

## **Medical Education Abstracts**

## Utilization of Scripted Simulations to Improve Resident Communication with Parents of NICU Neonates

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#### Purpose:

It is imperative for parents of a neonate being cared for in the Neonatal Intensive Care Unit (NICU) to have an appropriate understanding of their child's health condition and potential future outcomes. Gaps in health literacy among NICU parents' understanding of their child's complex condition may be attributed to residents' lack of experience communicating appropriately and effectively with parents. A Quality Improvement (QI) intervention was designed to promote health literacy and better manage the expectations of NICU neonate parents by improving resident communication skills with the utilization of scripted simulations.

## Methods:

A scripted simulation was developed based on information obtained from a literature review and resident needs assessment. The dialogue will be conducted between the resident provider and parent (standardized patient) of a NICU neonate discussing a complex NICU topic with variations based on the parent interaction.

## Results:

The needs assessment measured residents' level of comfortability communicating with NICU parents. A total of 19 residents completed the survey and 12 (63.2%) residents expressed being "Minimally confident" when communicating with parents prior to rotating in the NICU and 14 (73.7%) residents expressed "Somewhat confident" after their experience rotating in the NICU. It was determined the most challenging factor with communication for residents is parents' lack of understanding of their child's complex health condition and there is a continued need for training to improve communicating realistic goals without being misleading to parents.

## Conclusions:

Previous literature shows that ideal communication is not just to inform NICU parents but to educate and provide guidance to allow them to become active partners in their child's care decisions. In previous interventions that utilized simulation training designed for Neonatal-Perinatal fellows demonstrated an improvement in the level of comfortability when discussing difficult news with families. The scripted simulation for this QI intervention is planned to be initiated at the start of the academic year. The intervention will be evaluated by comparing levels of comfortability of residents prior and after participating in the intervention.

### Enhancing Quality Improvement Curriculum in Residency through Interactive Workshops

Misha Sharif, MD; Lauren Olsen, DO, UNLV Pediatrics

#### Purpose:

The existing literature underscores a prevalent need for enhanced quality improvement (QI) education within residency programs, with many residents expressing inadequate training in QI methodologies and implementation. This initiative aimed to address this gap by introducing a revamped QI curriculum that can enhance resident competency and confidence in QI project execution.

#### Methods:

The approach involved implementing interactive workshops, case-based learning, and simulation exercises over the academic year, coupled with ongoing measurement of resident skill development and comfort levels in QI knowledge. Residents engaged with various assignment forms integral to the QI curriculum, including SMART goals, charter forms, cause and effect diagrams, PDSA forms, run charts, and summary reports. Following the integration of three workshops and the utilization of the Institute for Healthcare Improvement (IHI) QI toolkit, notable improvements were observed.

#### Results:

Completion rates for SMART goals surged from 17% to 75%, and charter form completion rose from 4% to 50%. Similarly, completion rates for cause and effect diagrams increased from 4% to 50%, and completion of the 1st PDSA cycle progressed from 8% to 30%. Assessment of residents' knowledge and comfort levels revealed a median increase from 2 out of 5 to 4 out of 5 on a scale where 1 signifies discomfort and 5 indicates strong comfort. Moreover, a substantial majority (79%) of residents availed themselves of the IHI QI toolkit, demonstrating increased readiness and utilization of QI resources.

### Conclusions:

The project resulted in an improved QI curriculum with increased learner engagement and better learning outcomes. This improvement in QI education has also fostered a culture of continuous improvement within pediatric healthcare institutions, leading to sustained advancements in pediatric healthcare delivery. Ultimately, the beneficial outcomes include enhanced health outcomes, increased patient satisfaction, and improved efficiency within pediatric healthcare systems.

#### Graphs/Charts:



Resident Comfort Level with the QI Curriculum

## A Taskforce Promoting Pediatric Undergraduate Medical Education and Faculty Development

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#### Purpose:

Despite the importance of medical education in preparing the next generation of pediatricians, clinician-educators face ongoing shortages of resources, time, and opportunities for faculty development. Over the last 6 years, our institution has dedicated time and funding to support a diverse group of medical educators tasked with improving pediatric undergraduate medical education for students across all four years of training. The purpose of this study was to characterize the perceptions of taskforce members related to opportunities to engage in educational activities, opportunities for ongoing faculty development, and academic productivity resulting from participation on the taskforce.

## Methods:

We distributed surveys to current and past members of the taskforce that contained both closed- and open-ended questions related to perceptions of the taskforce and how participation has contributed to professional development. Qualitative data was analyzed using thematic content analysis.

## Results:

Fifteen past or current task force faculty members completed the survey. All respondents reported that involvement on the taskforce provided opportunities to engage in medical student education without impacting clinical or academic productivity. 60% of respondents reported scholarly output and 93% reported additional opportunities in medical education leadership as a direct result of involvement with the taskforce. Major themes that were identified from narrative data include increased opportunities for networking and collaboration with educators across the institution and increased opportunities for involvement in the undergraduate pediatric curriculum.

## Conclusions:

Our institution's pediatric undergraduate medical education taskforce has created opportunities for faculty to directly engage in medical student education and has resulted in additional scholarly output and leadership opportunities for members. This type of data can be used to justify the allocation of additional resources for medical education across institutions.

## Sample Closet Series: An Educational Pilot Intervention to Improve Resident Knowledge of Infant Formulas and Nutrition

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## Purpose:

Our pediatric residency program needs assessment mirrored national trends, showing that residents felt unprepared to counsel on nutrition. As part of a longitudinal curriculum, the "Sample Closet Series" was developed to improve resident knowledge and application of infant nutrition and formulas.

## Methods:

We created clinical vignettes on infant nutrition pathologies and presented them during a monthly morning report session. About sixty resident physicians and numerous medical students participated in the morning report series. The residents worked in teams to identify each vignette's pathology and to select the best infant formula recommendation from a "sample closet" of formulas, a cabinet including a variety of common formula types and brands. The lecturer discussed the teams' choices and educated on the pathology and ideal formula(s) to use in each scenario. For the pilot

study, vignettes included diagnoses of cow's milk protein allergy, transient lactase deficiency, infantile regurgitation, and gastroesophageal reflux disease.

The sessions were evaluated separately with a survey using Likert scale response items to assess perceptions of the sessions and with a brief quiz to assess the accurate application of formula choices, comparing resident attendants and non-attendants. We statistically analyzed the quiz responses, comparing attendants versus non-attendants with a one-tailed Fisher exact test.

## Results:

100% of survey respondents who had attended the morning report (n=10) agreed or strongly agreed that the lecture content was appropriate for residents (mean 4.4/5, median 4.5), that it was applicable to general pediatrics (mean 4.9/5, median 5), and that the residents gained knowledge to change their clinical practice (mean 4.4/5, median 4). Of non-attendant respondents (n=9), all indicated a desire for more education on formula choice.

When comparing quiz answers, attendants (n=14) chose significantly more correct responses than non-attendants (n=15) for questions regarding milk protein allergy (p=0.044) and transient lactase deficiency (p=0.026). There was no significant difference between groups (p=0.671) for the question regarding gastroesophageal reflux, with most residents answering correctly.

## Conclusions:

The data indicates that the Sample Closet Series improved resident knowledge of infant nutrition and use of formula. Residents felt that the series empowered them to change their clinical practice and patient counseling. Additionally, residents reported that they enjoyed the engaging format of the sessions that the sessions were clinically high-yield and practical.

# A Transformative Approach to Holistic Application Review Focused on Equity, Diversity, and Inclusion Efforts in a Pediatric Subspecialty Fellowship

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## Purpose:

Workforce parity that mirrors the diversity of patient populations is a crucial step in addressing healthcare disparities in order to provide high-quality, culturally competent care for pediatric patients. We share insights into the challenges, initiatives, and strategies aimed at enhancing holistic fellowship recruitment efforts at our tertiary care, universitybased pediatric emergency medicine (PEM) fellowship with a corresponding free-standing children's hospital; with the hope of extrapolating this work to other pediatric subspecialties to train a more diverse next generation of specialized pediatricians.

## Methods:

We utilized a mixed methods approach of qualitative interviews, survey feedback, and implementation science. Opportunities for improvement within equity, diversity, and inclusion (EDI) were identified via an internal selfreview. Support was granted from divisional, departmental, hospital, and graduate medical education leadership. Leadership from six graduate medical education training programs were interviewed and shared areas to target including application review, cultivating an inclusive environment, strategic outreach/recruitment, diversity training for selection committee, and evaluation/continuous improvement (Figure 1).

#### **Results:**

Changes were iteratively implemented starting in the 2021 application season, with an overall increase in the percentage of non majority applicants with efforts positively received by applicants and faculty (Table 1). In the 2021 season, one non-majority ethnicity fellow matched at our institution, and three who identify as women. In the 2022 season, three non-majority ethnicity fellows matched at our institution, one who identified as a woman, and one with a work visa who had graduated from an international medical school. In the 2023 season, we matched two non-majority ethnicity fellows, two who identify as women, one from an emergency medicine residency trained background (only one other in the history of the fellowship since its inception in 1988), one who completed medical school at an international medical school, and the first fellow to hold an osteopathic medical degree.

#### Conclusions:

We were able to impact the number of non-majority applicants interviewed and matched to our fellowship via holistic recruitment strategies to improve not only visible diversity, but also non visible diversity attributes that have historically been biased against. We hope to disseminate these efforts to other pediatric subspecialties to create a more inclusive environment for not only trainees, but also for patients. Future directions include continuous process improvement and how to impact diverse trainees to diverse faculty recruitment and retention.



Key: A conceptual model of changes implemented that impacted holistic fellowship recruitment. EDI=Equity, Diversity, & Inclusion

Table 1. Pediatric	Emergency I	Medicine	Fellowshin	Annlicant	Demographics
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	All Applicants			Interviewed Applicants			Matched (3 unless noted)					
Year	AY	URiM	Non-majority Identifying	Woman identifying	Total applicants	URiM	Non-majority Identifying	Woman identifying	Total	URiM	Non-majority Identifying	Woman identifying
2023	AY24-25	22	44	63	98	8	15	24	35	0	2	2
2022	AY23-24	25	55	85	118	12	17	21	36	2	3	1
2021	AY22-23	27	66	80	141	21	31	28	41	1	1	3
2020	AY21-22	37	83	103	157	13	30	36	53	0	1	2
2019	AY20-21	22	44	77	117	5	15	28	31	0	2	2
2018	AY19-20	24	60	77	120	9	15	20	32	0	0	2
2017	AY18-19	16	46	72	104	4	11	18	29	1	0	2

Key: Pediatric Emergency Medicine Applicant Demographics since 2017. AY=Academic Year, URiM=Underrepresented in Medicine

## Inspiring Our Future Workforce: Increasing Preclinical Medical Students' Familiarity & Engagement in Pediatrics

Sarah Calardo, DO; Kanika Gupta, MD; Adil Solaiman, MD, Nemours Children's Health, Delaware; Jessica Tomaszewski, MD, Nemours Children's Health, Delaware

#### Purpose:

The 2024 pediatric residency match rate fell to 92% from prior rates of 97-98%, emphasizing the need to foster new, creative ways to motivate future physicians to enter the pediatrics workforce. Prior studies have shown a lack of opportunities for preclinical exposure to pediatrics and no standardization in how or when students are taught pediatric physical diagnosis skills. This unfamiliarity with pediatrics is worsened when a medical school's pediatric institution is offsite due to decreased ease and frequency of exposure. We designed an interactive and educational pediatric day for our institution's preclinical medical students to 1) bolster their familiarity with our children's hospital, 2) foster interest in joining and participating in a pediatric research project, and 3) increase knowledge of physical exam skills for various ages.

#### Methods:

Our pediatric division hosted an interactive and educational day for our affiliated medical school's preclinical students interested in pediatrics. Students signed up through their pediatric interest group. We conducted a cross-sectional survey study with optional, anonymous pre- and post-day participant surveys to determine if the educational day met our objectives.

#### Results:

Prior to the interactive day, only 39% surveyed preclinical students (n=46) of the pediatric interest group agreed that they were familiar with the institution's children's hospital, despite 81% stating interest in completing a pediatric residency. Four students had pediatric research experience, with 67% stating interest in pursuing a future pediatric research project. Immediately following the day, 83% of the surveyed students (n=47) stated they were now considering a residency in general pediatrics. Additionally, 98% agreed or strongly agreed that they were more likely to participate in a pediatric research project after the day. Finally, 89% agreed or strongly agreed that they felt familiar with the children's hospital, an increase of 50% from prior.

#### Conclusions:

Our interactive pediatric day successfully increased the preclinical students' interest in pediatrics, familiarity with our children's hospital, and self-reported likelihood of participating in a pediatric research project. The day itself was met with abundant positive feedback from both faculty and student participants. More research is needed to quantify if the interactive day caused lasting impact on student participation in pediatric research and on the number of future pediatric residency matches.

#### Graphs/Charts:



## Question of the Week: An Asynchronous Curriculum in Non-Invasive Cardiac Imaging

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## Purpose:

Imaging question of the week (QOW) is an innovative curriculum with aim to improve a cardiology fellow's ability to apply medical knowledge to the interpretation of pediatric cardiac imaging and motivate fellows to review relevant medical literature.

## Methods:

Initiated in 2017, QOW is a curriculum offered to pediatric cardiology fellows at our institution with a recommended reference, image, and question posted weekly an online platform. To determine learner motivation and engagement, participation is tracked on a rolling basis. Participation is defined as participation in at least 25% of questions. Anonymous annual surveys were distributed 2021-2023 to obtain curriculum feedback, determine fellow satisfaction, assess self-perception of general cardiology and imaging knowledge, and evaluate motivation for ongoing literature review.

## Results:

A total of 10 unique fellows were eligible to participate in QOW from 2021-2023. Participation in QOW has varied yearly: 67% (n = 6, 2021), 83% (n = 6, 2022), and 100% (n = 6, 2023). Anonymous annual surveys were completed by 67% (2021), 50% (2022), and 50% (2023) of fellows (n = 10). Fellow responses are presented in Figure 1. Fellows report they are very likely or somewhat likely to recommend question of the week to other trainees (90%). Fellows report an improved ability to interpret cardiac imaging (70%) and increased knowledge in general pediatric cardiology (90%). Less than half of fellows agree that QOW has improved their clinical performance. When asked about increased motivation to review relevant medical literature, 60% agree and 40% are neutral that QOW has increased their motivation. Subjectively, fellows describe question of the week as a great short review of topics, interesting cases, and information easily applicable to their future cardiology practice.

## Conclusions:

QOW can be utilized in subspecialty fellowships as an asynchronous supplement to general training. Varying participation can be expected with varying learning styles of trainees. While review of cases or questions can aid

fellows to learn necessary teaching points, more research is necessary to understand learner motivation to review relevant medical literature when posed with a clinical question.

## Enhancing Pediatric Primary Care Education Utilizing Cases of the Week

Alyssa Vigliotti, MD; Vildan Tas, MD, UPMC Medical Education

## Purpose:

We developed a Primary Care Case of the Week (CoW), a weekly case-based, question and answer learning tool that highlights primary care topics to improve pediatric residents' outpatient primary care knowledge and help prepare them for their board certification exam.

## Methods:

Beginning in August 2023, we developed weekly primary care cases for residents to voluntarily complete. Each CoW highlights a commonly seen or a must-not-miss primary care topic. Cases start with a clinical vignette and associated pictures. Subsequent questions focus on diagnosis and management. Initially, a new primary care case was developed, printed, and hung in our main academic outpatient clinic. Residents were encouraged to read the case and submit their answers to the related clinical questions into the associated answer box. To improve participation and access to the CoW, we transitioned to a 100% virtual platform after two months. Each case is now uploaded to Qualtrics, a secure online survey platform. After answers are submitted, correct answers are displayed. All cases are written by the two CoW creators.

Residents have the option of accessing the CoW via an email link or a QR code that is posted in multiple locations and have the ability to answer prior CoWs. To encourage participation, prizes are given bi-annually to residents with the most correct responses and to those who participate.

## Results:

During the first two months of in-person participation, participation was poor, with only 18 answers submitted by 14 individual residents. During the first 1.5 months after transitioning to a virtual platform, we gathered 129 responses submitted by 31 residents (24% of total residents). In total during the first year of its implementation, 67 individual residents (52% of total residents) submitted 472 responses from August 2023 to May 2024.

## Conclusions:

With a steady increase in resident participation, our primary care cases of the week are an easily implemented educational tool that seems to be well-received by pediatric residents. Although participation was voluntary, we were encouraged that 52% of residents chose to participate during its inaugural year. Notably, increases in participation correlated with transition to a virtual platform, reminder emails, and prize incentives. This tool could easily be adapted to other subject-focused topics and specialties. We plan to continue the CoW and further expand its utility and accessibility.

## Pediatric Patients as Educators: Navigating the Complex Process of Learning from Patients

Jennifer Plant, MD, MEd; Mark Fedyk, PhD; Zachary Chaffin, MD, University of California Davis; Efrat Lelkes, MD, MaineGeneral Medical Center; Colleen Sweeney, PhD, University of California Davis; Adam Weinstein, MD, Netter School of Medicine of Quinnipiac University; Lavjay Butani, MD, MACM, University of California Davis

## Purpose:

Learning from patients is central to medical student education. There is little published data related to the implications of 'using' patients as educators, an issue that is particularly important in vulnerable populations such as children. The aim of this study was to explore how medical students and pediatric faculty educators view the role of pediatric patients as educators in undergraduate medical education (UME) and how students and faculty navigate this dynamic of the learner-physician-patient relationship.

#### Methods:

In this qualitative study, focus groups were conducted with a convenience sample of medical students representing four years of training and separately with pediatric faculty educators involved with UME from three study institutions. Focus groups were led by personnel trained in qualitative research methodology using a semi-structured facilitator guide. Questions explored participants' perceptions on the role of pediatric patients in medical student education at various stages of training and possible benefits and dilemmas associated with learning from them. Two investigators independently reviewed the transcripts from the student and faculty focus groups separately through inductive iterative review based on the concepts of grounded theory.<sup>3</sup> They met to review and reconcile discrepancies in coding and generated and reached consensus on a list of themes using a constant comparison approach. The themes were sent to focus group participants for member checking.

### Results:

27 total students participated in 3 student focus groups and 18 faculty participated in 3 faculty focus groups. Thematic saturation was achieved after the 6 focus groups. Themes for the students and faculty focus groups were similar and integrated into a final list of 4 common themes (Table 1).

## Conclusions:

While the value of medical student involvement in the care of pediatric patients was widely recognized, challenges and risks to patients and families can limit opportunities for learning. Given the need for students to gain this unique knowledge and skillset, students and faculty must develop strategies to ensure this learning occurs in ways that also maximize benefits to children and families. These strategies include preparing students for experiences, incorporating students as active members of the care team, thoughtful patient selection, providing close supervision of students, allowing individualized student participation based on competency, and empowering patient/families to participate in teaching and learning.

Graphs/Charts:

#### Table 1

Theme 1: Medical students value learning and experience a sense of privilege when learning
from pediatric patients. Students and faculty feel
students add value to the visits and children's
health
Theme 2: Students face challenges when
learning from pediatric patients including limited
opportunities, inability to contribute especially in
high stakes situations, and emotional toll.
Theme 3: There are perceived risks to the
pediatric patients when students learn from
them, some of which relate to children's limited
ability to assent/consent to student involvement
Theme 4: Students' and faculty's reactions to the
benefits, challenges, and risks of learning from
pediatric patients vary and include rationalizing,
negotiation, and avoidance.

#### Development and Evaluation of a Workshop on Addressing Microaggressions in Medical Education

William Christopher Golden, MD; Heather Burrows, MD, PhD, University of Michigan Medicine; Amy Fleming, MD, MHPE, Vanderbilt University School of Medicine; Joseph Jackson, MD, Duke University School of Medicine; Meg Keeley, MD, University of Virginia School of Medicine; Sharon Kileny, MD, University of Michigan Medicine; Kenya McNeal-Trice, MD, University of North Carolina School of Medicine; Kimberly Vinson, MD, Vanderbilt University School of Medicine; Valencia Walker, MD, MPH, Geisinger Commonwealth School of Medicine

#### Purpose:

Microaggressions, identified as brief, commonplace indignities that disrespect minoritized persons, have persisted through generations of medical training. However, clinicians, staff, and administrators in clinical and non-clinical medical contexts may be unfamiliar with identifying and addressing microaggressions. We aimed to create and assess the effectiveness of a virtual educational workshop for physicians (and other staff working in medical domains) on defining and learning to mitigate microaggressions against trainees in hospitals, clinics, and other medical education settings.

#### Methods:

Nine (9) physicians who also serve as medical educators at seven (7) United States (US) academic medical centers developed a 90-minute, virtual workshop on addressing microaggressions in medicine. This workshop consisted of didactics, facilitated small-group reviews of microaggression case vignettes, and large-group discussions of the cases and strategies to address microaggressions. The workshop was presented to twenty-one (21) medical/hospital groups in the US, Canada, and Australia, with sessions including attending physicians, residents, fellows, nurses, respiratory therapists, medical administrators, and administrative staff. After each session, participants were invited to complete a brief, IRB approved on-line survey about the session's ability to improve their recognition and active mitigation of microaggressions in learning/clinical environments. Additionally, attendees were asked to evaluate workshop participation and utility in a virtual setting.

#### Results:

Three-hundred-four (304) participants completed the post-workshop survey. Utilizing a 5-point Likert scale (1= not at all to 5= very well), participants reported improved ability to identify a microaggression after completing the workshop (pre-workshop mean=3.47, median=4, post workshop mean=4.6, median=5). Importantly, 97% of participants (294/303) stated that after participating in the workshop, they gained strategies for responding to a microaggression. Additionally, 82% (248/303) expressed confidence in responding as a bystander to a microaggression in the future. Participants also acknowledged committing microaggressions in the past (57%,172/302), and, since completing the workshop, catching themselves causing or almost causing a microaggression in the learning environment (34%, 104/304). Finally, overall evaluations of the virtual format for this workshop were positive, with 95% of question respondents (233/245) stating the virtual format made it easier to attend.

## Conclusions:

Data support that this virtual workshop teaching bystander skills to mitigate microaggressions is a successful and impactful training session across a broad group of learners. Additionally, this workshop successfully enhanced the professional development of medical educators by teaching methods of identifying and preventing microaggressions and promoting diverse and safe learning environments. Quantitative and qualitative evaluations of the workshop support the need for this and further training around microaggressions in medical education.

## "TEACH"ing: Evaluation of a 3-Year Multimodal Child Poverty Curriculum

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## Purpose:

Understanding and addressing child poverty is critical for equitable care. Few curricula discussing poverty exist, and even fewer include multimodal teaching coupled with robust evaluation and monitoring for change in resident behavior. The aim is to evaluate the effect of Years 1 and 2 of a child poverty curriculum on resident knowledge, attitudes, and clinical care.

## Methods:

The objective of the Trainee Education in Advocacy and Community Health (TEACH) curriculum is to train pediatric residents to recognize and address the effects of child poverty. Components include Epidemiology of Poverty (Year 1) and Population Health & Social Determinants of Health (Year 2), with interactive modules with case simulations, multiple choice pre/post case-based knowledge questions, reflection questions, and experiential learning. In Years 1 and 2, residents also complete pre/post questions assessing attitudes on a 5-point Likert scale regarding screening for poverty and social determinants of health. The statistical analysis of knowledge and attitudes paired resident pre- and post-responses. In Taking Action in Primary Care (Year 3), residents complete an interactive module and create a patient care plan to address a social need and reflect on the experience.

## Results:

Residents demonstrated improved knowledge comparing pre- and post-test responses in each set of modules. Postparticipation in Year 1 and in Year 2, residents reported they felt more prepared to address social needs (p<0.001) and more effective in assisting families (p<0.001). In the creation of a care plan, most residents (31/47) referred to onsite social work team members and one third (17/47) discussed the care plan directly with the family. Themes from the reflection question showed increased understanding of patients' experiences and prioritization of shared decisionmaking when addressing social needs (Table).

## Conclusions:

This analysis is evidence that resident knowledge and attitudes on poverty improve within each year of the TEACH curriculum. Residents demonstrated new insights into the patient experience and indicated behavior changes in clinical practice, though it is unclear if changes are sustained beyond the curriculum. Next steps include further analysis of Year 3 data.

Graphs/Charts:

Theme	Quotes
Importance as a physician to familiarize oneself and empathize with patients' struggles	I realized that I have to familiarize myself more with the struggles that a majority of our patient population faces on a daily basis and the resources we can provide them as medical providers.
Responsibility as a physician, in partnership with care team members, to ensure meaningful access to resources	I think this emphasized the need to make sure a resource is actually accessible for a family, whether this pertains to required transportation to reach or documentation/waiting period during application if something is needed urgently. It also highlighted the importance of partnering with the family to make sure that this is something they are also interested in pursuing.
Ensuring families are provided an interpreter when discussing and accessing community resources since language and culture differences can be barriers	This family had recently immigrated from Central America and did not speak any English. The language barrier and lack of knowledge about resources available in the US makes addressing food/employment insecurity more difficult for this family.
Implementation of universal SDH screening helps to mitigate biases and avoid assumptions	I need to remind myself of my own implicit biases to ensure that I am discussing social needs with all families and not making assumptions about what a family's needs may be based on their race.
Comprehensive conversations with families and adolescents promote shared decision- making	As the patient is 18yo, I also discussed social determinants of health and resources with him. I think it is important to make shared decision-making with the parents and also patients as they become older teenagers.
Recognizing one's own biases in patient care and acknowledging one own's discomfort with racial discordance between providers and families	We spent the first 10 minutes of the visit addressing concerns for a scalp infection in both of their boys that dad thinks was related to how tight their hair had been. I think they would've preferred a Black provider for these concerns.
Value in recognizing structural racism as underling SDH and as a contributor to the barriers to health	Systemic racism is likely playing a large role in the disparities experienced by this family who self-identified as Black. Red-lining caused a wave of effects in SE DC where this family resides. Intergenerational socioeconomic suppression and suppressed economic mobility that is in part a result of redlining is likely playing a role in this family's experience, as they have difficulty affording food, housing, and transportation.

## "My body felt this is real": Fourth Year Medical Student Perspectives of a Simulated Pediatric Inpatient Experience

Jennifer McConnell; Cameron Wynn, MS; Ailyn Clara, MS; Prachi Singh, MD, MPH; Jeanne Carey, MEd, RN, CHSE-A; Rory Nicolaides, MD; Ngoc Van Horn, MD, University of Texas Southwestern Medical Center; Jenny Francis, MD, University of Texas Southwestern Medical School

Purpose:

Describe graduating medical students' perspectives of learning in a pediatric inpatient simulation to characterize the components of a realistic simulation-based learning experience.

Methods:

Twenty-five fourth year medical students matched to Pediatrics or Combined Internal Medicine-

Pediatrics participated in a pediatric inpatient simulation during the annual transitions-to-residency course in March 2024. During the 90-minute simulation, 5 teams of 5 students received a simulated hand-

off, managed interruptions, and addressed patient deteriorations with embedded distractions, to practice future intern roles, teamwork, communication and escalation of care. Afterwards, we invited students to virtual semi-structured interviews within one month of the simulation until we reached saturation. We transcribed interviews verbatim. Four independent coders followed a thematic framework with inductive and deductive approaches for analysis where consensus resolved discordance.

## Results:

Most eligible students (80%, n = 20/25) completed virtual interviews (18/20)

individual interviews, 1 group interview with 2 participants). Most were female (70%), matched to Pediatrics (85%), ranged in age between 25–34 years, and interviewed within 3 weeks after simulation end (range 4–20 days), for 30–59 minutes (average 41 minutes). Among the four main themes, first, students described the concept of preparation, where personal, educational, and clinical experiences, pre-briefing, and student's own expectations prepared them for the experience. Second, production, where multiple patients, facilitators, equipment, and modes of communication aligned with a narrative structure to simulate tension (interruptions, clinical deterioration) in a multi-room setting that produced a "real space". Third, presence, where both individual autonomy and interactions with peers, facilitators, and self, encouraged engagement and realism with clinical decision-making. For example, one student stated: "My body felt this is real." Finally, processing, where debriefing, personal reflection, observation of others, skill repetition, and relevance to future practice all enhanced student learning and takeaways.

## Conclusions:

The concepts of preparation for the simulation, production and delivery of the simulation narrative, the presence of students, and processing to solidify learning are the key features described by students in this study. Future studies should investigate how the balance of student autonomy, narrative structure, and facilitator roles within a real space strengthens simulation realism.

## Rethinking Newborn Resuscitation: Laryngeal Mask Training for Residents

Aisha Jameel, University Of Chicago; William Adams, PhD, Loyola University Chicago; Trent Reed, DO, Loyola University Medical Center

## Purpose:

Laryngeal masks (LMs) are safe and effective and can decrease the need for intubation in newborn resuscitation. LMs are underutilized, as only 12% of NRP instructors are familiar with their use. ACGME requirements will no longer dictate that pediatric residents be skilled in neonatal intubation, making alternative methods of ventilation more crucial to effective resuscitation. We aimed to train learners who were not skilled in intubation in the use of an LM through simulation. We evaluated the impact of that training on learner knowledge, skills, and confidence in using LMs.

## Methods:

We implemented a simulation scenario that focused on ventilation skills and the insertion of an LM at our community hospital. Rapid Cycle Deliberate Practice was the framework for the simulation, allowing 46 nurses and family medicine residents to gain hands-on experience inserting, removing, and securing a Teleflex LMA size 1 LM in a Laerdal Newborn Anne Manikin. The participants took a 5-question quiz before and after the simulation event to evaluate their pre- and post-simulation knowledge. They were invited to complete a pre-post survey assessing their self-reported knowledge, skills, and confidence. We also elicited narrative feedback from a PGY-1 resident who placed an LM during a live simulation after participating in the simulation events.

## Results:

To evaluate knowledge, exact Wilcoxon signed-rank tests were used to compare the pre-and-post-quiz scores, which were significantly higher on the post-test (p < .001).

Exact Wilcoxon signed rank tests were also used to compare the pre-post-survey responses to gauge self-reported skill and confidence.

Compared to the pre-survey response, agreement was higher in the post-survey for the items: "*I know how to insert an advanced airway*" (p = .001); "*I know how to secure an advanced airway*" (p = .004).

Compared to the pre-survey response, confidence was higher in the post-survey for "*Inserting an advanced airway*" (p = <.001).

After participation in the simulation program, one PGY-1 resident used an LM under the supervision of an attending in live resuscitation on a 34-week gestation infant. The narrative evaluation from this resident was positive.

#### Conclusions:

Ventilation is the key step in neonatal resuscitation, and LMs are effective ventilation devices that are underutilized. At our institution, simulation was an effective method of improving knowledge, skill, and confidence in the use of LMs. Changing ACGME requirements will no longer include procedures such as neonatal intubation, making proficiency in LMs crucial to effective newborn resuscitation.

## Make Yourself Comfortable: A Pediatric Clerkship Simulation Experience on Family-Centered Rounds

Lauren Chan, MD; Kayla Buttafuoco, MD; Natasha Belsky, MD; Hannah Hund, MD, Vanderbilt University Medical Center; Maya Neeley, MD, Vanderbilt University School Of Medicine; Travis Crook, MD, Dell Medical School

## Purpose:

To improve pediatric clerkship students' comfort and confidence in family-centered rounding (FCR) skills through structured standardized patient (SP) encounters and small group activities.

## Methods:

This study utilized a between-subjects design. Sixty students in the 2023-2024 academic year participated in a 2-hour FCR workshop as part of their pediatric clerkship orientation while forty students served as the control group with no intervention. The workshop included a didactic presentation on FCR principles, SP encounters\* with direct observation and feedback, and facilitated small group practice presentations. Surveys measured students' comfort, confidence, and ability to perform FCR skills pre-workshop, post-workshop, and post-rotation, supplemented by qualitative feedback.

\*SP cases were adapted from Rao P et al. Improving pediatric resident communication during family-centered rounds using a novel simulation-based curriculum. MedEdPORTAL. 2018;14:10733.

## Results:

Of 82 surveyed students, 96% lacked specific FCR teaching in their undergraduate medical education (UME). A minority (27%) reported prior FCR experience in other rotations, notably in Internal Medicine (55%) and Surgery (18%). Pre-workshop, students showed moderate confidence and comfort in FCR skills. Despite different levels of clinical experience, one-way ANOVA comparing students grouped by the time they were on their rotation revealed no significant differences in various FCR domains including comfort in identifying pertinent information, communicating the assessment and plan, using non-medical language, and involving the patient and/or family in medical decision making (MDM) as well as no significant differences in ability to introduce self, introduce team members, make eye contact, use non-medical language, and involve the patient and/or family in MDM. After the workshop, unpaired t-tests of unequal variances comparing pre- and post-workshop ratings revealed significant increases in confidence (p < .001) and comfort in all domains (p < .001). Feedback emphasized the benefits of SP practice and real-time feedback in a low stress environment and a reduction in anxiety in clinical practice.

## Conclusions:

Simulated FCR encounters effectively improved students' confidence and comfort in FCR skills. Education on FCR should be integrated into UME curricula as it aligns with core competencies from accredited medical societies like the

Accreditation Council for Graduate Medical Education (ACGME). It also reinforces communication skills that can be broadly applied to various clinical settings and medical specialties.

Graphs/Charts:



Figure 1. Mean medical student comfort levels in various FCR skills on a 7-point Likert scale from 1 = very uncomfortable to 7 = very comfortable pre-workshop (N = 53) and post-workshop (N = 42); one-sided P value < .001 with unequal variances *t*-test for all groups—identifying pertinent medical information, involving patients and/or family in medical decision making, presenting the assessment and plan, and using non-medical language.



Figure 2. Mean medical student confident levels on a 5-point Likert scale from 1 = strongly disagree to 5 = strongly agree with the statement "I feel confident in my ability to present on FCR" pre-workshop (N = 53) and post-workshop (N = 42); one-sided P value < .001 with unequal variance t-test.

## Mental Health Competencies for Pediatric Training, an Integrated Care Model: Solution to a Curricular and Practice Challenge

Heather Burrows, MD, PhD; Liwei Hua, MD PhD, n/a; Sara McLaughlin, MD PhD; Margeaux Naughton, MD; Joanna Quigley, MD, University of Michigan

#### Purpose:

The Surgeon General recently declared a mental health emergency for youth in the United States (1). The American

Academy of Pediatrics continues to acknowledge the importance of pediatricians in providing mental health care (2,3). In 2022, the ACGME updated training objectives for pediatric residents in mental health care. In 2010, a pediatrician and child psychiatrist collaborated on a GME proposal for a collaborative care clinic, led by faculty in Child Psychiatry for Pediatric house staff to meet this training need, and improve access to care. The objective of this project is to describe and assess the development and implementation of a collaborative training clinic model. We will also discuss outcome measures obtained and related to trainee knowledge and confidence as well as referring provider satisfaction.

### Methods:

This clinic is staffed by 0.1 FTE of a Child and Adolescent Psychiatry Faculty. Each resident cares for three patients during one afternoon of clinic, a combination of new and follow up cases. We continue to track volume of patients seen, residents engaged, track alumni responses to items around comfort managing mental and behavioral concerns in an anonymous post-training survey.

## Results:

During the initial pilot, the clinic cared for 66 unique patients, average age of 12.7 years, 45% presented with a diagnosis of ADHD, 29% with a diagnosis of anxiety, and 32% with a diagnosis of depression. This cohort of patients was seen for an average of three follow up visits, and 30% of patients were covered by Medicaid insurance. Time to referral to the clinic averaged 1-3 weeks, with follow-up scheduled in 2-4 weeks. Residents received pre and post rotation surveys that assessed their content knowledge in pediatric mental health, as well as their perceived comfort in assessing and managing a core group of pediatric mental health concerns [Table 1]. In a recent alumni survey, graduates reported feeling confident in diagnosing anxiety (4.38 out of 5), depression (4.62) and ADHD (4.38). They also indicated that they felt able to treat these diagnoses at a high level.

## Conclusions:

Innovative clinical models bolster training in pediatric mental health care. This clinic model launched to create opportunities for direct, bedside management of mental health concerns by pediatric trainees, champion a collaborative care model, and improve partnerships between pediatric primary care, and child psychiatry. Initial surveying during the pilot phase of the clinic were promising, the clinic is sustainable, and residents continue to find value in learning from this collaborative care model.

## Imperfectly Objective: Gender Bias in Performance of PCCM Fellows on a Mechanical Ventilation Knowledge Test

Rachel Poeppelman, University Of Minnesota; Hossein Tcharmtchi, MD, Baylor College of Medicine/Texas Children's ; Angela Czaja, MD, PhD, University of Colorado School of Medicine/Children's Hospital of Colorado; Kyle Rehder, MD, CPPS, Duke Children's Hospital; Donald Boyer, MD, MSEd, Children's Hospital of Philadelphia and the Perelman School of Medicine at the University of Pennsylvania; Richard Mink, MD, MACM, The Lundquist Institute for Biomedical Innovation at Harbor-UCLA Medical Center and the David Geffen School of Medicine at UCLA

#### Purpose:

Differential attainment, or a difference in performance based on social identity, has been demonstrated for many widely used standardized tests in medical education and may be due, in part, to stereotype priming and threat. Previous work shows priming students (reminding them of group membership) can activate stereotype-consistent behaviors, with the classic example of female students scoring lower on a math test after being reminded of their gender (Steele 2006). We sought to explore the association between gender, race and/or ethnicity and performance on a test of mechanical ventilation (MV) management for pediatric critical care medicine (PCCM) fellows.

Methods:

PCCM fellows from 15 programs were invited to take a proctored, 35-question multiple-choice test of MV management. Prior to the exam, fellows answered demographic questions such as gender identity, race/ethnicity, and year of training. Fellows then self-rated their required level of supervision (LOS) in MV management using an entrustment scale adapted from the subspecialty-specific entrustable professional activities. After exam completion, they self-rated their LOS again. Data were collected under APPDLearn-generated confidential identifiers. We performed separate mixed effects regression analyses to measure the association between self-identified gender and race/ethnicity and MV test performance or pre-/post- LOS ratings, adjusting for program effect.

## Results:

Of the 72 fellows who provided demographic information and completed the test, 61% identified as female and 72% identified as white (Table 1). After adjusting for program and training year, gender was significantly associated with both MV test score and post-test LOS rating, with males scoring higher (Tables 2 & 3). Overall, PCCM fellows decreased their post-test LOS ratings, however post-test ratings from female fellows decreased more than those of male fellows. Race was not significantly associated with MV test performance or either pre- and post-LOS ratings. There was also no significant interaction between gender and race/ethnicity.

## Conclusions:

On average, PCCM fellows who identify as male scored higher on a test of MV management than those who identified as female. Further, female fellows were more likely to have a lower self-assessed LOS after the test, suggesting a decrease in self-efficacy. We did not observe similar effect by race or ethnicity. These findings are consistent with those in other fields and highlight the need to further assess the reasons underlying differential attainment and potential adverse impact on clinical performance and advancement.

Graphs/Charts: Document

## Teaching Humanities to Medical Students: Moving from the Classroom to the Clinic

Andrew Freiberg, MD; F. Jeffrey Lorenz, MD; Matthew Darok, MD, Pennsylvania State University; Maria Holstrom, MD, University of Chicago Medical Center; Cheryl Dellasega, CRNP, PhD, Pennsylvania State University

## Purpose:

To evaluate an innovative narrative medicine rotation designed to provide insights on family function during illness, health systems issues, and the complexity of interdisciplinary care for the acutely ill.

## Methods:

While humanistic practice is an essential component of medical school curricula, there are few applied experiences that instill this perspective. For the last 16 years, we have offered an innovative clinical rotation to third and fourth year students. For two weeks, students are relieved of clinical duties and spend time with several children and their families on the pediatric oncology service, interacting with them wherever they are: in clinic, the inpatient unit, waiting rooms, hallways, or the OR. Students create a daily narrative about their experiences, which is submitted to the course director at the end of the rotation. Using qualitative methods, a trained research team analyzed the first 120 narratives submitted by students from the initiation of the rotation in 2008 through 2019. Working together, the team came to consensus on five themes.

## Results:

The narratives revealed: 1) A heightened sense of empathy; 2) The ability to self-structure clinical time and experiences; 3) Enhanced communication with both team members and patients, especially during "down time" in waiting rooms; 4) An appreciation of and empathy for family dynamics during acute and chronic illness; 5) Insights into important system issues such as hospital admission, consent processes and prolonged waiting times. Specific

excerpts from the journals illustrate these themes, as well as the 7 humanism core competencies, as defined by the Arnold P. Gold Foundation framework for humanism (IECARES).

## Conclusions:

We demonstrate the power of a brief but educationally sound experiential teaching method that counters empathy drift and burnout. Such experiences may increase student interest in pursuing a career in pediatrics, but since most students reported a beneficial impact of the rotation, even if not intending to specialize in pediatrics or oncology, it could be used in other specialties. Through immersion in health systems challenges confronting families and the processing of learning activities through narrative, students express a new perspective on humanism during a critical time in their medical training. Allowing students the freedom and time to interact with and listen to patients and families has the potential to transform medical education.

## Assessing a Longitudinal Climate Justice Curriculum for Pediatric Residents

Mark McShane, MD; Harleen Marwah, MD, MS; May Shum, MD, Children's Hospital of Philadelphia; Isha Thapar, BS, Perelman School of Medicine; Noreena Sondhi Lewis, JD; Paul Devine Bottone, MD, Children's Hospital of Philadelphia

## Purpose:

Climate change is a global health crisis that disproportionately impacts vulnerable populations. Graduate medical education (GME) curricula must prepare physicians to care for patients whose health and health equity are threatened by climate change. However, there is a paucity of data on the effectiveness of climate justice education at the GME level. The objective of this study is to assess the efficacy and acceptability of a novel, longitudinal curriculum on Climate Justice and Health Equity (CJHE) in a pediatric residency program.

## Methods:

A longitudinal, four-part CJHE curriculum was developed and implemented into the broader advocacy curriculum at a large pediatrics residency program. Participants completed pre- and post-session surveys, which used 5-point Likert scale items to assess their attitudes toward climate change, their intentions to engage in climate advocacy and healthcare sustainability, and session acceptability. Paired, de-identified responses were analyzed via Wilcoxon signed-rank test. Session attendance was mandatory for residents, but participation in this study was optional.

## Results:

After one academic year, approximately 100 residents participated in curricular sessions; 68 of those residents (~68%) completed both pre- and post-session surveys. Session participation increased residents' median [interquartile range] self-reported understanding that climate change is impacting their patients' health (4 [1] vs. 5 [0.25], p<.001), their understanding of how clinicians can be climate advocates (3 [2] vs. 4 [1], p<.001), and their intentions to address the climate crisis during patient encounters (3 [1] vs. 4 [1], p<.001) (Table 1). Residents found the session valuable, reporting that medical training programs should teach trainees about climate change's impacts on health (4 [1] vs. 5 [1], p<.001) (Table 1).

## Conclusions:

A longitudinal CJHE curriculum piloted among pediatric residents has thus far demonstrated acceptability, increased participants' self-reported understanding of climate change's impacts on health equity, and increased their intentions to address the climate change and healthcare sustainability in their practices. Ongoing data collection will help determine whether these successes are sustained longitudinally among participants over future academic years.

## Graphs/Charts:

Survey Item	Mean Response (Standard Deviation)		Median Response (Interquartile Range)		Pseudo-median	p value
	Pre	Post	Pre	Post	(Post-pre)	1
I understand how climate change impacts human health.	3.74 (0.73)	4.37 (0.52)	4 (1)	4 (1)	1.00	< 0.001
Climate change is currently impacting the health of my patients.	4.34 (0.73)	4.74 (0.48)	4 (1)	5 (0.25)	1.00	< 0.001
I understand how climate change contributes to health inequities.	3.76 (0.81)	4.46 (0.50)	4 (1)	4 (1)	1.00	< 0.001
I understand how health care providers can be climate advocates.	3.06 (0.81)	4.16 (0.66)	3 (2)	4 (1)	1.50	< 0.001
Medical schools and residency programs should provide formal education on how climate change impacts health outcomes.	4.34 (0.64)	4.60 (0.52)	4 (1)	5 (1)	1.00	< 0.001

Table 1: Aggregated Pre- and Post-Session Survey Results for CJHE Sessions, 2023-24

**Cultural Humility as a Framework to Teach Cross-Cultural Communication in Pediatric Residency Training** Laurence Gariepy-Assal, MD CM, MMSc, FRCPC, University Of Montreal/Harvard University; Ahmed Moussa, MD, MMEd, FRCPC, FAAP, University of Montreal, Sainte-Justine University Health Center; Donna Luff, PhD, Harvard Medical School, Boston Children's Hospital; Angela M. Feraco, MD, MMSc, Harvard Medical School, Dana-Farber Cancer Institute, Boston Children's Hospital; Jennifer C. Kesselheim, MD, M.Ed, MEB, Harvard Medical School, Dana-Farber Cancer Institute

#### Purpose:

The purpose of this study was to develop a simulation-based curriculum (SBC) to teach cross-cultural communication (CCC) in pediatric residency training using cultural humility (CH) as a conceptual framework and assess its impact on residents' self-perceived preparedness and behaviors in delivering culturally effective clinical care.

#### Methods:

Using expert consensus and collaboration with community patient partners (CPP), we developed a SBC on CCC using CH as a conceptual framework. Pre-, immediate retrospective post-, and 3-month post-curriculum participants' self-perceived preparedness in delivering cross-cultural care were assessed using an adapted version of the *Cross-Cultural Care Survey*. Demographic data is presented using descriptive statistics. Categorical variables were analyzed using chi-square and continuous variables with independent t-test. We considered p<0.05 as statistically significant. Qualitative analysis of curriculum satisfaction and participants' commitment to change through time were conducted through coding of emerging themes.

#### Results:

Roussin and Weinstock's SimZones theoretical framework was used as a foundation to develop the SBC. Three scenarios were created in partnership with CPP. Each scenario explores a different dimension of cross-cultural care. Scenarios were built to stimulate discussion around CH and foster exchange of participants shared lived experiences. Medical trainees (3 junior residents, 18 senior residents and fellows) from a Pediatric University Health

Center participated in the CCC SBC between October and December 2023. Although participants reported 43% (SD12) of their patients were from racial and ethnic minorities, formal CCC learning opportunities were lacking. Participants' self-perceived level of preparedness and skills in delivering culturally effective clinical care significantly improved after taking part in the SBC (p<0.001) and positive outcomes persisted through time (p<0.001). Because of their applicability to clinical practice, scenarios co-created with CPP were seen as a catalyst to curriculum success. A safe learning environment also stood out as a key enabler to non-judgmental open dialogues. By the end of the SBC, trainees demonstrated a sound understanding of CH principles and implemented positive behavioral changes in their practice regarding cross-cultural care delivery.

## Conclusions:

A CCC curriculum which uses simulation-based teaching leads to meaningful learning and is an effective educational intervention. This novel teaching intervention shows a potential avenue to close the gap in CCC teaching in residency training.

## Mind the (Confidence) Gap: Comparing Pediatric and Internal Medicine Residents' Experience and Confidence on the Management of Invasive Lines, Drains and Tubes

Jenna Hatab, MD, Nationwide Children's Hospital; Emily Rowland, MD; Courtney Alvis, MD, Nationwide Children's Hospital; Claire Stewart, MD, Med, Nationwide Children's Hospital/Ohio State University

#### Purpose:

Although placement of central venous lines (CVLs), arterial lines, peripherally inserted central catheter (PICC) lines, chest tubes, and naso/orogastric (NG/OG) tubes are not required procedures of pediatric residency, pediatric residents may be responsible for managing these lines, drains, and tubes (LDTs). We conducted a comprehensive needs assessment to evaluate the clinical experience, confidence levels, and training experience of pediatric residents in managing and removing LDTs. We compared these variables between categorical pediatric (CP), internal medicine/pediatric (IM-P), internal medicine (IM), and emergency medicine/internal medicine (EM-IM) residents.

## Methods:

Surveys were distributed to all PGY 1-4+ residents via RedCap. Statistical analysis was completed using Pearson's chi-squared test.

## Results:

The survey response rate was 139/306 residents (45%): 81 CP and 58 IM (including IM, IM-P, EM-IM) residents. Overall, we found a crucial gap between CP residents' experiences in managing and removing LDTs and their training and confidence levels. Varying percentages of CP residents had managed or removed each of these LDTs, when the majority (87-99%) had no formal training on how to do so. For instance, 21% of CP residents had removed and 43% had managed a CVL, while 60% had no confidence in their ability to do so. Similarly, while 49% of residents managed at least one chest tube complication, only 3% felt confident. Significant disparities were noted between CP and IM residents, with CP residents reporting lower experience and confidence, particularly in managing CVLs and arterial lines (p-value <0.001). IM residents managed more PICC line complications (p-value 0.024) and were more likely to have removed chest tubes and NG/OG tubes with confidence. Across all specialties, residents expressed a need for formal training on LDT management during residency.

## Conclusions:

Our survey demonstrated that residents are managing LDTs on the wards without formal training and with low confidence. Given the high risk of these LDTs, these results highlight an important safety concern for patients and residents. A more comprehensive procedural curriculum for pediatric residents is currently in development based on this needs assessment.

## Harnessing the Pediatric Resident Perspective to Inform Program Changes with ACGME Requirements

Robert Daulton, Cincinnati Children's Hospital Medical Center; Jenna Harowitz, MD, Boston Combined Residency Program; Dana Neel, MD, PhD; Laura Chiel, MD, Boston Children's Hospital; Carolyn Marcus, MD, Children's Hospital/Boston Medical Center; Mollie Wasserman, MD, Boston Children's Hospital

#### Purpose:

The Accreditation Council for Graduate Medical Education (ACGME) recently published requirements for residency program accreditation in Pediatrics, which necessitate significant programmatic curricular change. These changes affect multiple stakeholders, including resident learners. Our study aimed to identify themes from resident trainees to inform hospital and residency leadership decision-making during the anticipated programmatic overhaul.

### Methods:

Two focus groups were conducted with 24 pediatric residents from all years of training at a large residency program associated with a free standing children's hospital in 2023 and 2024. Both focus groups employed open-ended questioning, and responses were transcribed and anonymized using a third-party service. The first focus group explored key features of the five highest and five lowest rated residency rotations based on five year residency assessment data. Two trainee reviewers analyzed transcripts using a constant comparison analysis and used open coding and axial coding to develop 18 codes. The second focus group further explored these codes and the discussion was transcribed. Selective coding produced seven overarching themes.

## Results:

Pediatric residents identified seven major themes to consider when making residency program curricular changes: (1) optimize outpatient experiences to enhance continuity in schedules, patients, and preceptors; (2) facilitate graduated autonomy through enhanced decision making opportunities; (3) promote equitable, consistent collaboration with Advanced Practice Providers; (4) diversify clinical learning opportunities by facilitating trainee rotations in a variety of practice settings; (5) consider patient census, acuity and complexity when assessing acceptable trainee workload; (6) balance resident service contributions with educational needs; (7) prioritize resident presence in select subspecialty settings which are structured to support trainee education. actors that contribute to trainee fulfillment were also identified and included: schedule pacing (with distinct outpatient and inpatient experiences), faculty engagement, opportunities for procedural learning, and dedicated rotation-specific educational efforts (i.e. simulation).

## Conclusions:

Pediatric residents identified themes to consider when enacting curricular changes to comply with the updated ACGME requirements in Pediatrics.

## Use of Clinical Self-assessment Modules to Teach Primary Care Preventative Measures in Pediatric Residency

Katelyn Donohue, MD; Rebecca Carter, MD; Natalie Davis, MD; Samuel Kirsch, BA, University of Maryland School of Medicine

## Purpose:

Assess if the incorporation of clinical self-assessment (CSA) modules into a resident primary care continuity clinic leads to changes in knowledge of and comfort in assessing developmental milestones, vaccine schedules, and preventative screening recommendations at health supervision visits.

## Methods:

Pediatric residents participated in CSAs during their continuity clinics, utilizing faculty-developed modules to guide their practice. The modules also promoted active self-reflection on residents' ability to assess developmental milestones, vaccine schedules, and preventive care screenings. Matched Pediatric In-Training Exam (ITE) total scores and Preventative Care/Well Child (PC/WC) sub-scores were compared after 1 year of implementation

to estimate the effect of CSA modules while adjusting for year of training as well as other potential confounders using multiple regression models. In addition, residents completed pre- and post-intervention surveys to assess comfort with preventive care components.

#### Results:

The strongest predictor of ITE score was year of training, and while exposure to CSAs appear to correlate with higher ITE scores, this is strongly confounded by the fact that those with more CSA exposure training are those in the later years. Using a multivariate model adjusting for years of training, Preventative/Well child subscores showed improvement following implementation of CSA modules, approaching significance (p=0.051), *table 1*. Survey analysis demonstrated improvement in residents' comfort in their ability to identify age-appropriate developmental milestones (n=9, p=0.0081), but not in identification of vaccine schedules or lab screenings.

#### Conclusions:

Pre- and post-intervention analysis showed improvement in the overall ITE scores and PC/WC sub-scores, suggesting that CSAs may be an effective adjunct teaching tool for Pediatric primary care interventions, but alone are not an adequate strategy for learner-driven education. The post-CSA survey demonstrated improved resident comfort with developmental milestones, but not with vaccine schedules or routine lab screenings, and the survey was limited by small sample size and inability to match pre- and post-data. Future studies should increase sample size of resident surveys and match ITE scores with survey data. Additionally, multi-institution data will reinforce the role of CSAs on ITE scores as well as resident comfort and understanding of preventive care measures, and may consider pairing a CSA with additional instructional tools to supplement and support resident knowledge and comfort in these domains.

#### Graphs/Charts:

Table 1. Association between various predictors and "Preventative sub-score score" based on a multivariable model adjusting for all variables in the model.

Variable	Contrast		Mean	Difference	P-value
			(95% CI)		
Calendar	2019	VS.	17.78 (-0.	04, 35.6)	0.051
Year	2018				

## Pediatric Approach to Trauma, Treatment, and Resilience (PATTeR) Training for Pediatric Trainees

Christine Thang, MD; Samantha Kucaj, PsyD; Flor Arellano, MPH; Moira Szilagyi, MD, PhD, University of California Los Angeles

#### Purpose:

The Association of American Medical Colleges (AAMC) and the Accreditation Council for Graduate Medical Education (ACGME) recognize the importance of trauma-informed care (TIC) and resilience training in their program requirements. Several independent TIC trainings exist across medical schools and residency programs, but comprehensive, evidence-based TIC curricula tailored for pediatric trainees is lacking.

The American Academy of Pediatrics' (AAP) "Pediatric Approach to Trauma, Treatment, and Resilience" (PATTeR) TIC curriculum was developed by a multi-institution, multi-disciplinary team of experts for pediatricians. We adapted and implemented PATTeR for trainee education. Additionally, we developed and gathered initial data on a modified communication skills assessment form to assess higher-level learning outcomes, enabling real-time feedback and deliberate practice-based educational interventions.

#### Methods:

Using the adapted AAP PATTeR curriculum, we trained interns at a single site. A pediatrician and clinical psychologist delivered the training with interactive case-based discussions encouraging engagement and reflection.

Pre-post learning was assessed based on the Kirkpatrick education model for all learners. We developed two standardized patient encounter (SPE) scripts. We adapted the Gap-Kalamazoo Communication Skills Assessment Form (GKCSAF) to assess TIC communication skills (GKCSAF-TIC). Its validity was examined using Messick's framework, covering tool content, response process, internal structure, and relationship to other variables.

## Results:

We analyzed 57 SPEs involving 33 pediatric interns, with 23 pre-post matched pairs. Content and response process validity were supported by the development process and rater training. Internal consistency, measured by Cronbach's alpha, ranged from 0.93 to 0.96. Inter-rater reliability measured by intra-class correlations ranged from 0.80 to 0.83. Scores significantly improved from pre-training to post-training (3.7/5 to 4.05/5; p<0.05).

## Conclusions:

The GKCSAF-TIC shows good preliminary validity evidence as a tool for assessing TIC communication skills in pediatric residents, and supports more rigorous TIC training and assessment. Using SPEs for TIC communication skills assessment at our site suggests potential application with larger trainee cohorts. The GKCSAF-TIC may be generalizable to other TIC trainings and, combined with SPEs, can measure learning application, addressing an educational gap. We share this tool and the PATTeR training with the APPD medical education community for implementation consideration.

## Interactive E-Learning Modules for Pediatric Resident Board Prep

Christy Mumphrey, MD; Brian Barkemeyer, MD; Julie Gallois, MD; Michelle Lechler, MD; Mary Johnson, MD; Chelsey Sandlin, MD, LSUHSC New Orleans

## Purpose:

Finding time and being motivated to study during residency can be challenging. In our program, residents are provided with the MedStudy® Pediatrics Core books, but regular use is likely scarce during the first and second years. The objective of this study was to create a curriculum that allowed residents to review board-type material while on their neonatal intensive care unit (NICU) rotation and to evaluate if that translated into increased Pediatric In-Training Exam (ITE) scores for Neonatology subject content. Residents' feedback on the curriculum was also reviewed.

## Methods:

Interactive self-study modules were developed using the e-learning platform Articulate®. The curriculum was based on Neonatology board study content in MedStudy® for PGY2 residents rotating at a lower acuity NICU. Module completion was strongly encouraged. On-service faculty and/or fellows held weekly inperson reviews via Jeopardy®-style games. Individual PGY2 and PGY3 resident ITE scores were compared for the percentage of correct NICU content questions. Changes in scores for residents who completed the entire curriculum (Class of 2024) versus those who completed half of the curriculum (Class of 2021 & 2022) were compared. Residents were also surveyed on their end-of-theyear program evaluation for feedback on the curriculum.

## Results:

Variability was present in the percent change of correct NICU ITE questions from the years 2021-2024 with no definite trends identified. Median percent change per graduating class ranged from -7% to 14.5%. Program surveys revealed that 83% of participating residents felt the interactive curriculum had a positive impact on their NICU learning experience (n=24).

## Conclusions:

Using an e-learning platform to teach multiple, short interactive lessons provided an innovative approach to resident board preparation. Weekly content review games reinforced important concepts via a flipped classroom

model. Although changes in NICU specific ITE scores were not observed, the curriculum was overall viewed positively by the residents. Several limitations existed for this study. Inherent variability exists in ITE scores for each individual resident and between residency classes, which makes score comparisons difficult to interpret. Additionally, the low number of NICU content questions on the ITE may not accurately reflect the knowledge gained by the curriculum. While module development required a faculty time investment, these enduring teaching materials provide a sustainable and feasible resource for resident board preparation.

## Teaching pediatric cardiology fellows to communicate serious news: a pilot study

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## Purpose:

Pediatric cardiology fellows often deliver serious news to families. Communication training improves physicians' communication skills, ability to deliver serious news, and meet the informational and emotional needs of patients and family members. However, there is little data surrounding pediatric cardiology fellows competencies or training in communication skills.

The purpose of this study was to determine if a communication intervention using a standardized methodology improves pediatric cardiology fellow preparedness and comfort with communicating serious news.

## Methods:

Pediatric cardiology fellows participated in a 3-hour communication training session. The session used *VitalTalk* methodology and was facilitated by two *VitalTalk* facilitators. Fellows spent 1 hour learning the skills of delivering serious news and responding to emotion and 2 hours in role play with standardized actors followed by a brief group wrap-up activity. Participants took an anonymous, electronic pre- and post-survey as well as an 8-month follow-up survey via REDCap. Participants were asked about their preparedness and comfort performing certain communication skills and leading challenging conversations specific to pediatric cardiology. Response options utilized a combination of 0 (low comfort/preparedness) to 100 (high comfort/preparedness) point scales and multiple choice.

## Results:

9 fellows participated in the training and 100% completed all three surveys. Eight were first-year fellows and 1 was a third-year fellow. Finding the right words, balancing honesty with hope, and clinical and prognostic uncertainty were the top three factors that contributed to making conversations difficult. Following the course, there was a significant increase in fellow preparedness to communicate a new diagnosis of congenital heart disease, discuss poor prognoses, check understanding, and respond to emotion as well as an increase in fellow comfort responding to emotions (Table 1). Four fellows reported using the skills from this training course in various clinical settings at 8-month follow up.

## Conclusions:

Communicating serious news effectively is a skill that can be learned in a sustainable way and is essential in the field of pediatric cardiology. Our study demonstrates that an interactive, *VitalTalk* course can improve preparedness and comfort to deliver serious news in a cohort of pediatric cardiology trainees. Future studies are needed to evaluate translation of skills to clinical practice and durability of these skills in larger cohorts.

## Graphs/Charts:

Table 1: Change in Median Preparedness and Co	omfort Following Session
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Question	Pre-Course Median (IQR 25%-75%)	Post-Course Median (IQR 25%-75%)	Wilcoxon signed-rank p-value
How prepared* do you feel:			and the second second
Discussing a new diagnosis of congenital heart disease	23 (1-60)	52 (31-72)	0.021
Discussing a poor prognosis	34 (12-65)	66 (41-78)	0.015
Checking a patient or caregiver's understanding	67 (55-77)	81 (65-98)	0.033
Responding to a patient or caregiver's emotions	64 (56-72)	76 (68-90)	0.028
Discussing various treatment options including palliative care with families	50 (29-69)	44 (29-65)	0.889
Obtaining parental consent for a central line placement in the ICU	63 (13-92)	60 (34-85)	0.575
Disclosing that a patient can no longer be discharged from the hospital for inadequate weight gain	78 (56-92)	88 (73-96)	0.069
Discussing a new diagnosis of a moderate VSD in an infant	47 (12-84)	66 (25-89)	0.293
Performing prenatal counseling for a diagnosis of HLHS	6 (0-31)	24 (5-52)	0.108
Disclosing to a family that a patient had a stroke following hemodynamic cardiac catheterization	2 (0-41)	19 (4-52)	0.236
Discussing transitioning off mechanical support for a patient who is too sick to be listed for transplant	5 (2-33)	18 (0-57)	0.674
How comfortable^ do you feel:			
Discussing a new diagnosis of congenital heart disease	43 (16-56)	50 (29-75)	0.263
Discussing a poor prognosis	33 (4-44)	32 (27-68)	0.214
Checking a patient or caregiver's understanding	50 (67-87)	65 (82-95)	0.139
Responding to a patient or caregiver's emotions	68 (57-76)	85 (77-94)	0.015
Discussing various treatment options including palliative care with families	20 (13-51)	39 (21-63)	0.236
Obtaining parental consent for a central line placement in the ICU	62 (20-98)	63 (26-93)	0.866
Disclosing that a patient can no longer be discharged from the hospital for inadequate weight gain	77 (37-99)	76 (67-94)	0.374
Discussing a new diagnosis of a moderate VSD in an infant	40 (9-69)	75 (21-80)	0.213
Performing prenatal counseling for a diagnosis of HLHS	12 (0-36)	14 (0-47)	0.553
Disclosing to a family that a patient had a stroke following hemodynamic cardiac catheterization	19 (1-34)	9 (3-53)	0.398
Discussing transitioning off mechanical support for a patient who is too sick to be listed for transplant	16 (1-25)	10 (3-58)	0.260

\*Prepared scale from 0 (very unprepared) to 100 (very prepared) ^Comfort scale from 0 (very uncomfortable) to 100 (very comfortable)

#### **Quality Improvement Study on High-Risk Pediatric Patients**

Melissa Chow; Monica Khadka, BS,BA; Madison Tyle, BS; Shainal Gandhi, BS; Nikhita Nookala, BS; Kelly Campbell, BS; Sarah Commaroto, BA; Marilyn Torres, BS; Vinita Kiluk, MD, USF

#### Purpose:

Adverse childhood experiences (ACEs) are potentially traumatic events that occur between the ages of 1-17 that can affect the health and well-being across the life span. Early identification of children experiencing ACEs is a critical part of preventative healthcare, and the American Academy of Pediatrics advocates for ACE screening to provide targeted healthcare support to families. The ACE-Questionnaire (ACE-Q) is a 10-question survey that measures childhood events such as abuse, witnessing violence, or family suicide. The objective of this study is to assess the follow-up practices for high-risk pediatric patients (ACE-Q  $\geq$ 4), examining the percentage of patients adhering to referrals and analyzing changes in ACE-Q values between those who did and did not follow up.

#### Methods:

In this quality improvement (QI) study, high ACE-Q scores (4 or higher) were collected retrospectively from two local pediatric clinic sites from March 2021 to May 2023.

#### Results:

5519 charts were reviewed for inclusion of ACE-Q scores; of those charts, 1243 patients had ACE-Q scores documented and 7.0% of those patients had ACE-Q scores  $\geq$ 4. Of those with high ACE-Q scores, 38 (43.2%) patients were referred, and out of those 38 patients, 16 (42.1%) utilized the intervention recommended. Among those referred to Gracepoint, a local mental health clinic offering counseling and psychiatric services that accepts most of Florida Medicaid plans, 100% used their Gracepoint referral, 50% with psychology referrals used a psychology service, 25% followed their psychiatry referral, 17% used their HotDocs referral, and 0% used their referral for an outside organization that focused on teaching the 3Ps (positive parenting and partnership).

#### Conclusions:

A previous QI project at our institution demonstrated the effectiveness of educational interventions in increasing ACE-Q response rates. Although the intervention showed a statistically significant increase in ACE-Q completion, this improvement did not translate to referrals or follow up. It is important to target high ACE-Q patients, as studies have shown that once a child accumulates four or more ACEs, they experience worse health outcomes, such as higher rates of heart disease, diabetes, and suicide attempts. Referrals and follow-ups for these patients are vital to ensuring patients receive the necessary support and interventions to mitigate these risks in the future.

## **Emotional Impact of Patient Safety Event Involvement on Pediatric Residents**

Jessica Astudillo, MD; Kelley Groves, MD, New York University School of Medicine; Kristyn A. Pierce, MPH, NYU Grossman School of Medicine

#### Purpose:

After adverse events or near misses (collectively referred to as patient safety events (PSEs)), healthcare workers focus on the impact of the event on their patients. There is less focus on the impact of the PSE on the healthcare worker involved in the event, who are defined as second victims. Almost half of healthcare workers will have a second victim experience (SVE) once in their careers, yet there is limited research on SVE of residents. Residents, by the nature of their early training, are vulnerable to negative effects from involvement in a PSE. Implementation of peer support programs can mitigate the negative effects of PSEs on healthcare workers. The aim of our study is to assess resident exposure to PSEs, evaluate the emotional impact of reporting or being reported in a PSE on residents' personal and professional lives, and to elicit information about residents' preferred means of support after a PSE to guide development of support programs for residents.

## Methods:

This is a survey-based needs assessment of pediatric residents at a single urban residency program. All pediatric residents were invited to complete an anonymous survey via REDCap. The survey consisted of multiple choice questions assessing baseline information about PSE involvement and SVE using the Second Victim Experience and Support Tool (SVEST) which is a 29-item Likert scale questionnaire that measures the emotional and professional impact of adverse patient events on healthcare providers and evaluates the effectiveness of support resources. Continuous data were summarized using median and interquartile range. Categorical data were summarized using frequency and percentage. SVEST results were scored by domain. Responses were considered in overall agreement if the average of their scores for any domain was  $\geq 4$ .

## Results:

The survey had a 35% (n = 21) response rate, inclusive of all training levels (6-PGY1, 4-PGY2, 10-PGY3, 1-PGY4). Most participants (90.5%, 19/21) experienced a PSE with 73.7% (14/21) reporting a temporary injury to the patient (Figure 1). Similarly, 72.3% (13/21) endorsed an impact on their personal and/or professional lives. The top causes identified by residents for PSEs they were involved in were communication errors (57.9%, 11/21) and high working pressure (47.4%, 9/21), with 79% (15/21) labeling the PSE as potentially avoidable. Common emotional reactions included guilt (79%, 15/21) and stress (68.4%, 13/21). The SVEST unveiled that after PSEs, participants desired a peer to discuss the PSE (95%, 19/21), a peaceful location to recover (95, 19/21), and time away from the unit (95%, 19/21) more than employee assistance programs (68%, 13/21) and counseling time (75%, 15/21).

## Conclusions:

Our needs assessment revealed that nearly all residents surveyed were involved in a PSE and experienced emotional responses impacting their personal/professional lives. Residents desire support from peers more than counseling time or employee assistance programs. Based on these results, we plan to implement a resident run, second victim peer support program with integrated survey measures to assess impact and utilization.

## Graphs/Charts:

Figure 1: respondent and patient safety even	t details
Respondent details (n=21)	n (%)
Standing for 2023-2024 academic year	
PGY1	6 (28.6%)
PGY2	4 (19%)
PGY3	10 (47.6%)
PGY4	1 (4.8%)
Reported experiencing a patient safety event with consequences on one or more patients	19 (90.5%)
Safety event details (n=19) Patient impact of most severe patient safety event	
No injury	4 (21%)
Temporary injury	14 (73.7%)
Permanent injury	1 (5.3%)
Setting of event	
Inpatient unit	13 (68.4%)
Intensive care unit	6 (31.6%)
In your opinion, what was the cause of this patient safety event? (may select multiple)	
Distraction	9 (47.4%)
Communication error	11 (57.9%)
High working pressure	9 (47.4%)
Insufficient/ lacking experience	6 (31.6%)
Insufficient/ lacking knowledge	4 (21%)
Insufficient/ lacking supervision In your opinion, could the patient safety event have been avoided?	3 (15.8%)
Avoidable	15 (79%)
Easy to avoid	4 (21%)
Has the patient safety event had an impact on your life?	
No relevant impact	5 (27.7%)
Yes, impact on professional life.	7 (38.9%)
Yes, impact on personal life. Yes, impact on both personal and professional	3 (16.7%)
life. Negative emotions/feelings experienced as a consequence of the patient safety event (may select multiple)	3 (16.7%)
Fear	7 (36.8%)
Flachbacke	1 (5 3%)
Hyporviailanaa	5 (26 30/2)
Ecoling of working hadly	12 (63 20/2)
	7 (36 90/)
	15 (70%)
Sense of guilt, shame	15 (79%)
Insomnia	2 (10.5%)
Stress	13 (68.4%)
Doubts about own skills and knowledge	8 (42.1%)

## Pediatric Resident Driven Education on Inpatient Hematology/Oncology Service

Aviva Beleck, MD, Rainbow Babies and Children's Hospital/Case Western Reserve; Ross Myers, MD, Case Western Reserve Univ/Univ Hosps Cleveland Med Ctr/Rainbow Babies and Children's Hospital

#### Purpose:

Pediatric medical education is changing rapidly given the updated ACGME pediatric residency requirements. It is unclear how this will impact pediatric resident education, especially pediatric subspecialty education. The changes potentially mean less exposure to pediatric subspecialties. In addition, the long work hours and demands of pediatric residency means that residents typically do not have time to learn outside of work hours. A teaching tactic that has been adopted in the Rainbow Babies and Children's Hospital NICU are notecards that offer short guides to common NICU topics that have increased the quality and quantity of resident education during this rotation. Because the inpatient hematology and oncology service at Rainbow Babies and Children's Hospital has typically been a challenging rotation with limited opportunity for learning, the goal of this study was to create educational notecards to create a short, resident driven targeted educational tool to improve the quality of learning that residents experience while on this service.

## Methods:

16 notecards were designed with questions, vignettes, and pathophysiology of hematology and oncology related topics that are commonly tested on pediatric board exams. They were made available to residents, fellows, and attendings and encouraged to be utilized at least once per day in between clinical care and other responsibilities. Pre and post surveys were designed to assess learning environment, resident self-assessment or learning and overall knowledge of common topics. The pre-survey was sent out to all residents rotating within 1 month prior to their rotation. The post-survey was sent out within 1-2 months after the rotation to all residents who completed the pre-survey. The survey utilized a 5 point Likert scale to rate resident agreement with statements.

## Results:

The pre-survey response rate was 51.6%. The post survey response rate was 62.5%. Resident enjoyment and resident assessment of learning while on the rotation rose from the pre-survey to the post-survey, with the mean on the Likert scale rising from 1.88 to 2.7 for enjoyment, and for learning going from 2.71 to 3.7. Resident assessment of how many days there was specialty specific learning increased from most residents saying less than half the days to the majority of residents saying more than half the days and every day. There were several content questions adapted from AAP Prep questions to assess resident knowledge. All questions had an increase in correct responses. All residents rated their comfort level talking about common hematology and oncology topics higher, even those residents who had rotated through the hematology and oncology service prior.

## Conclusions:

The notecards improved resident enjoyment of a historically challenging rotation, improved resident comfort in talking about common hematology and oncology topics. Further work is needed to make the notecards a more integral part of the day, to the point where they are utilized daily or near daily. In addition, further assessment will be to look at resident ITE scores in hematology and oncology to further assess the educational intervention. The goal will be to expand this to include other subspecialties especially in the setting of changing ACGME requirements.

## A 2024 National Needs Assessment on Adolescent Opioid Overdose Prevention Content in Pediatrics Clerkships

Nitin Vidyasagar, BS, Pritzker School of Medicine, University of Chicago; Elena Whitney, BA, Pritzker School of Medicine; Dima Halabi, BS, Prtizker School of Medicine; Manish Pathuri, BS, Pritzker School of Medicine; Mim Ari, MD, University of Chicago Medical Center; Lolita Alkureishi, MD, FAAP, University of Chicago

#### Purpose:

Fentanyl-associated adolescent overdose deaths have doubled between 2019-2021, prompting calls for pediatricians to screen for opioid overdose risk and treat opioid use disorder (OUD). Yet, many pediatricians do not feel confident in these tasks, possibly due to lack of training in residency and medical school. Teaching opioid overdose prevention content in the pediatrics clerkship may address knowledge gaps and raise awareness among pediatricians and trainees. If pediatrics clerkships teach this content remains unknown. We conducted a national needs assessment of adolescent opioid overdose prevention content in U.S pediatrics clerkships.

## Methods:

A cross-sectional, web-based survey was administered to pediatrics clerkship directors of U.S. allopathic and osteopathic medical schools in Spring of 2024. Survey domains include: current content covered, barriers to teaching content, preferred educational resources, plans to expand/teach this content and school/clerkship characteristics. Descriptive statistics were used to analyze results using STATA version 18 (StataCorp).

## Results:

Eighty-five medical schools completed the survey (45% response rate). Sixty-three percent of clerkships provided any opioid overdose prevention content. Yet, no school taught all content areas. Clerkships covered topics including screening for opioid use (41.2%), brief intervention to decrease risk from substance use (22.4%), Medications for OUD (MOUD; 9.4%), and non-medication-based treatment for OUD (13.1%). While forty-three percent of clerkships taught screening for opioid overdose risk during the routine HEADSS assessment, only a handful used this framework to teach how to assess need for naloxone education/prescription (4.8%) or fentanyl testing kit (3.7%). Most clerkships (81.1%) had no plans to initiate or expand opioid overdose prevention content. Time constraints to provide (86.9%) and create (74.4%) content were the most common barriers. Sample cases (95.2%) and small group question and answers (91.7%) were the most requested curricular resources.

## Conclusions:

Less than two-thirds of pediatrics clerkships offer *any* content on adolescent opioid overdose prevention, and no clerkship teaches all content areas. Further, less than ten-percent of clerkships teach MOUD, naloxone and fentanyl test kits. These findings underscore missed opportunities to teach adolescent opioid overdose prevention to pediatrics trainees, and to integrate content into existing psychosocial frameworks (e.g., HEADDSS). Future efforts can develop curricular tools to robustly teach opioid overdose prevention in the pediatrics clerkship.

## What Do Our Students Want? Surveying Medical Students' Pediatrics Curricular and Mentorship Needs

Nitin Vidyasagar, BS, Pritzker School of Medicine, University of Chicago; Gabriela Betancourt, BS; Alexandra Gomez, BS; Lauren Kang, BA; Aleah Booker, BS, Pritzker School of Medicine; Shelby Sievers, MD; Erin King, MD, University of Chicago Medical Center; Bridget Wild, MD, University of Chicago NorthShore University Health-System; Priti Jani, MD, MPH, University of Chicago Medical Center; Nicola Orlov, MD, MPH; Lolita Alkureishi, MD, FAAP, University of Chicago

## Purpose:

There is a pressing need to best recruit, nurture, and mentor future pediatricians, particularly given the 10% decline in pediatrics applicants from 2019- 2023. Early exposure to high-quality pediatric experiences can play a significant role in sparking this interest and help students decide if pediatrics is the right path for them. However, the needs and interest in pediatrics among University of Chicago medical students is unknown. We conducted a needs assessment of medical students at the University of Chicago Pritzker School of Medicine to characterize their interest in pediatrics, mentorship needs and student preferences for additional pediatrics exposure.

## Methods:

Using a cross-sectional approach, Pritzker medical students were surveyed in Spring of 2024. Survey domains include

interest in pediatrics, preferences for pediatrics content, and mentorship and networking needs. Descriptive statistics were used to analyze results using STATA V18 (StataCorp) and RStudio (Posit, PBC).

## Results:

Ninety-seven respondents from all medical school classes completed the survey (26%, 97/370). The response rate for members of the Pediatrics Interest Group was 40% (44/110). While 27% of all students (n=26/97) are considering a career in pediatrics, nearly 77% (n=92) report insufficient preclinical pediatrics exposure. Most wanted additional pediatrics content in the form of simulation sessions (87%) as opposed to didactic teaching (30%). Specifically, students wanted simulation focused on pediatric procedural skills (86%) and diagnostic reasoning (68%). Nearly all students viewed simulation as valuable (97%) and important (92%) to develop their clinical skills, and three-fourths (75%) wanted more interaction with pediatrics faculty.

## Conclusions:

While a third of Pritzker students are interested in pediatrics, greater than three-quarters desire more exposure and mentorship opportunities in pediatrics. Creating experiential opportunities for these students is critical to nurturing pediatrics career interest and exposure. Students highly value simulation, suggesting its potential as a vehicle by which to cultivate pediatrics interest. Next steps include developing pediatric simulation experiences for preclinical students to provide this desired content in a supportive setting alongside pediatrics faculty. Further, given students feel they have insufficient preclinical pediatrics exposure, it is crucial to examine where and how pediatric content can be integrated into the preclinical curriculum.

# Delivering Difficult Feedback: Faculty & Resident Reactions to Personalized Feedback on Implicit Bias in Their Assessments of Medical Students

Rachel Poeppelman, University Of Minnesota; Justin Triemstra, MD, MHPE, Michigan State University; Dan Card, PhD; Jacqueline James, MA; Taj Mustapha, MD; Claudio Violato, PhD, University of Minnesota; Robert Englander, MD MPH, University of Illinois College of Medicine, Chicago

## Purpose:

The use of biased language on the basis of gender or race in narrative assessment data is well documented in medical education. One possible intervention to mitigate implicit bias in assessment is targeted, individualized feedback to faculty and residents on how they assess medical students. We seek to better characterize the feasibility, acceptability and perceived impact of providing personalized feedback to resident and faculty assessors on language trends in their assessments suggesting implicit bias.

## Methods:

A mock feedback letter was drafted based on narrative trends reflecting implicit bias in the literature, then presented to 23 resident and faculty interviewees over zoom. A research assistant utilized a think-aloud approach and a semistructured interview guide for each interview. Interviewees received a gift card for participation. Four authors completed a qualitative analysis of the data using a constructivist approach to data analysis and completed open, inductive, thematic coding of the interviews. Throughout analysis they completed a total of four norming sessions and composed 3 interim memos.

## Results:

We grouped themes in 3 categories: 1) reactions to the mock data, 2) hypothesized impact, and 3) takeaways about data presentation. Participant identity strongly influenced reactions. Participants were generally accepting of the data. The approach to personalization of the data presented inherent tradeoffs: data specific to an individual elicited defensiveness, but data specific to a small group triggered an assumption that the trends were reflective of other members of the group- "The impulse to think 'oh it's not me' is a powerful one." There was a wide range of hypothesized impacts (Figure 1)- including reflection (both as a group and an individual), a reminder to "slow down",

a search for "unbiased" substitution words, and decreased completion of narrative assessments. The importance of presenting this feedback in the context of additional resources, psychological support and coaching was emphasized as were some practical takeaways about the formatting of the feedback letter.

### Conclusions:

Difficult feedback should be provided in the context of a support structure with the local context in mind. Co-creation of feedback materials and procedures with local champions is essential due to the strong influence of identity and prior experiences. Although there were a few notable exceptions, most of our interviewees felt that personalized feedback has the potential to decrease implicit bias in assessment.

Graphs/Charts:



# Advice for Medical Students Entering Pediatrics: A Survey to Foster Near-Peer Mentorship Amidst Declining Match Rates

Emma Domangue; Leslie Reilly, MD, LSUHSC New Orleans

Purpose:

To poll graduating medical students entering pediatrics or pediatric subspecialties on the top pieces of advice for students interested in a career in pediatrics, this initiative seeks to enhance readiness and confidence among students using peer mentorship, thereby improving match outcomes and fostering a supportive community.

## Methods:

A survey was distributed via Microsoft Forms to fifteen fourth-year medical students of an academic medical institution in Southeast Louisiana who successfully matched into pediatrics or pediatric subspecialties in the 2024 Match. The survey inquired about key tips and insights these students wished they had known before starting their final year of medical school. A total of eleven responses were received and anonymized. Two investigators independently analyzed the data which were compared multiple times to identify common themes and actionable

advice. A "Top Five" list was created based on these responses and distributed to the Pediatric interest Group and class of 2025.

## Results:

Eleven students of the fifteen polled from one institution who matched into pediatrics or a pediatric subspecialties participated in the survey with a survey completion rate of 73%. Five predominant themes from the collected advice centered around residency application logistics, residency interviews, advice to enhance clinical experiences during the third and fourth year of medical school, networking, and wellness.

## Conclusions:

Medical students who matched into pediatric residencies have valuable insight into the unique aspects of pediatric mentorship and the pediatric residency application process. By disseminating five pieces of actionable advice that graduating fourth-year medical students gained, we hope to foster near peer mentorship for medical students interested in pediatrics so they can be more confident and prepared for application into pediatric residency.

#### References: https://doi.org/10.1016/j.acap.2020.05.002

## Boosting Intern Readiness and Promoting Career Interest in Pediatrics Through A Focused Medical Student Bootcamp

Meera Devarajan, MD; Paul Tran, MD; Deborah Tom, MD, Phoenix Children's Hospital

## Purpose:

Most medical schools have independent transition to residency courses where information may be generalized to all specialties, may not be specialty-specific, and may vary in content from school to school. At Phoenix Children's Hospital, medical students from four schools rotate for their core pediatric rotations, and from one additional school for elective rotations, during their third and fourth years. With this unique position, we designed a "Boot Camp" session where students across schools could meet current residents and faculty and be exposed to various topics they would encounter in acting or true internships. Given the decreased number of recently matched applicants to pediatric residencies, a secondary aim was to promote interest in a career in pediatrics and allow for student networking.

## Methods:

We conducted a three-hour interactive event which has been run in two consecutive years in the month of May. Students matched into Pediatrics, incoming interns, and rising third- and fourth-year students from five local medical schools were invited to participate. The session started with subspecialist-led short lectures and interactive small groups around topics such as calling consults, engaging in difficult conversations, and effective nursing communication. Senior resident facilitators concluded clinical reasoning exercises for common urgent scenarios. Participants received slides, key takeaways, and success tips as resources. Pre- and post-event surveys were conducted to collect feedback and rate confidence with targeted skills on a 5-point Likert scale and test objectively for knowledge acquisition.

#### Results:

An average of 36 students attended the events over 2 years, representing 5 medical schools locally, and 8 additionally from graduated incoming interns. Each boot camp had at least 12 faculty/fellow/resident facilitators attend. Participants reported increased confidence in starting the next academic year, calling a consult, leading a difficult patient conversation, working with nursing staff, and approaching common urgent scenarios (Figure 1). Related knowledge improved, with correct answers increasing by over 8% (Figure 2).

#### Conclusions:

The Pediatric Intern Bootcamp addressed gaps in the fourth-year curriculum, boosting confidence and knowledge for

transitioning students. It also aimed to promote pediatric careers among third-year students, though long-term surveying is needed to assess its success. Future iterations could include long-term follow-up, extended curriculum, and more hands-on simulations to enhance learning.

Graphs/Charts:



Figure 1: Self-reported confidence on Likert Scale Pre- and Post- Intervention. Pre-intervention sample size N=55 and post-intervention sample size N=49. Likert scale measured as 1 = very not confident, 2 = somewhat not confident, 3 = neutral, 4 = somewhat confident and 5 = very confident.



Figure 2. Objective Knowledge Retention. Measured by percent correct on pre- and post- survey auestions.

## Curricular Innovation: An Opportunity for Children with Specialized Healthcare Needs

Kelci Butler, DO; Danny MacKenzie, DO; Najla Zayed, DO; Sarah Klein, DO; Melanie Marsh, MD, Advocate Children's Hospital

## Purpose:

There has been an exponential increase in the number of children dependent on medical technology in the past decade. However, studies have shown that medically complex children continue to face disability-based discrimination in medicine which leads to gaps in care, poor patient experiences, and poor health outcomes. Further, residents lack standardized training in this area and consequently do not feel prepared to provide adequate care to this vulnerable population. We aimed to improve trainee knowledge of medical devices by piloting a novel longitudinal hands-on curriculum for pediatric PGY-1s (program year) using Kolb's experiential learning theory and assessing learner driven outcomes.

## Methods:

We used Kern's six-step approach to develop and evaluate our longitudinal curriculum (figure 1) matched to the Accreditation Council for Graduate Medical Education's (ACGME) Pediatric Milestones. The curriculum consisted of 5 monthly educational workshops (central lines, chest tubes, feeding tubes, tracheostomies, and VP shunts) led by multidisciplinary content experts and designed with the goal of enhancing knowledge, skills, and competency. We studied the impact of the curriculum through pre-post learner self-assessments and board-style knowledge assessments matched to unexposed controls. Mann-Whitney and Wilcoxon signed-rank tests were used to compare group differences for non-normally distributed continuous variables.

## Results:

Thirteen PGY-1s participated in 1-5 workshops as part of their noon conference series during the 2023-2024 academic

year. Residents reported increased confidence after the workshop series (table 1), noted statistically significant improvement in self-assessed skills associated with 3/5 devices (table 2), and scored marginally higher on the knowledge assessment (median 9/20, IQR 5-10) when compared to unexposed controls (median 8/20, IQR 7-10).

#### Conclusions:

Our pilot curriculum was easily integrated into the existing didactic schedule, universally enjoyed and found to be relevant to resident education, and helped improve self-assessed skills. However there continue to be application gaps as noted by PGY-1s performance on the knowledge assessment. It also remains unclear how this curriculum can directly impact patient level outcomes. Urgent efforts are needed to continue to build the educational repository for trainees in this area to minimize known health inequities.

#### Graphs/Charts: Link to Document

#### A Nutrition Curriculum Counseling Intervention for Medical Students to Manage Pediatric Obesity

William Sayre, USF Morsani College Of Medicine; Carissa Young, BS; Anna Kate Hamann, BA, BS; Andrew Bui, BS; Eliana Burgos, BS, USF Morsani College of Medicine; Sara Karjoo, MD, Johns Hopkins All Children's Hospital; Vinita Kiluk, MD, USF Morsani College of Medicine

#### Purpose:

Pediatric obesity rates in the United States have drastically risen in the past 20 years, predisposing children to complications like prediabetes and non-alcoholic fatty liver disease. It is crucial that future physicians are prepared to address this rising health crisis by providing nutrition counseling and education for patients. Currently, there is a lack of robust nutrition education across a majority of U.S. medical schools. Medical students lack confidence in nutrition counseling, which is integral to the treatment of pediatric obesity. **Thus, the objective of this study is a curriculum intervention for medical students to assess their knowledge, attitudes, and skills (KAS) in providing nutrition counseling for a pediatric obesity case**.

## Methods:

Eight medical students were recruited from a Florida medical school for the pilot intervention. Prior to the intervention, the students' KAS towards nutrition were assessed with a 10-question pre-survey from validated questionnaires. After completing a pre-survey, students watched a pre-session video on meal planning before a sixty-minute pilot intervention where students devised a weekly meal plan for a patient. Following this, students engaged in a didactic on managing pediatric obesity led by a teaching physician and completed a post-survey. Statistical analysis matched students from pre to post-nutrition intervention surveys to determine differences in their KAS towards nutrition as future physicians. The survey used multiple-choice questions coded dichotomously as 'correct' or 'incorrect' and continuously as a Likert scale. Pre and post-intervention results were compared using non-parametric McNemar's test for dichotomous variables and Wilcoxon signed-rank test for continuous variables. A significance level of 0.05 was used for all tests.

## Results:

A Wilcoxon signed-rank test demonstrated a significant increase in the Comfortability of Discussion (p = 0.025), Comfortability Designing Nutrition (p = 0.008), and Comfortability Counseling Patients (p = 0.020) between pre and post-intervention surveys.

## Conclusions:

This pilot intervention demonstrated increased comfortability among medical students in nutrition discussion, design, and counseling for pediatric obesity. These findings emphasize the need for further integration of nutrition education within medical school curricula to better prepare future physicians with the skills and confidence needed to address pediatric obesity. Future interventions should consider larger cohorts, application towards other nutritional disorders, and impact on patient care.

#### Graphs/Charts: Link to Document

## Use of Simulation-Based Learning to Improve Pediatric Resident Education in the Neonatal Intensive Care Unit

Megan Aidoo, DO, University of Maryland; Lillian Assatourian, MD; Sara Abdelnour, DO; Neena Jube-Desai, MD; Christine Capriolo, DO, University of Maryland Medical Center

#### Purpose:

The objective of this study is to compare resident knowledge and confidence caring for NICU patients using Simulation Based Learning vs Lecture Based Learning.

### Methods:

An education needs assessment was performed involving pediatric residents, highlighting knowledge deficits and discomfort related to specific aspects of neonatal care. Based on this feedback, LBL and SBL materials were created for two topics – initial evaluation and management of extremely low birth weight infants (ELBW) and infants born with cyanotic congenital heart disease (CCHD). Each block of residents received education on both topics, one in SBL format and the other in LBL format, alternating the format each block. Residents were asked to complete pre-and post-education surveys at the beginning and end of their block, respectively. Survey questions examined knowledge using multiple choice questions and confidence level using Likert scale ratings.

#### Results:

40 residents participated in the curriculum, with a total of 27 residents meeting inclusion criteria for completion of both pre- and post-surveys. 16 residents were assigned to the LBL track (8 from ELBW group and 8 from CCHD group) and 11 residents assigned to the SBL track (5 from ELBW group and 6 from CCHD group). Residents overall demonstrated improvement in confidence and knowledge after participating in either curriculum format. Those participating in LBL showed a 38.5% increase in knowledge after participating in the curriculum, compared to a 20% increase in the SBL group (t-score = 0.428). Residents illustrated an overall increase in confidence by 39.5% after participating in the curriculum, with a 45.5% increase in the LBL group compared to a 31% increase in the SBL group.

## Conclusions:

There was an overall increase in confidence and knowledge after participating in the curriculum. Although LBL had a greater percentage increase in both knowledge and confidence compared to SBL, these changes were not statistically significant due to limited sample size. With further implementation of the curriculum and improvement in the curriculum itself, we hope to see statistically significant changes and improve resident learning experience in the NICU. Graphs/Charts:



Graph 5. Comparison of pre- and post- test averages among all study participants. T= 0.428 for post-test average

## FACE ALL: Family and Community Engagement in the Assessment of Learners and Lessons

Olanrewaju Falusi, MD, MEd; Toniah Harrison, B.S., George Washington University Milken School of Public Health; Gail Avent, JD, Total Family Care Coalition; Maranda Ward, Ed.D., MPH, George Washington University School of Medicine and Health Sciences

### Purpose:

Professional and educational organizations call for increased patient engagement in residency training on social determinants/drivers of health (SDH). Assessment strategies for SDH curricula in residency typically include knowledge tests, reflection, and observation by faculty. However, feedback from patients is rarely included in the assessment of learners. When it is sought, patient feedback about learners is typically accomplished through traditional assessment tools (e.g., written surveys) developed solely by educators. This highlights a gap in medical education: patients and communities have been embraced as teachers, but they remain excluded from determining the content and format of the assessment tools they are asked to complete about learners. Objective: To describe the perspectives of community members, parents, and pediatric residents on addressing SDH, to inform the development of a community-engaged assessment tool.

## Methods:

A basic qualitative study design was followed, with a focus group guide co-created with a community leader. Forty individuals participated in 1 of 3 focus groups - community members, parents, or pediatric residents - to explore their perspectives on the following: (1) experiences with discussing SDH in medical visits; (2) experiences, interest, and comfort with assessment; and (3) logistics on how to obtain patient/family feedback. Focus groups were audio-recorded and transcribed; transcriptions were analyzed for themes by 3 researchers.

#### Results:

Themes from the focus groups are described below.

Community members: Want to develop a relationship with a healthcare provider before delving into issues related to SDH; interested in assessing learners regarding their SDH discussion and would prefer to do so via a survey sent by email after the visit.

Parents/Caregivers: Comfortable talking about SDH only with clinicians who are friendly and attentive to their needs and explain what they will do with the information they provide about SDH; prefer not spend time on surveys as, in their experience, no changes take place after completing surveys.

Pediatric residents: Value informal feedback directly from parents over formal feedback obtained through surveys; some want to see written feedback from parents, some do not.

## Conclusions:

The diversity of perspectives from various stakeholders underscores the need for revision and expansion of traditional approaches to assessment in SDH curricula. Next steps include integrating the focus group findings with an ongoing scoping review to develop, validate, and disseminate an assessment tool for use in SDH curricula.

## Rising to the Challenge: A Workshop to Foster Workplace Resilience Among Trainee

Inga Aikman, MD, MPH; Sruthi Sridhar, MD; Mary Lenfestey, MD; Caitlin King, MD; Sarah Leonard, MD, MPH; Lauren Sarno, MD; Jennifer Crotty, MD; Amanda Higginson, MD; Karin Hillenbrand, MD, MPH, ECU Brody School of Medicine

#### Purpose:

Emphasis has been placed on promoting wellbeing among pediatric trainees by facilitating appropriate time away from work or integrating non-clinical wellness activities within the workday. Though these approaches are essential to promoting well-being, they fail to acknowledge the development of resilience to combat challenges in medical

practice. An interactive workshop was designed for pediatric and internal medicine-pediatric trainees to explore incorporating resilience into the workplace as an essential component for wellness.

#### Methods:

Through small and large group activities, participants met the goals of identifying the inherent challenges of being a physician, describing the impact of resilience on the individual and the health-care team, modifying the learning environment to mitigate common sources of stress and practicing activities to promote wellbeing and resilience at work. Participants rotated among four small-group hands on sessions focused on the components of individual resilience, finding joy in practice. emotional debriefing after stressful situations and understanding the link between individual and organizational resilience. Participants completed an abbreviated version of the validated Nicholson McBride Resilience Questionnaire (NMRQ) at the start of the workshop to assess their baseline resilience, and then completed a summative evaluation of workshop content at its conclusion.

#### Results:

A total of 25 trainees participated; 21 were categorical pediatric residents and 4 were internal medicine-pediatric residents. Upon completion of the NMRQ, 24% of participants had "developing" resilience, 40% had "established" resilience, 36% had "strong" resilience; no participants had "exceptional" resilience. Majority of those with "developing" resilience were in their first year of training. 92% of participants agreed that the workshop objectives were met. 88% agreed that the workshop taught them new strategies to help them be more resilient, and that they would be able to apply these strategies during their workday. Majority of participants liked the interactive nature of the workshop, having a safe space to learn new strategies, and group discussion with their co-residents.

#### Conclusions:

Majority of workshop participants stated that they learned new strategies to enhance resilience in the workplace. Additionally, participants expressed that interacting with co-residents and discussing common experiences were positive outcomes of the workshop.

Charts

Graphs/Charts:



Table 1: Workshop Day Structure

	Small Group Sa	cries Objectives	
Individual Resilien and Grit	ce Joy in Practice	Emotional Debriefing	Team-Based Resilience
Define grit and resiliency Utilize the DISC model to identify personality type impacts interactiv with others Discuss vulnerabilities, se doubt, self-esteet and self-esteet	Reflect on their value system and what markes being a physician meaningful Discuss ways for residents to share positive stories and accomplishments in their practice Practice integrating ff. gratitude and positive affirmations into daily practice	Utilize a case-based approach to practice reframing negative emotions after difficult patient encounters Recognize the utility of debriefing after challenging encounters with co- residents and faculty	Recognize how individual gifts, a sense of belonging and a shared vision contribute to the resilience of the team Practice setting team-based intentions Develop strategies for support

Table 2: Small Group Objectives

Level of Training	Developing Resilience (N)	Established Resilience (N)	Strong Resilience (N)	Exceptional Resilience (N)	Total (N)
PGY1/MP!	3	5	1	0	9
PGY2/MP2/MP3	1	4	4	0	9
PGY3/MP4	2	1	4	0	7
Total	6	10	0	0	36



Graph 1: Bar Graph Showing Responses Regarding Quality of Workshop Content



Graph 2: Bar Graph Showing Responses Regarding Quality of Workshop Content

Table 3: NMRQ Scores Per Participant Training Year

## Implementation and Evaluation of an Experiential Diabetes Self-Management Skills Curriculum for Health Professions Learners

Kathryn Blew, MD; Rachel Hall, BSN,RN, CDCES, Duke University; Hope Richardson, RD, LDN, CDCES, Santa Barbara Cottage Hospital; Jordan Poythress, BSN, RN, CPN, CDCES; Robert Benjamin, MD, Duke University

### Purpose:

Pediatric insulin-dependent type 1 and type 2 diabetes requires intensive self-management. However, educational interventions for students/trainees related to pediatric diabetes self-management skills are limited. The objective of the study was to design and implement a skills-based experiential curriculum to teach diabetes care skills to learners, and to assess the impact of the curriculum on participants knowledge and confidence related to diabetes skills as well as their healthcare-related empathy.

## Methods:

One-week curriculum was offered during a pediatric endocrinology rotation. Curriculum included kinetic and cognitive skills didactics and practice (blood glucose monitoring, use of insulin pen, carbohydrate counting) using a daily care log. Participants also completed "care challenge" exercises related to diabetes emergencies, technology, and meal planning. Curriculum was assessed through pre- and post-surveys. Quantitative analysis of change in participants' diabetes skills related knowledge confidence (LMC Diabetes Skills/Knowledge Confidence Index) and healthcare-related empathy (Kiersma-Chen Empathy Scale) was completed through paired student t-test, Open-ended responses from post-curricular survey were evaluated through thematic analysis.

## Results:

16 participants completed pilot curriculum and surveys. There was an increase in diabetes skills related knowledge/confidence ( $46.625 \pm 14.00$  baseline vs  $75.5 \pm 8.77$  follow-up, t(15)=11.0875, p=6.32E-09) on LMC Diabetes Skills/Knowledge Confidence Index and healthcare-related empathy ( $88.5 \pm 6.47$  baseline vs  $91.0625 \pm 7.06$  follow-up, t(15)=2.1282, p=0.0252) on Kiersma-Chen Empathy Scale following completion of the curriculum. Participants' knowledge and confidence related to diabetes care skills improved in all fields, with greatest improvement in meal planning (138.89% net improvement, p=2.73E-08) and preventing a low blood glucose with exercise (75.55% net improvement, p=3.9E-09). Learner feedback was overall positive. Open-ended responses following curriculum revealed 4 major themes: "challenging nature of cares", "stress associated with diabetes cares", "increased familiarity with skills", and "increased empathy", with analysis including sub-themes detailed in figure 1.

## Conclusions:

Implementation of an experiential skills-based curriculum related to insulin-dependent diabetes as part of a Pediatric Endocrinology rotation was feasible and well-received. Curriculum led to improvements in both diabetes skills-related knowledge and confidence as well as the participants' healthcare-related empathy.

## Graphs/Charts:



Figure 1: Themes and sub-themes from participant open-ended feedback

# System-Based Integrated Comprehensive Simulation Program in pediatric residency education: our institutional experience

Mahmoud Jaara, MD; Maritza Plaza-Verudin, MD; Nancy Joseph , MBBS; Jennifer Zimmerman, MSN, RN, TCRN; Jean Hutton, DNP, CNS, CNE, CHSE, RN, University of Florida

#### Purpose:

Simulation provides the opportunity for learners to bridge the gap between evidence-based theoretical knowledge and clinical practice experience. Residency programs often utilize simulation to expose the learners to various patients who are presenting in extremis in a safe environment. This empowers the trainee by providing them with tools and experiences to enhance their pediatric education. Simulation is also utilized to practice non-technical skills like team dynamics and communication in a psychologically safe setting. Despite the widespread use of simulation in pediatric residency programs, there remains a gap in standardization. In response to this gap, we sought to create a comprehensive, system-based curriculum (clinical skills and clinical scenarios) that integrated simulation and system-based traditional didactic learning.

#### Methods:

Our methodology embraced a comprehensive approach, emphasizing essential topics and clinical skills pertinent to each system through didactic lectures during our academic half-day sessions. Starting with an 18-month calendar outlining didactics, we meticulously planned a corresponding simulation calendar. This calendar included a 3-4-hour session in the simulation center every six weeks. During that session, residents would participate in clinical simulation scenarios (both emergency and non-emergency) and clinical procedures skills stations. Along with these half-day sessions, we incorporated monthly in situ simulations during day and night shifts involving multi-disciplinary team members, including nurses and respiratory therapists. A dedicated Simulation Task Force comprising faculty and fellows was convened. Simulations were meticulously aligned with the content outline provided by the American Board of Pediatrics (ABP) and ensured adherence to Accreditation Council for Graduate Medical Education

(ACGME) task lists. Evaluation of simulation activities was conducted through post-surveys gauging participants' comfort levels across various clinical scenarios.

Each clinical Simulation scenario has to cover vital components: medical critical actions and team dynamics and communications skills, acquired skills, and pattern recognition at the end of the sim.

### Results:

Our review of resident simulations conducted over the past year yielded insightful findings. In our post-surveys, 100% of the respondents stated that the integrated simulations reinforced their knowledge or allowed them to gain new knowledge or skills and that the experience improved their confidence in their own knowledge or skills. Over 50% of the participants indicated that they felt the skills they practiced would apply to their jobs and help them provide safer patient care.

## Conclusions:

By integrating simulation within a system-based curriculum, our approach offers a structured pathway to enhance pediatric residency education, fostering a more standardized and effective learning experience.

## A NICU Point of Care Guide

Klara Milojkovic; Stephanie Mavis, M.D., Mayo Clinic

## Purpose:

We aimed to develop a useful pocket guide for pediatric resident physicians by 1) understanding the resources desired by pediatrics residents' during acute care of the critically ill neonate, 2) developing a pocket size guide that can be carried by residents and 3) conducting resident surveys and semi-structured interviews to understand the tools' utility, effects on learners' self-efficacy, and impact on perceived patient safety.

## Methods:

The ADDIE (Analysis, Design, Development, Implementation, and Evaluation) framework was used as a conceptual framework for educational resource creation, dissemination, and initial evaluation. A 22-item web-based needs assessment was developed to assess residents' perception of the need for a NICU-specific point of care reference and sent to all pediatric residents in May-June 2023. Residents were asked to anticipate the utility of such a reference card and rate the importance (ranging from "extremely important" to "extremely unimportant") of different topics using a bipolar Likert-style scale. These learner needs informed the development of the card, which was then reviewed by content experts in Neonatal Medicine. A one-month pilot study was conducted with four pediatric residents on NICU rotations. At the end of the rotation, those residents completed surveys on the card's content and usability. Those results informed further edits. The card has been distributed to all pediatric residents for this new academic year.

## Results:

Twenty-nine residents completed the initial needs assessment; 97% of surveyed respondents reported they were "extremely likely" to carry a NICU pocket guide, if it existed, on their next NICU rotation. Topics rated as "extremely important" to include on the NICU pocket guide included the Neonatal Resuscitation Pathway (NRP) algorithm, intubation and code medication dosages, and neonatal status epilepticus algorithm. Topics rated as "important" included ventilation corrective steps, central line ideal placements, and common ventilator settings and adjustments. This information was used to create an accordion-fold printed pocket card distributed to pediatric residents.

## Conclusions:

Learners desire quick access to critical locally endorsed pathways specific to the NICU. Development of a concise pocket card has the potential to not only enhance residents' confidence in foundational neonatal critical care

knowledge and skills, but also patient safety by ensuring institutional protocols and standards are accessible by learners when they are needed most.

## Relationship Between Entrustment of a Pediatric Critical Care Medicine Core EPA with One of Its Sub-EPAs

Richard Mink, MD, MACM; Alan Schwartz, PhD, JD, University of Illinois Chicago ; Hossein Tcharmtchi, MD, Baylor College of Medicine/Texas Children's Hospital; Rachel Stork Poeppelman, MD, MHPE, University of Minnesota; Angela S Czaja, MD, PhD, University of Colorado School of Medicine/Children's Hospital of Colorado; Kyle J Rehder, MD, CPPS, Duke Children's Hospital; Donald L Boyer, MD, MSEd, Children's Hospital of Philadelphia/Perelman School of Medicine at the University of Pennsylvania

### Purpose:

Entrustable Professional Activities (EPAs) represent the activities expected of a practicing physician. EPAs usually have multiple activities and tend to be broad. Therefore, some have advocated for creation of "sub" EPAs that further define the activities of the core EPA. However, the agreement between the core and sub-EPAs for entrustment is unknown. We examined the relationship between entrustment of pediatric critical care medicine (PCCM) fellows for managing a mechanical ventilator (MV), a specific activity needed in PCCM, with its core PCCM EPA, Acute management of the critically ill patient (Acute Management).

## Methods:

A 5-point level of supervision (LOS) scale for managing a MV was created, modeled after the structure of the LOS scale used for the Acute Management EPA. PICU faculty supervising fellows provided a MV LOS rating for each fellow with whom they worked in the 2 months prior to the Clinical Competency Committee (CCC) meeting. The CCC provided the LOS rating for the Acute Management EPA. MV assessments were made before the CCC met. Faculty MV ratings at each site were averaged and the correlation between MV and CCC LOS ratings determined, accounting for the effect of program.

## Results:

Fifteen PCCM fellowship programs participated in the study with a mean  $\pm$  SD of 3.4  $\pm$  2.5 faculty MV assessments per fellow and 47 CCC ratings of the core EPA. LOS ratings between the faculty and CCC were similar with a progressive increase in both faculty and CCC LOS assessments by year of training (p<0.0001), graph). The correlation between MV LOS ratings by the faculty with those for the Acute Management EPA by the CCC was strong (r=0.79, p<0.0001).

## Conclusions:

There is strong agreement between LOS ratings for the MV sub-EPA with that of the broader core PCCM EPA, Acute Management. This may relate to the belief that entrustment involves more than capability and includes recognition of limits, accountability, and truthfulness. Although it has been suggested that sub-EPAs are more straightforward for assessors, creation of multiple sub-EPAs for each core EPA may increase faculty assessment burden. Given these considerations, further studies of the educational benefits and impact of implementation of sub-EPAs are needed.

This study was conducted with the support of APPD SPIN. We also thank David A Turner MD for his assistance.

Graphs/Charts:

## Mean (SD) LOS Ratings from the Faculty and CCC



#### Vision, Values and Vices: The role of the VCE in educational leadership

Catherine Shubkin, MD, Dartmouth-Hitchcock/Mary Hitchcock Memorial Hospital; Pnina Weiss, MD, MHPE, Yale-New Haven Medical Center; Michael Dell, MD, Case Western Reserve Univ/Univ Hosps Cleveland Med Ctr/Rainbow Babies and Children's Hospital; Stephen Barone, MD, Zucker School of Medicine at Hofstra/Northwell at Cohen Children's Medical Center; John G. Frohna, MD, MPH, Charleston Area Medical Center/CAMC Institute for Academic Medicine; Casey Hester, MD, Oklahoma University Health; Marina Catallozzi, MD, MSCE, New York Presbyterian Hospital (Columbia Campus); Katherine Mason, MD, Brown University

#### Purpose:

There has been an increase in the number of Pediatric Vice Chairs of Education (VCE) over the past decade, yet their roles and responsibilities remain unclear. Previous studies have been limited by low response rate and lack of VCE perspective.

#### Methods:

We conducted a cross-sectional survey of VCEs to clarify roles, responsibilities and resources. VCEs were identified through triangulation of the ADS database, a survey of pediatric PDs, and a VCE database maintained by APPD. We conducted focus groups with a convenience sample of VCEs which were used along with published research to develop survey items. The survey was refined by content experts and cognitive interviews of near-peers of VCEs. This version was piloted with additional near-peers to ensure overall survey instrument performance. The study was deemed exempt by the IRB at the University of Oklahoma and distributed by the APPD RSLC.

#### Results:

Responses are described as n (%), mean (SD), or ranges. Comparisons between groups were made using t-tests for continuous variables and  $\chi^2$  tests for categorical variables. Comparisons of means of variables within subject were

made using paired t-tests. Spearman rank correlation measured association between variables. 44 of 65 VCEs responded to the survey (68%). VCEs have been in their role for a median of 5.5 yrs (range 1-19). Most identified as female (71%). Many had a written job description (64%), yet only 25% thought that their roles and responsibilities were clear. Most (87%) are educational leaders in roles ranging from UME to faculty affairs. GME leadership is the most identified role (64%). They reported contributions in faculty development, curriculum development, CME and UME activities. [Fig. 1] VCEs led educational research, mentoring of faculty, and resident recruitment. [Fig 2] 98% reported significant effort in DEI activities. The VCE's reported having a mean of 0.25 (0.22) protected time with a range of 0 - 0.75 and 6 (14%) reported having no protected time. However, the VCEs reported that they required a mean of 0.36 (0.29) to do their job. Only 41% of VCEs had been offered professional development or mentorship specific to their role.

## Conclusions:

While the roles and responsibilities of VCEs vary, there are commonalities that reflect the importance of the role to optimize pediatric medical education. Mentorship, professional development and additional dedicated time would enhance the effectiveness of VCEs. This survey identifies information important for the creation of a core job description and informs opportunities for professional development for VCEs.

## Graphs/Charts:Link to Document

A Structured Debrief Improves Trainee Confidence Following LGBTQ+ Standardized Patient Encounter Claire Eberhardt, LCSW-C; Imani Pearson, MS; Safiya Yearwood, RN, BSN, University of Maryland School of Medicine; Matthew Grant, MD

## Purpose:

Medical education programs have dedicated little time to LGBTQ+ health, particularly to the affirming care of the adolescent. Lack of educational opportunities and few clinical experiences with the LGBTQ+ population create barriers to the development of culturally compassionate and knowledgeable providers. The challenge of providing education for trainees without comprising patient experience is not limited to pediatrics; it is noted in midwifery training, nursing, and various other specialties. Standardized patient (SP) scenarios offer an opportunity for structured education and clinical experience for trainees to enhance communication skills and medical skills.

## Methods:

An observed SP scenario involving a transgender teen seeking reproductive services was integrated into pediatric resident's first-year Adolescent rotation to create a safe opportunity to support trainee exploration of language and assessment with LGBTQ+ persons. Residents completed a series of self-assessments, rating confidence with practices related to sexual health assessments and counseling using a Likert scale of Not at all Confident (1) – Very confident (4), before and after the SP scenario, and following a debrief. Facilitated by a multidisciplinary team, the debrief focused on provider language, attunement, and patient interaction. Residents were then asked to participate in a 3-month follow-up survey.

## Results:

19 first-year pediatric residents participated. Self-assessment data was averaged. Average pre-SP confidence was 2.29, with a modest, but not statistically significant rise following the SP session (2.37, p=0.1904), and a more robust, and statistically significant rise following the debrief (2.84, p=0.0001).

12/15 (80%) of eligible residents completed the 3-month follow-up survey. 100% of respondents agreed or strongly agreed the scenario was valuable to their education and found the debrief valuable. 100% strongly agreed it was valuable to get focused feedback on the use of language and patient-centered care. 83% (10/12) respondents noted they have used feedback from the scenario in clinical situations.

Conclusions:

Importantly, while a small change in confidence was seen after the SP session, participation in a structured debrief was key to a significant confidence change. This underlines the importance of not only increasing opportunities for trainees to develop tools to care for marginalized populations, but also highlights the importance of structured, supportive, and timely feedback and reflection in educational opportunities to support trainee growth.

#### Practice Makes Better: Assessing and improving resident communication competencies

Margaret Irwin, MD; Lauren Crafts, MD, Boston Children's Hospital; Hadley Bloomhardt, MD, Children's Hospital/Boston Medical Center; Jennifer Snaman, MD, Boston Children's Hospital; Andrew Lawton, MD, Dana-Faber Cancer Institute; Angela Feraco, MD, MMSc; Elizabeth D. Blume, MD, Boston Children's Hospital

### Purpose:

Competence in communicating serious news across various settings is a critical skill for pediatric residents. The skills required to share serious news and respond to emotion are often learned through observation rather than formal practice. This project aimed to educate residents on navigating difficult conversations with tailored didactic education and practice. The objective of this workshop was to give residents simulated experience in difficult conversations, to develop competency and empowerment to lead similar conversations in the future.

## Methods:

Residents in the medical education track of a large tertiary pediatric hospital were invited to participate in a 3-hour, role-play based communication session. A brief didactic session presented a "talking map" for sharing serious news and responding to emotion followed by a demonstration by faculty. Consistent with the *VitalTalk* methodology, the remainder of the session was spent practicing in a role play format. Smaller groups were created based on residency PGY year with trained actors in the role of patients' parent/guardian. Role play scenarios were developed based on common pediatric residency experiences. At the end of the workshop, residents completed a survey using retrospective pre-then-post survey assessment of their comfort and preparedness with aspects of difficult conversations both before and after the workshop.

## Results:

Seventeen residents (of 183 total residents) were protected from clinical responsibilities for a medical education focused afternoon and participated in the workshop. All 17 participants completed the survey, including 7 (41%) PGY-1, 7 (41%) PGY-2, and 3 (18%) PGY-3 residents. Thirteen (77%) participants ranked formal communication training in residency as being an important part of their education (9 or 10 out of 10). Following the workshop, 13 (77%) participants reported an increase in their overall preparedness for difficult conversations, with 8 (47%) feeling "extremely" prepared. Improvement was also noted in other domains including comfort in delivering "bad news" (82% reported improvement), developing a "toolbox" of communication phrases (94% reported improvement), and responding to emotional cues (70% reported improvement). All participants expressed a desire for similar future workshops.

## Conclusions:

Communicating difficult news is a skill that can be taught and learned through formal training and practice. This workshop demonstrated that a single, interactive session can enhance resident comfort across multiple communication domains.

## Using Project ECHO to Improve Mental Health Competencies Across the Learning Continuum

Eva Johnson, MD; Kimberly Burkhart, PhD, Rainbow Babies & Children's Hospital; Mary Gabriel, MD, University Hospitals of Cleveland; Brian Zack, MD; Kara Ring, MPH, Rainbow Babies & Children's Hospital

## Purpose:

Despite the pediatric mental health crisis and the significant shortage of pediatric mental health experts, many

pediatric primary care providers (PCPs) feel ill-equipped to handle mental/behavioral health disorders. We launched a Project ECHO program to empower all levels of PCPs, including pediatric residents, community pediatricians, and continuity clinic faculty, to confidently address mild to moderate mental/behavioral health concerns.

### Methods:

In 2022 we became a Project ECHO (Extension for Community Healthcare Outcomes) hub site. Project ECHO is a tele-education model using didactic and case presentations. Our hub team consists of a psychiatrist, a psychologist, 2 pediatricians, and a program coordinator. Pediatric PCPs (pediatric residents, continuity clinic faculty, and community practitioners) were recruited through email/website. 163 unique participants (19 pediatric residents, 11 resident continuity clinic attendings, and 133 community pediatricians) completed an ECHO course, with 31% of participants completing 2+ courses. Courses ranged from workshops (3 hr) to 8 session (75 minute) courses. Course topics included depression, risk assessment, anxiety, ADHD, eating disorders, learning disorders, autism spectrum disorder, and brief psychotherapeutic interventions. We obtained quantitative and qualitative data through REDCap postsession and follow-up surveys, and focus groups, which assessed impact on provider practice and ECHO learning environment feedback.

## Results:

At post-session survey, 85% of participants indicated that they highly/extremely benefited from course participation. Of those who completed in a 3-month follow-up survey, all participants who from the anxiety and depression courses reported prescribing SSRIs, and participants of the depression/risk assessment courses indicated at least moderate comfort in assessing suicidal risk, while all participants in the ADHD course indicated that they were prescribing stimulants to manage ADHD. Common themes from focus groups included increased comfort and confidence in treating patients presenting with mental/behavioral health concerns, increased access to resources, decreased external referrals, increased empowerment, and utility of ECHO as a novel approach to resident education.

## Conclusions:

Project ECHO is a useful model for mental/behavioral health education, and can be effective for a range of learners, from residents to attendings. ECHO programs should consider including residents in courses with seasoned providers to allow for a dynamic learning environment.

## "Put Me in Coach!" An Insider's Look to Building an Academic Support Program (ASP): A Hybrid Model of Mentorship and Coaching for Underperforming Pediatric Residents

# Nikita Khetan, MD; Autumn Atkinson, MD; Monaliza Evangelista, MD, University of Texas Health Science Center at Houston

## Purpose:

The ACGME created milestones to assess resident progress as most trainees struggle with some aspect of training such as medical knowledge, professionalism, work-life balance, and interpersonal stress. However, the ACGME does not provide, and current literature lacks, a uniform process to identify and remediate struggling residents. Without an appropriate structure, timely identification of learners is challenging resulting in delays with intervention.

Our project's goal is to create a comprehensive, structured program for underperforming pediatric residents piloted within the pediatric inpatient rotation. With the implementation of the ASP, we aim to identify individuals early, correct deficiencies, and avoid a true remediation process through mentorship and coaching.

## Methods:

All pediatric and medicine-pediatric residents are eligible. Residents are enrolled based on an identification structure (Figure 1). Upon enrollment, a 1:1 faculty mentor is assigned.

Resident evaluations are reviewed to determine areas for targeted improvement and to objectively assess response to enrollment in the ASP. These evaluations are completed by both faculty and peers and are conducted monthly at the end of each inpatient floor rotation. They are scored on a 0-5 scale in milestones mirroring those of the ACGME including patient care, medical knowledge, systems-based practice, practice-based learning and improvement, professionalism, and interpersonal and communication skills. ACGME reviews are completed twice a year by the Clinical Competency Committee (CCC) using these and other rotation evaluations.

Enrolled residents also complete pre- and post-intervention surveys. The pre-survey focuses on perceptions and expectations. The post-survey, administered at the end of each cycle (cycle = academic year), examines resident satisfaction to aid in program improvement. The statistical analysis includes descriptive statistics.

#### Results:

Over the course of three cycles, we have enrolled a total of 12 pediatric and medicine-pediatric residents. We have demonstrated a positive improvement in resident inpatient evaluations and ACGME reviews with an average increase of 0.5-1 level per milestone per resident across all competencies over both cycles. Another measure of our success is the resident feedback received on post-intervention surveys. Residents' comments have noted the ASP to be "helpful" and "comforting" with strengths centered on mentorship, feedback, availability and approachability of mentors, and opportunities for growth.

#### Conclusions:

Remediation is an intensive process. With the implementation of the ASP, we aim to identify individuals early, correct deficiencies, and avoid a true remediation process unless necessary. The ongoing interventions of the ASP to empower learners for success have generated positive responses from the necessary stakeholders (faculty, residents, program leadership). Future interest and enrollment in the program are expected to be strong as we look to implement peer resident coaching. Ultimately, we believe the ASP provides a solid framework for adoption by other programs and institutions to successfully identify and mentor underperforming resident learners.

## Graphs/Charts:



Figure 1. Flow chart depicting the identification and intervention phases of the ASP.

#### **The Quality of Written Feedback Provided by Pediatrics Hospitalists: A Needs Assessment** Morgan Smith, MD, Johns Hopkins All Children's Hospital; Elizabeth Savic, BS, Johns Hopkins All Children's

Hospital; Jamee Walters, MD, Johns Hopkins All Children's Hospital; Sean Tackett, MD, MPH, Johns Hopkins Bayview Medical Center; Jennifer Maniscalco, MD, MPH, MAcM, Johns Hopkins All Children's Hospital

## Purpose:

Effective written feedback is essential for trainee assessment and evaluation within graduate medical education. Several studies indicate written feedback is often of poor quality and leads to dissatisfaction among trainees. Pediatric Hospital Medicine (PHM) faculty provide a significant amount of feedback to residents during inpatient rotations, making the impact of their feedback considerable. The goal of this study is to determine PHM faculty development needs regarding the written feedback provided within resident evaluations.

## Methods:

A single center cross-sectional study of PHM faculty at a free-standing children's hospital was conducted from July to December 2023. A needs assessment survey assessed knowledge, skills, attitudes related to written feedback. The Evaluation of Feedback Captured tool (EFeCT), a validated tool comprised of elements of high-quality written feedback including learner behavior, context, performance, task specificity, and action planning, was used to assess the quality of written feedback within a convenience sample of resident evaluations.

## Results:

20 of 30 eligible PHM faculty completed the survey. 20% (4/20) of respondents completed a PHM fellowship, and 25% (5/20) reported training on written feedback within the prior 18 months. Time to reflect and write and competing work obligations were the largest barriers to providing high-quality feedback reported. 80% (16/20) reported spending 15 minutes or less completing an individual evaluation. 66 resident evaluations, written by 10 participants, were captured for quality scoring. The overall mean EFeCT score was 4 out of 5 points (SD 1.4). The learner's performance, whether positive or negative, was commented on in 89% (59/66) of evaluations, and a specific skill or task addressed in 80% (53/66). Action planning was present in 74% (49/66). Only 64% (42/66) contained feedback that described the context in which observed behaviors occurred.

## Conclusions:

PHM faculty participants were largely non-fellowship trained and lacked recent formal feedback training, making them a target population for faculty development initiatives. Faculty understanding of context-based feedback and learner-specific action plans may represent content areas for faculty development sessions. Similar to other populations, time constraints and competing obligations of PHM faculty remain a challenge that must be creatively addressed. Reframing faculty mindset around time spent writing feedback and maximizing the quality of feedback within required evaluations may be beneficial.

## Video Learning Guides in Pediatric Medical Student Education

Erika Sawicki, University Of Maryland, School Of Medicine; Peter Gaskin, MBBS, DCH, FAAP FACC, University of Maryland; Regina Macatangay, M.D., University of Maryland, School of Medicine

## Purpose:

Our study aims to investigate how use of a Video Learning Guide (VLG) prior to participation in a clinical "Skills Lab" (SL), during third-year pediatrics clerkship, impacts the confidence of medical students in performing and learning the skills taught in the SL.

## Methods:

A VLG of 8 novel videos were developed containing instructions on nasogastric tube and intravenous (IV) line placement, bag valve, nasal canula and non-rebreather mask use, and venipuncture as they are skills students may perform during the clerkship. 60 students were given access to the VLG before the SL and 60 students were not. The videos were subsequently available to all students after the conclusion of the SL. 37 students completed a survey evaluating how having or not having access to the VLG prior to the SL impacted confidence in performing the skills

taught in the SL session. Of those who did not receive the VLG (n=32), a Mann-Whitney U test was conducted. A comparison between students who completed <5 and  $\geq 5$  clerkships was done as it is the halfway point of the third-year curriculum to control for students with more experience.

## Results:

A significant number of students who had completed <5 clerkships desired access to a VLG prior to the SL compared to those who completed  $\geq$ 5 clerkships (U-value 52, p<0.05 at critical value of 82). Among students who completed <5 clerkships and did not access the VLG prior to SL, there was significantly less confidence in their ability to perform the skill of IV placement than those with  $\geq$ 5 clerkships completed (U-value 32.2, P<0.05 at critical value of 82). Students with access to the VLG prior to the SL agreed, it improved confidence in their ability to perform the skills prior to the SL and their understanding of the skills taught. (50% agree, 50% strongly agree).

## Conclusions:

The data thus far indicate students with less clinical experience desire a VLG in conjunction with the practical SL to increase confidence in learning and performing these skills. Additionally, the VLG increases confidence in, and understanding of, the skills taught in the SL. The results of this study can impact medical education by encouraging schools to incorporate VLGs as supplemental material for students to learn, and re-enforce, the skills they are taught. With the increased use of digital materials in medical education, VLGs can be used throughout clerkships and increase access to trainings of skills for a diverse population of students. Future studies may look at the types of skills that would be most beneficial to have on a VLG.

## Introduction of a Minishelf Exam to Improve Pediatric Shelf Exam Scores

## Peter Gaskin; Regina Macatangay, MD; Alicia Chaves, MD; Karen Webster, AAMC/CGEA, University of Maryland

Purpose: It is a requirement for many pediatric clerkships to pass the NBME pediatric shelf. Recognizing that some students failed on their first attempt, the clerkship team discussed strategies to mitigate these failures and developed a minishelf exam to be administered two weeks prior to the scheduled shelf examination date.

## Methods:

The minishelf was developed, and a pool of questions was reviewed and vetted by the clerkship leadership. The test was taken through an online portal with 55 questions presented to each student at random from the pool of questions taken over 90 minutes. Students with accommodations were given additional time for test completion consistent with their approved accommodations from the school. After all students completed the minishelf, the results were returned to each student for their review of their performance and to act as a resource as they prepared for the pediatric shelf exam.

## Results:

In the two years prior to the implementation of the minishelf, 363 students completed the pediatric shelf examination, with 10 failures (2.9%). Of the 275 shelf takers after minishelf implementation, there were 2 failures (0.7%). The decrease in failure rate after implementation was not statistically significant (p=0.076). Failing scores were noted to be 1 and 2 % below the cut off for a passing score.

## Conclusions:

The decrease in failing scores over the course of 2 years after implementing the minishelf was encouraging, though not meeting statistical significance. We plan to further investigate the effect of the minishelf on students previously struggling with other standardized exams during medical school.

In summary, the implementation of a minishelf exam to pediatric clerkship students potentially prevented 5 students from failing.

## **Essential Education**

Taylor Ellebb, MD, University Of Chicago; Kristen Kenan, MD, MPH, University of Illinois at Chicago

#### Purpose:

Studies consistently show that racial discrimination and racial trauma negatively impact the mental, physical, and behavioral health of those affected, with children being particularly vulnerable. This study aims to assess the effectiveness of training among resident and attending physicians in addressing these issues with pediatric patients.

### Methods:

Resident and attending physicians from various departments, including Pediatrics, Internal Medicine/Pediatrics, Emergency Medicine, Family Medicine, and Psychiatry, were recruited throughout the Chicagoland area. Participants completed surveys assessing whether they received medical training on the topics of racial discrimination and/or racial trauma. If so, they were asked to evaluate the effectiveness of the training in preparing them to address these topics with pediatric patients, their overall comfort level discussing the issues, and the importance they place on being equipped for these conversations.

#### Results:

Results revealed that the majority of respondents who received formal training in these areas did not feel adequately prepared to care for pediatric patients affected by racial discrimination and/or racial trauma. Most attending and resident physicians reported that being equipped for these conversations is extremely important, though one attending physician reported that it was not important at all.

#### Conclusions:

Among the limited sample of surveyed physicians across Chicago, a majority entered their post-graduate training in pediatric-inclusive specialties without feeling adequately prepared to address racial discrimination and/or racial trauma potentially impacting patients' health outcomes. While there seems to be a gradual improvement in integrating education on these topics into medical school and graduate medical education curricula, the effectiveness of the instructional methods remains uncertain

## Pediatric Resident Perceptions of Primary Barriers to Wellness in their Residency Programs

Laura Roberts, DO; Gina Livecchi, MD; Suzanne Reed, MD, MAEd, Nationwide Children's Hospital

## Purpose:

The purpose of this study was to explore resident perceptions of the most prominent barriers to wellness at their own residency programs using qualitative data collected by the Pediatric Resident Burnout-Resilience Study Consortium (PRB-RSC).

## Methods:

We conducted a qualitative analysis of the first 400 (of the 2184 total) responses to a single open-ended question on the PRB-RSC Annual Burnout Survey in 2019 and 2020: "What is the primary barrier to wellness at your program?" We performed preliminary content and thematic analyses, generating codes, categories, and overarching themes.

#### Results:

Preliminary analysis revealed overarching themes related to barriers in four primary aspects of the working/training environment: 1) The field of medicine level, 2) hospital level, 3) program level, and 4) personal level. At the most broad level of medicine, barriers were focused on the culture and stress of the field. At the other three levels, subcategories further illustrated themes. At the hospital level, categories included geographical location, resources available to residents, and hospital workplace culture. At the program level, categories included scheduling barriers, qualities of the patient population, and the learning environment. At the personal level,

categories included intrapersonal qualities and interpersonal interactions. The most common reported barriers fell under the program level.

## Conclusions:

Through preliminary analysis of our qualitative study, we found that residents identify barriers to their wellness at all levels of their environment: personal, program, hospital, and field of medicine. While many barriers are difficult for programs and individuals to control, some may be mitigated by the program to facilitate resident well-being, and limited resources should be appropriately allocated to the most common (and controllable) barriers. Additionally, as this is a time of transition in pediatric graduate medical education with new ACGME (Accreditation Council for Graduate Medical Education) requirements and ABP (American Board of Pediatrics) expectations, programs may consider how revised curricula and programmatic structure may mitigate some of these barriers to wellness for their residents.

## Designing a Sustainable Pediatric Critical Care Curriculum for Residents

Jason Espinoza, MD; Jatinder Dhami, MD, Riley Hospital for Children at IU Health

## Purpose:

The pediatric intensive care unit (PICU) rotation is required by all pediatric trainees in order to learn stabilization, management, and resuscitation of critically ill patients. Patient demands often outweigh the balance of service vs education and protected teaching time. We sought to create protected time for didactics during the PICU block by utilizing off-service PICU fellows.

## Methods:

Core PICU topics were selected, and off-service fellows were assigned 30min teaching sessions twice weekly for a total of 8 topics per block. Fellows were provided review materials, and space was reserved on the unit for teaching. Rotation evaluations were used to compare pre- (AY 2021-22) and post-implementation (AY 2023-24) scores related to balance of service vs education and protected teaching on a Likert scale from 1 (poor) to 5 (excellent) using Wilcoxon rank sum test. Fellows were surveyed to assess feasibility and burden of off-service time use, percentage of sessions completed, and reasons for cancellation.

## Results:

When rotation evaluation scores were compared pre-implementation to post-, there was improvement in both balance of service vs education (pre – median 3 [IQR: 3, 4], post – median 4 [IQR: 3,4], p=0.006) as well as protected teaching time (pre- median 4 [IQR: 3,4], post – median 4 [IQR 4,5], p=<0.001). When assessed as categorical variables - evaluations ranking very good or excellent (4 or 5)- 32% of residents ranked balance of service vs education very good/excellent pre-implementation compared to 62.5% post (p<0.001); and for protected teaching pre-curriculum 50.7% rated very good/excellent compared to post 81.3%, (p<0.001). Off service fellows were assigned a maximum of 2 sessions per block, with 80% reporting a burden of additional 30min or less preparing for each lesson. Of the 80 assigned sessions (AY 2023-24), 92% took place with biggest barriers identified as computer system downtime, lecturer availability, and unit acuity/census.

## Conclusions:

Off-service PICU fellows successfully helped to create a sustainable model for protected didactic time, and resident perceptions of prioritizing their education improved on rotation evaluations. In addition, there was minimal additional time burden or interruptions added to off-service time for fellows.

## Courtroom Bootcamp: An Innovative Curriculum for Fellows in Child Abuse Pediatrics

Colleen Bennett, MD, MSHP; Noreena Lewis, JD, Children's Hospital of Philadelphia

#### Purpose:

Recognizing a clear need for more rigorous training in court testimony and proceedings for child abuse pediatrics (CAP) fellows, we aimed to 1) collaborate with community partners to develop and implement an innovative courtroom bootcamp curriculum and 2) increase fellows' understanding and comfort in preparing and providing court testimony for child abuse cases.

### Methods:

Our curriculum includes four learning modalities: courtroom testimony simulation, courtroom observation, didactic sessions and direct observation of fellow testimony. We developed sessions in collaboration with CAPs and child advocate attorneys. We distributed a REDCap survey after each session. We also planned two focus groups using an appreciative inquiry approach throughout the curriculum to gather qualitative data.

## Results:

The first iteration of our bootcamp included three didactic sessions (general child welfare court proceedings, controversies in child abuse hearings, and legal/risk management concerns), courtroom observation in Dependency Court, and three simulated testimony sessions (head trauma, fractures, and sexual abuse). Participants included child abuse pediatrics fellows, as well as medical students, pediatric resident physicians, and pediatric emergency medicine fellows. Most participants had never provided court testimony and had no prior testimony education. Participants reported hearing from attorneys and CAPs and learning about the process as their favorite parts of the didactic sessions. For court observation, participants reported it was helpful to see a variety of cases. For simulated testimony, participants reported that they liked receiving feedback on their responses. Areas of improvement include opportunities to observe contested child abuse cases and attending physician testimony. Participants also requested increased sessions.

## Conclusions:

It is crucial that CAP fellows receive high-quality training in providing court testimony with respect to the child welfare legal system. This multimodal curriculum designed in collaboration with CAPs and child advocate attorneys was well-received by fellows and demonstrates promise in improving fellow comfort and confidence with testimony. Our data will be used to inform development of a longitudinal curriculum as well as best practices for educating fellows in other CAP and non-CAP training programs. Our data has and will continue to be used to educate child welfare community partners such as child advocate attorneys who frequently interact with trainees in the courtroom.

## Development and Evaluation of a Simulation-Based Orientation to Pediatric Cardiology Consults

Christopher Teng, MD; Victoria Bradford, MD; Meghan Cusick, BSN, MS, NP-C; Kristin Bonello, MD, Boston Children's Hospital; David W. Brown, MD, Children's Hospital/Boston Medical Center; David Kane, MD, Boston Children's Hospital

## Purpose:

We aim to assess pediatric cardiology fellows' perspectives with regards to preparedness and comfort with consultation skills, and to develop, implement, and evaluate a new curriculum to orient new fellows to the consult service.

### Methods:

A REDCap survey is being sent out to all current fellows in a large, high-volume pediatric cardiology fellowship program, assessing experience and training with the consult role prior to fellowship. Fellows will rate their preparedness for consult service using a 5-point Likert scale, and comfort with several consultation skills using a sliding bar scale (0 = not all comfortable, 100 = completely comfortable). Fellows will be asked to answer separately regarding the beginning of fellowship and now.

This July, all incoming fellows will participate in a novel curriculum during the first week of orientation. The 2-hour session will consist of a brief lecture introducing the role of the consult fellow, best practices, and hospital-specific workflow. A low-fidelity consultation simulation will follow, in which fellows will receive scripted consult pages as a series of mini-scenarios allowing for collaborative practice of several core consultation skills and tasks. Clinical data will be prepared beforehand as relevant to each case, with predetermined timing of pages to target triaging and multitasking skills. Participants will be asked to complete baseline and follow-up surveys on self-perceptions of preparedness and comfort.

## Results:

Descriptive statistics will be used to summarize baseline data on training background. The existing progression in preparedness and comfort amongst current fellows will be compared across various years of training. To evaluate curricular efficacy, new fellows will serve as their own controls to assess for changes in perceived preparedness and comfort pre- and post-curriculum. We hypothesize that prior formal training in consultation skills is low amongst incoming pediatric cardiology, and that fellows will report low levels of preparedness and comfort with consultation skills at the beginning of fellowship. We predict that perceptions of preparedness and comfort will increase post-curriculum, and will be higher than in prior fellows who did not complete the curriculum.

## Conclusions:

A novel structured and interactive orientation to consults has the potential to improve fellows' preparedness and comfort prior to their first shift, and may be an easily adaptable model for orienting consulting providers of various disciplines and training backgrounds.

#### **Bringing Back Discussion-Based Clinical Reasoning Conference – Maybe Not that Scary After All** *Kaitlyn Engle, MD; Mary Katherine Siebenaler, MD, Southern Illinois University; Kendra Woods, MD*

## Purpose:

Teaching critical thinking is necessary and challenging in graduate medical education. Clinical reasoning can be taught using a deliberate framework, including discussing the thinking process itself, recognizing cognitive biases, and modeling clinical reasoning by an experienced coach. The COVID-19 pandemic changed many aspects of our local medical education conferences, halting in-person learning, shifting conferences towards more passive powerpoint presentations, and creating challenges for educators to provide the same rigor of discussion required to adequately teach clinical reasoning. Anecdotal reports of barriers to going back to pre-pandemic in-person case discussions over presenting prepared slides included concerns of psychological safety and satisfaction with the virtual option.

#### Objective:

The aim of this study was to determine if a revision to our post-pandemic format of pediatric residents' morning caseconference improved clinical reasoning and provided a safe learning environment.

#### Methods:

Background, reasoning, and supporting evidence for the proposed new conference format was introduced to faculty and residents at Grand Rounds to gain buy-in. Powerpoint presentations were replaced with case-based discussions amongst residents and faculty with emphasis placed on differential diagnosis building and reasoning through medical decision-making. To maintain a safe learning environment, a set of 9 resident-created "ground rules" were followed by all attendees (e.g. everyone is smart; everyone deserves a chance to speak) and the option for virtual viewing was removed. The new format was retrospectively evaluated on a likert scale for satisfaction, level of engagement, effectiveness and psychological safety using an anonymous survey of pediatric residents and core faculty after 4 months.

### Results:

18 faculty members and residents completed the survey. 89% liked the new format, 95% found it more engaging, and 94% felt encouraged to think critically. 83% felt safe asking and answering questions. The majority responded that the discussion-based format of the conference enhanced clinical reasoning (94%) and preserved the psychological safety of the learning environment (89%). Zero reported feeling unsafe asking or answering questions in the discussion format.

## Conclusions:

Results from both faculty and residents regarding the changes made to morning report were overwhelmingly positive and may be worth the potential downside of removing the virtual option.

Graphs/Charts:Link to Document

## AI Integration in Pediatric Practice: Insights from US Doctors

Srichand Mulakalapalli, MBBS, Dr. Pinnamaneni Siddhartha Institute Of Medical Sciences; Bassi Radhika, MD, Ross University school of medicine

## Purpose:

The integration of artificial intelligence (AI) in pediatrics promises to transform clinical practice, improve patient care, and streamline healthcare operations. However, the application of AI in pediatrics remains underexplored. This study investigates the perceptions and readiness of pediatricians in the United States regarding AI implementation.

## Methods:

A cross-sectional study was conducted using a questionnaire distributed to 47 pediatricians and pediatric residents nationwide. The survey examined familiarity with AI, perceived benefits and risks, potential applications, and readiness for AI integration. Responses were anonymous, and 28 out of 47 pediatricians/pediatric residents responded, yielding a 59.6% response rate. Descriptive statistics were used to identify key patterns and summarize the survey data.

## Results:

The survey achieved a response rate of 59.6%, with 28 out of 47 pediatricians/pediatric residents participating. Of the respondents, 80% agreed that AI would positively impact pediatric practice. A majority (77%) indicated that AI could help reduce medication errors and increase diagnostic accuracy. Additionally, 55% suggested that AI might assist in managing patient notes, allowing more time for patient care. However, 45% of respondents expressed concerns about patient data privacy and security.

## Conclusions:

There is substantial support among pediatricians for integrating AI into pediatric practice, particularly for its potential to improve clinical outcomes and reduce medication errors. However, to ensure successful implementation, concerns regarding patient's data privacy must be addressed. Ongoing education and training for pediatricians, along with the development of secure systems, are essential to realizing the full potential of AI in enhancing pediatric healthcare outcomes. The primary limitation of this study is its reliance on self-reported data, which may be subject to response bias. Future research with longitudinal studies and larger, more diverse sample sizes may provide a more comprehensive understanding of this topic.

## Implementing a Goal-Oriented Curriculum on Antibiotic Stewardship for Pediatric Residents

Matthew Sattler, MD; Jason Newland, MD, MEd, Washington University in St. Louis School of Medicine; Christine Lockowitz, PharmD, BCIDP, St. Louis Children's Hospital; Evan Facer, DO; Sara Greer, MD, Washington University in St. Louis School of Medicine; Katie Wolfe, MD, MEd, Washington University/B-JH/SLCH Consortium

### Purpose:

To improve pediatric resident knowledge and attitudes related to antimicrobial stewardship (AS) through participation in a two-week elective AS rotation.

### Methods:

Pediatric residents at a large, academic, tertiary care children's hospital who were scheduled to complete the elective AS rotation were eligible to participate in this study. Residents who consented to participation were enrolled in an enhanced rotation curriculum founded in self-determination theory (see graphic). This curriculum included locally-developed asynchronous modules, weekly mock case discussions, and participation in prospective audit and feedback by reviewing a subset of inpatients receiving antimicrobials for daily stewardship rounds. Specific modules, cases, and patients were assigned based on each participant's self-identified goals, which participants were asked to identify on the first day of their rotation. Knowledge was assessed using pre- and post-rotation tests. Changes in attitudes were assessed using a retrospective pre/post survey. Responses were compared using the Wilcoxon signed-rank test. Participants also evaluated the extent to which individual rotation components helped them achieve their educational goals.

#### Results:

Nine participants (4 PGY-2, 5 PGY-3) completed the enhanced curriculum from March to May 2024. Median (IQR) knowledge assessment scores improved from pre-rotation (66.7% [58.3%, 75.0%]) to post-rotation (80.6% [69.4%, 86.1%], p=0.01). Following participation, residents reported increased importance of using antimicrobials with the narrowest spectrum of activity appropriate for the clinical syndrome (median response 4 [very important] to 5 [extremely important], p=0.01) and utilizing antibiotics for the shortest effective duration of therapy (median response 3 [moderately important] to 4 [very important], p=0.01). Participants rated the importance of AS programs as resources within children's hospitals more highly after completing the rotation, with the median Likert response increasing from 4 (very important) pre-participation to 5 (extremely important, p=0.03) following participation. Participants unanimously identified both the modules and cases as "very" or "extremely" useful in helping them achieve their educational goals; 8 of 9 respondents felt the same about participation in stewardship rounds.

## Conclusions:

An elective AS rotation for pediatric residents focused on learners' specific goals improves learner knowledge and attitudes related to AS. Ongoing research is needed to determine if these improvements are applicable to additional learners and are sustained over time.

