patients. Lower burnout scores among those who participated in this educational intervention suggest that engagement with the curriculum may help to mitigate resident burnout, most likely through an increased sense of agency in challenging patient encounters.

ANTI-OPPRESSIVE WHILE MINIMIZING HARM: UTILIZING PILOT DATA TO INCORPORATE ANTIRACIST CARE AND TOPICS OF DIVERSITY, EQUITY AND INCLUSION INTO CLINICAL REASONING SESSIONS

Melanie Baskind, MD; Erica Evans, MD; April Edwell, MD; Sabrina Fernandez, MD; Duncan Henry, MD; Jamila Nightingale, MSW; Paul Irving, (n/a); Dannielle McBride, MD; Bianca Argueza, MD, UCSF

Background: In 2020-2021, a pilot study was conducted within the UCSF Pediatric Residency Program to incorporate anti-racism content into 4 clinical reasoning (CR) sessions. In these sessions one breakout room per case focused on taking an anti-racist approach to prevent or mitigate inequity. Post-session survey data was collected and focus groups (grouped by race) were held to evaluate the pilot.

Objective: To utilize resident feedback to intentionally and effectively incorporate antiracist care and topics of diversity, equity and inclusion (DEI) into the CR curriculum.

Methods: A series of meetings were held to review the pilot data and discuss how to incorporate that feedback into future CR sessions. Major themes elicited from the survey (n=39, 46% response rate) and focus groups (n=2) included lack of time to adequately tackle complex issues, more rich discussion and experience for those assigned to the pilot breakout room, value of specific learning points over large themes, tax on racial minority learners to speak up and teach, value of trained facilitators and concern for harm given sensitive topics.

Results: Based on resident feedback, a new model for incorporating DEI/antiracist content into CR was devised with the goal of having this content integrated into every CR session and all participants engaging in the discussion. We engaged DEI catalysts, faculty trained in having difficult conversations, to be available to the chief residents for consultation on content related to cases. Additionally, the scope of the content was intentionally narrowed to fewer and more specific learning points per case. Beginning November 2021, we incorporated DEI/antiracist content in 50% of our CR sessions. Barriers to implementation include access to a DEI catalyst, adequate time for preparation and ongoing concerns for causing harm.

Conclusion: We used resident feedback from a pilot study to redesign how DEI/antiracist content is incorporated into our CR curriculum. The new format integrates this content more routinely for more residents with specific learning points. Ongoing evaluation of this curriculum is planned. Minimizing harm continues to be a high priority concern.

COVID REDEPLOYMENT UNMASKED ADDITIONAL GAPS IN PEDIATRIC PALLIATIVE CARE CURRICULUM

Alyssa Churchill, MD; Kristina Bianco, MD; Timothy Brandt, MD; Errica Capossela, DO; Seema Amin, DO; Stephen Barone, MD, Cohen Children's Medical Center

Background: Pediatric Palliative Care (PPC) is a relatively new field formally established in the early 2000s. Pediatric training programs have subsequently incorporated palliative care curricula to a variable degree. At the peak of the COVID pandemic, pediatric residents were called upon to care for adult patients in a large health system in NY. Debriefings uncovered residents' lack of experience and comfort in goals of care and end-of-life discussions. Residents requested enhanced training in PPC topics.

Objective: To develop a longitudinal PPC curriculum with didactics and simulated encounters for pediatric residents to improve knowledge and comfort in PPC.

Methods: This project was awarded the APPD NY-NJ Region Harvey Aiges MD Memorial Trainee Investigator Award 2021. The pediatric residents completed a needs-assessment with a validated survey, the Pediatric Palliative Care Questionnaire (PPCQ) (Brock 2015), to evaluate their comfort and knowledge of PPC. Based on the responses, a curriculum with 6 main themes was developed: (1) an introduction to palliative care, (2) delivering bad news, (3) discussing goals of care, (4) end of life care: symptoms and stages, (5) cultural and religious differences at the end of life, and (6) bereavement. Each session includes a didactic and case-based simulation. Self-assessment surveys are completed before and after each session and the PPCQ will be repeated at the completion of the curriculum.

Results: Fifty-three of 101 residents completed the needs-assessment. The PPCQ uses a 5-point Likert scale. In regard to end-of-life discussions, 49% of residents were somewhat or very uncomfortable in participating in end-of-life discussions while 82% were somewhat or very uncomfortable leading them. When asked whether they had received adequate training to lead palliative discussions, 81% strongly or somewhat disagreed. Most residents (67%) participated in only 1-5 palliative care discussions during residency and 94% did not lead any discussions. Ninety-eight percent were interested in learning more about PPC. Results from the pre- and post-surveys thus far saw statistically significant increases in comfort explaining what palliative care is to a family and in knowledge (See Table 1).

Conclusions: The COVID pandemic revealed a need for increased education in PPC for pediatric residents. A longitudinal curriculum of didactics and case-based simulations is a feasible way to improve resident knowledge and comfort in PPC. Further research is needed to evaluate how residents will incorporate these new skills into practice.

PROMOTING HEALTH EQUITY THROUGH STRUCTURAL COMPETENCY: AN INNOVATIVE PEDIATRIC RESIDENCY CURRICULUM

Katie Conover, MD; Jennifer Laws, MD; Christopher Ekker, MD; Adriana Bialostozky, MD; Tara Minor, MAT, MA; Whitney Browning, MD, Vanderbilt University Medical Center

Objectives:

To implement an innovative resident conference-based curriculum focused on health systems and health equity and to test the knowledge and comfort level of residents on topics covered in this curriculum.

Methods:

This novel curriculum was created using the Kern Model of Curriculum Development. Participants included pediatric, medicine-pediatric, pediatric neurology, and pediatric genetics residents (PGY1-PGY5) at a large academic center. Based on 13 gaps in knowledge identified by the needs assessment, a Health Equity Task Force, composed of residents and faculty, selected 13 curriculum topics covering 11 of the knowledge gaps.

Learning objectives were developed for each lecture. A 13-lecture series was planned and scheduled over an 12-month period (currently on going). A 36-item pre- and 6-month posttest were distributed to all residents. Test questions were on proposed objectives for the curriculum topics. Fifteen questions related to topics covered during the first 6 months of the curriculum (historical context of local race relations, healthcare systems, structural racism, health insurance structures, microaggressions training, healthcare models, and health needs of immigrant populations). Nine questions related to topics to be covered the following 6 months. The remaining 12 questions related to topics of health equity already included in other areas of the residency curriculum (9), or to be potentially integrated into future iterations (3).

Results:

Response rates were 55% (n= 63) for the pretest and 38% (n= 44) for the 6-month posttest. Statistically significant improvements ($p<0.05$) in both knowledge and comfort were noted for 12 of 15 (80%) questions representing 6 of 7 (86%) topics covered during the first 6 months of the lecture series. Improvement was also seen in 5 of 9 (55%) questions not yet covered by this lecture series, and 6 of the 9 (66%) already covered elsewhere in the residency curriculum.

Conclusion:

A novel curriculum focusing on structural competency and on the intersection between health equity and health systems covered 11 of 13 knowledge gaps identified in our needs assessment. After 6 months, improvements were noted in resident knowledge and comfort for 6 of 7 covered topics, highlighting the effectiveness of this curriculum. Improvements were also seen across topics not yet covered or covered elsewhere, suggesting that extrinsic factors likely play a role in closing these gaps. A 12-month posttest will be completed after the remainder of the topics are presented.

ADDRESSING BURNOUT: UT AUSTIN PEDIATRICS RESULTS FROM PARTICIPATION IN THE PEDIATRIC RESIDENT BURNOUT-RESILIENCE STUDY CONSORTIUM

Nalinda Charnsangavej, MD; Kartik Pillutla, MD; Robert Vezzetti, MD; Lynn Thoreson, DO, University of Texas at Austin Dell Medical School

In 2018, the University of Texas at Austin Dell Medical School Pediatric Residency program joined the Pediatric Resident Burnout-Resilience Study Consortium in collaboration with APPD LEARN to investigate the rates of burnout and institute methods to improve resilience amongst pediatric trainees at our institution.

Pediatric residents complete a brief yearly survey provided by the Consortium. Individual program data is provided to the program in addition to national averages. Utilizing results from our initial survey in 2018, our program instituted a number of changes to address burnout and build resilience. Changes included the implementation of an X+Y scheduling program in 2018 that includes time once per month for personal wellness and appointments, program distribution of mental health services and priority schedule changes to support appointment attendance, and utilization of The Center for Resiliency staff to teach resilience skills.

UT Austin survey responses ranged from 45-60% (all programs 55-62%) from 2018-2021. 41% of UT Austin residents self-reported burnout in 2018 compared to 22% in 2021 ($p=.02$) both lower than national rates of 54% and 42% in the same year. The lowest rate of burnout was reported in 2020, with a rate of 12%. By class in 2021, UT Austin interns report the highest rate of burnout at 33% (44% national) with third year residents reporting a rate of 9% (41% national).

Participation in the Consortium has helped residency program leadership track rates of burnout amongst residency staff over time. Although small numbers prevent local comparison by year of training, we are encouraged by the low percentage of burnout reported in senior level trainees in 2021. Given that our local data for burnout is significantly lower than national rates for 2021, we are encouraged that structural changes in the educational schedule, such as X+Y scheduling, as well as a focus on resilience skill building is reducing burnout amongst our trainees.

Annual data on resident burnout is an essential tool to monitor interventions and trainee progress in building resilience skills. Implementing a scheduling change that allows for scheduled personal time each month, prioritizing mental health and physician appointments in schedule requests, and utilizing experts to teach resilience skills has improved and maintained self-reported burnout among UT Austin pediatric trainees. Self-reported burnout remains below the national average even in the setting of the COVID-19 pandemic.

[STATE OF THE ONION]: THE MANY LAYERS OF PEDIATRIC MENTAL HEALTH TRAINING IN THE US, A NATIONAL NEEDS ASSESSMENT OF PEDIATRIC RESIDENCY PROGRAMS

Elizabeth M. Chawla, MD, Medstar Georgetown University Hospital; Sue Poynter, MD, MedEd, Cincinnati Children's Hospital; Ann Burke, MD, Wright State University/Dayton Children's; Keith Ponitz, MD, Rainbow Babies and Children's Hospital; Kenya McNeal-Trice, MD, University of North Carolina, Chapel Hill

BACKGROUND:

The need for pediatric mental health (MH) care in the US continues to rise, especially during the COVID-19 pandemic. Pediatric residency programs are struggling to provide adequate mental health training to graduate pediatric providers who will be prepared to meet this need.

METHODS:

METHODS:

The Mental and Behavioral Health Learning Community of the APPD conducted a national needs assessment via cross-sectional study of active member programs. An anonymous internet-based survey sent to program directors assessed current and needed resources for mental and behavioral health (MBH) training.

RESULTS:

Of 187 active programs, 55% completed the survey (n=103). Despite increased national discussion in recent years, still less than half (41%) of respondents rated themselves as knowledgeable about the General Pediatrics Mental Health Entrustable Professional Activity (EPA #9). The majority of programs (72%) have made changes to their MBH curriculum in the last 5 years, but more so due to increased patient MH needs (97%) rather than in response to the MBH EPA #9 (13.5%) or the AAP MH competencies (27%). Programs have created a variety of educational resources such as a child psychiatry block (70%), integrated MH clinics (52%), and longitudinal MH curriculums (25% currently have, 25% developing) in both inpatient and outpatient settings. Direct patient care is the most readily available educational experience, especially in the outpatient setting, with over 90% offering residents the opportunity to care for their own patients with MH concerns in continuity clinic. Although 64% of programs agree that 'a lack of experienced faculty' is a barrier to improving MBH training for residents, many programs are still using their own faculty for teaching. For example, of the 94% of programs that offer formal lectures, 10% use their own peds faculty, 34% use MH faculty, and 50% use a combination of both for lecturing. Most MH providers involved in teaching residents are psychiatrists (80%) rather than psychologists (55%) or other MH providers (47.6%).

CONCLUSION:

Despite the lack of current resources, pediatric residency programs are doing their best to meet the mental health training needs of residents in a variety of ways. Although residency programs are using the mental health workforce for teaching, psychiatrists are utilized more often than other MH providers suggesting an area to maximize current resources while we work to provide additional resources from the APPD.

PROGRAMMATIC INNOVATIONS IN MEDICAL EDUCATION: REAL-TIME MULTI-SOURCE EVALUATION COLLECTION

Farrah Cutia, M.Ed, Phoenix Children's Hospital; Vasudha Bhavaraju, MD; Jamie Librizzi, MD; Tressia Shaw, MD, Phoenix Childrens Hospital

Results

Intervention 1 resulted in only 10% of goal reached (3 of 30 forms received in 6 months). In the first 3 months, Intervention 2 has resulted in 20% of progress towards goal (6 of 30 forms received). This multisource feedback has been easily incorporated into semi-annual reviews.

Conclusions

Since intervention 1 was unsuccessful, we implemented a more direct strategy to solicit multisource feedback. Through creation of basic materials embedded with QR codes, we have been able to collect more responses from varied sources in a user-friendly, timely, anonymous, and contactless way. We anticipate that progress towards our goal will increase exponentially as QR code distribution becomes part of standard fellow workflow. Our next intervention will be to add the QR code to discharge paperwork to offer another chance to submit feedback.

Funding

To increase completion of multisource assessments from staff, nurses, patients, and families to ensure that 100% of the hospital medicine and palliative care fellows have at least 5 completed assessments over a 6-month time frame.

 

RECIPIENTS OF A LEARNER RESEARCH FUND AT A FREE-STANDING CHILDREN'S HOSPITAL

Edward Swing, PhD; Vasudha Bhavaraju, MD, Phoenix Children's Hospital; Kiley Vander Wyst, PhD, MPH, RD, Midwestern University; Brigham Willis, MD, MEd, University of California- Riverside

Background: Learners engage in research not only for career advancement, but often as a program requirement by accrediting agencies. Research by trainees requires dedicated support staff, equipment, and services. In free-standing hospitals with no primary university support, this can represent an unfunded mandate. We propose a possible solution to this challenge.

Objectives: To study the characteristics of the recipients of a Learner Research Fund (LRF) grant, a competitive internal award intended to offer rapid feedback and funding to support learner research projects.

Methods: The LRF is an internal grant to support residents, fellows, and psychology interns/post-docs pursuing research and to support program accreditation requirements at a large, free-standing children's hospital. The fund is supported by the institution's GME budget. A call for applications occurs every 2 months. Applications include a summary of background literature, study methods, goals, mentor letter of support, and budget. The LRF Council, made up of five staff physicians from varied hospital divisions, blindly reviews applications each cycle, provides feedback for applicants, and selects projects to fund. Approved projects are eligible for up to $15,000 each, with a total of $150,000 available each year. Applicants whose projects are not funded are encouraged to submit revised proposals.

Results: Between 2018 and 2021, 75 applications were submitted. Of these, 29 projects were funded. Common reasons for unfunded projects include lack of feasibility given constraints of learner time or available subjects, inadequate learner involvement/benefits, or requested support already available through an existing source. Award recipients included 8 residents, 17 fellows, 1 psychology intern, 2 neurological PhD post-docs, and 1 non-clinical PhD post-doc. These encompassed 13 clinical research studies, 13 basic science/translational studies, and 3 other studies. The average approved project budget was $11,572, with an average disbursed amount of $6,568 per project to date. These projects have been presented at local, national, and international conferences, and published in peer reviewed journals.

Conclusions: The LRF provides an efficient mechanism to support scholarly activity by GME learners and to offer an introduction to the grant process. The rolling submission process and small grant awards provide rapid,

focused support to enable projects that would not otherwise be possible. This offers a solution to some challenges of conducting learner research at free-standing hospitals.

Poster Session 2: Wednesday, May 18, 4:30 - 6:00pm Pacific

COVID DISRUPTION: THE USE OF CORE ENTRUSTABLE PROFESSIONAL ACTIVITIES (EPAS) TO SHAPE PEDIATRIC INTERN ORIENTATION IN THE COVID ERA.

Stephen Barone, MD; Stacy McGeechan, MD; Roya Samuels, MD, Cohen Children's Medical Center

BACKGROUND: The previous two years of medical school for interns who entered residency in 2021 were a challenge. Their level of preparedness for residency was hampered by the COVID pandemic. The need to understand and respond to this disruption in students' readiness for residency was crucial for a successful transition.

OBJECTIVES: (1) Ascertain which of the core EPAs for entering residency interns self-identified as a challenge (2) Create a series of workshops to address these perceived shortfalls (3) Subsequently measure the interns reported change in knowledge, skills, and attitudes.

METHODS: Three months prior to orientation, 35 interns were asked which of the 13 core EPAs would they like additional training prior to residency via a mixed-methods survey. Based on these results, a series of 4 two-hour in-person, small group workshops were held during orientation, entitled: 'Order Writing' (OW), 'Emergency Scenarios 1 (ES)', 'Emergency Scenarios 2', and 'Procedures' (P). The order-writing workshop included a hands-on, resident-supervised, practice session entering clinical orders in the EMR. The two emergency scenarios workshops were case discussions covering: asthma, anaphylaxis, arrhythmia, bronchiolitis, hypotension, sepsis, seizures, and newborn emergencies. The procedure workshop included stations on airway management, intravascular access, lumber puncture, and suturing.

RESULTS: The EPAs the interns identified included: EPA 4 (enter & discuss orders) [97%], EPA 10 (recognize a patient requiring emergent care) [82%] and EPA 12 (procedures) [74%]. The most common qualitative themes noted included: (1) lack of clinical exposure (69%) (2) efficiency (15%) and (3) procedural skills (15%). Sessions were evaluated via a 5-point Likert scale. The interns reported the OW training as improving their knowledge (K) skills (S), and confidence (C) in the subject at 91%, 81% and 81%, respectively. The ES training was reported as improving K, S, C at 97%, 100% and 100%, respectively. The procedure workshop was reported as improving K, S, C at 97%, 97% and 91%, respectively.

DISCUSSION: A series of 4 workshops inspired by pediatric interns' self-identified deficiencies in core EPAs during the COVID era improved K, S, C during an extended orientation. Although this study is based on a single institution experience, our interns came from a diverse group of schools. Both UME and GME educators should consider the enhancement of non-traditional preparation for residency in response to inevitable disruptions which continue to occur secondary to the COVID pandemic

A PEDIATRIC RESIDENT-FOCUSED HEMATOLOGY/ONCOLOGY CURRICULUM

Perry Morocco, MD; H. Barrett Fromme, MD, MHPE; Wendy Darlington, MD, MAPP, University of Chicago

Background: Empowering resident physicians with the knowledge to care for ill patients is essential to prevent delays in vital treatment. At the University of Chicago Comer Children's Hospital, the inpatient pediatric hematology-oncology (PHO) service lacked a standardized resident curriculum, making the education provided to residents variable.

Objective: To determine the knowledge and confidence gains of learners from a needs assessment-based PHO curriculum for pediatric residents.

Methods: A 12-webinar curriculum was created to encompass topics in oncology, hematology, and stem cell transplant medicine. Learning objectives for each webinar were created from expert opinions on the subject matter, and focused on diagnosis or management at the resident physician level. All webinars were offered via a live virtual video platform, and were optional for residents rotating through the inpatient PHO service.

To assess knowledge or confidence gains, pre- and post-webinar assessment questions were generated. The inpatient rotation's objectives, the American Board of Pediatrics' general content specifications and a webinar's specific learning objectives were used to develop these questions. Respondents used a 5-point Likert scale (5=strongly agree) for each question, as well as for evaluating the usefulness of the webinar and whether it accomplished the stated goals. The REDCap survey link was directly offered to learners through the virtual platform or through an email immediately after the webinar, and all survey responses were anonymous. Responses were aggregated for analysis, with a paired t-test used to compare pre and post scores.

Results: For the 2020-2021 academic year, the 12 webinars were viewed a total of 304 times, with a resident participation rate of 70.7% (330/430). Survey completion rate was 58.9% (179/304), and responses per webinar ranged from 35 (Intro to Oncology) to 1 (Intro to CAR-T Therapy). For all knowledge domains within the webinars, there was a statistically significant improvement ($p<0.05$) in the pre and post scores, except for Intro to CAR-T Therapy, which was underpowered with one respondent. All webinars were found to be beneficial (mean 4.88, standard deviation (SD) 0.34) and accomplish the stated goals (mean 4.87, SD 0.33).

Conclusion: The curriculum was popular among resident learners, who found the curriculum beneficial and useful in caring for PHO patients. While knowledge gains were reported in the self-assessments, evaluation refinement is needed to better understand if these gains have contributed to practice changes.

ART IN MEDICINE CURRICULUM FOR PEDIATRIC HEMATOLOGY-ONCOLOGY FELLOWS: A PILOT STUDY

Rachel Gallant, MD, MS; Winston Huh, MD; Jamie Stokke, MD, Children's Hospital Los Angeles

Results

All fellows who completed the follow-up survey (n=7) enjoyed the activities, strengthened bonds with colleagues (57%), identified new coping mechanisms during stress (29%), found a creative outlet and a needed mental break. Most fellows (86%) reported a change in their medical practice as a result of the art curriculum, specifically

in their ability to relate to patients, empathize, and develop more creative solutions to patient problems; and 57% of fellows felt that the art activities gave them tools to cope with difficult patient-related situations.

Conclusions

This project demonstrates that art curriculum can benefit trainees in multiple ways including strengthening relationships with colleagues, creating new coping skills, and improving medical practice. We plan to expand this to a 1-year curriculum and formally asses fellow well-being as an outcome using a validated survey tool.

Funding

By implementing an art curriculum over 8 months we aim to provide fellows with a creative outlet, an opportunity to experience art routinely, and apply lessons from art to clinical practice.

CORRELATION BETWEEN IN-TRAINING EXAMINATION SCORES AND NEONATAL-PERINATAL MEDICINE BOARDS PASS RATE

Imran Mir, MD, UT Southwestern Medical School; Mackenzie Frost, MD, Children's Hospital of Philadelphia; Luc Brion, MD, UT Southwestern medical School

Objective: This study investigates whether the results of the Subspeciality In-Training Examination (ITE) can predict first attempt success in Neonatal-Perinatal Medicine (NPM) Certifying Examination conducted by the American Board of Pediatrics (ABP). Although studies have confirmed the predictive validity of ITEs in general pediatrics and other specialties, no study has been done for Neonatal-Perinatal Medicine.

Study design: Each year, fellows in accredited Neonatal-Perinatal Medicine Fellowship training programs take the ITE as a self-assessment instrument. The ITE is similar to the ABP NPM Certifying Examination. First-time takers of the certifying examination over an 18-year period who had completed their fellowship at UT Southwestern Medical Center were included in the sample (n= 49). Statistics included regression analysis and Fisher's exact test to analyze the predictive value of the ITE.

Results: There was a significant correlation between z-scores of the ITE and z-scores of ABP NPM certifying examination. The correlation between NPM boards z-scores and average ITE z-scores was 0.6, and that between NPM Boards z-scores and the average ITE z-scores in the first and second year of fellowship was 0.56. In contrast with other studies in general pediatrics, the correlation did not improve with the year of training. All NPM fellows with z-scores>-0.5 (n=38/38, 100%) passed their NPM Board examinations in the first attempt vs. those with average z-scores <-0.5 (6/10, 60%, P=0.001).

Conclusions: In our fellowship training program, average ITE z-scores in the first two years of training can be used to advise advanced physician trainees at risk for Board failures on first attempt. If these data are validated in other NPM fellowship programs, it has a potential to become a tool for highlighting the fellows who are at risk for NPM board failures and creating structured tutorials for them. This study continues to support the ITE as an assessment tool for program directors, as well as a means of providing advanced physician trainees with feedback regarding their acquisition of NPM knowledge.

PEDIATRIC RESIDENTS' PROCEDURAL COMPETENCY REQUIREMENTS: A NATIONAL NEEDS ASSESSMENT OF PROGRAM DIRECTORS

Elizabeth Nguyen, MD, Stanford University School of Medicine, Department of Pediatrics; Kristen Cunanan, PhD, Stanford University School of Medicine; Sarah Hilgenberg, MD, Stanford University School of Medicine, Department of Pediatrics

Background: Pediatric residents are required by the Accreditation Council for Graduate Medical Education (ACGME) to be competent at performing 13 procedures by the time they graduate residency. However, treatment advances, duty hour restrictions, quality and safety requirements, and the increasing skills and presence of non-physician providers have greatly reduced procedural training opportunities for residents. Internal Medicine individualized resident procedural competency requirements to career choice in 2019. This perspective has not yet been evaluated in pediatric graduate medical education.

Objective: To capture pediatric residency program directors' (PDs) perspectives about whether procedural requirements for graduating pediatric residents (PRs) should be reformed and individualized.

Methods: This was an IRB-exempt, survey-based, mixed methods study of PDs affiliated with the Association of Pediatric Program Directors (APPD) from April-May 2021. We calculated percentage of respondents who disagreed with the list of ACGME required procedures and favored individualizing requirements. We performed logistic regression to evaluate associations between respondent and program demographic characteristics and preference for individualization of procedural training.

Results: Responses included 47% (95/203) of PDs who represented APPD membership across program setting, size, and region (average standard mean deviation 0.22). Ninety-one percent of PD respondents disagreed with the current list of ACGME required procedures and 74% favored individualizing procedural competency. Bag-mask-ventilation and lumbar puncture were perceived as important for all PRs by >79% of respondents, cited as 'life-saving' or 'time-sensitive'. A majority of PDs viewed neonatal intubation and umbilical catheter placement as important for only some PRs, citing them as 'not widely applicable.' Preliminary findings show that the odds for favoring individualization were not significantly different across respondents' program size, setting, and access to specialized teams such as vascular access or phlebotomy.

Conclusion: The majority of PD respondents believe that the current ACGME procedures should be reformed and individualized to future career goals. This change would allow maximization of limited time in residency in this era of decreased opportunity. This perspective is in line with published surveys of general pediatricians and recently graduated pediatric residents.

EXPLORING WELL-BEING AMONG PEDIATRIC SUBSPECIALTY FELLOWS

Dana Foradori, MD, M.Ed; Sarah Worley, MS; Sangeeta Krishna, MD, Cleveland Clinic Children's

Background: Burnout is prevalent among physicians-in-training. The ACGME emphasizes support for trainee well-being, yet a paucity of literature explores the needs of fellows.

Objective: We aim to describe the state of well-being and associated needs of pediatric fellows, whom we hypothesize are a distinct population of advanced learners with unique professional and personal challenges.

Methods: We developed the assessment tool through iterative revisions with program leadership, core faculty, and recent fellows at an academic center in the Midwest. We queried demographics, perceptions of well-being, well-being habits, fellowship and pandemic challenges, and support systems, as well as preferred learning modalities and topics. We assessed burnout with a standardized single-item burnout measure and professional fulfillment with the Stanford Professional Fulfillment Index. We emailed the 33-question survey to pediatric fellows. Descriptive statistics were reported.

Results: Survey response rate was 68% (17/25), with majority female, partnered, and at PGY-2/3 levels. Burnout was reported by 38% and professional fulfillment by 50%. While all fellows endorsed the importance of well-being, fewer felt confident in their practices or in seeking support from their PD (53%) or mental health services (59%), and 65% felt confident that their well-being practices could support them in independent practice. Fellows most frequently reported challenge with work-work balance (94%), referring to competing clinical, teaching, and scholarly responsibilities, and reported a broad range of additional challenges. Fellows discussed well-being with co-fellows, family, friends, PDs, and mentors. Well-being support habits included exercise, nutrition, and family and social activities. Prioritized educational topics included fatigue mitigation, time management, mentorship, and mindfulness. Fellows preferred learning via workshops, small groups, and mentorship.

Conclusions: Fellows experience both burnout and suboptimal professional fulfillment. All fellows recognized the importance of well-being, but fewer were confident in their practices or comfortable seeking programmatic support. They endorsed multiple concurrent challenges, with nearly all endorsing challenge in work-work balance, and preferred interactive learning about topics that mirrored challenges. Results support a programmatic approach to supporting the well-being needs of fellows. Locally, data will inform development of a longitudinal fellows' well-being curriculum and peer support circles.

SUSTAINED REDUCTION IN WORK HOUR VIOLATIONS WITH X+Y SCHEDULING

Andrew Yu, MD; Demetrice Williams, MA; Rachal Hernandez, AS; Karin Claussen, MD; Benjamin Masserano, MD; Mary Villani, MD; Jennifer Walsh, MD; Jeffrey McKinney, MD, PhD, UT Southwestern

Results

After implementation of X+Y, average monthly work hour violations fell from a baseline of 2.2% to 0.6% (73% decrease). This improvement was sustained for eighteen consecutive months below the prior baseline and sixteen months below the goal of 1%. This reduction was maintained across time periods of both unusually low and high hospital census related to the COVID-19 pandemic. Work hour submission rate increased from a mean of 74% pre-intervention, to 89% after intervention (1), to 95% after interventions (2) and (3). The median number of clinic sessions per resident per year increased from a pre-pandemic baseline of 37 [IQR 36, 38] to a post X+Y median of 42 [IQR 38, 44] ($p<.001$).

Conclusions

X+Y scheduling resulted in sustained work hour violation reduction at our program, likely due to fewer transitions between night shifts and clinics. Work hour submission rates improved but remain a resource-intensive data challenge. Residents attended more clinic sessions after X+Y implementation. X+Y may provide programs flexibility to address transitions between work periods.

Funding

Our primary aim was to reduce monthly work hour violations from a baseline mean of 2.2% to <1%, sustained for at least one year. A secondary aim was to increase the proportion of timesheets submitted from a baseline mean of 74% to >90%, sustained for at least one year.

TEAMWORK MAKES THE DREAM WORK: RELATIONSHIP BETWEEN US PEDIATRIC RESIDENT BURNOUT AND THE LEARNING ENVIRONMENT

Elizabeth Rodriguez Lien, MD, University of Texas Medical Branch; Eric Zwemer, MD, University of North Carolina School of Medicine; Alan Schwartz, PhD, University of Illinois College of Medicine; Babal Jessica, MD, University of Wisconsin School of Medicine and Public Health; Serwint Janet, MD, Johns Hopkins University School of Medicine; Sieplinga Kira, MD, Helen DeVos Children's Hospital/Michigan State University College of Human Medicine; Donnelly Kathleen, MD, Inova Children's Hospital; Battra Maneesh, MD MPH, University of Washington School of Medicine; Jennifer Reese, MD, University of Colorado School of Medicine; Sarah Webber, MD, University of Wisconsin School of Medicine and Public Health; Michele Nichols, MD, University of Alabama at Birmingham; Wilson Paria, MD MEd, Cincinnati Childrens Hospital Medical Center/University of Cinncinati; John Mahan, MD, Nationwide Children's Hospital/The Ohio State University

Objective Burnout among healthcare providers, specifically residents, has been recognized to be related to the working environment. This study examines the relationship between pediatric resident burnout and resident learning environment (LE) satisfaction.

Methods The Pediatric Resident Burnout Resilience Study Consortium (PRB-RSC) surveyed 3,157 residents from 46 pediatric residency programs in Spring 2019 via the Association of Pediatric Program Directors' Longitudinal Educational Assessment Research Network (APPD LEARN). Data was extracted from this retrospective, cross-sectional study. We compared (t-test) unadjusted differences in resident LE satisfaction to resident burnout determined by the 2-item Maslach Burnout Inventory. Burnout was defined as feeling burned out or callous towards people once weekly or more. We fitted a mixed-effects logistic regression model with burnout as the outcome and LE satisfaction as the focal predictor. Finally, we examined potential predictors of LE satisfaction, including stress, resilience, quality of life (QOL), and perception of LE collaboration using a set of linear mixed models with similar covariates.

Results Of the 2,043 residents who responded, 40% (n=817) screened positive for burnout. Mean satisfaction with the LE was 4.0 out of 5 (SD 0.98). Non-burned-out residents reported significantly greater LE satisfaction (4.4 vs. 3.6, $p<0.001$), higher levels of collaboration (4.4 vs. 4.1 $p<0.001$), lower perceived stress (29 vs 31, $p<0.001$) and higher QOL (7.2 vs 5.5, $p<0.001$) than their burned-out colleagues. The finding persisted after controlling for demographic variables of age, marital status, parental status, sex, size of program and race.

Controlling for LE collaboration, program and resident characteristics, and resident clustering in programs, more satisfied residents were less likely to be burned out (OR 0.41, 95% CI 0.36-0.47, p<0.001). Residents reporting higher collaboration levels had higher LE satisfaction, controlling for characteristics and clustering (B=0.62, 95% CI 0.57-0.67, p<0.001). Lower stress (B=-0.07, 95% CI -0.09- -0.06, p<0.001) and higher QOL scores (B=0.29, CI 0.27-0.31, p<0.001) were each associated with higher LE satisfaction in similar models, but resilience was not.

Conclusion The study demonstrates an inverse relationship between pediatric resident burnout and LE satisfaction. Resident perception of LE collaborativeness predicts LE satisfaction. To reduce resident burnout, program directors should pursue efforts that promote more effective collaboration in the LE.

IMPROVING THE QUALITY OF FACULTY FEEDBACK: A MULTIDIMENSIONAL APPROACH

Kelly Murphy, MPA; Stephen Barone, MD, Cohen Children's Medical Center

Background: High quality (timely, accurate, actionable) faculty feedback is an integral part of resident growth and development. Written feedback from faculty varies in quality, with the least useful comments being general in nature and lacking actionable recommendations. We instituted a comprehensive evaluation and faculty development program to improve the quality of written feedback.

Methods: Faculty complete electronic evaluations of residents after each rotation. These evaluations include numerical scores based on ACGME milestones and written comments. To evaluate the quality of written comments a novel assessment rubric was developed based on previously validated tools. This tool was used to assess the quality of evaluations of residents via a numerical score pre and post intervention. Comments were ranked 1 (low quality) to 4 (high quality). A score of 1 was assigned to comments which were all global, included no dimension-specific, examples or behavioral comments and no recommendations. Conversely to receive a score of 4, the evaluation needed to include both dimension-specific and example/behavioral comments as well as actionable recommendations. Evaluations with no comments received a 0. Individual and division scores were calculated and shared with division chiefs. Division chiefs subsequently developed action plans to improve written feedback.

Results: Pre-Intervention (6/1/20-4/30/2021), 631 evaluations were assessed. Of these, 1% received a score of 0, 12% received a score of 1, 39% received a score of 2, 30% received a score of 3 and 18% received a score of 4. Post-intervention (7/1/21-12/6/21) 191 evaluations were scored. Of these, 6% received a score of 0, 1% received a score of 1, 13% received a score of 2, 24% received a score of 3 and 56% received a score of 4. The average score across all divisions improved from 2.5 to 3.2 (p<.001). The most common interventions included a division specific faculty development session, distribution of articles which described best practices and meeting as a team to discuss individual residents. Other interventions asking both the GME office and residents to provide feedback on the quality of comments. In addition, an infographic was also developed by the GME office for distribution to faculty

Conclusion: A dedicated assessment system paired with division specific action plans and an infographic, improve the quality of written comments on faculty evaluations of residents.

BETTER TOGETHER: A NOVEL ONLINE PHYSICIAN GROUP-COACHING PROGRAM TO REDUCE BURNOUT IN TRAINEES: A RANDOMIZED CONTROLLED TRIAL

Kimiko Dunbar, MD, Children's Hospital of Colorado; Tyra Fainstad, MD, University of Colorado School of Medicine; Adrienne Mann, MD, University of Colorado Denver School of Medicine; Krithika Suresh, PhD , University of Colorado; Pari Shah, MSW, LCSW, University of Denver, Graduate School of Social Work; Nathalie Dieujuste, BA, University of Colorado Anschutz Medical Campus; Christine Jones, MD, MS, University of Colorado - Anschutz Medical Center

Background: Female physician trainees are disproportionately affected by burnout compared to their male counterparts. Growing evidence suggests that negative perceptions of physician culture contribute to burnout. One promising early intervention for perception of work culture is professional coaching ("coaching"). We created a coaching program for residents with an aim to decrease burnout. Here, we describe results from a pilot of our novel online, group coaching program: Better Together Physician Coaching (Better Together).

Objective: To understand how professional coaching affects resident wellness as it relates to symptoms of burnout, including those that affect work relationships and patient care. To explore the impact of positive psychology-based coaching, specifically how metacognition may be helpful to reframe moral injury, self-compassion, and imposter syndrome.

Methods: This is a prospective, randomized control trial of a professional coaching intervention. One hundred and one female-identifying resident physicians in Graduate Medical Education at a large academic institution voluntarily enrolled in a 6-month, multi-modal, web-based group coaching program developed and facilitated by trained life coaches and physicians (TF and AM). All participants completed a pre-survey using validated indices to measure burnout (primary outcome) and self-compassion, moral injury and imposter syndrome (secondary outcomes). They were then randomized into either the intervention arm (6 months of coaching) or the control group (no coaching) from January-June of 2021. A post-survey mirroring the pre-survey was distributed at 6 months, and statistical analysis was performed on an intent-to-treat basis.

Results: Among the 101 residents, 6 months of professional coaching decreased emotional exhaustion in the intervention group by a mean of 3.26 points compared to an increase of 1.07 points in the control group by the end of the study (p=0.03). The intervention group experienced a significant reduction in imposter syndrome imposter syndrome compared to controls (-1.16 vs +0.11; p=0.002). Self-compassion increased in the intervention group by a mean of 5.55 points compared to a reduction of 1.32 points in the control group (p<0.001). No statistically significant differences in depersonalization, professional accomplishment or moral injury were observed.

Conclusion: Professional coaching may be an effective strategy to reduce emotional exhaustion and imposter phenomenon, while increasing self-compassion amongst female physician trainees.

A QUALITY IMPROVEMENT APPROACH TO INTEGRATING DIVERSITY, EQUITY, AND

A QUALITY IMPROVEMENT APPROACH TO INTEGRATING DIVERSITY, EQUITY, AND INCLUSIVE OBJECTIVES INTO A PEDIATRIC SIMULATION

Megan Feick, MD; Ammarah U. Iqbal, MD, MPH; Henna S. Boolchandani, MD; Gauthami Soma, MD; Alexis Cordone, MD, MPH, Yale-New Haven Children's Hospital; Nazar Chowdhury, BS, Yale School of Medicine; Marc Auerbach, MD, MSci; Gunjan Tiyyagura, MD, MHS, Yale-New Haven Children's Hospital

Results

Prior to the start of the quality improvement (QI) work, DEI topics were not incorporated into pediatric resident simulations. A run chart was used to track the percentage of monthly cases that incorporated DEI topics. During the study period, the percentage of simulations including DEI topics increased to 38% per month over a 6-month period. All (100%) welcomed and approved of the incorporation of DEI objectives into simulations.

Conclusions

Using a QI approach, we incorporated DEI objectives into pediatric resident simulations. Next steps include iterative improvement of cases and debriefs based on learner feedback, case review by content experts, and formal curricular integration.

Funding

The primary objective was to increase the percentage of pediatric resident simulations that include DEI objectives from 0% to 25% in 12 months.

FASTER, HIGHER, STRONGER… WELLER?: AN INNOVATIVE OLYMPICS TO IMPROVE RESIDENT WELLNESS

Emily Hause, MD, MPH, University of Minnesota; Michael Weisgerber, MD, Medical College of Wisconsin; Sonia Mehta, MD, University of California, San Francisco

Objective: Improving resident wellness during post-graduate training is an important goal for residency programs. The Medical College of Wisconsin pediatrics residency wellness program contains 6 pillars of wellness as described by the American Medical Association. We expanded our physical fitness pillar with innovative biannual “Olympics” designed to increase time exercising and promote collegial relationships through fun, incentivized competition. We sought to evaluate the impact of this curriculum expansion.

Design/methods: A twice-yearly (summer and winter) month-long “Olympics” exercise competition between residency classes was added to the physical fitness wellness curriculum between February 2018 and December 2019. Residents were encouraged to exercise, and record time spent doing so on behalf of their class teams. Organized exercise events were held with additional points for submitting photos and other elements. The wellness curriculum was assessed in 3 domains of Kirkpatrick’s framework for curriculum evaluation. Resident satisfaction was assessed via electronic survey using 5-point Likert scale items. Self-reported resident exercise behavior change was assessed using dependent paired student t’s test. The high stakes outcome of wellness/burnout was assessed with a previously validated monthly wellness fuel gage (1-100 rating)

Results: 34 of 100 residents in pediatric and pediatric combined programs responded to the survey. 68% reported participation in both the summer and winter “Olympics”. 68% of respondents reported that participation had a positive or strongly positive impact on their wellness; 32% a neutral impact, and 0% a negative impact. Residents had an increase in reported hours of exercise from 4.1 hours before the Olympics period to during 5.1 hours during the Olympics ($p<0.001$). The average resident wellness fuel gauge rating during Olympics was 75.1 on average and outside of Olympics was 73.7 ($p=0.16$) on average.

Conclusion: The addition of a class-based biannual Olympics to the fitness aspect of our wellness program had a positive impact with high resident satisfaction and increased self-reported resident exercise habits. It did not change overall wellness or burnout in itself, but in conjunction with other wellness program efforts may have contributed to a fairly high wellness level reported by our residents. Programs looking to expand wellness initiatives should consider the addition of Olympics.

PILOTING A SIMULATION-BASED TOXICOLOGY CURRICULUM FOR PEDIATRIC RESIDENTS

Ankit Singla, MD, UCLA Mattel Children's Hospital; Sarah Gustafson, MD, Harbor-UCLA; Brian Chang, MD, UCLA Mattel Children's Hospital; Michael Levine, MD, UCLA Health Center; Myung Sim, PhD, UCLA

BACKGROUND: Poisoning can have devastating consequences for children. Most reported cases are pediatric cases according to data from the National Poison Data System, and "poisoning/toxic exposure" is included as an ABP content specification for pediatric residents. Despite this, there is no formal toxicology curriculum at our institution for pediatric residents. Existing published toxicology simulation curricula are largely designed for general emergency medicine learners and are not pediatric-focused.

OBJECTIVE: We introduced a simulation-based curriculum designed for pediatric residents with exclusively pediatric simulation cases to address resident comfort with and preparedness for common toxic ingestions and hypothesized that implementation of our curriculum would improve residents' knowledge and reported level of comfort.

METHODS: We used Kern's Six Steps for curriculum development. After completing a needs assessment of local and national ingestion data review and informal interviews of residents, our team chose three scenarios based on prevalence and lethality of pediatric toxic ingestions: acetaminophen, anticholinergic, and opioid. We focused case objectives on patient management and scripted scenarios to address the objectives with detailed review from the UCLA Simulation Center expert faculty and staff.

The expert toxicologist on the team wrote questions that addressed each curriculum objective for our pre- and post-test, which assessed knowledge and comfort. The questions were reviewed by an expert in educational assessments and edited through cognitive interviews with the resident on our team.

We piloted the simulation curriculum at UCLA across 5 sessions with a total of 16 second- and third-year resident participants, recruited via assignment by the residency program director based on resident availability. We assessed participants using the pre- and post-test. We also administered the pre-test via survey to 6 non-participants to assess similarity of participants to non-participants.

RESULTS: Participants demonstrated an improvement on paired sample t-tests in knowledge assessment scores

(mean improvement of 4.2 questions, or 24.6%, $p<0.0001$) and McNemar's tests in comfort assessment scores ($p<0.03$ for all questions), with no significant baseline difference between participants and non-participants.

CONCLUSIONS: Our simulation-based toxicology curriculum pilot demonstrated feasibility of integration into the senior resident schedule, and improved resident knowledge of and comfort with common pediatric toxicology topics.

RESIDENT EARLY WARNING SYSTEM (REWS): A SYSTEM TO DEVELOP TIMELY FEEDBACK FOR PEDIATRIC INTERNS

Anna Brown, DO; Emily Kramer, DO; Kathryn Mansel, MD; Maria Ramundo, MD, Akron Children's Hospital

Background:
The Accreditation Council for Graduate Medical Education (ACGME) recognizes the importance of providing frequent and timely feedback from direct observation to support the development of pediatric trainees. Interns spend a significant amount of time on the inpatient unit under close senior resident supervision, providing an ideal opportunity to improve current feedback practices.

Objective:

The Model for Improvement was used to develop a system to provide interns with timely milestone-based feedback from the senior residents providing direct observation. A secondary objective was to assess whether this tool could be used for early identification and, in turn, early interventions for residents requiring additional support to succeed on inpatient services.

Design/Methods:

A panel consisting of Residency Program Director, Associate Program Director and Chief Resident developed the evaluation form. Four of the six ACGME core competencies were modified into a questionnaire utilizing novice-evaluator friendly language.

Quality improvement methodology was used to assess and improve the project. Twice monthly evaluations were distributed to senior residents who worked more than four shifts with an intern. Time to first feedback was tracked in addition to intern performance. An annual survey was distributed to assess balancing measures and resident satisfaction. The Associate Residency Program Director was notified based on concerning criteria identified on intern feedback.

Results:
The time to first feedback for interns went from 29.6 to 14.17 days, demonstrating a statistically significant improvement (Figure 1). Based on survey results, only 7.7% of interns felt they received inconsistent feedback from senior residents (n = 10, response rate 45%) compared to 30% the year prior (n = 13, response rate 62%).

During the 2020 – 2021 academic year, three residents were identified by the existing evaluation system as requiring additional support or remediation. These residents were also identified by the novel REWS evaluation system, in addition to six residents who did not require intervention. All three residents requiring intervention triggered multiple categories of concern.

Conclusion:
Timely feedback is important to the professional development of pediatric trainees. Implementation of a senior evaluation during inpatient pediatric rotations allowed for timely feedback to interns without compromising feedback quality.

OPTIMIZING TRAINEE IMMUNIZATION EDUCATION USING A VETTED CURRICULUM FROM THE PEDIATRIC INFECTIOUS DISEASES SOCIETY

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Introduction/Objective: Vaccine education is critical to optimize provider immunization recommendations. However, there is a gap regarding the quantity and quality of immunization education across residency programs. Our objective was to increase resident immunization knowledge and confidence using well-designed online modules to lessen the teaching burden of faculty.

Methods: A multi-institution team with expertise in infectious diseases, immunization, and medical education developed an online immunization curriculum (the Collaboration for Vaccination Education and Research [CoVER]) for pediatric (Ped) and family medicine (FM) residents. Year-1 was evaluated in a cluster randomized controlled trial during the 2017-2018 academic year. A convenience sample of residency programs was randomly allocated to CoVER (4 online modules and a guide for role playing parent-provider vaccine conversations) or control (usual vaccine education) groups, with stratification by residency type. Pre- and post-intervention surveys of participants were conducted by email, focusing on vaccine knowledge, attitudes, hesitancy, and self-confidence in immunization communication. Differences between the CoVER and control groups were analyzed using a hierarchical general linear model to adjust for residency type and residency year, and residency site was modeled as a random effect.

Results: Overall, 1444 residents from 31 programs were eligible to participate (734 intervention, 710 control). Survey response rates were 51% for pre-intervention and 36% for post-intervention. There were 1,230 surveys analyzed. Knowledge scores increased after the curriculum for both control (53% to 58%) and CoVER (53% to 60%) groups. Increases in vaccine knowledge among FM residents were greater for CoVER compared to control ($p = 0.041$). Vaccine hesitancy, initially more common among FM (23%) than Ped (10%) residents, was not affected by the curriculum. In all three residency years, residents in the Ped and FM CoVER groups showed greater increases in immunization communication self-confidence ($p < 0.03$) compared to control (Table 1).

Conclusion: The initial year of the CoVER curriculum improved resident confidence in discussing immunizations with parents/patients. The Comprehensive Vaccine Education Program — which includes 16 CoVER Modules and The Vaccine Handbook App by Gary Marshall, MD — is available at no charge from the Pediatric Infectious

Diseases Society.

FROM NICU 24-HOUR CALL TO NIGHT FLOAT SYSTEM: EFFECT ON RESIDENT WORK HOURS AND PERCEPTIONS OF WORK ENVIRONMENT

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Purpose: To assess work hour violations and resident perceptions of work environment when transitioning from a traditional Q4 24+4 Neonatal Intensive Care Unit (NICU) schedule to a night float system.

Background/Methods: Our program has 30 categorical pediatric and 24 combined internal medicine/pediatrics residents and staffs a 50-bed Level IV NICU. From 2018-2019, we noted more work hour violations reported by senior residents on the Q4, 24+4 call NICU rotation. In response to resident feedback, the program shifted to a NICU night float schedule starting July 1, 2020. A 15-question anonymous survey was sent to second- and third-year pediatric and third- and fourth-year MP residents in June 2020 (pre-intervention) and in April 2021 (post-intervention) to assess work hours, wellness, education, and patient safety.

Results: 19 of 31 residents (61%) responded to the pre-intervention survey and 17 (55%) completed the post-intervention survey. Pre-intervention, (84%) preferred a night float system and post-change, (88%) preferred night float (data missing for one respondent). Post-intervention, residents reported better sleep, less exhaustion, improved ability to participate in more procedures, and receiving better teaching from the NICU fellows and NPs at night. Residents cited that the night shift duration (14 hours) and number of consecutive nights worked (8 nights) were too long but otherwise saw no difficulties with the transition. There was a statistically significant decrease in self-reported work hour violations: from 11 of 19 on pre-survey to 1 of 14 on post-survey (3 cases missing data; p=0.004). Post-survey, residents perceived positive impacts on patient care (69%), patient safety (81%), resident education (63%), and resident wellness (94%). The faculty rotation director remarked that decreased daytime staffing was a challenge, but there was no noticeable effect on patient safety with good continuity of care.

Conclusions: Transitioning to a NICU night float system reduced the incidence of work hour violations and was perceived as a positive change for most residents. Residents reported improved rest, enhanced ability to pursue procedures at night, and increased teaching by faculty and fellows. Additionally, residents perceived improved patient safety and personal wellness, although this was not directly quantified based on patient outcomes. Future research should evaluate educational outcomes, such as scores on the neonatal sections of the In-Training Exam, number of procedures completed, as well as patient safety events and logged work hours.

USING A MODIFIED DELPHI METHODOLOGY TO IDENTIFY ESSENTIAL TELEMEDICINE SKILLS AND BEHAVIORS FOR PEDIATRIC RESIDENTS

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Background

Use of telemedicine in pediatrics has increased since the onset of the COVID-19 pandemic. Despite rapid uptake by pediatric residency programs, consensus on essential telemedicine skills for pediatric residents is lacking.

Objective

The objective of this study is to use a modified Delphi methodology to identify essential telemedicine skills and behaviors for pediatric residents.

Methods

A modified Delphi panel of 12 national experts in pediatric telemedicine was conducted to identify essential telemedicine skills and behaviors for pediatric residents. First, a focused literature review was first performed to identify content for the experts to review (Figure 1). Iterative rounds of anonymous surveys were then conducted until consensus for each item was reached (Figure 2). Items that did not achieve consensus were removed. All items were mapped to one of the Accreditation Council for Graduate Medical Education (ACGME) core competencies for pediatric residents (Table 1).

Results

One hundred fifty candidate items were identified through literature review and narrowed to 28 items prior to review by national experts. Ultimately, 17 pediatric telemedicine skills or behaviors achieved a consensus of “very important.” Of the 17 items, 8 (47%) were unanimously agreed on as “very important,” while the other 9 items achieved a ranking of “very important” with a consensus of 80% or higher. Each item was mapped to one of the six core competencies for graduate medical education as follows: interpersonal and communication skills, 7; professionalism, 5; patient care, 3; systems-based practice, 2; medical knowledge, 0; practice-based learning and improvement, 0.

Conclusions

There was a high degree of agreement among pediatric telemedicine experts from geographically and academically diverse institutions on the importance of 17 pediatric telemedicine skills and behaviors for pediatric trainees. Our results identified relatively more items in the domains of interpersonal and communication skills and professionalism. These results suggest the need for a greater emphasis in these competencies for pediatric residents, who may face more challenges in these domains when caring for pediatric patients through telemedicine. Identifying these essential skills will help to inform pediatric telemedicine curricula and provide validity evidence for pediatric telemedicine assessment tools.



A MULTIMODAL WORKSHOP TO IMPROVE PEDIATRICS AND INTERNAL MEDICINE RESIDENTS' KNOWLEDGE IN THE CARE OF YOUTH WITH DEVELOPMENTAL DISABILITIES

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As the life expectancy of individuals with developmental disabilities (IDDs) approaches that of the general population, a growing number of IDDs are aging out of pediatric care. The transition from pediatric to adult care is rarely initiated with sufficient time to identify adult providers and to establish guardianship for those with intellectual disabilities or impaired adaptive functioning. While the ACGME mandates pediatric residency programs to provide trainees with a 1-month rotation in developmental-behavioral pediatrics, there are few published curricula to address transitions of care or guardianship for IDDs. There is no ACGME-required education on IDDs in internal medicine residency programs and it is not universally taught in medical school. The objective of this study is to improve knowledge gaps among pediatrics and internal medicine residents in caring for IDDs, including features of common developmental disabilities, guardianship and transitions of care via a multimodal workshop. Study participants include PGY 1-3 pediatrics, internal medicine and med-peds residents. The workshop is a 1-hour interactive session that utilizes lecture, clinical cases and role play to teach about autism, cerebral palsy, school services, applying for guardianship and the process of transitioning care from pediatric to adult providers. Changes in knowledge among residents are assessed via questionnaires at baseline compared to 3 timepoints after the workshop: immediately, 2-months and 6-months after. Sixty-six residents responded to the baseline questionnaire, a majority of whom were PGY-2 internal medicine residents (79%) with no prior experience working with IDDs (68%). Of the 13 pediatrics trainees, 38% completed a developmental-behavioral pediatrics rotation. Among all trainees, there was a significant increase in knowledge from pre- to immediate post-workshop in the areas of transitions of care (5 to 71%, $p<0.0001$), school services (32 to 67%, $p=0.002$) and guardianship (23 to 60%, $p=0.0003$). Pre-workshop to 6-months post-workshop, the significant increase in knowledge of transitions of care persisted, though to a lesser extent (5 to 24%, $p=0.008$). When all knowledge questions were combined into a single score, there were significant increases in overall knowledge from baseline to immediate post-workshop ($p<0.0001$) and baseline to 6-months post-workshop ($p=0.04$). Collectively, internal medicine and pediatrics residents who participated in the workshop had significant increases in knowledge related to IDDs both immediately and 6-months after the workshop.

OUTCOMES FROM A CASE-BASED, LONGITUDINAL CURRICULUM IN PEDIATRIC BEHAVIORAL AND MENTAL HEALTH

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Background: Behavioral and mental health disorders are increasingly common presenting complaints in pediatrics. Despite affecting an estimated 20% of children, most pediatricians do not feel adequately trained to manage these conditions. We evaluated the impact of a longitudinal, case-based curriculum on resident knowledge and confidence in managing common behavioral and mental health concerns.

Methods: In 2020-2021, a pediatric residency program implemented a curriculum in behavioral and mental health. In order to simulate cases seen longitudinally in a pediatric continuity clinic, a multidisciplinary group of faculty created five paper-based cases covering depression, anxiety, ADHD, parenting techniques, and autism. Each case included initial consultation and multiple follow-up visits. Residents met monthly in small groups facilitated by faculty mentors from General Pediatrics, Developmental and Behavioral Pediatrics, Child and Adolescent Psychiatry, and Psychology with each session consisting of 2-3 simulated patient encounters. Due to the COVID-19 pandemic, small-groups were conducted in a hybrid model with some held in-person and some on a video platform. To assess the impact of the curriculum, residents completed a pre-post 30-item survey with 5-point rating-scale questions on their confidence in diagnosing and managing these topics. Additionally, they completed a 125-point, knowledge-based pre- and post-test before and after participating in the curriculum.

Results: All 47 residents participated in the curriculum; 38 (81%) completed pre- and post-surveys. After completing the curriculum, residents reported significantly improved confidence in diagnosing and treating ADHD, treating depression, developing safety plans for suicidality, recognizing autism, and counseling families on advocating for special education services (Fig 1). Twenty-five residents (53%) completed knowledge pre- and post-tests, which also demonstrated significant improvement after completing the curriculum [mean (SD) 92.4 (10.9) vs 99.3 (6.6), $t(24)=-2.96$, $p=.009$, Cohen's $d=0.76$].

Conclusion: A longitudinal, case-based curriculum in pediatric behavioral and mental health improved confidence in managing behavioral and mental health conditions and improved knowledge of these conditions among pediatric residents. This curriculum was feasible using both an in-person and online video platform.

Disclaimer: The views expressed in this abstract are those of the authors alone and do not reflect those of the US Air Force, Department of Defense, or US Government.

EVALUATING BURNOUT AMONG PEDIATRIC RESIDENTS DURING THE COVID-19 PANDEMIC: A MIXED METHODS STUDY

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Background: COVID-19 continues to create uncertainty and unparalleled stress. Residents involved in caring for patients with COVID-19 are at high risk of developing negative psychological consequences such as burnout, depression, and anxiety. Compared to other physicians, residents have higher rates of burnout, fatigue, and depersonalization.

Objective: We explored the impact of the COVID-19 pandemic on resident burnout and sought program-level solutions to mitigate burnout.

Design/Methods: We conducted focus groups and administered the Maslach Burnout Inventory (MBI) to residents in a medium-sized, academic pediatric residency program in New York City A constant comparison analysis was used to derive themes from focus groups until we achieved thematic saturation. Burnout on the MBI

analysis was used to derive themes from focus groups until we achieved thematic saturation. Burnout on the MBI was defined as a high subscale score for the emotional exhaustion domain (≥27), and/or the depersonalization domain (≥10), and/or a low score in the personal achievement domain (<33). Scores were compared to results from residents in the same program in 2019.

Results: Five focus groups were conducted among second and third-year residents (n=17 of 40). The MBI was completed by 16 of these residents. Five themes were identified (Table 1). First, burnout is accentuated during a pandemic due to pervasive feelings of personal isolation. Second, residents need programs to acknowledge the extent of the disruption as well as loss of normal coping strategies. Third, programs should ensure residents feel recognized for efforts above and beyond what ordinarily would be expected. Fourth, cultivating a culture of transparency around administrative decisions is essential. Lastly, burnout can be reduced through small program changes such as redistributing resident workload. 75% of respondents met the criteria for burnout from March to June 2020 compared to 61% in 2019. Depersonalization remained the highest subscale score (Table 2, 61% pre-pandemic, 56% during the pandemic). Percentage of residents with emotional exhaustion increased (Table 2, 10% pre-pandemic, 50% during the pandemic).

Conclusions: Our study demonstrates pandemic burnout is unique and requires different mitigation and support strategies at the program level. By understanding the specific factors that contribute to burnout, early interventions can be implemented, which may mitigate the rising rates of depersonalization and emotional exhaustion seen throughout the pandemic.

 

"IT'S NICE TO KNOW I'M NOT ALONE": THE IMPACT OF AN ONLINE LIFE COACHING PROGRAM ON WELLNESS IN GRADUATE MEDICAL EDUCATION: A QUALITATIVE ANALYSIS

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Background: Physician trainees, especially those who identify as female, are disproportionately affected by burnout compared to their non-physician age-matched peers. Physicians experience tremendous clinical growth in training, however little time is dedicated to metacognition ("thinking about your thinking" and reflecting on your emotional state nonjudgmentally), a necessary tool for processing experiences, forming professional identities, and creating individualized definitions of values and success. A 6-month, web-based group coaching program, Better Together Physician Coaching ("Better Together"), was developed and facilitated by trained life coaches and physicians (TF and AM) to decrease burnout.

Objective: To explore how a positive coaching program affects participant wellbeing.

Methods: 17 graduate medical trainees from a single institution who identified as women and participated in the 6-month coaching program were included. The coaching program was a self-paced, asynchronous group program containing multiple components including live coaching calls, unlimited written coaching, and weekly self-study webinars and worksheets. Semi-structured interviews of participants who had completed the coaching program were conducted from May to June of 2021. Both inductive and deductive methods were used in collecting and analyzing the data. Rapid domain analysis was used to analyze the data as it was collected.

Results: Three themes emerged; Practicing metacognition as a tool for healthy coping, building a sense of community, and having a customizable experience. Practicing metacognition as a tool for healthy coping was the primary theme. Residents reported that practicing metacognition provided a tangible and accessible tool specifically pertaining to sub-themes of burnout, self-compassion, imposter syndrome and managing relationships.

Conclusions: Female identifying trainees in graduate medical education experience burnout, perfectionism, and imposter syndrome. A physician-led group coaching program based in metacognition enabled participants to reflect on and reframe beliefs around their experience of their work and professional lives for healthier coping. Additionally, the community created by the program allowed for normalization, empathy, and self-compassion. Having a customizable experience with multiple modalities for participation allowed participants with complex and irregular schedules and varying learning and communication preferences to benefit. Group coaching may offer a meaningful strategy to mitigate burnout and foster community.

PERCEIVED PEDIATRIC RESIDENT AUTONOMY IN THE ERA OF PEDIATRIC HOSPITAL MEDICINE FELLOWSHIP

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Background: Self-determination theory suggests that learners require perceived autonomy (PA) in order to be invested in learning. Though studies have examined factors impacting trainee PA, few explore the impact of clinical fellows on resident PA. Pediatric Hospital Medicine (PHM) fellows are increasingly present on inpatient resident teaching services, but little is known about the subjective resident experience with PHM fellows, particularly as it relates to PA. Promoting resident PA is critical to training effective physicians.

Objective: To explore pediatric resident perceptions of autonomy when working with PHM fellows, with a specific focus on understanding barriers and facilitators of PA that may inform professional development curricula.

Methods: In this qualitative study, we conducted semi-structured interviews with pediatric senior residents. We recorded, deidentified, and transcribed interviews for inductive thematic analysis, making iterative adjustments to our codebook and themes until thematic saturation.

Results: We conducted 9 interviews. Our analysis identified several key themes surrounding PA including 1) factors related to the leadership team (including PHM fellows and attendings), 2) factors related to PHM fellows alone, and 3) external factors.

Residents often conflated the impact of fellows with that of the fellow-attending leadership team as a whole, describing a fellow-attending dyad that could perpetuate an "us vs. them" mentality of residents vs. leadership team, thus compromising PA. Additional leadership factors included redundancy, micromanagement, the degree of autonomy granted to fellows by attendings, and fellow impact on the resident-attending relationship.

Fellow-derived factors impacting PA included fellow training characteristics, fellow confidence, whether the fellow set expectations, and whether residents perceived competition between themselves and the fellow.

Externally, residents highlighted the sometimes-performative nature of rounds and workload as factors impacting PA when working with fellows. They noted that PA could be promoted by intentional design of clinical experiences with fellows, and by improved resident understanding of the fellowship itself.

Conclusions: Many factors contribute to the perceived impact of PHM fellows on resident autonomy. While some are fellow-derived, many others are related to team leadership overall and to the external system. We suggest resident-derived recommendations for curricular initiatives directed not just at PHM fellows, but at faculty and at program leadership.

"WE'VE GOT A NEW ONE"—EXPLORING THE RESIDENT-FELLOW INTERACTION AROUND NEW ADMISSIONS

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Background and Objectives: In teaching institutions, new hospital admissions offer an important learning opportunity for collaborating residents and fellows. Their effective completion is important for delivering safe, high-quality care. The provider level outcome of this interaction ranges from motivating to burnout-inducing. Improving the quality of the new admission interaction would improve both the educational experience of trainees and patient care. This study aims to 1) Elicit qualities of ideal and non-ideal new admission interactions according to residents and fellows and delineate motivating or demotivating interaction qualities, and 2) Generate a theoretical framework for describing how new admission interactions impact residents' and fellows' motivation and engagement.

Methods: IRB-approved, qualitative grounded-theory study using semi-structured focus groups of pediatric residents and fellows at Stanford in March 2021. Questions were developed by expert consensus to address study objectives using Self-Determination Theory as a sensitizing concept. Focus groups were audio-recorded and transcribed verbatim. Two investigators independently coded the transcripts and reconciled codes to develop categories and themes using constant comparison. The third author reviewed categories and themes for validation. To further ensure trustworthiness, we asked participants to comment on the themes' accuracy.

Results: 21 residents and 18 fellows participated in 6 focus groups (3 resident, 3 fellow groups). Five themes emerged: 1) Effective new admission interactions require trust between the resident and fellow and buy-in that new admissions are a learning opportunity; 2) Resident trust and buy-in is achieved by the fellow fostering feelings of autonomy, competence, and relatedness within the resident; 3) Fellow trust is dependent on their confidence that a resident is keeping patients safe. Fellow buy-in is dependent on self-efficacy in fostering resident growth. Both are achieved by the resident demonstrating thoughtful investment in a new admission; 4) Several barriers exist to developing trust and buy-in, but strategies to combat these barriers have been identified (Table 1); 5) Lack of trust or buy-in from either party leads to a self-perpetuating cycle of decreasing engagement.

Conclusions: Trust and educational buy-in are the foundations upon which a positive new admission interaction are built. Several strategies exist that residents and fellows may employ to improve this interaction, thereby enhancing trainee learning and quality of patient care.

ADDRESSING THE SPIRITUAL NEEDS OF CRITICALLY ILL CHILDREN AND THEIR FAMILIES: A NATIONAL NEEDS ASSESSMENT OF PEDIATRIC FELLOWS

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Background: Spiritual care is an essential component of whole-person healthcare and becomes increasingly important in critical situations. Despite practice guidelines from the American College of Critical Care Medicine highlighting the importance of spiritual care, studies have shown that critical care physicians rarely initiate conversations about patients' spiritual needs citing lack of training as a significant barrier. Little is known about the perspectives of pediatric physicians working in critical care settings as they relate to spiritual care.

Methods: An IRB-approved survey was sent to a purposeful sample of 720 pediatric fellows training in critical care settings (165 Cardiology, 259 Critical Care, 296 Neonatology). The survey assessed fellows' prior training, experience, knowledge, and attitudes regarding spiritual care. Categorical data was compared using chi-squared test or Fisher's exact tests. The Wilcoxon rank sum test was used to compare the percentage correct on ten multiple-choice questions about world religions. Written free text responses were independently reviewed and coded using inductive analysis by two research investigators.

Results: 245 fellows responded (34% response rate). 83% of fellows had never received prior spiritual care training and 72% of fellows indicated that they would be somewhat or very likely to incorporate spiritual care into their practice if they received training. Prior training was significantly associated with increased familiarity with a framework for taking a spiritual history ($p < 0.001$), the spiritual care resources at the fellow's institution ($p < 0.004$), and increased knowledge regarding spiritual practices that might influence medical care ($p < 0.029$). Prior training was also associated with increased frequency and comfort in taking a spiritual history ($p < 0.0001$), increased referrals to spiritual care resources ($p < 0.016$), and increased comfort in leading a prayer with a patient/family if requested ($p < 0.016$). Lack of time and training were the most common barriers identified to providing spiritual care.

Discussion: Providing spiritual care for families is particularly important in critical care settings. Pediatric fellows are open to incorporating spiritual care into their practice but lack the training to do so. Prior training is significantly associated with improved knowledge and skills in providing spiritual care. An opportunity exists to implement spiritual care training into pediatric fellowship programs.


RESIDENTS AS ADVOCATES: A GROUNDED THEORY EXPLORATION OF THE EVOLVING DEFINITION OF "ADVOCACY" BY PEDIATRIC RESIDENTS

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Health advocacy (HA) is a crucial component of pediatric training?and practice.?Pediatric residents have unique

HA experiences because they not only learn skills, but also conduct real-world HA projects. As more residents engage in project-based HA work, advocacy training must appropriately support their efforts and development. To do this, we first need to understand how residents do project-based HA work.

In this study, we sought to understand how pediatric residents "do" or enact HA by studying their advocacy work and self-reflection over a period of 8 years.

We used grounded theory methodology to conceptualize how residents enact HA. We purposefully sampled HA projects?completed by pediatric residents at the Children's Hospital of Philadelphia from 2013-2021. We iteratively assembled a data archive consisting of two document types: project posters (n = 45) and written self-reflections related to each project. We deidentified data and coded it using the constant comparative method. Codes, connections between codes, and findings were refined by discussion.?

We found that residents enacted four different types of HA: some residents enacted directed agency or directed activism. Other residents enacted shared agency or shared activism. [Table 1] Depending on the type of HA enacted, residents reflected on different learning experiences; residents who engaged in shared forms of HA learned skills such as?*"Partnering,"* *"Evaluating,"*?and "*Planning.*" Residents who did directed forms of HA shared lessons on?*"Leading,"* *"Presenting,"* and *"Intervening."* Projects also changed over time: early projects (2013-2016) were grounded in a resident's personal interaction with a family, patient, or colleague and identified needs in the clinical or educational setting. In later projects (2016-2021) residents took increased ownership of the title and role of "advocate' and expanded their advocacy work to community settings. Health equity and policy had a larger presence in recent projects, and political climate was salient in reflections.

Pediatric residents contribute to their program and community by enacting HA through shared activism and agency and directed activism and agency. Over the past 8 years, resident HA work has evolved in focus and setting. Our findings have implications for advocacy training. No one type of advocacy is best but learning experiences may differ depending on the type of HA residents do. Advocacy educators should consider the varied, changing ways residents enact HA and provide appropriate support.

EFFECTS OF A TEXT-BASED WELLNESS ALERT AND INTERVENTION PROGRAM ON WELL-BEING AND BURNOUT AMONG PEDIATRIC RESIDENTS

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Intro/Background: Burnout is common among pediatric residents, and various wellness curricula have attempted to combat this issue; however, such programming does not typically respond to acute stressors that may impact resident well-being.

Objective: To assess the effects of a novel just-in-time text message-based wellness "check-in" system on resident well-being, satisfaction with wellness programming, and burnout levels.

Methods: We designed and implemented a text message-based wellness "check-in" system for pediatric residents. Any resident or faculty member could activate the system during/after any event affecting resident well-being (e.g. deaths, codes, etc.). We documented the number of texts requested, and responses/requests for resources from residents. We surveyed residents to determine satisfaction with wellness programming, support from the training program/leadership/mentors, and levels of burnout using the abbreviated Maslach Burnout Index (aMBI). Data were analyzed using standard descriptive statistics. Satisfaction and burnout scores were compared between residents who had received a wellness text and those who had not.

Results: Since July 2021, 39 wellness text alerts were received related to 35 different residents. 61/98 (62.2%) of residents completed at least part of the survey; 51/61 (83.6%) completed all questions. 26/61 (42.6%) of survey participants received a wellness text check-in; 24/26 (92.3%) felt the check-in somewhat or significantly improved their well-being. Most residents reported satisfaction with overall wellness support and programming. Those receiving a check-in text were significantly more likely to report being "completely" or "somewhat" satisfied with wellness programming ($p = 0.022$) and with overall support for their personal well-being ($p = 0.031$). Proportion of residents with aMBI scores indicating low/moderate/high burnout across domains of personal accomplishment, depersonalization, and emotional exhaustion were not significantly different between those receiving and not receiving check-ins. Qualitative comments from residents were positive, indicating feelings of being cared for and improved sense of community and morale (Table 1).

Conclusions: This pilot of a text-based wellness alert system was well-received by residents. Those receiving a text indicated improvements in well-being and increased satisfaction with wellness programming. Further interventions, including focus groups, are planned to assess how the program can be improved to better address burnout.

TO EVALUATE THE FEASIBILITY, EFFECTIVENESS AND IMPACT OF A QUALITY IMPROVEMENT AND PATIENT SAFETY (QI&PS) CURRICULUM DESIGNED FOR PEDIATRIC TRAINEES.

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Results

Since 2017, there have been 11 elective programs offered. 39 trainees enrolled (17 PGY2 and 3 pediatric residents, 12 PGY4 fellows, 9 pharmacy residents and 1 pharmacy student). One person did not complete due to a medical emergency. Of the remaining 38 participants, 37 (97%) successfully completed the elective program. Participants were mentored by 2 core faculty, 1 data analyst and 8 faculty project experts with 20 hours/week of training. To date, all participants completed their QI/PI projects and 100% were acceptance for a poster or podium presentation at a local or national meeting/conference. Two QI projects have been published and one is under review. Two of the projects completed by participants have received awards for "best department or hospital wide QI project" at the annual QI symposium.

Conclusions

Training pediatric residents to engage in QI&PS is feasible. A structured curriculum that includes the expectation of project completion is effective and leads to safer and improved quality of care for all patients.

Funding

Funding

To evaluate the feasibility, effectiveness and impact of a Quality Improvement and Patient Safety (QI&PS) curriculum designed for pediatric trainees.

TAPPING INTO INFORMATICS: USING AUTOMATED SURVEY-GENERATION TO UNDERSTAND PEDIATRIC TRAINEE INTEREST IN FEEDBACK ON CLINICAL ENCOUNTERS

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Background

Governing and accrediting organizations have called for improved and increased use of 'big data' from electronic health records (EHR) for trainees to track clinical outcomes and quality benchmarks. The ACGME's Clinical Learning Environment Review recommends that trainees receive data specific to their own patients rather than the entire service or clinical group. Prior work has shown that educators often do not utilize EHR for these purposes. One known barrier is lack of accurate EHR-based attribution of patients to trainees, particularly in inpatient settings. This problem may be related to an incomplete understanding of trainee interest in feedback – specifically what kind, on which patients and why. Exploring these topics may improve and refine the use of EHR-based patient attribution for trainee feedback.

Objective

To characterize:
1) Prevalence of pediatric trainees' interest in feedback on practice outcomes based on EHR access logs

2) Reasons for interest in patient care feedback and types of feedback desired

Methods

We developed an online survey tool that uses EHR access logs to auto-populate a list of 10 patients whose charts had been opened by users in the past 24 hours. Surveys contained questions linked to each patient regarding the trainee's role and interest in feedback, including why and what type (e.g. specific management, quality metrics). Pediatric residents who participated received surveys every two days for two weeks during an inpatient rotation.

Results

From December 2020 to April 2021, 14 pediatric residents (6 PGY-1, 4 PGY-2, 4 PGY-3) completed 677 patient-provider surveys. Based on analysis of surveys linked to an initial, unique patient encounter (n=405), trainees indicated interest in feedback for 29% (n=117) of encounters. Trainees were most interested in feedback "if something unexpected occurred" (76%) and much less on their general clinical management (44%) or aggregated quality metrics (39%) (Table 1). Most common reasons for wanting feedback included feeling responsibility/ownership, something new learned or significant decision made (Table 1).

Conclusion

Pediatric trainees were interested in feedback on less than one-third of encounters during an inpatient rotation. This is lower than we expected, and the finding may be a barometer on the state of the current post-graduate medical training learning environment. Future studies examining trainee reasons for not wanting feedback may shed more light on this surprising finding.

DEBRIEFING TRAINEES AFTER GLOBAL HEALTH EXPERIENCES: AN EXPERT CONSENSUS DELPHI STUDY

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BACKGROUND: Global health (GH) opportunities in pediatric residency training are prevalent, with over half of U.S. pediatric residency programs offering electives in global health. Debriefing of trainees after their return from a GH experience is a potential tool to optimize educational processing, identify post-return stressors, and facilitate coping; however, there are no consensus recommendations for debriefing in this context, and practices are variable across institutions.

OBJECTIVE: Our objective was to develop structure and content guidelines for standardized debriefing of residents returning from short-term clinical GH rotations abroad.

METHODS: Through a modified Delphi methodology involving serial survey questionnaires, we developed a standardized consensus-based debriefing tool. 11 pediatric global health education experts from institutions across the United States were recruited as panelists. Experts were identified as individuals with leadership experience in GH education who have demonstrated academic engagement in the field through either primary or senior authorship of a publication or presentation at a national or international conference. The Expert Panel (EP) completed 4 rounds of iterative surveys that were amended after each round based on qualitative data. In the final round, the EP was asked to rate each recommendation statement that achieved consensus in level of importance from "not important" to "essential" using a 4-point Likert scale. Qualitative data and representative quotations were collected throughout.

RESULTS: 10 of the 11 expert panelists completed all 4 rounds of our Delphi study. The EP achieved consensus that residents should complete post-return debriefing and rated the importance of 32 consensus statements regarding the debriefing process. Among the statement recommendations deemed to be "essential" were those that emphasized a focus on trainee well-being and coping skills, those that addressed ethical concerns, and those that identified a need to provide mental health support and resources for trainees with significant emotional or psychological distress. The majority of respondents identified an additional 18 debriefing recommendation statements as at least "very important."

CONCLUSIONS: According to GH education experts, all residents who participate in GH experiences abroad should participate in a structured debrief upon return. A set of 32 guideline recommendations regarding content, timing, structure, and actions related to post-return debriefing have been formulated according to

content, timing, structure, and actions related to post-return debriefing have been formulated according to expert panel consensus.

BUILDING A BETTER CCC: IMPROVING THE QUALITY OF RESIDENT FEEDBACK THROUGH APPRECIATIVE INQUIRY

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BACKGROUND:

Our Clinical Competency Committee (CCC) convenes twice yearly to review resident evaluation data and generate written summative feedback for the residents. Since 2012, the data gathering processes feeding the CCC have been honed through iterative improvements. However, the summative written feedback produced after CCC review has varied in quality and specificity.

OBJECTIVE:

The aim of this study was to improve the quality of the summative written feedback provided to residents after the CCC reviews using an appreciative inquiry approach.

METHODS:

This study was conducted over the 2019-20 academic year and included pediatric PGY2 and 3 residents (n = 26). The Appreciative Inquiry (AI) methodology was selected to engage all stakeholders in the change process using a positive lens. The first two phases of the AI cycle were accomplished via anonymous surveys to residents and faculty. The survey responses were analyzed, themed, and presented to resident and faculty representatives for their input into how best to improve the CCC process based on the identified themes.

Deliberate Practice (DP) as a theoretical framework guided the definition and assessment of high-quality feedback. Post-intervention the quality of the CCC summative feedback was gauged by: 1) Scoring de-identified resident summative feedback comments using the Task-Gap-Action (TGA) published rubric, and 2) An anonymous survey of resident satisfaction with CCC feedback, both grounded in the DP. This study was reviewed by the UTHSCSA IRB and approved as non-regulated research.

RESULTS:

Resident response rates were 50% pre- and 46% post- on the combined survey consisting of AI prompts and feedback satisfaction questions. Faculty response rate was 50%. Themes from the AI process are summarized in Figure 1 and resulted in a change involving a new CCC summative feedback form grounded in the milestone evaluation. Resident satisfaction with feedback trended positively (Figure 2), and the objective quality of the feedback increased with mean TGA scores increasing from 2.5/9 to 8/9. Insights gained from the TGA scoring process include the importance of enhanced training on Deliberate Practice for CCC members as well as the need for more concrete examples in the Gap and Action areas.

CONCLUSIONS:

AI is a feasible approach to determining the needs of learners and faculty in the feedback process. Additionally, the use of the TGA rubric offered valuable insight into assessing high-quality feedback produced by the CCC to support the growth of resident trainees.

ENABLING EDUCATORS TO BALANCE HONEST ASSESSMENT AND COMPASSION FOR BURNED OUT LEARNERS

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Background: Burnout is prevalent among medical trainees and impedes work effectiveness and ability to learn. Frontline educators in the Clinical Learning Environment (CLE) are situated to identify burnout and support learners, but wellness interventions have not historically targeted the CLE. They are also responsible for assessment, but learner burnout exacerbates barriers to honest feedback. However, feedback sessions offer an opportunity to simultaneously guide and correct a trainee toward growth as well as provide support when burnout is present. Objective: We sought to prepare frontline educators to manage learner burnout in the CLE and equip them with a novel feedback method that balances critique and compassion. Methods: Using the Maslach Burnout Inventory (MBI) and principles of high-quality feedback as a framework, we developed the GetINBurnOUT method which includes a brief, evidence-driven intervention [Figure]. To disseminate it, we designed a 60-75 minute workshop, driven by Kolb's theory of experiential learning. Content centered around advanced burnout knowledge and conceptualization of learner burnout in the CLE, application of MBI to the CLE to identify burnout manifestations, and practicing the GetINBurnOUT method. Participants were asked to complete a post-workshop survey and 6-month follow-up survey. Results: The workshop has been presented by invitation six times at local, regional, and national medical education conferences and faculty development sessions to over 160 participants. Participants rated the workshop favorably and all planned to incorporate the material into their practice. Comments emphasized the importance of the topic, benefits of the interactive approach, and practicality of the GetINBurnOUT method. Follow-up data is limited to date but suggests use of the GetINBurnOUT method in practice. Conclusions: The GetINBurnOUT method exemplifies how frontline educators can be engaged in efforts to address burnout in medical trainees. Attendance and invitations by past participants to present at their institutions indicate interest in wellness initiatives that target the CLE, and evaluations show that the workshop, including the GetINBurnOUT method, enhances participants' understanding of learner burnout and how to manage it in the CLE. Next steps include ongoing dissemination, collection of longitudinal data and cognitive interviews with those who have delivered and received GetINBurnOUT feedback.

FINDING OUR WAY TO WELLNESS: USING CONCEPT MAPPING TO CONCEPTUALIZE AND PRIORITIZE PEDIATRIC RESIDENT WELL-BEING DOMAINS

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Medicine and Public Health; Eric K. Zwemer, MD, University of North Carolina; Elizabeth Rodriguez Lien, MD, University of Texas Medical Branch; Daniel J. Sklansky, MD; Ryan Coller, MD, MPH; Megan A. Moreno, MD, MSEd, MPH, University of Wisconsin School of Medicine and Public Health; Roger J. Schultz, (Neurobiology), University of Wisconsin-Madison; Sarah A. Webber, MD, University of Wisconsin School of Medicine and Public Health

Background: Resident wellness is national priority. However, the conceptual domains of resident well-being are poorly understood.

Objective: Use a rigorous mixed methods approach, Group Concept Mapping (GCM), to understand how a diverse sample of pediatric residency program stakeholders conceptualize and prioritize resident well-being domains.

Methods: We followed the validated GCM process. First, an online survey to complete brainstorming was sent to stakeholders at 24 US residencies recruited by APPD LEARN from its network. Stakeholders included pediatric residents and residency program representatives (leaders, coordinators, wellness champions). Stakeholders completed brainstorming by listing unlimited ideas responding to the prompt, "The experience of well-being for resident physicians includes…" We analyzed the participant idea list to eliminate redundancy. Second, stakeholders at 4 programs sorted well-being ideas into groups by perceived conceptual relatedness and then rated idea importance. Third, we performed multidimensional scaling and hierarchical cluster analysis to develop cluster maps. Using an iterative, consensus-driven process, we determined best cluster representation of participant responses.

Results: In brainstorming, 135 residents and 22 program representatives generated 894 ideas. The refined list included 97 unique ideas. Ideas were sorted by 42 stakeholders (30 residents, 12 program representatives). The resulting concept map revealed 8 domains: 1) Social unity & connectedness; 2) Safe, supportive & inclusive work culture; 3) Professional role validation & developmental support; 4) Mindset, intellectual growth & inner resources; 5) Optimized individual health & well-being; 6) Schedules supporting human needs; 7) Work systems, environmental infrastructure & job benefits; 8) Wellness-focused leadership. Importance ratings demonstrated mutually high prioritization of "Mindset, intellectual growth & inner resources" by residents and program representatives. Importance ratings for several domains were discrepant between stakeholder subgroups, most notably, "Schedules supporting human needs." Residents rated this cluster as highly important relative to other clusters, while program representatives rated this cluster as least important.

Conclusions: The study provides a framework for approaching pediatric resident well-being, highlighting areas of alignment and misalignment in stakeholder well-being priorities, particularly regarding work schedules. Next steps include focus groups to elicit stakeholder feedback on findings.

FELLOWS' COLLEGE – A PROFESSIONAL DEVELOPMENT PROGRAM FOR SUBSPECIALTY FELLOWS

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Abstract Title

Fellows' College – A Professional Development Program for Subspecialty Fellows

Abstract Body

Objective:

To assess the quality and usefulness of a committee-designed, professional development program for subspecialty fellows.

Background:

Fellows' College is a program for pediatric subspecialty fellows that offers education, research, and professional development through skill building and mentorship. The curriculum provides training, resources, and education aligned with ACGME and ABP core program requirements. Fellows' College was developed in 2006 and has evolved to keep up with emerging trends in medical education. In the original model, the Vice-Chair of Education planned sessions and chose specific topics and workshops. In 2016, a planning committee convened to restructure Fellows' College and determined that theme-based sessions planned by a faculty leader whose expertise aligned with the session would optimize the education and experience of fellows.

Methods:

We identified five workshop topics to provide a comprehensive curriculum: Career Development, Education, Leadership and Teaching, Research, and Quality Improvement. A faculty leader whose expertise aligns with the theme is designated the Chair of Fellows' College and identifies presenters and topics for their session. The curriculum consists of quarterly half-day sessions with workshops tailored to fellows based on level of training. Participation is mandatory for all fellows, and program directors commit to providing protected time for fellows to attend. Senior faculty from within and outside the department serve as presenters, assisted by junior faculty for small-group breakout sessions. Participants complete program evaluations at the end of each session.

Results

Data collected from all fellows from the last five years show a high average in clarity of objectives, usefulness of material, and overall quality of the workshop. Topics and presenters change each year based on feedback from fellows, therefore scores vary. However, the current data indicates that over all this model received positive feedback.

Conclusion

We have been contacted by other departments at UCSF and beyond who modeled their career development after Fellow's' College and believe it provides a useful framework. Data from fellow evaluations of Fellows' College show the program has high quality and continued usefulness. Our next steps include conducting a post graduate survey to assess the effectiveness of Fellows' College sessions as graduated fellows transition to career positions.

MITIGATING BIAS IN RECRUITMENT TO ENHANCE DIVERSITY IN PEDIATRIC FELLOWSHIP PROGRAMS

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Background

Despite increasing recognition that a diverse physician workforce is essential to address healthcare disparities, improve patient outcomes, and foster innovation, [1]studies reveal minimal improvements over time in the proportions of underrepresented in medicine (URiM) physicians. In 2020, the UCSF Department of Pediatrics engaged in a purposeful effort to increase diversity in fellowship programs.

Objective

Identify and promote best recruitment practices to enhance diversity in subspecialty programs

Design

Prior to the 2020 recruitment season, we established a Fellowship Diversity Recruitment Committee to create guidelines, tip sheets and a holistic review rubric using ACGME and AAMC resources. These resources were collated in an on-line toolkit and shared across all fellowship programs. Additionally, faculty with relevant expertise organized training on unconscious bias in recruitment during pre-scheduled division meetings. We also created recruitment materials that emphasize our institutions commitment to diversity and organized a "second look" targeting UIM applicants. For the 2021 recruitment season the toolkit was updated and program directors were required to review and share with everyone involved with recruitment.

Outcomes

All 13 programs participating in the 2020 and 2021 fall match employed holistic review versus 2/13 programs in the prior year. Prior to start of 2020 interviews, over 250 faculty, fellows, and staff participated in the bias trainings. Prior to the 2021 recruitment season, we shared diversity data across all fellowships and asked programs to recommit to recruiting UIM applicants. In the years following the intervention, the percentage of UIM applicants across all programs that were interviewed, ranked, and matched increased compared to the preintervention year, while there was only a small increase in the number of UIM applicants. See figure 1.

Conclusion

Our findings indicate that a department wide collaborative approach is an effective and efficient way to increase diversity in subspecialty programs. By combining resources and collaborating across divisions we were able to leverage resources that would have been difficult to attain by small fellowship programs in isolation. This approach can be a model for other small training programs at other institutions.

WAKING UP MORNING REPORT: IMPROVING CLINICAL REASONING AND STANDARDIZATION OF FEEDBACK FOR RESIDENT MORNING REPORT

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Results

At baseline, morning reports scored an average of 4.8 out of 16 possible points. By the end of the project, presentations were scoring an average of 14, with a median of 12 over the entire study period. Notably, improvement was observed in eliciting the clinical reasoning process from audience members, a skill critical to the effectiveness of the case-based format. Junior faculty also appreciated the instrument as a guide to providing structured feedback to residents.

Conclusions

Standardized feedback improved residents' case-based presentation skills. This improvement was sustained through frequent modeling of morning reports and repeated use of the feedback instrument. We will continue using these interventions to help residents develop their ability to teach clinical reasoning to their peers through the case-based format. In addition, this project provides support for the efficacy of the material developed by Beck et al. and extends its pedagogic utility to resident-led presentations. Its adaptability to other contexts may be explored.

Funding

We sought to help residents become better educators by providing standardized feedback using specific criteria of effective case presentation skills.

QUALITY IMPROVEMENT EDUCATION FOR RESIDENTS: A TEAM APPROACH

Shareen Kelly, MD, St. Christopher's Hospital for Children

Results

A run chart with percent of charts having complete documentation is provided. Most interventions resulted in improvement of our primary outcome but sustainability was not demonstrated, due to the fact that new residents started in each rotation.

Conclusions

The residents rotating through our sick clinic were actively engaged in learning the principles of QI through monthly PDSA cycles around the issue of asthma symptom documentation. Although improvement was not sustained month to month, this is a valid way of teaching QI principles and this model can be applied to other clinical questions in the future.

Funding

To engage all trainees in QI during their 'sick clinic' rotation and to improve the number of charts with a complete asthma history documented by 30% between the beginning and end of each rotation.

IT'S IN THE WATER: WORKING TOWARDS INCLUSIVITY, PSYCHOLOGICAL SAFETY, AND ACCOUNTABILITY THROUGH THE IMPLEMENTATION OF THE PEDIATRIC RESIDENCY PROGRAM CHALLENGING INTERACTIONS REPORTING TOOL

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Background: Optimal learning takes place in psychologically-safe environments; however, bullying is common in medicine and can have detrimental effects on education, teamwork, and patient care. Residents at the Children's Hospital of Philadelphia reported frequently experiencing or witnessing bullying, prompting the need to develop a Challenging Interactions Reporting Tool.

Objective: We aimed to create a reporting tool in order to: 1) ensure timely and consistent responses from program leadership, 2) identify themes and "hot spots", and 3) understand the resident experience to help target future interventions.

Methods: A REDCap survey was made accessible to residents in August 2020. Residents filing a report may do so anonymously or non-anonymously and are asked to categorize the report using one or more of the following: harassment or threat, microaggression, vulnerable patient/family with high emotions, unprofessional behavior, other, or unsure. Reporters are specifically asked whether the event was an instance of racism. Reports include details about the interaction, any in-the-moment response by participants or bystanders, and the reporter's desired outcome. Reports were reviewed by chiefs and program leadership. Outcomes of each report were recorded to allow for identification of themes.

Results: 111 reports were filed from August 2020 to September 2021, representing challenging interactions occurring in all training environments and involving all members of the care team. The most common category reported was unprofessional behavior (68%, n=75), with 27% microaggressions (n=30), 20% other or unsure (n=22), 8% vulnerable patient/family with high emotions (n=9), and 1% harassment or threats (n=1), with 23% of reports (n=24) identified as an instance of racism. Responses to reports included: meeting with rotation educational leads or division leadership (40%, n=44), identification of themes and increasing awareness (27%, n=30), direct feedback to supervisor (19%, n=21), direct feedback to individual (11%, n=12), and development of educational resources (3%, n=3).

Conclusions: The use of a REDCap tool to identify and track responses to challenging interactions has led to a repository of events, identification of themes, and standardization of responses. Future work will incorporate education, including microaggression and de-escalation training. This tool could help other programs to better understand the issues unique to their learning environments so that specific, action-based interventions can be implemented to improve support of trainees.

IMPACT OF GENDER ON COMPETENCY MILESTONES AND ENTRUSTMENT SCORES IN AN ESTABLISHED PEDIATRIC RESIDENT ASSESSMENT PROGRAM

Jana Jaffe, MD; Mark Adler, MD; Karen Mangold, MD; Anisha Kshetrapal, MD, MSEd, Ann & Robert H. Lurie Children's Hospital of Chicago

Objective: To determine if observational competence and entrustment scores differ by resident and assessor gender in a program of assessment to evaluate for implicit gender bias, a potential threat to the integrity of trainee assessment.

Methods and Analysis: A formative assessment program was developed for 2nd year pediatric residents to assess clinical and interprofessional skills. Trained raters (faculty and advanced trainees) assessed performance of simulated cases using anchored global rating scales of competency based on the Accreditation Council for Graduate Medical Education (ACGME) pediatric milestones and entrustment using an entrustable professional activity (EPA) scale (as described by ten Cate). We evaluated two competency measures: (1) the ability to provide seamless transfer of care (PC3) and (2) the ability to make informed decisions (PC4). We conducted retrospective analysis using competency (PC3, PC4) and entrustment scores using de-identified data from five cases from 2016 to 2021. ANOVA and Spearman correlation tests were used.

Results: Data from 148 residents and 29 raters was available. 79% of residents were female, 21% were male. Of raters, 75% were female and 25% were male. Both competency scores were found to be independently correlated with entrustment score ($r=0.48$, $r=0.58$). There was no impact of rater nor resident gender on PC4 scores. However, male raters scored 0.5 points lower than female raters on PC3 regardless of resident gender ($p<0.05$). In the ANOVA model, neither rater nor resident gender affected entrustment scores.

Conclusions: We did not identify a significant difference in competence or entrustment scores of trainees based on resident or rater gender. While several factors may explain this including researcher-assigned gender, predominance of women in pediatrics, limitations regarding the non-parallel use of the competence and entrustment scales, use of milestone ratings in one setting rather than longitudinally, and nesting of raters within cases, it is reasonable to postulate that use of rater training and anchored scales contribute to lack of impact from gender bias. Future work should investigate gender bias using methods to address the limitations of this retrospective work.

EXPLORATORY STUDY FOR THE DEVELOPMENT OF AN INNOVATIVE NEONATAL HEALTH INEQUITIES CURRICULUM

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Background: Inequities in health care have been a well-identified contributor to adverse outcomes in neonates of vulnerable populations. There is a need to design and implement a curriculum to address not only health inequities but also the role of implicit bias to enhance equitable care, specifically in the neonatal population. Though this is an important problem, resident experiences and perspectives regarding how to learn best about neonatal health inequities is unknown.

Objective: To explore pediatric residents' knowledge, perspectives, and experiences with neonatal health inequities, with the goal of developing a novel resident curriculum.

Methods: In this exploratory, qualitative, IRB-approved study, we conducted three focus groups to explore pediatrics residents' perspectives on clinical experiences, prior education, preferred learning method and curricular design as related to neonatal health inequities. Using modified grounded theory, we developed codes, categories and themes through constant comparison. We will ensure trustworthiness through member checking. We have continually considered our own perspectives and reflected on the ways in which our lens impacts our interpretation of qualitative data in line with the process of reflexivity.

Results: Three focus groups were conducted with 17 total residents participating. One of the three focus groups specifically recruited residents who identified as underrepresented in medicine and had 4 participants. Four themes were identified (Table 1) including: 1) Residents spotlight inequities such as lack of interpreter services and standardization of care but find it difficult to address them in real-time due to systems-level barriers, lack of time, and limited action-oriented knowledge. 2) Residents express a high level of moral distress given perceived inability to fully address these inequities in the clinical setting. 3) Residents desire weekly protected time for action-oriented education around inequities. 4) Residents emphasize importance of faculty knowledge, approach to, and role-modeling of addressing inequities, highlighting a need for ongoing faculty development.

Conclusion: The hidden curriculum of health inequities is pervasive and distressing, and will require transformative educational and systems level changes to address. Residents' perspectives are critically important as we design curricular and systems level interventions.

ASK A DOC, GET THE SHOT: ESTABLISHING A COMMUNITY-BASED COVID-19 VACCINE EDUCATION INITIATIVE IN A PEDIATRIC RESIDENCY PROGRAM

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Background: COVID-19 has had a disparate impact on communities of color, with high rates of severe disease and death in Black and Latinx individuals compared to their white counterparts. Even before the COVID-19 pandemic, distrust rooted in historical oppression led to increased hesitancy surrounding uptake of medical interventions, include vaccinations. In Boston, COVID-19 vaccination rates of Black and Latinx adolescents aged 12-18 lagged behind their white and Asian counterparts.

Methods: To address racial/ethnic disparities in COVID-19 vaccination rates in Suffolk County, Massachusetts, using a targeted vaccine education campaign staffed by pediatric residents. In partnership with community organizations and Boston Public Schools, Boston Medical Center held community vaccine clinics targeting areas with lowest vaccination rates within the Boston area. Pediatric residents established an accompanying in-person and virtual vaccination education program at these events, entitled "Ask-a-Doc" to help improve health literacy and address vaccine hesitancy.

Results: Community vaccine clinics in 15 different zip codes in Suffolk County were staffed by Ask-a-Doc residents (Mapped out in Figure 1). The Ask-a-Doc program partnered with and delivered vaccines at 22 distinct schools with over 900 vaccine doses administered. Most vaccine doses were given to Black and Latinx patients. Over the course of the program between July 2021 and January 2022, the vaccination rate in Suffolk County increased from 54% to 80% for 12-15 year olds and from 48% to 61% for 16-19 year olds.

Conclusions: The Ask-a-Doc program successfully engaged Boston community members in a dialogue surrounding vaccine hesitancy in predominantly communities of color using a combination of in-person and virtual educational events. Pediatrics residents can meaningfully engage in community outreach with sufficient protected time, resources, and institutional support. Health professionals should provide opportunities for routine and accessible dialogue with community members and organizations to optimize trust and credibility within communities. Of note, these results do not necessarily measure the direct effects of this program but instead recognize the overall impact of Boston Medical Center's vaccine outreach initiative, while only reporting statistics on the subset of events with pediatric resident attendance. There are active efforts to follow up this work with qualitative assessments meant to more directly measure the impact of the program on vaccine hesitancy.

LET'S TALK ABOUT IT: DEVELOPING AND IMPLEMENTING A SIMULATION-BASED COMMUNICATION CURRICULUM USING VITALTALK METHODOLOGY

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Background: Simulation-based communication training demonstrates promise for improving communication skills among residents. Despite demand for communication curricula among pediatric trainees, few studies report on the implementation or efficacy of simulation-based communication curricula delivered across pediatric residency. In 2020, we initiated a longitudinal communication curriculum for residents using VitalTalk, a validated, nationally-recognized methodology to teach empathic and patient-centered communication skills using simulation. Objective: This study aims to assess the impact of a simulation-based communication curriculum that uses VitalTalk methodology for postgraduate year 1 (PGY1) residents on comfort with and competence in delivering serious news, as a first step toward developing a longitudinal communication curriculum. Methods: Forty-one PGY1 residents completed one 4-hour-long simulation-based session on delivering serious news using VitalTalk methodology during the first 6 months of PGY1. The intervention was led by trained VitalTalk facilitators and patient actors. All participants were invited to complete anonymous pre- and post-session surveys online. Surveys included Likert-scale and free-response questions to assess self-perceived comfort with and competence in delivering serious news. All quantitative and qualitative survey data were collected and stored anonymously through RedCap. Descriptive statistics were used to summarize quantitative data and Kruskal-Wallis analysis was used to compare Likert-scale responses before and after training sessions. Results: All 41 (100%) participants completed the pre-session survey and 24 (59%) completed the post-session survey within 3 months of the training. Trainees' self-perceived comfort with and competence in delivering serious news increased significantly

training. Trainees' self-perceived comfort with and competence in delivering serious news increased significantly across nine of ten domains (Table 1). Participants identified concrete communication tools to use in difficult conversations going forward (Table 2). Conclusions: Our results support that a single simulation-based training session during PGY1 improves self-perceived comfort with and competence in delivering serious news among pediatric residents, and supplies communication tools to use in clinical practice. These findings provide a foundation for the development of a longitudinal communication curriculum using VitalTalk methodology for pediatric residents. Further research to examine the efficacy of this resource-intensive methodology may help other programs advocate for resources or leverage the APPD community for shared resources.


IDENTIFYING GENDER AND RACIAL BIAS IN PEDIATRIC FELLOWSHIP LETTERS OF RECOMMENDATION

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Background: Implicit biases may impact an individual's training opportunities. Letters of recommendation (LOR) are an important factor in fellow selection, however their subjective nature allows for potential biases based on gender, race, and/or ethnicity. Differential use of agentic (leadership traits) versus communal (caring traits) terms in LOR have been associated with biases.

Objective: To describe differences in the use of agentic and communal language in LOR for fellowship candidates based on the applicant and letter writer demographics.

Methods: In this retrospective study, LOR text for applicants to 8 pediatric fellowships in a single academic center from the 2020 Match® were analyzed. Frequency of validated agentic and communal terms in each letter was determined via a customized web application based on an open-source code repository, which computed a bias percentage. Neutral was defined as having <5% of either agentic or communal terms. Applicant and letter writer data were downloaded from the Electronic Residency Application System (ERAS) and confirmed via professionally published profiles. LOR from >1 writer were coded as male or female if congruent gender, or mixed gender if not.

Results: We analyzed 1,521 LOR from 409 applicants. Applicant and letter writer characteristics are described in Table 1. Overall, LOR had a mean agency bias of 13%; 66% of LOR were agency biased (n=1001), 16% communal biased (n=236), and 19% neutral (n=284) (Figure 1). A stronger agency bias was detected across all applicant and most letter writer characteristics (Table 1). Significant differences in bias percentage by applicant gender (Male 11% agency vs Female 14% agency, p=.017), letter writer gender (Male 12% agency, Female 15% agency, Mixed gender 19% , p=.008), and letter writer rank (Junior 14% agency vs Senior 12% agency, p=.017) existed. There was no significant interaction between applicant and letter writer gender. There was no significant difference by URM status (Non-URM 13% vs URM 13% agency, p=.815).

Conclusion: The majority of pediatric fellowship LOR contain more agentic than communal terms. While there are small but significant differences by both applicant and letter writer gender, the next phase of this study will explore if these biases impact decisions to interview and rank candidates. This study increases awareness of potential linguistic biases within LOR for pediatric fellowship applicants. Educating letter writers to analyze their text provides an opportunity to address these biases.

CDEC: A NOVEL CRITICAL CARE DE-ESCALATION CURRICULUM FOR PEDIATRIC TRAINEES

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Background: Caring for patients transferred from the Pediatric Intensive Care Unit (PICU) to the acute care floor is challenging due to patient, provider, and systems-level factors. Additionally, concepts necessary for comprehensive care de-escalation are often absent from medical school curricula and many residents lack experience with these unique issues.

Objective: We performed a needs assessment and designed a Critical Care De-Escalation Curriculum (CDEC) to address educational gaps and improve transitions of care.

Design/Methods: Attitudes, experiences, and comfort were assessed via anonymous surveys. Baseline surveys were distributed to all pediatric residents (n=121) in January 2021. The CDEC didactic series was held February – March 2021, covering seven high-yield topics: Access, Feeds, Microbiology, Respiratory, Medication Weans, Discharge Planning, and Overview by Systems. Follow-up surveys were distributed in June 2021. Exploratory surveys were distributed to the rising intern class (n=40) in July 2021. Unique identifiers linked survey responses and paired-samples t-tests evaluated for significant changes over time.

Results: 75% (91/121) and 55% (66/121) of residents responded to our baseline and follow-up survey, respectively. 68% (45/66) of respondents reported attending at least one CDEC session; of these, 98% (44/45) agreed or strongly agreed that the session(s) were helpful and 98% (44/45) felt the session(s) had changed their approach to PICU transfers. Residents reported significantly increased comfort with tasks necessary for care de-escalation care, including: perform a chart review of relevant clinical data (p=0.006), identify a patient's active issues (p=0.002), identify medication changes (p<0.001), develop a plan of care (p<0.001), determine antibiotic plan based on culture results (p=0.016), wean medications to avoid withdrawal (p<0.001), manage feeding difficulties (p<0.001), order pulmonary therapies (p<0.001), and address barriers to discharge (p<0.001) (Figure 1). Of the 36 rising interns (90% response rate), none reported prior education or experience with care de-escalation.

Conclusions: Education surrounding pediatric critical care de-escalation is needed. As a result of our curriculum, pediatric residents reported increased comfort with tasks related to care de-escalation and ability to develop a care plan for patients transferred from the PICU to the floor.

ASSESSING USE OF BUG-IN-EAR TECHNOLOGY AS A NOVEL FEEDBACK TOOL

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Background: Bug-in-ear (BIE) technology allows remote observation and instantaneous feedback to learners via an earpiece. It has been used successfully in education, athletic training and psychology, but use in medical education has been limited.

Objective: In this pilot study, we evaluated the feasibility and acceptability of using BIE technology to provide real-time feedback to pediatric residents, and assessed the impact of BIE compared to post-encounter feedback on residents' shared decision making (SDM) self-efficacy, attitudes and skills.

Methods: PGY-1 pediatric residents were randomly assigned to BIE feedback using a $26 earpiece or traditional post-encounter feedback groups for two consecutive simulated SDM cases at intern orientation. They completed a survey assessing feasibility and acceptability of BIE technology for feedback. Validated scales were used to measure residents' SDM skills (OPTION 5) after cases; attitudes (Patient-Practitioner Orientation Scale (PPOS)) and self-efficacy (SE-12 self-efficacy questionnaire) were measured before, immediately after and four months later. We evaluated feasibility and acceptability using descriptive statistics and compared outcomes between feedback groups using mixed-models.

Results: 18 residents participated with 8 in BIE group. 100% of residents who used BIE found it effective or highly effective for feedback and 75% felt BIE feedback enhanced their learning. 62.5% of the 8 residents would use BIE feedback again. Disadvantages of BIE feedback included moderate or considerable distraction (37.5%) and earpiece discomfort (12.5%) (see Table). The PPOS and SE-12 scores showed no significant change over time for either feedback group. We found a treatment effect on the total scores for the PPOS (p=0.02, 95%CI 1.15-11.94) and SE-12 (p=0.04, 95%CI 0.16-6.42) with residents in the traditional feedback group scoring higher at study start and completion. Mean scores on the OPTION 5 were higher in the BIE group (52.5 (SD 14) vs 48.7 (SD 10.3)), but this difference was not statistically significant (p=0.34).

Conclusion: BIE technology is a feasible and acceptable means of providing real-time feedback to residents. Optimal equipment and adequate practice are necessary to maximize the impact of feedback and minimize distractions. Residents' SDM self-efficacy, attitudes and skills did not improve with BIE compared to traditional post-encounter feedback. Further evaluation with a larger sample is necessary to explore the ideal BIE feedback dose to change outcomes and the impact of BIE feedback on patient care.

EXPLORATION OF PEDIATRIC RESIDENTS' PERSPECTIVES ON ANTI-RACISM CURRICULA: A QUALITATIVE STUDY

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Background:

Racism is a public health crisis. Recently, residency program leadership has prioritized developing anti-racism curricula nationally. Unfortunately, there are currently no published studies of residents' perspectives to guide building anti-racism curricula.

Objective: To elicit resident perspectives on the content and qualities of a meaningful anti-racism curriculum.

Methods: We performed an IRB-approved, multi-institutional qualitative study. We conducted a total of six focus groups of pediatric residents from self-identified underrepresented in medicine (UIM) and non-UIM backgrounds at three pediatric residency programs with >15% UIM residents (Stanford, Cincinnati Children's, and Children's National) between February and June 2021. We developed focus group guides based on literature review and expert consensus. We facilitated focus groups virtually, audio recorded, and transcribed them verbatim. Three authors (including at least one UIM author) reviewed each transcript and used modified grounded theory to develop codes which we then organized into categories and themes through constant comparison. We did a member check with participants to verify themes.

Results: One UIM and one non-UIM focus group were conducted at each institution, including a total of 19 UIM and 21 non-UIM residents. We elicited 7 core themes: 1) anti-racism education is critical to residents' development as a competent physician; 2) experiences with racism during residency training are pervasive, with UIM residents highlighting that they experience and observe these events and non-UIM residents highlighting that they observe them; 3) all healthcare providers should learn about anti-racism; 4) it is helpful to have educators with lived experiences and those with learned experiences with racism in medicine, and it is valuable to learn from people outside of medicine; 5) the strong desire to learn tangible and action- oriented strategies to advance anti-racism as physicians in clinical practice and in our institutions 6) the need to invest in anti-racism education, through safe spaces, protected time, and financial resources; and 7) the importance of psychological safety of UIM residents coupled with promoting discussion and learning with each other.

Conclusion: By understanding resident perspectives on how to best learn about anti-racism, we can create more impactful anti-racism residency curricula nationally, with a common goal of providing more equitable care for patients and improving the culture of medicine.

FACTORS PROMOTING/INHIBITING THE USE OF ENTRUSTABLE PROFESSIONAL ACTIVITIES IN PEDIATRIC FELLOWSHIPS

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Background: Entrustable Professional Activities (EPAs) have been developed for pediatric subspecialties but are not uniformly used in pediatric fellowships. The American Board of Pediatrics plans to require EPA-based assessments in the near future as a part of initial certification. Understanding fellowship program directors' (FPDs) perspectives will be essential for successful and meaningful implementation of trainee assessment using

EPAs.

Objective: To understand pediatric FPDs' current use of EPAs and their perspectives on potential facilitators and barriers to utilization of EPAs.

Methods: A qualitative study was performed from Nov 2019 to Sept 2020 using purposeful and snowball sampling of FPDs who self-identified as current EPA users or non-users. Semi-structured interviews were conducted using a guide with open-ended questions and prompts to explore current EPA use/non-use and the factors supporting or preventing their use. Interviews were audio-recorded and professionally transcribed. Educators of the research team independently coded the transcripts after training. Group discussion and consensus informed code structure development and refinement. Iterative data collection and analysis continued until theoretical sufficiency was achieved.

Results: 28 FPDs representing 11 pediatric subspecialties were interviewed, of whom 16 (57%) reported current EPA use. Four major themes emerged from the analysis (Table): (1) variable knowledge and training surrounding EPAs, leading to differing levels of understanding; (2) limited current use of EPAs, even among self-reported users, some of whom only use EPAs as a part of research studies; (3) facilitators and barriers to use in which FPDs recognize the intuitive nature and simple wording of EPAs but also note the amount of additional work needed to institute a new tool. FPDs also report that the lack of a regulatory requirement is a barrier to their use; and (4) complementary nature of EPAs and milestones in which FPDs acknowledge the differing strengths each assessment tool provides but want more data about the value added through EPAs, including their impact on outcomes.

Conclusion: The intuitive and straightforward nature of EPAs may facilitate their use in pediatric fellowship programs. However, effective implementation into the current assessment system requires a thoughtful approach to addressing barriers, such as additional workload and limited knowledge and understanding of EPAs and their perceived value. This will require significant engagement with, and education of, program directors.

 

VIRTUAL INTERVIEWS FOR RESIDENCY: BENEFITS AND DRAWBACKS TO APPLICANTS AND PROGRAMS

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Background:

Due to the COVID-19 pandemic, residency programs transitioned to virtual interviews for the 2020-2021 application cycle. This represented the first major change to the application process since centralized applications were established in the 1990s. As such, both programs and applicants faced a great deal of uncertainty and were required to be adaptable.

Objective:

To review and interpret survey results regarding the virtual residency interview experiences of graduating fourth-year medical students to help establish a standard for integrating virtual interviewing for residency programs in future application cycles.

Materials and Methods:

Graduate Medical Education leadership distributed an electronic survey to 4th-year medical students who participated in the 2020-2021 residency virtual interview season. The graduating applicant survey was distributed to 202 students after rank list submission. Study data regarding impressions of virtual interviewing was collected and managed using Research Electronic Data Capture (REDCap) tools.

Results:

The survey had a 23% response rate. A majority of applicants (93%) agreed or strongly agreed to feeling comfortable with the virtual interview platform. Virtual interviews were reported to be easy to schedule and applicants agreed they had few time conflicts. Most (66%) applicants agreed they could connect with the person conducting the interview. Although virtual interviews were reported to be easy to schedule (97.7%), only 52% agreed or strongly agreed they obtained adequate information to determine program rank. Most stated they would prefer a combination of virtual and in-person interviews or virtual interviews.

Conclusion:

Our study showed that graduating applicants felt comfortable with virtual interviewing as a platform for applying to residency. Virtual interviewing for residency applications appears to have benefits such as time and cost savings while potential drawbacks for programs including limited scope to highlight strengths and distinguish themselves appear manageable. A hybrid model of in-person and virtual interviews seems beneficial to both applicants and programs going forward.

THE IMPACT OF JUST-IN-TIME TRAINING ON SELF-EFFICACY IN PEDIATRIC RESIDENTS

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INTRODUCTION/HYPOTHESIS: In medical education, self-efficacy describes one's ability to take raw knowledge and apply it in a patient care context. In the ever-growing supervisory and safety culture of medical training, trainees report low levels of autonomy and comfort with independent decision making, specifically to acute patient decompensation. The goal of this study is to describe the self-efficacy of pediatric residents in acute care management. We hypothesized that a Just-in-Time Training (JiTT) curriculum would improve resident self-efficacy as measured by a validated self-efficacy tool.

METHODS: During the night float rotation, pediatric residents completed a modified Pediatric Resuscitation and Escalation of Care Self Efficacy Survey (PRSES) to obtain baseline self-efficacy data. The primary investigator led residents in JiTT educational sessions tailored to their highest acuity and most at-risk patients. These sessions

included a discussion of the trainee's mental model and suggested management, as well as procedural practice. At the end of their night float rotation, residents completed a post-intervention PRSES and satisfaction survey. We compared the PRSES surveys with a control group of residents who did not undergo JiTT.

RESULTS: Fifty-five pediatric and internal medicine/pediatric residents participated in the JiTT sessions with 37 completing pre and post PRSES (67% response). Thirty-three percent of the participants were interns, 39% second years, and 28% third and fourth years. 49% of participants had not completed a pediatric intensive care unit rotation and 45% never participated in a code blue event. Prior to JiTT, the mean resident self-efficacy score was 38 (SD ± 4.9), slightly higher than resident scores reported in the validation study for the PRSES. Mean resident self-efficacy scores significantly increased after JiTT to 41 (SD ± 5.4, $p<0.001$). Comparing the control group of residents, we found the JiTT participants reported greater self-efficacy in identifying decompensating patients, providing respiratory support, knowing age appropriate vital signs, locating equipment, and dosage of emergency medications.

CONCLUSIONS: Baseline self-efficacy scores of pediatric residents were slightly higher than previously reported scores. JiTT improved pediatric residents' self-efficacy in acute care management. Further studies are warranted to explore the sustainability of self-efficacy and assess the feasibility of implementing JiTT curricula on a larger scale.

CREATION AND IMPLEMENTATION OF AN ACTIVE BOARD PREP ELECTRONIC PLATFORM USING QUALTRICS® SURVEY SOFTWARE TO INTEGRATE AND ENHANCE PEDIATRIC HEMATOLOGY-ONCOLOGY FELLOW BOARD EXAM PREPARATION AND IMPROVE PERCEPTION OF LEARNER BOARD PREPARATION

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Background:

Pediatric Hematology-Oncology fellowship graduates are required to pass a computer-based board certifying exam administered by the American Board of Pediatrics (ABP) following completion of their three-year training program. Passing this board exam is essential for a Pediatric Hematologist-Oncologist, as it directly impacts their certification and employment status. The effect of integrating active question-based learning into formal program curriculum on board preparedness is presently unknown.

Methods/Project Description:

Pediatric Hematology-Oncology (PHO) training fellows were asked to prepare board-format questions for compilation in a large question bank. Question sets were then generated weekly, with Qualtrics® providing the evaluation format.

Trainees are prompted biweekly to complete five PHO board-style questions. They have one week to complete the set, after which they receive answers along with explanations and references.

Serial Trainee Perception Surveys are being conducted as this program continues.

Results:

Between April 2020 and September 2020, the training fellows received 9 sets of program-curated board-style questions utilizing Qualtrics Survey Software. Mean trainee participation on these question sets has been 76% (Range 58.3-92%).

A pre-implementation survey was sent to 11 trainees with a 100% response rate, the first interim survey was sent to the same 11 trainees with an 82% response rate. On the serial survey, trainees rated their level of anxiety about taking the PHO Board exam (0 being no anxiety, and 10 being highest possible anxiety). At baseline, mean self-rated of anxiety was 6.7(Range 2-9); at interim assessment, mean self-rated anxiety remained 6.7(Range 3-9). Results showed trainee perception improvements in: 1. Percentage of fellows who feel "not at all prepared" from 27% to 11%, 2. Frequency with which trainees "participate in board prep weekly" increased from 9% to 67%. Additionally, on the pre-assessment survey, only 55% of trainees "strongly agreed that integrating structured board prep into monthly education is helpful", while in the interim survey 100% strongly agreed.

Discussion:

Continuous board prep via trainee-created board prep banks appears an effective way of integrating ongoing regular participation in board prep, and also improves trainee perception of exam preparedness. After creation of this curriculum and administration of the first 9 sets of board prep questions 100% of trainees strongly agreed that the structured board prep is helpful, despite little difference in self-rated anxiety. Future directions may include developing research studies evaluating changes in mean Program Subspecialty In-Training Exam Mean Scores, along with expanding this learning platform by integrating other Pediatric Hematology-Oncology Training Programs nationally.

WHAT DO I DO NEXT? A QUALITY IMPROVEMENT PROJECT TO IMPROVE CONTINGENCY PLANNING IN PEDIATRIC RESIDENT HANDOFFS.

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Results

Following several PDSA cycles, we reached goal of 80% of patient handoffs including contingency plans and sustained our improvements (Figure 1). At baseline, 79% of residents reported missing information "sometimes", "often", or "always" which improved to 38% after PDSA 2 and 21% after PDSA 7, with all 21% reporting "sometimes." Only 10% of residents reported unexpected events occurred "rarely" or "never" at baseline which improved to 61% and 52% after PDSA cycles 2 and 7, respectively.

Conclusions

Resident report of missing information and unexpected events improved following implementation of standardized patient handoffs consistently addressing contingency plans. Next steps: adding balancing

measures of time to prepare/complete handoffs; sustain improvements with higher patient census (results from

low census period of 2020); expand measures to include escalation of care, rapid responses/codes, and formal observational assessment of handoff process.

Funding

Our global aim was to improve handoffs between trainees on the pediatric inpatient service by decreasing the frequency of unexpected nighttime events and missing information in handoffs. Our SMART aim was to improve the frequency of contingency plans included in the handoff to 80% in 6 months.

IMPACT OF JUST-IN-TIME IN-SITU SIMULATION ON RESIDENT SITUATIONAL AWARENESS AND CONTINGENCY PLANNING IN A GENERAL PEDIATRIC UNIT

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BACKGROUND: With duty hour restrictions, increased oversight, and infrequency of events, residents have less opportunity to care for acutely decompensating patients independently, impacting comfort and skill in management, as well as in contingency planning for at-risk patients. "Just-in-time" in-situ simulation - simulation of an actual patient in the actual patient care setting - may be a method to bridge these gaps.

OBJECTIVE: Evaluate the impact of "just-in-time" in-situ simulations on resident situation awareness, contingency planning and comfort.

METHODS: A "just-in-time" in-situ simulation curriculum was started on our gen peds unit. Facilitators (critical care faculty and chief resident) received methodology training and followed a standard template for case development, using an actual patient and simulating clinical deterioration (e.g. patient with osteomyelitis progressing to septic shock). 2 sims were conducted per block.

Residents completed pre and post-rotation surveys. Resident verbal handoffs were audited to evaluate for contingency plans, with at least 3 per block, allowing 1 pre-curriculum, 1 after the first sim and 1 after the second.

RESULTS: Data was collected for 4 blocks with new residents each block. Pre-rotation survey results showed 20% of respondents (n=15) felt "very" or "most confident" in creating contingency plans for their patients. 60% said they discussed contingency plans on either "most" or "every patient" at handoff, and 7% did so at rounds. Post-curriculum, 86% of respondents (n=7) felt "very" or "most confident" in creating contingency plans. Additionally, there was an increase in reported discussion of contingency plans, with 86% noting discussion for "most" or "every patient" during handoffs and 43% during rounds. On the post survey, 100% of respondents gave top box scores reporting the sims to be helpful as a teaching method.

10 handoffs were audited with 93 patients discussed (n=29 pre-sim, 36 after first sim in a block, and 28 after both). There was a trend towards increased contingency plans at handoff after the sims, with contingency plans discussed for 14% of patients pre-sim, 17% after one sim and 25% after both.

CONCLUSIONS: A "just-in-time" in-situ simulation curriculum was well accepted by residents and easy to implement, with increase in confidence in contingency planning as well as a trend towards increasing contingency plans at handoff. Ongoing work includes evaluating rounds for evidence of contingency planning, as well as seeing if gains are sustained when interns return for a second rotation.

CONNECTING WITH THE COMMUNITY: ENGAGING PEDIATRIC INTERNS IN A COMMUNITY ADVOCACY ORIENTATION DAY

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Objective: As a part of intern orientation for pediatric residents, a community advocacy orientation was designed to introduce residents to their surrounding community and the history, social context, and challenges faced by the patients and families that they serve.

Methods: A medium-sized academic pediatrics residency program integrated a community orientation day in to their intern orientation. The community advocacy orientation began with an introduction to social determinants of health, local health disparities, and resources available in the pediatric clinic. This was followed by a bus tour of surrounding underserved neighborhoods that was led by a local community leader. The tour incorporated several advocacy-related topics including food insecurity, gun violence, education inequity and the achievement gap, gentrification, environmental racism, and healthcare access. Local resources available to community members were also highlighted. The tour was followed by a discussion with the Director of Diversity and Inclusion for the Pediatrics Department and a gun violence prevention advocate. Residents were then given time to debrief with their peers and faculty members. A post-tour survey was conducted to assess program quality and obtain qualitative feedback with open-ended narrative questions.

Results: Survey results demonstrated that 100% of residents (n=17) agreed or strongly agreed that the program helped with understanding of health equity and how it applies to the various socioeconomic statuses. The majority of residents (n=13) cited the bus tour as the most informative part. Residents specifically highlighted the importance of having a community member lead the tour with the opportunity to learn via personal storytelling. The impact of the experience was demonstrated in comments such as "I am so grateful to be at a place that makes a day like this a priority." Recommendations for further improvement included more information on community resources, broadening guest speakers to include social workers and other community leaders, and scheduled debriefs and follow-up education throughout the academic year.

Conclusion: Through an immersive community advocacy orientation, pediatric interns gained valuable insight into local health disparities that affect the patients they serve. Including a local community leader and a bus tour of underserved neighborhoods were found to be important aspects of the experience. Future directions include incorporating information on community resources and sustaining education throughout the academic year.

HUMAN TRAFFICKING AND THE HEALTHCARE SYSTEM: A PILOT EDUCATIONAL MODULE FOR RESIDENTS

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BACKGROUND: Human trafficking (HT) is the fastest growing and the third largest organized crime worldwide. In the United States, almost 300,000 youth are at risk for becoming trafficked. Physicians report that they lack sufficient training on HT, which may increase morbidity and mortality among victims. We sought to improve knowledge and understanding of HT among pediatric residents, with the goal of improving recognition and care of patients suspected to be victims of HT.

METHODS: A 15-minute pre-recorded educational module on HT was created and implemented for residents rotating through the pediatric emergency department (PED), including all training levels and rotating subspecialties (pediatrics, emergency medicine, family medicine, and anesthesia). Participating residents completed a pre-module survey consisting of three Likert-scale questions and 5 knowledge-based questions, as well as three questions regarding their prior exposure to human trafficking. A post-module survey consisted of the same Likert and knowledge questions, in addition to open-ended questions for suggestions and improvement. Data were analyzed using descriptive statistics and Wilcoxen-Signed Rank and McNemar's tests to compare the pre- and post-survey results.

RESULTS: Sixteen residents completed both the pre-and post-module surveys. Median Likert scores on initial survey were: received adequate instruction on human trafficking 2, understand the definition of human trafficking 3, and confidence to identify a victim of human trafficking 2. Significant increases in the median Likert score were noted on post-module surveys in each category: received adequate instruction on human trafficking 4 (p=0.002), understand the definition of human trafficking 4 (p=0.003), and confidence to identify a victim of human trafficking 3.5 (p=0.002). The knowledge question regarding complying with child abuse mandatory reporting rules showed a significant increase in correct responses from 50% to 87.5% (p=0.031). While only one of the knowledge-based questions showed a significant increase in correct responses between pre- and post-module, four of the five questions showed an increase in correct responses.

CONCLUSIONS: This pilot study of a human trafficking educational module demonstrated limitations in baseline knowledge amongst residents pertaining to human trafficking, with improvements in resident knowledge and confidence after completing the module. We hope to continue to use this module more broadly and expand education to include standardized patient simulations in the future.

PROMOTING INCLUSIVITY AND BELONGING FOR PEDIATRIC RESIDENTS FROM BACKGROUNDS UNDERREPRESENTED IN MEDICINE

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Background: Enhancing diversity and inclusion in pediatrics is essential to improving health outcomes, especially in minority populations. The pediatric residency program at Children's National Hospital has significantly increased diversity from 15% to 46% as measured by the percentage of its 40+ interns self-identifying as members of racial/ethnic populations underrepresented in medicine (UIM) over the past 5 years. The program is now focused on ensuring the inclusivity and well-being of its diverse trainees. Objective: Given the limited research on an inclusivity framework for medical trainees, the purpose of this qualitative study was to understand factors that promote inclusivity and belonging for UIM residents. Methodology: In May 2021, two online synchronous focus groups with UIM pediatric residents were conducted via Zoom, one with 6 first-year residents and the other with 4 senior residents. All residents self-identifying with backgrounds UIM were eligible to participate in this IRB-approved project. To protect the anonymity of participants an outside research consultant recruited the participants, collected and analyzed the data. All identifying information was removed from the focus group transcripts. Data were hand-coded for analysis by sorting and counting conceptual tags. Clusters of similar tags and codes were grouped into themes, and key themes were grouped and labeled as categories. Axial coding was used to confirm the accuracy of conceptual representations and explore interconnectedness. Results: When asked if they felt that they fit in or belong, first-year residents answered that although they fit in more during residency than in medical school, they often feel marginalized by colleagues and patients because of their race, gender identity, or status as a resident. Senior residents similarly noted that, while they may feel close to a group or social circle, the large size of the program (120 residents) prevented personal connections on a wider scale. They noted that this has been exacerbated by the COVID-19 pandemic which has led to lost opportunities for mentorship and professional growth. Residents noted that, while their work environment was inclusive, they experienced incidents of discrimination. Conclusion: UIM pediatric residents often felt marginalized by colleagues and patients. Pandemic-related social isolation and the program size prevented opportunities for connection and professional growth. While there were no general concerns for lack of inclusivity, residents reported examples of discrimination in the workplace.

IMPLEMENTATION OF AN EPA-FOCUSED WORKPLACE-BASED ASSESSMENT SYSTEM FOR PEDIATRIC RESIDENTS

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Background
In a competency-based graduate medical education system, workplace-based assessments (WBA) should provide residents with assessments that can be used for formative and summative purposes, including feedback to promote personal developmental progression. As a step toward achieving this goal, we sought to develop a WBA system, based on the general pediatric Entrustable Professional Activities (EPAs), that faculty supervisors could efficiently complete in the busy clinical learning environment, provide meaningful feedback to support resident learning, and inform summative competency decisions by our Clinical Competency Committee (CCC).

Methods
We used a logic model to describe our inputs, activities, and outputs. We tracked resident satisfaction with evaluations (ACGME annual survey) and number of evaluations per academic year.

Results
Inputs. In 2016 we used a stakeholder participatory process to redesign our WBAs to align with 12 of the 17 EPAs

for General Pediatrics developed by the American Board of Pediatrics. We employed a web and mobile-based

platform to deliver end of rotation and ad hoc, supervisor or resident-initiated, assessments. We reconfigured our CCC by increasing membership, recruiting faculty who identified as underrepresented in medicine, and facilitating more in-depth review and reporting.

Activities. We held development sessions for trainees and supervisors. Trainee sessions (n=3) focused on master adaptive learning strategies, EPAs, goal setting, and seeking feedback. Faculty sessions (n=8) addressed growth mindset, assessment for learning, and feedback skills. Beginning 2019, CCC members crafted individualized learning plans for residents identifying clinical strengths, EPA-based areas for development, and recommended assessments. Advisors reviewed learning plans with residents during semiannual meetings.

Outcomes. Following the transition (AY2017-18) we noted an increased number of evaluations, and annual incremental and sustained improvement in our ACGME survey ratings related to assessment. (Table 1) Themes derived from semi-structured interviews suggested that residents valued EPAs for providing context and concrete goals for skill development, though they noted challenges with assessment logistics.

Conclusions
Following transition to an EPA-based assessment system and associated changes to content, delivery mechanisms, advising, and summative assessment processes, we noted improvements in resident perceptions of evaluations and an increase in the quantity of assessment data.

INSTAGRAM IN PEDIATRIC RESIDENCY RECRUITMENT POSITIVELY IMPACTS APPLICATION AND RANKING DECISIONS

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Results

The percentage of applicants who reported visiting the Instagram "often" did not significantly differ from those who reported visiting the website (p=0.216, NS). A significantly higher percentage of applicants felt that Instagram had a "very positive" impact on their decision to ultimately rank the program, compared to the website (p=0.041), the virtual dinner (p=0.047) or the virtual tour (p=0.026). Although not statistically significant, a higher percentage of applicants ranked Instagram as having a "very positive" impact on their decision to apply to the program, as compared to the program website (p=0.056) (figure 1).

Conclusions

To our knowledge, we are the first to show that a social media platform, Instagram, had a "very positive" impact on program ranking decisions as compared to the website, virtual applicant dinners, and virtual tours. We hope the implementation of social media for residency recruitment will improve the virtual recruitment experience.

Funding

We investigated the impact of our pediatric residency program's Instagram on applicant decision-making during the 2020-2021 recruitment cycle. We evaluated whether Instagram positively influenced applicant's decisions to apply to and to rank our program as compared to our program's virtual applicant dinners and website.

SAFETY BEFORE EDUCATION: PEDIATRIC RESIDENCY PROGRAM DIRECTORS' EXPERIENCES OF TRAINEE EDUCATION IN THE SETTING OF THE COVID-19 PANDEMIC

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Background: The COVID-19 pandemic has significantly impacted our medical system, including trainee education. To date, the extent of the pandemic's impact on graduate medical education has not been well-characterized, particularly for specialties such as Pediatrics that have a lower burden of COVID disease but still experienced secondary effects of the pandemic such as changes in patient census and available educational experiences.

Objective: We aimed to describe pediatric program directors' (PDs) experiences adapting their approach to resident education during the COVID pandemic.

Methods: Semi-structured interviews were conducted with United States Pediatric residency PDs or associate PDs. Purposive sampling ensured diversity in program locations and sizes. Transcripts were independently reviewed and analyzed for emergent codes, with a finalized codebook independently applied to interviews by the authors to ensure consistency. Common themes among interviews were identified using inductive analysis.

Results: Seventeen interviews were conducted. Themes mirrored Maslow's hierarchy of needs: physiological, safety, love/belonging, esteem, and self-actualization. PDs were primarily concerned with their residents' *safety needs* - maintaining a learning environment that limited COVID exposure. PDs noted the effect safety protocols had on *physiologic needs*—resident ability to eat and take breaks, and the impact of isolation on distance learning and morale. They described methods used to encourage *belonging* and support mental health through this isolation. To maintain resident *esteem,* PDs discussed the importance of ensuring an educational program that would produce competent pediatricians despite limited in-person experiences. Changes made included using telehealth and supplementing rotations with lectures, case discussions, simulation, or review materials. Finally, PDs noted that the pandemic increased residents' opportunities to pursue self-directed learning, research, and quality improvement initiatives leading to *self-actualization,* but decreased opportunities for leadership and teaching development.

Conclusions: PDs made changes aimed at protecting the physical and mental health of their trainees. They worried these changes created isolation and a sub-par learning experience that affected resident belonging and esteem. Despite this concern, they described ways in which residents were still able to achieve self-actualization. Further evaluation is needed to understand the impact of these changes on resident experiences and preparedness for practice.

preparedness for practice.

EXPLORING THE EXPERIENCE OF FAMILIES WITH LIMITED ENGLISH PROFICIENCY DURING COMMUNICATION WITH THEIR PHYSICIAN PROVIDERS ON A PEDIATRIC INPATIENT SERVICE

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BACKGROUND: Almost 10% of the United States population reports limited English proficiency (LEP) but little is known about how these individuals experience communication with healthcare providers, especially in the general pediatric inpatient setting. Recognizing that trainees care for many LEP patients, governing educational bodies require trainee proficiency in communication with patients of various cultural backgrounds, yet no standardized curriculum or evaluation process exists. OBJECTIVES: To elucidate how LEP families experience communication with their physicians on a general pediatrics inpatient service at a tertiary pediatric hospital. Specifically, to 1) examine experiences of LEP families while communicating with their inpatient general pediatrics physician team, 2) determine perceived barriers to, and drivers of, successful communication with providers, and 3) identify essential content for educational initiatives regarding best practices for communicating with LEP families. METHODS: Non-English-speaking families on the general pediatrics inpatient services were eligible to participate. Semi-structured interviews using video iPad interpreters were conducted to explore the participants' experiences communicating with medical providers while their child was admitted to CHOP. Interviews were recorded and the English interpretation was transcribed. Transcripts were coded using conventional content analysis to identify emerging themes. RESULTS: We have interviewed 9 individuals from 6 countries who speak Spanish, Arabic, and Portuguese. Our findings thus far indicate general satisfaction with communication with pediatric inpatient physicians. Positive experiences were most often facilitated by consistent interpreter use, ensuring all questions were answered, having consistent communication about their child's care plan, and treating families with respect and empathy. Limited challenges were reported, though most occurred when interpreters were not yet being used. CONCLUSIONS: Recommendations for trainees emphasized having patience with families, using gestures, and slowing the rate of speech. We anticipate conducting additional interviews to achieve saturation in the 5 languages most commonly spoken at our institution and expect these results will help fill an existing gap in the literature regarding the LEP family perspective on communication with inpatient providers. Additionally, we plan to develop an educational tool for pediatric residents on best practices for communication with this important patient population.

DEVELOPMENT AND EVALUATION OF A SOCIAL INFLUENCERS OF HEALTH AND ADVOCACY PRE-ORIENTATION EXPERIENCE FOR PEDIATRIC RESIDENTS

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Background

Graduate medical education has recognized the importance of equipping physicians to address social influencers of health (SIoH). Because of variable training on SIoH at the undergraduate medical level, pediatric residents enter residency with differing capacities to address SIoH. Dedicated curricular interventions have demonstrated effectiveness at the medical school level in improving trainee ability to identify SIoH, though such programs do not appear to have been implemented to the same degree in residency programs to date.

Objective

The goal of this study was to evaluate the baseline understanding of SIoH and advocacy of incoming pediatric residents and to assess the feasibility and value of a pre-orientation program to increase knowledge and comfort surrounding these topics.

Methods

Participants were incoming pediatric residents at a large tertiary-care children's hospital in Chicago. Employing Thomas, Kern, Hughes and Chen's six-step approach, a targeted needs assessment was conducted to understand the baseline competence of incoming residents to address SIoH and engage in advocacy. Using these results, a two-day optional pre-orientation program was developed to expose the residents to major SIoH in the community through 8 lectures/seminars/panels and 2 unique volunteer experiences. The orientation took place in June 2021. A program evaluation survey was distributed to the incoming residents afterward.

Results

Participants indicated a varying degree of prior training in medical school and comfort regarding SIoH and advocacy. All indicated they want to learn more about SIoH during residency (n=26/26) and most indicated a desire to learn more about advocacy (96.2%, n=25/26). Despite the pre-orientation program being marketed as optional and unpaid, 25 residents participated in one or both days (73.5% participation rate). Participants scored the program highly in multiple domains including overall value and acquired knowledge of community-specific SIoH (Table 1). 100% said they would recommend the experience (n=23/23).

Conclusions

Incoming pediatric residents enter residency with a varying degree of prior training and comfort in assessing SIoH and are eager to learn more about SIoH and advocacy as residents. An immersive pre-orientation program is a valuable opportunity to expose residents to SIoH in their community and equip them with knowledge and resources to address SIoH from the beginning of their careers as physicians and child advocates.

UNDERSTANDING AND ADDRESSING COVID-19 VACCINE HESITANCY IN THE PEDIATRIC INPATIENT SETTING USING A QUALITY IMPROVEMENT FRAMEWORK

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Results

Reported conversations between physicians and guardians about the COVID-19 vaccine increased during the first 10 weeks but did not meet the initial goal. The baseline number of conversations was 0 per week. We noted a steady rate of rise, reaching a mean of 6 conversations per week by week 10.

Conclusions

Educational interventions led to increased conversations about the COVID-19 vaccine between physicians and guardians of hospitalized children. Resident physicians can and should lead these conversations. Educational interventions that are resident-led may be particularly impactful because they inspire fellow residents and empower them to lead these conversations. Many barriers prevent conversations from occurring in the hospital setting. We plan to implement more PDSA cycles to identify interventions that may overcome the identified barriers.

Funding

Utilize a Quality Improvement framework to test educational interventions aimed at increasing conversations about the COVID-19 vaccine between physicians and the guardians of hospitalized children from an average of 0 weekly conversations to 20 weekly conversations in 10 weeks.

IMPROVING RESIDENT AND FACULTY WELLNESS BY DEVELOPMENT, IMPLEMENTATION AND EVALUATION OF A PHYSICIAN WELLNESS CURRICULUM

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Results

Survey response rates were 100% for residents, and 79-92% for faculty physicians. The average wellness score increased over 2 years, from 34 to 65% for residents, and 62 to 76% for faculty.

Conclusions

Implementation and ongoing development of a regular wellness curriculum was associated with improved average wellness scores of resident and faculty physicians from a residency program in a suburban community-based hospital.

Funding

The primary objective was to improve pediatric resident and faculty physician wellness at our community based residency program by achieving an average wellness score above 80% over 3 years. The secondary goal was to describe the program's experience while developing and refining the physician wellness curriculum.

PROMOTING CLINICAL EDUCATORS' INTERPROFESSIONAL EDUCATION FACILITATION SKILLS AND SOCIALIZATION USING VIRTUAL LEARNING

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Health professions educators can benefit from continuing education to effectively facilitate interprofessional education (IPE) in clinical settings. Virtual learning formats enable broader participation and overcome barriers to in-person events, but little data exists on the most effective platforms and methods of virtual continuing education for this purpose. In the context of the COVID-19 pandemic, we developed a 6-week interactive online program implemented in an integrated virtual learning platform (VLP) to equip participants with knowledge and skills to better facilitate IPE. The program consisted of asynchronous and synchronous individual, small group, and large group activities. Interaction among participants was prioritized through facilitated small group discussions each week. Each interprofessional small group worked collaboratively to develop an IPE tool or activity for use in clinical settings.

Program outcomes evaluation involved mixed-methods data analysis from VLP site usage statistics, pre/post-course surveys, pre/post course self-assessments, a focus group, and facilitator de-briefing sessions. Analysis focused on program participants' perspectives of learning outcomes and interprofessional socialization with other participants, as well as virtual learning and program structure preferences.

Twenty-four participants representing 5 disciplines across inpatient and outpatient clinical settings completed the program. Approximately 70% of participants had >6 years clinical experience and 58% had <6 years of learner supervisory experience. Quantitative findings included statistically significant improvement in all eleven measures of IPE knowledge and skills, with >25% improvement in knowledge of IPE competencies, activity design, assessing learners' collaborative practice skills, and providing feedback. Significant improvement was seen in 4 of 9 socialization measures and 7 of 18 facilitation measures. Synchronous interactivity, facilitator contributions, and the VLP were the most highly rated program components, whereas asynchronous reflection/discussion was rated less favorably. A post-program participant focus group revealed several themes: participants value multiple modes of instruction, facilitated small group engagement, brief condensed asynchronous content, and better understanding the program time commitment and the VLP at the start of the program.

PREPARING THEM TO PRACTICE: A NEEDS ASSESSMENT REGARDING THE LACK OF PRACTICE MANAGEMENT CURRICULUM IN PEDIATRIC RESIDENCIES

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Though most pediatric residents will go into primary care, there is very little training in practice management, with one study reporting it to be the "least covered topic". This training gap has been demonstrated multiple

times by input from trainees and residency program leadership. Several specialties have created curricula, but

there is no consensus on what to include. In preparation for the development of a practice management curriculum, this needs assessment was conducted to further explore this gap by gaining perspective of continuity clinic directors, recent graduates, and physician employers.

Method: A survey was sent to the Continuity Clinic Special Interest Group (SIG) from the APA. Participants were asked if their program had a practice managment curriculum and who received it. They were asked what topics should be included and to rank their importance. One on one interviews were conducted with three employers of pediatric graduates to look for common themes. A focus group with graduates from a Pediatric Primary Care Track residency was conducted with a semi-structured interview format to assess perceived gaps in their training.

Results: The survey of the Continuity Clinic SIG had 23 respondents. Of these, 73% did not have a practice management curriculum. The list of topics respondents felt should be included were billing and coding (57%), operations/costs/vaccine costs (26%), leading multi-disciplinary team and hiring personnel (26%), scheduling/efficiency/patient throughput (22%). Common themes were found during the employers' interviews covered similar topics. The most consistent theme was the need for more training in billing and coding and proper documentation. Employers also cited the number of patients new hires need to see in primary care. The focus group echoed the two previous groups regarding billing, coding, and documentation, and identified the need to learn more about clinic operations. A topic introduced by this group was the need to have more practice in minor outpatient procedures.

Discussion: As shown by the literature and the participants in this needs assessment, a practice management curriculum is missing from many pediatric residencies. Employers, graduates, and continuity clinic directors can identify several areas that may be included in this curriculum, but there is no agreed upon goals and objectives. Next steps could include a Delphi method survey to reach expert consensus about the goals and objectives for pediatric residencies to use as they develop curricula at their institutions.

A VIRTUAL SOLUTION FOR TEACHING COMMUNICATION SKILLS TO PEDIATRIC RESIDENTS

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Objectives: To assess the feasibility and impact of a virtual simulation communication workshop (VSCW) on pediatric intern confidence handling difficult conversations and use of evidence-based communication tools (EBCT) given COVID-related limitations on in-person education.

Methods: We conducted a needs assessment of the pediatric residents to determine what communication skills were in greatest need of enhanced training. Based on results, we developed a VSCW for interns on delivering difficult news and de-escalation strategies. This workshop included didactic content on EBCT, virtual practice scenarios with standardized patients followed by direct feedback, and facilitated discussions on practical applications with experienced faculty. A rotating schedule of live and recorded content was used to maximize facilitator-to-learner ratios while reducing resources needed. A virtual format increased facilitator availability and compliance with safe COVID practices.

Results: Participants completed immediate pre and 3-month post surveys assessing their confidence in select communication skills on a 5-point Likert scale and utilization of EBCT. Residents and facilitators evaluated the virtual structure. Mann Whitney U assessed for changes in confidence pre/post. Descriptive statistics assessed for use of EBCT. Thirty-three interns participated in the workshop. Intern confidence delivering difficult news and de-escalating individuals increased post workshop with improved confidence de-escalating individuals sustained at the 3-month follow up (pre: median 3/5, interquartile range (IQR) 2-3; 3-month post: median 3/5, IQR 3-3; p=0.02). At baseline many participants were not familiar with any EBCT to deliver difficult news or de-escalate individuals (44% and 80% respectively). At the 3-month follow-up, 92% of respondents had used one of the EBCT and planned to use one in the future. Interns and facilitators both rated the quality of the virtual format as good (median 4/5). Pros include comfort, flexibility, and applications to telemedicine; cons include decreased fidelity and limitations practicing non-verbal communication skills.

Conclusions: A VSCW is a feasible method to provide communication education and is associated with improved confidence handling difficult conversations and use of EBCT.

THE EARLY EFFECTS OF THE COVID-19 PANDEMIC ON RESIDENT EDUCATION AND WELLNESS

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Background

The COVID-19 pandemic has disrupted healthcare delivery worldwide, including in residency training programs. This has presented a unique challenge to training programs who are tasked with providing adequate exposure to patients across practice settings to ensure resident competence for independent practice.

Purpose

Evaluate the early impact of the COVID-19 pandemic on resident competence for more senior roles and wellness in pediatric residency programs.

Methods

We conducted a mixed methods national survey of pediatric residency program directors (PDs) May to July 2020. Data analysis included descriptive statistics, X^2 and Wilcox rank sum tests. Multivariable modeling identified factors associated with resident preparation for more senior roles and resident wellness.

Results

Response rate was 55% (110/199). PDs reported clinical education was negatively affected by COVID-19 in both inpatient (n= 86, 78.2%) and outpatient (n=104, 94.5%) areas. Residents' preparation for more senior roles (n= 50, 45.5%) and procedural competence (n= 64, 58.2%) were also negatively affected. In multivariable analyses, reporting a more negative effect on inpatient and/ or outpatient clinical education was associated with a more negative impact on resident preparation for more senior roles (table 1). PDs reported overall worse resident wellbeing (n=56, 50.9%) and residency program morale (n=52, 47.3%). Large residency program size, mandatory

re-deployment, an increasingly negative effect on outpatient clinical education, worsening residency program morale, and an increased percentage of residents missing work due to COVID-19 were associated with a negative impact on resident wellness (table 1).

Conclusions

The COVID-19 pandemic caused significant disruption of clinical education, negatively impacting resident preparation for more senior roles and procedural competence. Given the COVID-19 pandemic's evolving disruption of patient care and educational activities, defining a path forward that ensures resident competence for independent practice is vital. Robust support of trainees and training programs may help to maintain trainee and faculty wellness.

SEIZE THE MOMENT! THE TALE OF TELEMEDICINE OPPORTUNITIES & EXAMPLES FROM A SPONSORING INSTITUTION

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Objectives:

The COVID-19 pandemic transformed health care delivery, supervision and education. The objectives of this abstract focus on unique educational opportunities brought about by telehealth using three institutional examples related to: (1) education/training, (2) quality Improvement and (3) patient care delivery/competency during a pandemic.

Methods:

Education & Training:

- Opportunity for competence-building & credentialing of trainees, including targeting telehealth-specific educational goals, training models and aligning telehealth implementation with events such as GME orientation.
- Opportunity for faculty development aimed at providing trainee supervision and feedback in the provision of safe, virtual patient care.

Quality Improvement (QI):

- Opportunity for QI projects aimed at improving care delivery and patient satisfaction. One resident QI project implemented telemedicine to provide care coordination and follow-up visits post NICU discharge. Outcome metrics, such as parent satisfaction and comfort level/compliance with discharge instructions, were measured.

Competency in Care Delivery:

- Opportunity for the implementation of virtual outpatient/inpatient care, which enhanced residents' training experience and allowed for alternative methods of evaluating competence utilizing direct supervision during remote visits and more meaningful feedback.

Results:

Education & Training:

Aligning the training/credentialing of residents with GME orientation allowed for a dramatic increase in the percentage of telemedicine-credentialed trainees from 25% to > 85%. At the faculty level, telemedicine was embedded in 24 specialties with >42,000 visits performed from April 2020-April 2021.

Quality Improvement (QI):

Data from the NICU post-discharge telemedicine visits showed a high degree of both patient and provider satisfaction with the process of conducting the virtual visit and with transition from hospital to home. Data and run charts will be shown.

Competency in Care Delivery:

Telemedicine use has shown higher satisfaction scores by parents, compared to in-person visits, in access to care within 7 days (61% vs 48%), ease of scheduling (81% vs 70%), questions/concerns answered (91% vs 86%) and decision making inclusion (88% vs 85%).

Conclusions:

While the pandemic forced most institutions to quickly adopt telemedicine in its care provision tools, these examples highlight how the challenges posed by a pandemic were turned into opportunities to enhance trainees' education, competence in care delivery and quality improvement/research scholarship.

PEDIATRIC HOSPITALIST PERSPECTIVES ON TRIAGE MEDICINE: A LOCAL NEEDS ASSESSMENT FOR A PEDIATRIC RESIDENCY TRIAGE CURRICULUM

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Background

Hospital triage medicine is an expanding role for pediatric hospitalists, yet very few hospitalists receive formal training on skills necessary to be effective triagists in residency or as faculty. Additionally, these skills are addressed by the American Board of Pediatrics' (ABP) Entrustable Professional Activities and Accreditation Council for Graduate Medical Education's (ACGME) Pediatric Milestones as competencies necessary for any pediatric subspecialty. Currently, the pediatric residents at our medium-sized midwestern program are not taught these skills.

Objective

To determine hospitalist perspectives and prior training experiences in triage medicine as a local needs assessment for a new pediatric residency hospital triage curriculum.

Design/Methods

Physician hospitalists at a free-standing midwestern children's hospital were sent an anonymous RedCap survey asking their prior triage training experiences, their perspectives on effective triage skills, and their desired learning goals for a resident triage curriculum. Results were analyzed using a general qualitative approach.

Results

16/26 (62%) hospitalists responded to the survey. Only 3/16 (19%) participated in triage calls regularly during residency (Figure 1), and only 4/16 (25%) received formal triage training either in residency or as new faculty (Figure 2). Effective triage skills were identified as the ability to assess a patient over the phone by asking appropriate questions; understand the hospital system and transport services; communicate professionally; determine disposition and level of care; have medical knowledge to provide expertise; and have organization, efficiency, and time management skills. Learning these same skills were suggested to be key learning goals for the residents in the new curriculum, with the addition of improved ownership of patients.

Conclusions

At our institution, few hospitalists had triage experience during residency or received formal training prior to leading triage phone calls as faculty. The skills necessary to be an effective triagist at this institution will guide the learning goals and objectives for a new pediatric residency triage curriculum. A multicenter qualitative analysis is needed to better understand hospitalist perspectives and training experiences nationally.

LEARNER HANDOFFS WITHIN CLINICAL ROTATIONS: FROM THE LEARNER'S PERSPECTIVE

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Background: Asynchronous attending-trainee schedules and duty hour changes have led to frequent attending transitions, generating concerns from educators regarding uncoordinated feedback, loss of entrustment, and erosion of the attending-trainee relationship. With structured patient handoffs showing significant improvement in patient outcomes, increasing attention has been paid to learner handoffs (LHs), or the transfer of information about the current learners on the medical team from the outgoing attending to the incoming attending. While there has been recent literature on attending physician perspectives regarding LHs, resident perspectives have been less well described.

Objective: To explore residents' perspectives on LHs within clinical rotations, including the benefits and challenges, and the role of the learner in creating and using such a tool for professional growth.

Methods: We performed a qualitative study using thematic analysis of eight focus groups with pediatric residents from three programs of varying size and geography from July to December, 2021. Two authors independently read the first two transcripts to generate a codebook and then coded the remaining transcripts independently to ensure thematic saturation. Codes were then organized into themes and sub-themes.

Results: Forty-four pediatric residents (14 males and 30 females) from three programs participated in the eight focus groups. Themes emerged regarding content (*what* information), process (*who* is involved), and format (*how* is it delivered) of LHs (Table 1). Recognized subthemes regarding content included a focus on learner-centeredness, clinical performance, professionalism, and ability to maintain patient safety. There was not clear consensus on who should participate in an LH; however, the learner should play an active role. Themes regarding feedback and concerns for bias also emerged (Table 1). Participants believed that the creation of a structured LH tool may mitigate perceived challenges including bias and lack of transparency.

Conclusion: Despite increased attention from educators, our study suggests the utilization and purpose of inpatient LHs remains opaque to pediatric residents. There are significant concerns regarding bias in LHs, though obvious benefits to learner progression and patient safety were recognized. The development of a structured and learner-centered LH tool is felt to accelerate learner professional development, while mitigating perceived challenges. Further research regarding LHs and their role in overall feedback culture is warranted.

UCSF FELLOWS FORUM- PSYCHOSOCIAL AND EMOTIONAL PROCESSING

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Background

Several studies indicate high rates of depression and burnout among physicians and physician trainees, including pediatric fellows (Weiss, 2021). Levels of burnout are particularly high among those taking care of critically ill children (Suttle 2020) and the COVID-19 pandemic has likely worsened this. Burnout among trainees has a deleterious impact on career satisfaction, personal well-being and patient outcomes (Hale, 2018). UCSF's Pediatric Department created the Fellows Forum which aims to reduce burnout by providing psychological aid and emotional support to fellows.

Objective

We created Fellow's Forum to provide psychological aid and emotional support to fellows who care for critically ill children and to help fellows combat the emotional, and physical stressors that are critical in their development into competent, caring, and resilient physicians.

Methods

Fellow Forum consists of quarterly one hour meetings bringing together fellows from pediatric critical care, neonatology and hematology/oncology to discuss topics such as: managing conflict with families, professional and personal boundaries, no longer a resident-not yet an attending, dying and bereavement and burnout. We use contemplative and mindfulness-based practices, group discussions, experiential exercises to address these different issues. We distributed a survey among all participating fellows to evaluate their experience.

Results

Across all programs, 50% of fellows attended at least 3 sessions over the last two years. Among survey respondents, 80% rated the sessions as 'extremely useful'. Survey comments indicated that the sessions create a strong sense of community and provide an outlet to cope with their peers about burnout and stress. As we are expanding the session, we aim to continue to evaluate the program and make improvements to ensure we meet the needs of all fellows.

Conclusion

Fellows' Forum proved useful in creating a structured format for fellows to process the obstacles of fellowship and it allows fellows from diverse fields to share their experiences and to normalize their emotions. We believe this is an essential component of training in a subspeciality pediatric care and our framework can be adapted by others.

References:

Weiss AK, Hale, et al. Burnout and Perceptions of Stigma and Help-Seeking Behavior Among Pediatric Fellows. Pediatrics. 2021 Oct 1;148(4).

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IDENTIFICATION OF SECONDARY TRAUMATIC STRESS AMONG PEDIATRIC RESIDENTS

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Objectives: Secondary traumatic stress (STS) is a response to indirect exposure to trauma manifesting as symptoms of intrusion, avoidance, and arousal. STS can significantly impair an individual, overlap with burnout, contribute to poor work, and inhibit learning. We aimed to identify rates of STS symptoms among Pediatric Residents at a single mid-sized residency program to identify opportunities for recognition and intervention. We hypothesized that residents on intensive care and inpatient rotations will have a higher prevalence of STS symptoms as compared to those on electives.

Methods: A validated survey measuring 17 STS symptoms was sent to all Pediatric and Combined Medicine-Pediatric Residents in October 2019, January 2020, April 2020, September 2020 and January 2021 as part of a quality improvement initiative. Surveys were voluntary and anonymous and included training level, current rotation and self-reporting of frequency of 17 STS symptoms. Residents reported the frequency of symptoms experienced in the prior 7 days as "never," "rarely," "occasionally," "often," or "very often" corresponding to a scale of 1-5. Average STS scores were calculated by class and rotation and were compared using ANOVA.

Results: Survey response rates ranged from 43% (41 respondents) to 69.5% (66 respondents), resulting in a total of 70 responses from PGY-1s (26.2%), 96 from PGY-2s (36%), and 96 from PGY-3/4s (36%). The least frequently reported symptom was "It seemed as if I was reliving the trauma experienced by my patients" with 5.2% (14 respondents) having that experience often or very often. The most frequently reported symptom was "I thought about work when I didn't want to" with 30% (80 respondents) having that experience often or very often. Other frequent symptoms were "I had trouble concentrating," "I was less active than usual" and "I was easily annoyed" with >20% of respondents reporting these symptoms often or very often. There was no significant difference in average STS symptom scores by class. There was a significant difference in average STS scores by rotation with residents on ICU, Inpatient, and ER rotations having higher average scores than those on outpatient or elective months with scores of 2.26, 2.22, 2.24, 1.96 and 1.83 respectively (ANOVA p=.022).

Conclusions: Pediatric Residents at our institution experience STS during all years of residency with those on high-acuity rotations demonstrating more frequent symptoms. Recognition and intervention for STS on high-acuity rotations may provide an opportunity for improvement.

IMPACT OF A VIRTUAL, INTERACTIVE MODULE ON RESIDENT VENTILATOR MANAGEMENT CONFIDENCE AND LEVEL OF SUPERVISION SCORES

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Background: Interactive, virtual learning platforms have become popular due to their ease of access and ability to provide learners with real-time feedback in a low-risk environment. These platforms have the potential to help medical trainees feel more confident when entering challenging clinical rotations.

Objective: To assess the impact of an online, interactive educational module on resident confidence and level of supervision (LOS) scores relating to ventilator management in the PICU.

Methods: A PICU ventilator module was created by the study authors using an online course development software: Articulate360. The module was reviewed by three PICU physicians for content accuracy and knowledge expectations for resident-level trainees.

A study invitation was sent to all residents who were scheduled to rotate in the PICU over a 6-month period. Those who consented were randomized to an intervention group who completed the module within a week prior to their PICU rotation and a control group who did not. All subjects completed a pre- and post-rotation survey assessing their confidence (Likert scale 1-5) and self-reported level of supervision score (Chen scale 1-5) with ventilator management.

The average change in resident confidence and LOS scores were compared between groups using paired t-tests. Medians were compared using Wilcoxon rank sum tests. Multivariable quantile regression was used to examine the effect of group assignment, adjusting for PGY year and baseline score.

Results: In this pilot study of 23 residents, there were 9 subjects (39.1%) in the intervention group and 14 (60.9%) in the control group. There was no significant difference in average PGY year of the two groups. In the unadjusted analysis of change in confidence and LOS scores there was a within-group improvement in both cohorts, with a larger improvement in the intervention group (confidence median difference: 1.5, p= 0.13; LOS median difference 1.0, p= 0.01; Table 1). However, since the intervention group started with lower scores in both parameters, when adjusting for the baseline scores, the intervention improved only the LOS score (median improvement: 1.0, 95% CI: 0.26, 1.7).

Conclusions: Despite the small study population, the results suggest that the module had a positive impact on resident self-perceived autonomy with PICU ventilator management. More subjects are needed to assess comparative measures of ventilator knowledge and supervisor LOS scores.

 

CURRENT TRENDS IN THE PEDIATRIC APPLICATION AND MATCH

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Current Trends in the Pediatric Application and Match

Objectives: Although much data regarding the residency application process and match are published each year, these annual snapshots may not capture important trends. We therefore sought to evaluate recent trends in pediatric residency applications and matching.

Methods: The last 20 years of residency application and match data from the Association of American Medical Colleges and National Resident Matching Program were evaluated.

Results: From 2007 to 2021, the average number of applications submitted per applicant increased (Figure 1). Pediatric residency program fill rates were consistently high ranging from 97-98% from 2001-2021. The applicant match rate for graduating students from U.S. MD-granting schools (U.S. MD seniors) preferring pediatrics as a specialty was 96-98% from 2011 to 2021. Relative to other specialties, the popularity of pediatrics among U.S. MD seniors has declined (Figure 2), and the proportion of applicants matching to pediatrics from U.S. MD schools fell from 84% in 2001 to 62% in 2021 (Figure 3). Inversely, residency applicants that matched into pediatrics from osteopathic programs increased by 14% and international medical programs by 7% over the past 20 years.

Conclusions: Despite declining popularity among U.S. MD seniors, the average number of applications submitted per applicant has generally increased. The composition of pediatric residents in terms of their educational background is growing more diverse. The implications of these trends deserve further evaluation and study.

MINDING THE GAP WITH PEER COACHING: COHORT ANALYSIS OF A PILOT PROGRAM FOR RESIDENT IMPROVEMENT

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BACKGROUND: Pediatric residents have varied clinical experiences prior to residency, leading to knowledge and performance gaps within an intern class. These gaps are likely exacerbated by changes to medical education in the COVID-19 era. Literature demonstrates the importance of structured and individualized learning plans for struggling learners, so we developed a peer coaching program with these principles in mind in order to narrow performance gaps.

OBJECTIVE: To evaluate the efficacy of our peer coaching program designed to enhance intern-residents' knowledge and practical skills. This interim analysis will describe the first cohort of this program and their baseline performance.

METHODS: Intern-residents completed a 16-question self-assessment survey (SAS) adapted from the "Semi-Structured Interview" by Guerrasio et. al (2014) rating their proficiency in medical knowledge, clinical skills, clinical reasoning and communication. Intern-residents enrolled in the coaching program via faculty or self-referral and created individualized learning plans alongside trained PL-3 and PL-4 residents. We summarized baseline SAS responses and examined Fall 2021 ACGME milestone scores, comparing enrolled to non-enrolled intern-residents using a Mann-Whitney U-test.

RESULTS: 25 out of 43 (58%) intern-residents completed the SAS. Responses most frequently identified concerns regarding clinical reasoning (n=24), time management (n=23) and procedural skills (n=22). Survey responders consistently described competence with communication (n=18) and physical exam (n=14) skills. 15 intern-residents enrolled in the coaching program, all via self-referral. There were no statistically significant differences in ACGME milestone scores between enrolled and non-enrolled interns. However, there were trends toward higher scores in the enrolled group in the patient care (PC4 3.23 vs 3.05, p=0.14 and PC3 3.23 vs 3.09, p=0.22) and interpersonal and communication skills categories (ICS3 3.3 vs 3.14, p=0.23 and ICS1 3.5 vs 3.34, p=0.27).

CONCLUSIONS: Enrolled interns are functioning at a similar if not superior level to those not enrolled in peer coaching. The self-referral process may be preferentially selecting for higher-performing interns and those inherently more motivated to improve their skills. This could change if faculty referrals increase. Future work will examine repeat SAS and Spring 2022 ACGME milestone scores for the current cohort to assess the impact of our peer coaching program.

EXAMINATION OF CONSISTENT VERSUS INCONSISTENT PREDICTORS IN BURNOUT AMONG PEDIATRIC RESIDENTS: LESSONS LEARNED FROM SIX YEARS OF PRB-RSC SURVEY DATA

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Background: The Pediatric Resident Burnout and Resilience Consortium (PRB-RSC) has sought to describe the epidemiology of burnout in pediatric residents over the last six years, during which time residents have been faced with new stresses and changing work environments. Considering this, we hypothesized that longitudinal examination of PRB-RSC data could reveal enduring markers of burnout in contrast to those that are variable due to other factors in a given survey year. Identification of consistent predictors of burnout could highlight best targets for interventions to prevent or mitigate burnout in these trainees.

Objectives: This study explored consistency of factors predictive for resident burnout over a six-year period.

Methods: An annual, confidential survey has been completed by more than 30 pediatric and medicine-pediatric residencies since Spring 2016. This analysis sought to examine the relationship of various covariates to burnout over the 6 years of the survey to identify consistent versus inconsistent associations. Data was deidentified, collected, and maintained by APPD-LEARN.

Results: Over the past 6 years, 6832 unique residents from 65 different programs have completed the survey. Amongst all residents, there were 5 variables that were associated with burnout each year during the study period: interpersonal reactivity index – empathic concern (IRI-EC), Neff's self-compassion score (NEFF), perceived stress scale (PSS), quality of life score (QOL), and satisfaction with the learning environment (SLE). Factors that were not consistently associated with burnout over the 6 years included the calm compassionate care scale, Epworth sleepiness scale, recent major medical error, and feeling as though they work in a collaborative learning environment. There were no detectable significant interactions by year of data collection or residency types (categorical pediatrics, medicine-pediatrics, and combined programs) [Figure 1].

Conclusions: The five identified consistent variables have been associated with burnout in every year of the PRB-RSC survey, suggesting that these are enduring factors critical to the pathogenesis of burnout in pediatric trainees and thus high value targets for interventions. Additionally, despite different learning environments experienced by pediatric, medicine-pediatric, and combined program residents, these factors were consistent across types of programs. These findings deserve to be explored in other disciplines to see if these predictors of burnout also hold true in non-pediatric specialties.

LOOK, A BOOK! IMPROVING CHILDHOOD ACCESS TO BOOKS IN A RESIDENT CONTINUITY CLINIC WITH DOLLY PARTON'S IMAGINATION LIBRARY.

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Results

Placing enrollment forms in accessible bins was associated with special cause variation and our first center-line shift from the baseline of 19% to 26%. Additionally, showing the comedic video to residents was followed by another instance of special cause variation and a center-line shift to 36%. We enrolled 2,674 children for Imagination Library during the first 14 months.

Conclusions

Although our goal of 50% was not reached, a multilevel approach to increase the enrollment and to track the frequency of parents reading to children was successfully established in a resident continuity clinic in a community with a free reading program. This was accomplished by bringing this important resource to residents, incorporating questions into EMR templates, and facilitating ease of access to enrollment forms. Next steps include expanding this project into the Newborn Nursery and encouraging our patients to visit local public libraries.

Funding

Our project sought to increase the percentage of young patients who reported receiving Imagination Library books from our baseline of 19% to 50% within 1 year.

ASPIRE: A STRUCTURED PROGRAM IN RESEARCH EDUCATION, IMPLEMENTING A RESEARCH TRACK FOR PEDIATRIC TRAINEES

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Background

Completing a research project in residency teaches training physicians critical skills to practicing evidenced based medicine. However, residents cite time constraints, lack of faculty mentors and structure as barriers to pursuing research. In our pediatric residency program, more than 71% of residents (23/32) reported they have been involved in IRB-approved research previously and over 90% (38/42) at least somewhat agree that research is valuable in training. However only 25% (8/32) were actively involved in IRB-approved research in residency training with only one resident who completed a research publication in a peer reviewed journal.

Objectives

The goal was to recruit pediatric and internal medicine-pediatric trainees interested in research to ASPIRE, a structured program in research education, with the primary aim to increase their involvement in IRB-approved projects by 50% in a two-year period. The secondary aim was to improve residents' rate of presenting their research at a regional or national level by 50%.

Methods

We recruited pediatric and internal medicine-pediatric residents interested in pursuing clinical and/or quality improvement research. We gathered information regarding their career interests and research goals to pair them with a research mentor. We met quarterly throughout the academic year to monitor research progress and to discuss research methodology, timeline of activities, and resources.

Results

We recruited 15 residents (11 pediatrics and 4 internal medicine-pediatrics). Of these trainees, 10/15 were interested in pursuing fellowship. Prior to ASPIRE, 14/15 were not involved in an IRB-approved project. One year after involvement in the research track, 7 residents received IRB-approval for their projects. Five of the eight residents who did not were actively in process of seeking IRB approval. After one year of implementing ASPIRE, 13/15 residents were accepted to present their research at a regional or national conference.

Conclusions

A structured research curriculum may be beneficial for our trainees interested in pursuing and showcasing their scholarly activity. Majority of research mentees were interested in pursuing a fellowship after residency. Obstacles we found in starting ASPIRE included COVID-19 regulations limiting meetings, rapid growth of residents interested in joining, and time constraints of both mentees and mentors. We are working with program leadership to strategize for program sustainability.

PAYING FOR PERFORMANCE: USING A TRAINEE QUALITY IMPROVEMENT INCENTIVE PROGRAM TO INCREASE BETA-LACTAM ALLERGY DELABELING ASSESSMENTS IN A CHILDREN'S HOSPITAL

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Results

From July 2020-June 2021, our yearly cumulative screening rate was 38% of eligible patients (81/214). Resident physician screening improved throughout the year from a minimum of 29% in quarter one to a maximum of 47% in quarter four. Interventions to improve resident screening of patients included multimodal provider education through formal conferences, visual cues and in-unit teaching. Other tools included use of "smart-phrases" in electronic health records, and the development of an antibiotic test dose order-set. All trainees involved in the program received a monetary incentive by meeting the project-specific improvement goal.

Conclusions

Using trainee driven protocols through a quality improvement incentive program successfully increased the proportion of patients who received a BLA de-labeling assessment by residents at a tertiary children's hospital. A pay-for-performance improvement program combined with structured QI coaching can provide meaningful education for trainees while also improving patient care.

Funding

To provide BLA de-labeling assessments to >=35% of eligible patients hospitalized at a tertiary children's hospital over a 12 month period.

"JUST A SMALL-TOWN GIRL LIVING IN A LONELY WORLD," OUR JOURNEY TO UNDERSTANDING FACTORS AFFECTING RESIDENT WELLNESS DURING THE PANDEMIC

Kendall Snellgrove, MD; Christopher Scott, MD; Aidan Reid, DO; Laura Goeser, DO; Abigail Schuh, MD; Paula Soung, MD; Michael Weisgerber, MD, Children's Hospital of Wisconsin

Background: Resident physicians are at risk for burnout, depression, and suicidality. Our residency tracks "fuel gauge" wellness scores which have been correlated with the Maslach-9 burnout inventory. The scale goes from 0 to 100%, with higher scores suggesting higher wellness. Throughout the COVID-19 pandemic, wellness scores declined from 75% to 63%. We sought to understand factors affecting resident wellness to identify targetable interventions.

Objectives: Conduct a needs assessment to identify factors that positively and negatively impacted resident wellness during the pandemic to inform future interventions aimed at improving wellness.

Methods: We created a key driver diagram (figure 1) of possible factors leading to declining resident wellness. A comprehensive survey of possible factors impacting wellness was created and administered to our residents using a 5-point Likert scale (1: very negatively impacted, 2: somewhat negatively impacted, 3: no impact, 4: somewhat positively impacted, 5: very positively impacted). Descriptive analysis of the median and interquartile range of the various factors was performed. Specific interventions to improve resident wellness were identified and will be implemented in ongoing PDSA cycles.

Results: We identified 3 categories of primary drivers impacting wellness: professional factors, personal factors, and mixed personal and professional factors. Secondary drivers were 9 specific professional factors, 9 personal factors, and 5 mixed factors. The survey of these factors was completed by 32 of 72 pediatric residents in our program. The factors rated as most negatively impacting wellness with median ratings (IQR) of < 2 were professional factors: social isolation 2.0 (1-2) and zoom fatigue 2.0 (1-2); and personal factors: social isolation from friends 1.0 (1-2), family members 1.0 (1-2), fear of friends/family getting COVID-19 1.0 (1-2), and limited participation in hobbies 2.0 (1.5-2). The only factor identified as positively contributing to wellness at a level >4 was mixed personal and professional factor: availability of personal vaccination 5.0 (3.3-5). Based on our survey, the focus of interventions became targeting social isolation from co-workers.

Conclusions: Social isolation from co-workers, friends, and family members were the factors rated as having the most negative impact on our residents' wellness during the pandemic. Our ongoing QI work will be targeting interventions to promote togetherness as safely as is possible.

STOPPING THE BURN: MITIGATING CONTRIBUTORS TO BURNOUT AMONG PEDIATRIC AND MEDICINE-PEDIATRIC RESIDENTS

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Background: Pediatric residents are experiencing a mental health crisis with burnout rates exceeding 50%[1]. The rise in pediatric mental health visits during the COVID-19 pandemic has impacted pediatricians' own mental health[2,3]. Methods for mitigating burnout in training have been explored but data regarding success and identifying areas of improvement is limited due to intervention novelty.

Objective: To determine the efficacy of opt-out counseling and a structured well-being curriculum on contributors to burnout among pediatric and medicine-pediatric (Med-Peds) residents.

Methods: Pediatric and Med-Peds residents at a tertiary care academic center completed the Maslach Burnout Inventory (MBI) at three time points: prior to beginning opt-out counseling, after counseling initiation, and continued counseling with a formal curriculum. Survey and intervention timeline was from Fall 2019-Spring 2021. With the 3rd assessment, additional data was obtained regarding the efficacy of a formalized wellness intervention through a 5-point Likert scale.

Results: 68 residents participated in the interventions, with response rates ranging from 60-72%. Improvement in 'Depersonalization' was noted between the 1st (M: 5.6, SD: 3.54) and 2nd (M: 3.71, SD:3.37) time points ($t(84)=2.53$, $p=0.007$). The MBI subscales across all assessments displayed moderate burnout without a statistically significant change, however a trend toward improvement began that may have been altered by the pandemic's duration. Regarding the wellness curriculum, pediatric residents demonstrated improved 'comfort talking with peers about burnout' ($t(50)=1.88$, $p=0.033$), 'talking about medical errors' ($t(50)=1.80$, $p=0.039$), and 'using things learned in wellness sessions' ($t(50)=2.93$, $p=0.003$). Correlation analysis between the MBI scores and feedback on the wellness curriculum showed 'Personal accomplishment' was positively associated with 'I have an outlet to discuss my feelings of stress and/or burnout' ($r(50)=0.287$, $p=0.039$) and 'I have learned new ways to approach stress and burnout' ($r(50)=0.317$, $p=0.022$).

Conclusions: Burnout and poor well-being remain significant risks to trainees regardless of provided interventions. Our assessment spanned pre- to mid-pandemic, so lack of significance in improvement may be attributed to reduction in well-being factors such as community building. Despite this, interventions did improve trainees' comfort discussing burnout and gave them tools to mitigate it. Continued evaluation with targeted interventions are needed to develop a meaningful well-being curriculum.

DRIVERS AND BARRIERS TO RESIDENT PARTICIPATION IN RELATIONSHIPS WITH CAREGIVERS OF CHILDREN WITH MEDICAL COMPLEXITY: A QUALITATIVE ASSESSMENT OF REFLECTIVE WRITING

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Background
Children with Medical Complexity (CMC) comprise a small portion of the pediatric population yet a large share of healthcare effort. Pediatric residents do not feel comfortable with care for CMC upon graduation and list lack of connection with CMC caregivers as a barrier. Pre-training drivers and barriers for CMC care are not known.

Objective
To explore drivers and barriers for CMC care present at the beginning of pediatric residency prior to implementation of a longitudinal relationship-based curriculum.

Methods
In July 2021, the authors utilized a social capital framework to create a longitudinal curriculum entitled: "Building Connections: A year-long journey with a CMC." The curriculum pairs pediatric interns with a caregiver of a CMC and seeks to increase empathy through guided conversations and reflective writing. During a single session, 22 pediatric interns were taught about CMC, social capital, and reflective writing. Participants were then enrolled in the curriculum and asked to submit reflective writing pieces with a prompt created by local experts informed by the reflective learning framework. 22 pieces were received and analyzed utilizing grounded theory through several rounds of induction and comparison. Inferential statistics were applied to code frequencies using a two-sample T-test.

Results
Analysis of responses to the prompt question stem that explored past experiences and current feelings toward a longitudinal relationship with a caregiver of CMC revealed 4 themes and 11 sub-themes with respect to anticipated participation in the curriculum. These were organized into internal and external drivers and barriers, and code frequencies were determined. A total of 154 codes were categorized. Internal factors (116/154) were mentioned more frequently than external factors (38/154, $p< 0.001$) and of the internal factors, drivers (68/116) were noted more frequently then barriers (48/116, $p < 0.003$). Caregivers of CMC were categorized as both drivers and barriers. Individual reflective writing pieces tended to lack balance and were frequently weighted either toward drivers or barriers.

Conclusion(s)
Pediatric residents at the beginning of their training approach relationships with caregivers of CMC with pre-established drivers and barriers to participation. Pediatric educators should recognize residents' mindset upon arrival to residency and design curriculum with a goal of maximizing drivers and minimizing barriers. Caregivers serve as both drivers and barriers and may play a valuable role in further curricular development.

EDUCATING PEDIATRIC RESIDENTS ON PROMOTING POSITIVE PARENTING: A STATEWIDE COLLABORATIVE APPROACH

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Objective: To address the need in increasing resident training and skills in promoting positive parenting at all pediatric residency programs in New Jersey by leveraging the New Jersey Pediatric Residency Advocacy Collaborative (NJPRAC).

Methods: Faculty and resident leaders recruited through the NJPRAC network from all 9 pediatric residency programs in NJ met quarterly from September 2020 to November 2021 to enhance resident training on promoting positive parenting. They Keystones of Development curriculum, which focuses on 6 keystones: secure attachment, autonomy, self-regulation, perspective taking, problem solving, and academic knowledge, was implemented at all programs and supplemented with a webinar series featuring national experts. Resident pre- and post-surveys assessed knowledge, attitude, and behavior change. Feedback from faculty preceptors was

obtained via focus groups.

Results: 194 resident pre-surveys and 91 post-surveys were completed to date. See Table 1 for demographics. 83.1% strongly agreed or agreed that the curriculum is useful. Resident knowledge increased in all domains (significant increase in 7/10 domains). Confidence and self-reported behavior improved in discussing, modeling, and praising positive parenting behaviors (significant improvement in 17/21 skill areas). Barriers to promoting positive parenting decreased (significant decrease in 1/5 barriers). See Table 2 for a summary of pre- and post-survey mean scores. Four focus groups with 14 faculty revealed 5 themes (Table 3): residents' lack of comfort with addressing parenting behaviors, importance of education on facilitating parent-child relationships, improving connection and communication with families, need for workflow updates to include parenting discussions, and opportunities to strengthen and expand the curriculum (e.g., offering it to practicing clinicians and the early childhood community).

Conclusions: The curriculum was well received by residents and faculty and resulted in significant improvements in knowledge, confidence, and behaviors in supporting positive parenting. The NJPRAC network enabled successful statewide implementation with collaborative learning across programs. Faculty suggestions on improving the curriculum and offering to practicing clinicians and other professionals warrant further study. Family feedback should be studied as well.




SCHOLARLY ACTIVITY MENTORSHIP: WHAT ARE KEYS TO A SUCCESSFUL RELATIONSHIP?

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Background

Effective mentorship is important for trainee development in scholarly activity (SA). SA mentorship is unique and the characteristics of successful SA mentoring relationships during residency have not been well-defined.

Objective

Explore factors related to successful SA mentoring relationships.

Methods

We performed a multicenter, qualitative research study. We interviewed resident mentees and faculty mentors, analyzed transcripts using a grounded theory approach and developed a theory of how programs could facilitate successful SA mentoring relationships.

Results

We interviewed 11 residents and 11 faculty from 4 institutions. We identified 4 themes around the following domains that influence successful relationships: mentor characteristics, mentee characteristics, project-specific structural support, and overall programmatic structural support for SA. Important mentor-specific characteristics include expertise, responsiveness, understanding limitations of resident schedules, and coaching style of mentoring. Important mentee-specific characteristics include flexibility, organization, passion, and project ownership. Relationships were enhanced through clear and honest communication, setting realistic expectations, and frequent, organized meetings. Programs can provide project-specific support by setting expectations around realistic timelines and project scope, expected meeting frequency and example meeting agendas. Overall program structural support that bolstered successful relationships included pairing of mentors and mentees based on mutual interests, provision of resources such as access to a statistician, a curriculum, a scholarship oversight committee, protected time for trainees and faculty/ resident development for mentors and mentees. We propose a theoretical framework (Fig 1) for SA mentorship in which program-level support at the structural, project-specific, and mentor/mentee-specific level can foster successful SA projects and mentoring relationships.

Conclusion

Residency programs can support developing SA mentoring relationships by leveraging a foundation of structural support for SA, upon which project- specific support can be built. Finally, programs should provide ongoing mentor and mentee-specific development to foster key traits associated with successful SA mentoring relationships.

STOP, COLLABORATE AND LISTEN: CREATING A CULTURE OF COORDINATOR COLLABORATION AND MENTORSHIP THROUGH THE FORMATION OF A SUBSPECIALTY ORGANIZATION

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BACKGROUND
In 1991 the Neonatal-Perinatal Medicine (NPM) Fellowship Directors established the Organization of Neonatal-Perinatal Medicine Training Program Directors (ONTPD), where fellowship program directors share best practices. A group of NPM coordinators recognized the need to create a similar organization and in August of 2020, 18 NPM coordinators joined together to create the Organization of Neonatal-Perinatal Medicine Training Program Coordinators (ONTPC). The mission of the ONTPC is to allow NPM coordinators to collaborate nationally, specifically related to the creation of best practices and mentorship. Over two years the ONTPC has grown into a 56-member organization

56-member organization.
OBJECTIVE

Determine members' perceptions of the significance of collaboration topics specified for quarterly organization meetings and identify additional areas of improvement significant to the ONTPC.
METHODS
Fifty-six NPM coordinator members of ONTPC were asked to voluntarily complete a survey consisting of six 5-point Likert scale and two open comment questions covering the significance of collaboration topics, quality of meetings, availability of networking/mentorship and resources that ONTPC has provided to date. Surveys were distributed electronically via REDCap software. Consent to participate was implicit in completion of the survey. Descriptive statistics were used to analyze responses.
RESULTS
Thirty-two coordinators completed the survey (57% response rate). Survey results revealed that 53% of respondents reported occasionally attending and 31% reported always attending general body meetings. Three-quarters of respondents reported having expanded their professional network through ONTPC. 34% of respondents reported gaining knowledge through ONTPC, and 41% of respondents rated their level of confidence in their role as increased after joining ONTPC. Based on best practices shared through presentations or discussions, 28% of respondents reported having suggested and/or implemented administrative program changes. After joining ONTPC, 28% reported a decrease in stress. In free-text comments, respondents supported overall themes of increased quality resources and programming and of appreciation for collaboration between coordinators.
CONCLUSIONS
The ONTPC provides the opportunity to improve collaboration across multiple institutions, improve coordinator wellbeing, provide coordinator mentorship, and to develop and initiate best practices. The advancement and sustainability of ONTPC provides a venue for professional and personal growth for NPM coordinators.

STRUCTURED FOCUSED INTERVIEW FORMATS FOR NEONATAL-PERINATAL MEDICINE FELLOWSHIP VIRTUAL APPLICANT RECRUITMENT

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Background: Interviews for graduate medical training may be challenging for both the applicant and the interviewer. The AAMC notes "making modest increases in structure can have a positive effect on the reliability and validity of interview results while maintaining positive reactions from applicants" (AAMC, 2016).

Objective: Assess applicant and faculty interviewer responses to structured focused interview formats for virtual recruitment for a Neonatal-Perinatal Medicine (NPM) Fellowship training program.

Methods: Structured focused interview formats were utilized for a NPM training program during 2021 virtual recruitment. Faculty received interview training to include awareness of implicit bias, and principles of diversity, equity, and inclusion. Interviewers were assigned one of five structured formats (Figure 1). Behavioral, situational, achievement, and intention questions were included. Applicants and faculty interviewers voluntarily completed anonymous post-interview Qualtrics survey assessments.

Results: 160 interviews using structured focused formats were completed for 32 applicants (Figure 1). 18 applicants (50%) and 8 faculty (80%) completed assessments. The importance of parameters of fellowship training programs were rated similarly (Table 1). 72% of applicants were aware of the structured focus of the interviews. 94% of applicants felt questions were unique to each interview interaction. All applicants felt they had opportunity to represent themselves and to ask questions, and the 30-minute interview was sufficient. All candidates found virtual interviews to be satisfactory but recognized the lack of opportunity to physically visit the hospital campus. 62.5% of faculty reported adhering to the structured format 'all of the time'; 25% reported adhering 'most of the time'. All faculty felt the interview focus helped to structure the interview, and that the approach allowed for a more complete candidate review. One interviewer felt the structured format can be constraining. Faculty were divided on virtual interviews, with 57% responding that virtual interviews are not equivalent to in-person interviews, limited by a lack of nonverbal communication.

Conclusion: Structured focused interview formats for virtual recruitment for a NPM Fellowship training program were well received. Structured focused interview formats may decrease repetition of content between interview interactions and may contribute to a more complete candidate review.

INTEGRATING INCLUSIVE RECRUITMENT PRACTICES TO IMPROVE UNDER-REPRESENTED IN MEDICINE (URIM) RECRUITMENT IN A NEONATOLOGY FELLOWSHIP PROGRAM

Mackenzie Frost, MD, MEd; John Flibotte, MD; Meredith Feldman, BS; Heather French, MD, MSEd, Children's Hospital of Philadelphia

Background: Accreditation Council of Graduate Medical Education (ACGME) common program requirements state programs must engage in systematic recruitment of diverse trainees. Additionally, increasing diversity in our workforce has been recognized as an important step towards addressing healthcare disparities. Our neonatology fellowship program receives an average of 130 applications and interviews 40 applicants to match 6 fellows annually. Review of our recruitment data revealed an opportunity to improve recruitment of URiM applicants to our neonatology fellowship program.

Objective: To increase the percentage of URiM applicants interviewing and matching to our fellowship program.

Methods: We reviewed two years of baseline recruitment data (2018-2019). We evaluated our current recruitment process, then identified and integrated inclusive practices from the literature to improve our URiM applicant recruitment. In year 1 (2020), a subcommittee of URiM neonatology faculty reviewed applications and gave input to our recruitment committee. In year 2 (2021), we created a new recruitment committee structure, instituted implicit bias training, created rubrics for ERAS and interview review, added standardized interview questions, and increased diversity information in recruitment materials/presentations.

Results: Our preintervention data showed an average of 16 (12.5%) URiM applications annually. This increased to 21% (36/162) in year 1 and 24% (51/206) in year 2. URiM applicants invited to interview increased from an average of 3 (8%) to 7 (16%) in year 1 and 14 (34%) in year 2. URiM applicants ranked increased from 3 (8%) at baseline to 7 (16%) in year 1 and 13 (33%) in year 2. URiM applicants who were ranked to match increased from 1 (6.7%) at baseline to 2 (13%) in year 1 and 8 (53%) in year 2. There was no change in percentage of matched URiM candidates in year 1. However, our match results improved to 4 (67%) matched URiM applicants in year 2.

100% of our recruitment committee and 73% of other faculty members participated in implicit bias in recruitment training in year 2. Rubrics were used for evaluation of all applications and all interviews. Standardized interview questions were asked during 94% of interviews.

Conclusions: Implementing inclusive recruitment practices increased the percentage of URiM candidates offered interviews and candidates matching in our program in year 2. Future plans include refinement of our rubric scales to improve usability, expansion of diversity resources, and discussion of standardized questions during interview day.

THE COVID-19 EPIDEMIC LED TO AN ENHANCED CURRICULUM TO IMPROVE THE COMFORT AND CONFIDENCE WITH BIOETHICAL COMPETENCIES IN PEDIATRIC TRAINEES

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Background: The COVID-19 pandemic introduced novel ethical dilemmas such as resource allocation to pediatric residents who needed to be redeployed to care for adults. As ethical dilemmas have become ever more present during the COVID-19 pandemic, residents have expressed difficulty navigating ethical issues.

Objectives: To develop and implement a curriculum to improve knowledge and comfort of pediatric trainees in a variety of basic bioethical competencies, particularly those highlighted by the pandemic.

Methods: With the assistance of clinical ethicists, a curriculum was developed to address a perceived deficit in resident knowledge of and comfort in bioethical principles. Topics were chosen based on the AAP Board of Bioethics recommendations as well as COVID-19 pandemic related considerations. Each workshop included a didactic session followed by a resident case presentation. Topics included: *(1) Autonomy, Beneficence, and Rights, (2) Brain Death and Futility, (3) Maternal/Fetal Conflicts, (4) Patient-Parent-Pediatric Relationship, (5) Ethics and Technology, (6) Resource Allocation, (7) COVID Vaccination, (8) Socioeconomic Concerns with COVID-19, (9) Critically Ill Newborns, (10) Minors as Decision Makers.*

Prior to each workshop, resident knowledge and comfort for that competency was gauged with a pre-workshop survey. Knowledge questions were derived from curriculum modules designed by the AAP. Comfort for a topic and its components was gauged by a 5-point Likert scale (1 - Very Uncomfortable;5 - Very Comfortable). Comfort and knowledge were further assessed following completion of the topic lecture in a post-survey.

Results: In total, 69 pre-lecture surveys were completed for the first 5 topics, and 36 post-lecture surveys were completed. See Table 1 for results and statistical analysis of findings.

Conclusions: Our analysis of resident knowledge and comfort of several basic bioethical competencies proposed by the AAP demonstrates an initial lack in resident comfort and knowledge. By creating an interactive bioethics curriculum geared towards pediatric trainees, there was a demonstrable improvement in resident comfort with bioethical principles. This comes at a time when pediatric residents are increasingly exposed to ethical dilemmas in the setting of COVID-19 and the surge in hospitalized pediatric patients. Further data will be collected to gauge resident retention of knowledge and comfort with these basic bioethical competencies following completion of curriculum.

IMPLEMENTATION OF LONGITUDINAL LEARNING CURRICULA RESULTS IN IMPROVED IN-TRAINING EXAMINATION SCORES AND AMERICAN BOARD OF PEDIATRICS CERTIFYING EXAMINATION PASS RATES

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OBJECTIVE: To improve In-Training Examination (ITE) Scores and American Board of Pediatrics (ABP) Certifying Examination pass rates, our program implemented two longitudinal learning curricula; the objective of this study was to evaluate the effectiveness of these curricula.

BACKGROUND: In 2018, we developed the ITE Study Plan which requires participation for residents whose ITE score falls below the national average. Residents develop a study plan that incorporates a minimum of ten PREP questions per week along with any additional learning modalities they wish to utilize. Progress and compliance with the study plan is monitored monthly by an Associate Program Director. In 2019, the program implemented the Structured Independent Learner Curriculum (SILC), based on the work of Dr. Kris Rooney at Lehigh Valley Reilly Children's Hospital. The SILC curriculum is required for all residents in the program and consists of earning "credits" for completing various board-relevant learning objectives each month. For lighter rotations, six credits per month are required. For more time-intensive months, three credits per month are required. Residents obtain credits for required learning such as conference attendance, online modules, and presentation of Morning Report. Additional credits can be earned according to the resident's learning preferences and include online questions, articles, and podcasts.

METHODS: In-Training Exam scores, ABP Certifying Exam scores, and ABP pass rates were tracked over a five-year period. Program scores were compared with the mean scores of all programs published with the ITE and ABP score reports.

RESULTS: Since implementation of these two measures, our program has seen increased compliance with conference attendance and rotation requirements, a 330% increase in completed PREP questions, and an incremental rise in ITE scores above national means for both second- and third-year residents. ITE scores for interns remained stable over the study period. The program also saw an increase in ABP Certifying Examination pass rates, including in 2021 when nationally ABP pass rates were significantly lower.

CONCLUSION: Implementation of longitudinal learning curricula improves both In-Training Examination Scores and American Board of Pediatrics Certifying Examination pass rates while reinforcing habits of life-long learning.

FACULTY PERCEIVE SIGNIFICANT BENEFITS OF X+Y SCHEDULING AT 12 MONTH FOLLOW UP

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Introduction: In 2018, an initial cohort of five residency programs began X+Y scheduling through the AIRE program of the ACGME. In 2019, six additional programs joined as a second cohort, and in 2020, a third cohort of seven more programs began scheduling with this model. The now 18 programs have all completed at least one year of X+Y and can, therefore, enhance the previously reported knowledge about faculty perceptions. The programs represent small, medium and large residency programs from all regional areas of APPD membership.

Method: All programs distributed faculty perception surveys pre-implementation and at 12-months post-implementation. Surveys were sent using either RedCAP or Survey Monkey and were anonymous. Results were analyzed using z tests for proportion differences on Microsoft Excel. Faculty responses were categorized into general pediatrics, hospital-based medicine, and pediatric subspecialties for analysis.

Results: 1006 responses were received for the pre-survey and 514 for the 12-month follow up. , many perceived improvements from a change to X+Y scheduling were statistically significant ($p<0.01$). Responses were grouped by strongly agree/agree and strongly disagree/disagree for data analysis. Outpatient faculty perceived resident continuity with patients improved from 34% to 56% and time for teaching in continuity clinic improved from 62% to 80%. Hospital-based physicians thought time for teaching outside of rounds improved from 52% to 81% and that clinic impacting workflow of a rotation decreased from 79% to 43%. Subspecialty faculty felt that clinic limiting time on their rotations decreased from 68% to 40%.

Discussion: With the addition of a third cohort of residency programs of diverse make-up and location, faculty continue to find benefit to X+Y scheduling in the inpatient, outpatient and subspecialty areas twelve months after implementation. This method continues to show positive perceptions among faculty regarding workflow and time for teaching and has the potential to be widely adapted.

MENTAL HEALTH PROCEDURE LOG IS A FEASIBLE WAY FOR PROGRAMS TO TRACK RESIDENT SKILLS

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BACKGROUND:

As the need for mental health (MH) care for children in the US has continued to increase, the American Board of Pediatrics has emphasized the need to ensure competence of pediatric residency graduates in Mental and Behavioral Health (MBH). However, without standardized tools or measures of competency, many program directors are struggling with how to track and measure MH clinical skills in their residents.

METHODS:

To test feasibility of an innovative system for resident tracking of mental health skills, a procedure log of MBH clinical skills was created grounded in the competencies of General Pediatrics Mental Health EPA #9. The tool was designed to mirror the procedural log residents use for technical procedures in New Innovations. Residents were encouraged to track their own MH patient encounters across all rotations and clinical practice areas. Data was extracted from the log to evaluate usage patterns as a measure of feasibility and acceptability, and entries were analyzed to examine MBH clinical skills performed by the residents.

RESULTS:

In the first 6 months, 33% of residents (n=19) utilized the tool completing 71 entries with an average of 3.7 entries per resident. Users included all PGY1-3 years (47%/21%/32% respectively), with data entered during both inpatient (46%) and outpatient (46%) blocks at various intervals. Most patient care in which the resident performed a trackable MH skill occurred in the outpatient setting (91.5%), vs inpatient (7%) or the ER (1.4%). Most cases involved depression (31%), anxiety (26.8%), or ADHD (24%), and less often other MH concerns. Residents performed a wide variety of MBH skills often independently (57.7%) or with indirect supervision (28.2%).

CONCLUSION:

Residents of all classes utilized the log at various times and during both demanding and light rotations, suggesting this is a feasible and acceptable tool for residents to track their own MH clinical skills. As we move towards a time when resident mental health competencies will likely be reportable to the Board of Pediatrics, a MH clinical skills log could be a helpful tool to offer additional information to program directors.

USING QUALITY IMPROVEMENT TO SEIZE OPPORTUNITIES FOR HPV VACCINATION IN A PEDIATRIC RESIDENT CONTINUITY CLINIC

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Results

The project to date has failed to reach our project aim/outcome measure consistently. Over the project timeline, the number of residents who checked both vaccination and HPV vaccination status when they were in clinic increased. Residents also had improved self-reported knowledge of HPV vaccination rules and comfort levels in discussing HPV vaccination. Not being comfortable addressing HPV vaccine hesitancy was the highest reported reason for a lack of comfort in discussing the HPV vaccination.

Conclusions

Discovering communication-based strategies to promote HPV vaccination outside of routine well care is challenging. Failure to reach our project aim to date is likely related to a low volume of eligible patients, both from low volume of non-well care visits and high HPV vaccination rates in the clinic population. Family comfort level with routine discussion of vaccination at non-well care visits is also a likely contributor. It is crucial to better understand ways in which families and residents communicate surrounding HPV vaccine hesitancy, especially during non-well care visits, to seize opportunities to vaccinate when possible.

Funding

By June 2022, we hope to increase weekly HPV vaccination rates to 20% for patients presenting for non-well care visits at Tufts Children's Hospital's Pediatric Resident Continuity Clinic.

MUSCULOSKELETAL EXAMINATION CURRICULUM OF KNEE AND SHOULDER JOINTS FOR PEDIATRIC RESIDENTS

Matthew Vosters, MD; Lindsey Boyke, MD; Kira Sieplinga, MD, Helen DeVos Children's Hospital

Results

Preliminary results demonstrated improvement on both the attitude assessment and OSCEs. The percentage of residents agreeing or strongly agreeing with readiness to perform a shoulder exam increased from 24% to 81%. The percentage of residents agreeing or strongly agreeing with readiness to perform a knee exam increased from 48% to 82%. The pre-curriculum OSCEs demonstrated 48% shoulder and 63% knee exam accuracy. The OSCE scores increased to 70% shoulder and 82% knee exam accuracy following the curriculum.

Conclusions

The early results of our QI curriculum are promising, demonstrating both a subjective and objective improvement of musculoskeletal exams by residents in the study. If the knowledge is retained on serial assessment, this curriculum could be useful for introducing a much-needed skillset into resident education.

Funding

The objective of this study was to engage pediatric and internal medicine-pediatrics residents in a hands-on musculoskeletal curriculum that increased overall knowledge and skills when performing a musculoskeletal examination pertaining specifically to shoulder and knee complaints after one intervention.

WHEN DUTY CALLS, RESIDENT PHYSICIANS ANSWER: LEARNING TO TAKE TRANSFER CALLS

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Background: Transitions of care are error prone. Standardized handoffs at transitions improve safety. There is limited published curricula teaching residents to perform interfacility handoffs, transfer calls, or providing a framework for resident performance evaluation of this skill.

Objective: To measure the impact of a workshop implementing a standardized handoff tool (attached figure) on resident-reported confidence taking transfer calls and observed behavioral change in a simulated environment.

Methods: Residents participated in simulated transfer calls pre- and post- an educational workshop. The one-hour session highlighting the importance of phone communication, outlining an evidence-based handoff tool and reviewing example cases was delivered to 44 of 75 available residents at a large children's hospital in March 2021. Workshop effectiveness was measured using simulation to rate resident behavioral change pre and post workshop. Simulated calls were scored using a checklist created from the handoff tool. Resident confidence, knowledge of call process and perceived importance of this skill was measured with an internally developed retrospective pre-post survey. Paired T-test was used to analyze differences in pre-intervention and post-intervention scores. A P value of <0.05 determined significance.

Results: Behaviors, as measured by average score on the grading checklist, improved with a mean score increase of 6.52 points ($p<0.0001$) (95% CI 5.53, 7.51). 95% of participants completed the survey, showing reported confidence, knowledge of transfer call process and importance of transfer call skill increased significantly ($p<0.0001$) with a median score increase of 1.5 (IQR: 1, 2), 1.0 (IQR: 1, 2) and 0.5 (IQR: 0, 1) respectively.

Conclusions: This guided participation workshop improved resident behaviors, confidence, and knowledge of transfer call process, demonstrating the utility of providing a standardized tool and education on its implementation to improve transitions of care.

USE OF A SURVEY-BASED CONSENSUS METHOD IN THE DEVELOPMENT OF A NOVEL LONGITUDINAL RESIDENT PEDIATRIC ECG CURRICULUM

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Background: Pediatric residents frequently review electrocardiograms (ECGs) in the course of routine patient care. However, expectations for resident proficiency in ECG interpretation are unclear, and formal training varies widely.

Objective: We aimed to develop a set of core learning topics in pediatric ECG to form the basis of a longitudinal pediatric ECG interpretation curriculum.

Methods: 15 attendings representing subspecialties with frequent resident ECG exposure (cardiology, general pediatrics, emergency medicine, critical care, and adolescent medicine) participated in an iterative survey-based consensus method to refine a set of core ECG findings for curricular inclusion, with proposed training levels for each item. Between surveys, summarized group results were shared for review. A 2-hour pilot PL2 didactic session was designed based on the core PL2-specific findings identified (Table). The learning objectives were for residents to be able to: 1. list the findings they were expected to identify at their training level and 2. identify each of the findings on sample ECGs. A chief resident presented the curriculum and list of core ECG findings, followed by focused review of the PL2-specific findings by a cardiologist. Participants then had focused practice with representative ECGs precepted by the instructors. Participants were invited to fill out surveys before and after the session, assessing perceived confidence and testing interpretation of 6 representative sample ECGs

after the session, assessing perceived confidence and testing interpretation of 6 representative sample ECGs. Change in point performance on test questions was assessed with a paired t-test.

Results: The consensus method included 52 initial findings, of which 16 were excluded. 4 were added for a final list of 40 findings (Table). Based on participant input, findings were sorted into PL1, PL2, and PL3 curricula. The final list was approved by 15/15 participants. 11 PL2s participated in the pilot session, and 7 (64%) completed both surveys. All respondents agreed that the content was valuable and the format was conducive to learning. There were trends in increased confidence with ECG identification and clarity regarding ECG interpretation expectations. Performance on interpretation of sample ECGs improved by an average of 2.7/14 total points ($p < 0.01$).

Conclusions: An expert-based consensus method drawing from a broad range of subspecialties generated an actionable list of training level-specific core ECG interpretation topics. Didactic sessions based on such a framework are promising in improving both subjective perception and objective performance of ECG interpretation skills.