It's GO TIME! Embracing Change!

2021 Rita M. Patel GME Leadership Conference

Sponsored by the University of Pittsburgh School of Medicine Center for Continuing Education in the Health Sciences and UPMC Medical Education

Wednesday, February 17 & Thursday, February 18, 2021
Virtual Format

Wednesday, February 17, 2021 Schedule of Events	
2:30PM-5:00PM	Poster Abstract Presentations

Thursday, February 18, 2021 Schedule of Events	
12:00PM-12:05PM	Opening Remarks *Speaker: Gregory Bump, MD*
12:10PM-12:50PM	Oral Abstract Presentations
12:50PM-1:00PM	Break
1:00PM-1:50PM	Plenary How it Started vs. How it is Going? GME 2021 and Beyond... *Panel: Organization of Program Directors Associations (OPDA)*
2:00PM-3:10PM	Concurrent Workshop I We Can all Be Allies: How to Promote Gender Equity & Diversity in Medicine
3:20PM-4:30PM	Concurrent Workshop II Professionalism: Drawing the Line
4:30PM	Announcement of Frank J. Kroboth, MD Overall Best Presentation Award & Poster Awards
5:00PM	Adjournment

Table of Contents

Objectives, Accreditation, and Disclaimer Statement..... 3

Faculty Disclosure Statements.....4

General Conference Information.....5/6/7/8

UPMC ME AIMS & Professional Development Subcommittee Mission Statement.....9

Conference Learning Objectives

- Educate UPMC ME professionals on the definition of Allyship as it relates to gender equity and diversity in medicine.
- Identify and practice strategies to become an effective ally in the workplace and community.
- Commitment to improve individual allyship skills
- Develop a definition of medical professionalism
- Evaluate and assess professionalism in the clinical learning environment
- Understand reporting and support mechanisms when confronted with unprofessional behavior
- Share local and regional GME research and educational resources through oral and poster abstract sessions

Target Audience

This program is designed for Program Directors, Department Chairs, Program Coordinators, Faculty, Residents, Fellows and GME Leaders.

Accreditation

In support of improving patient care, the University of Pittsburgh is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

Physician (CME)
The University of Pittsburgh designates this live activity for a maximum of 6.75 *AMA PRA Category 1 Credits™.* Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Other Healthcare Professionals
Other health care professionals will receive a certificate of attendance confirming the number of contact hours commensurate with the extent of participation in this activity.

Disclaimer Statement

The information presented at this CME program represents the views and opinions of the individual presenters, and does not constitute the opinion or endorsement of, or promotion by, the UPMC Center for Continuing Education in the Health Sciences, UPMC / University of Pittsburgh Medical Center or Affiliates and University of Pittsburgh School of Medicine. Reasonable efforts have been taken intending for educational subject matter to be presented in a balanced, unbiased fashion and in compliance with regulatory requirements. However, each program attendee must always use his/her own personal and professional judgment when considering further application of this information, particularly as it may relate to patient diagnostic or treatment decisions including, without limitation, FDA-approved uses and any off-label uses.

Faculty Disclosures

All individuals in a position to control the content of this education activity including members of the planning committee, speakers, presenters, authors, and/or content reviewers have disclosed all relevant financial relationships with any entity producing, marketing, re-selling, or distributing health care goods or services, used on, or consumed by, patients.

The following relevant financial relationships were disclosed:

Alicia Au, MD receives grant/research support K23NS104133

Barton Branstetter, MD is a consultant for Proctor & Gamble

Emilia Diego, MD is a member of the DSMB for Xoft, Inc.

Michele Dorfsman, MD is a consultant for Physician Coach MD, LLC; Academic Coaching Collective, LLC

Antoine Douaihy, MD receives royalties published by OUP, Sringer and PESI Media & Publishing, and receives grant/research support from Alkermes, SAMSHA, NIDA, NIAAA, HRSA, NHLBI, AFSP, NIMH

Traci Kazmerski, MD receives grant/research support from Cystic Fibrosis Foundation, and is a consultant for Cystic Fibrosis Foundation

Bradley Kuch, MD is a member of the Smith's Medical Pediatric Airway Advisory Board, and is a member of the Vero Bitech Scientific Advisory Board

Vu Nguyen, MD receives grant/research support from Allergan Foundation

Jonathan H. Pelletier, MD receives grant/research support from NIH T-32 Training Grant 5T32HD040868-20

Jaskaran Rakkar, MD receives grant/research support from NIH T-32 Training Grant 5T32HD040686-19

Matthew Rosengart, MD spouse is a member of the DSMB for Johnson & Johnson

J. Peter Rubin, MD is a consultant for Regen Med and Sofregen

No other planners, members of the planning committee, speakers, presenters, authors, content reviewers and/or anyone else in a position to control the content of this education activity has relevant financial relationships to disclose.

Course Planners

Julie B. McCausland, MD, MS
Associate Professor of Emergency Medicine and Medicine
University of Pittsburgh School of Medicine
Co-Chair, Professional Development Subcommittee
Program Director, UPMC Medical Education Transitional Year Residency

Melinda Hamilton, MD, MS
Associate Professor of Critical Care Medicine and Pediatrics
University of Pittsburgh School of Medicine
Co-Chair, Professional Development Subcommittee
Program Director, UPMC Medical Education Pediatric Critical Care Fellowship

Melissa Hildebrand
Project Manager, UPMC Medical Education

Brittany Rosser
Project Manager, UPMC Medical Education

Abstract Sessions: Oral Plenary & Poster Session

Melinda Hamilton, MD, MS (Abstract Team Leader)
Program Director, Pediatric Critical Care Fellowship
Associate Professor of CCM and Pediatrics
Co-Chair Professional Development Subcommittee

Miya Asato, MD
Program Director, Neurodevelopmental Disabilities Residency
Associate Program Director, Child Neurology
Associate Professor of Pediatrics & Psychiatry

Marie C. DeFrances, MD, PhD
Program Director, Pathology Residency and Fellowship Programs
Professor of Pathology

Giselle G. Hamad, MD
Associate Program Director, General Surgery Residency
Director of Surgical Education
Professor, Department of Surgery

Vu T. Nguyen, MD
Program Director, Plastic Surgery Residency
Assistant Professor, Department of Plastic Surgery
Carla Spagnoletti, MD, MS
Director, Academic Clinician-Educator Scholars Fellowship
Associate Professor, Department of Medicine

Michael Travis, MD
Program Director, Psychiatry Residency
Associate Professor, Department of Psychiatry

Evan "Jake" Waxman, MD, PhD
Vice Chair, Medical and Resident Education
Associate Professor of Ophthalmology

Jackie Weaver-Agostoni, DO, MPH
Program Director, Shadyside Family Medicine Residency
Clinical Assistant Professor, Department of Family Medicine

Plenary

Future Directions for GME Program Leadership in 2021

Daniel Dent, MD
Director of Competency Education and Assessment, Residency Director, Department of Surgery
Professor of Surgery, Division of Trauma and Emergency Surgery, University of Texas Health San Antonio

Elise Lovell, MD
Department of Emergency Medicine, Advocate Christ Medical Center. Clinical Professor, University of Illinois in Chicago. Chair, Organization of Program Director Associations

Deborah Spitz, MD
Vice Chair for Education and Academic Affairs, Director of Residency Training, Department of Psychiatry and Behavioral Neuroscience, University of Chicago

Workshops

I: We Can All Be Allies: How to Promote Gender Equity & Diversity in Medicine

LEAD: Eleanor Sharp, MD
Fellow, Pediatric Hospital Medicine, UPMC Children's Hospital of Pittsburgh

Sylvia Choi, MD
Associate Professor of Pediatrics, UPMC Children's Hospital of Pittsburgh

Emilia Diego, MD
Program Director, Breast Surgical Oncology Fellowship, UPMC Magee-Womens Hospital, Vice Chair for Diversity and Inclusion & Section Chief, Breast Surgery, Assistant Professor of Surgery, University of Pittsburgh School of Medicine

Traci Kazmerski, MD
Assistant Professor of Pediatrics, UPMC Children's Hospital of Pittsburgh

Andrew McCormick, MD
Associate Professor of Pediatrics, UPMC Children's Hospital of Pittsburgh

II: Professionalism: Drawing the Line

LEAD: Katherine Watson, DO
Co-Director, Pediatric Residency Program, UPMC Children's Hospital of Pittsburgh, Assistant Professor of Pediatrics, University of Pittsburgh School of Medicine

Carolyn De La Cruz, MD
Associate Professor of Surgery, Chair of Diversity and Inclusion, Department of Plastic Surgery, University of Pittsburgh School of Medicine

Andrew Nowalk, MD
Co-Director, Pediatric Residency Program, UPMC Children's Hospital of Pittsburgh, Clinical Director of Infectious Diseases, Associate Professor of Pediatrics, University of Pittsburgh School of Medicine

UPMC ME AIMS

- Train excellent physicians from diverse backgrounds in a model of patient-centered care, which builds a foundation of high value care, desirable clinical outcomes, and scientific knowledge that improves health.

- Build a supportive working and learning environment that helps physicians grow as role models for professionalism, caring and compassion.

- Create a model of professional development for residents, fellow, and faculty in graduate Medical education that emphasizes expertise, leadership skills, scholarly achievement, and career advancement.

- Foster a culture that centers on the well-being of the individuals in our clinical and academic community.

- Serve the health needs of the diverse communities.

- Transform the health care system of tomorrow through innovation.

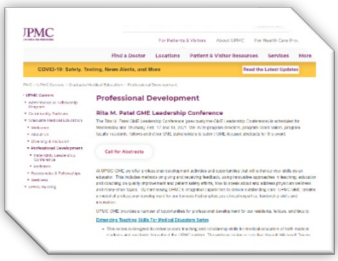
- Harness our integrated capabilities to deliver outstanding patient safety, quality, and value through graduate medical education at UPMC.

Mission Statement of the Professional Development Subcommittee of the UPMC ME Graduate Medical Education Committee

To advance the Graduate Medical Education Community through research, education, and innovation.

UPMC ME Professional Development Website:

Professional Development | Medical Education | UPMC



Thank You to our Facilitators, Judges and Course Planning Committee

Julie B. McCausland, MD, MS (Co-Chair)
Melinda Hamilton, MD, MS (Co-Chair)
Phillip Adams, MD
Miya Asato, MD
Gregory Bump, MD
Sylvia Choi, MD
Tracy Conti, MD
Jennifer Corbelli, MD
Marie DeFrances, MD
Carolyn De La Cruz, MD
Emilia Diego, MD
Daniel Dent, MD
Nicole Donnellan, MD
Giselle G. Hamad, MD
Melissa Hildebrand
Traci Kazmerski, MD
Frank Kroboth, MD
Kenneth Lee, MD
Elise Lovell, MD
Mike Mangione, MD
Michael McClincy, MD
Andrew McCormick, MD
Melissa McNeil, MD
Andrew Nowalk, MD
Vu T. Nguyen, MD
Charissa Pacella, MD
Matt Rosengart, MD
Brittany Rosser
Eleanor Sharp, MD
Gretchen Shelesky, MD
Carla Spagnoletti, MD
Deborah Spitz, MD
Jennifer Steinman, MD
Michael Travis, MD
Reed Van Deusen, MD
Katherine Watson, DO
Evan Waxman, MD, PhD
Jacqueline Weaver-Agostoni, DO, MPH
Emmanuelle Yecies, MD
Noel Zuckerbraun, MD

It's GO TIME! Embracing Change
2021 Rita M. Patel Leadership Conference

Wednesday February 17, 2021
And

Thursday February 18, 2021

ABSTRACT BOOK

Rita M. Patel GME Leadership Conference
"It's GO TIME! Embracing Change"
February 17, 2021 and February 18, 2021

We would like to recognize and thank the following abstract committee member, judges and the
University of Pittsburgh Academy of Master Educators

Robert Arnold, MD
Miya Asato, MD
Debra Bogen, MD
Marie DeFrances, MD, PhD
Nicole Donnellan, MD
Erika Friehling, MD
Kevin Garrett, MD
Giselle Hamad, MD
Melinda Hamilton, MD, MSc
Frank Kroboth, MD
Joseph Losee, MD
Julie B. McCausland, MD, MS
Michael Mangione, MD
Vu T. Nguyen, MD
Andrew Nowalk, MD, PhD
Tetsuro Sakai, MD, PhD, MHA
Carla Spagnoletti, MD, MS
Sarah A. Tilstra, MD
Michael Travis, MD
Jake Waxman, MD
Jackie Weaver-Agostoni, MD

…And a special thanks to Dr. Frank J. Kroboth for providing abstract session awards over the years which have been named in his honor

Frank J. Kroboth GME Leadership Conference
Awards for Best Resident/Fellow
Oral Abstract Presentation

Poster Abstract Awards will be announced at a later date

Rita M. Patel Leadership Conference
It's GO TIME! Embracing Change
February 17, 2021 and February 18, 2021

Oral Abstract Presentations

#	Abstract title	Main Author (s)
O1	A Neighborhood Resource Walk for Teaching for Teaching Social Determinants of Health	Leon-Jhong, A
O2	How can we Help? Perceptions of Pediatric Faculty & Trainees in the COVID-19 Pandemic	Sharp, E
O3	Gender Bias in Faculty Evaluations of Emergency Medicine Residents in task-based Simulation Videos	Trembley, L

Poster Abstract Presentations

#	Abstract title	Main Author (s)
P1	Pediatric Intensive Care Unit (PICU) COVID Mock codes improve provider knowledge	Alessi, L
P2	The use of podcasts as a toll to improve clinical reasoning: a pseudorandomized and control study	Augustin, R
P3	Racial Equity in Medicine: A longitudinal curriculum for psychiatry residents	Collier, A
P4	A Novel physician-nurse resident peer-mentorship program for interdisciplinary education	Dhruva, A
P5	Innovation Curriculum Development within an Academic Anesthesiology Department	Frabitore, S
P6	Development of a New Graduate Medical Education Subcommittee to enhance resident and fellow leadership opportunities	Glaser, D
P7	A Racial Justice and Health Equity Curriculum for the McKeesport Family Medicine Residency Program	Goldstein, H
P8	Impact of the Transition to the virtual readouts on junior radiology resident case volumes	Gordon, E
P9	Establishing a virtual asthma support group at UPMC Children's Hospital connecting children, caregivers and providers	Lanlokun, M
P10	Fellow motivation with weekly challenges to combat COVID fatigue	Lolley, R
P11	Resident only Rounding in the NICU	LoVerde, B
P12	Mind in GAPS: The Need for Pediatric Intensive Care Unit (PICU) Resident Curriculum	Mastropolo, R
P13	Online Balint group participation can sustain resident professional development through the pandemic and beyond	Reis, E
P14	Enhancement of Medical Skills (EMS): A Supplemental Resource for Medical Students on the Inpatient Pediatric Rotation	Reuman
P15	Independent or Integrated plastic surgery residency pathways: do we see a difference in representation in academic plastic surgery in the United States?	Samyd, B

P16	Virtual Sub-Internship in Plastic Surgery: The state of a new ERA in surgical education	Samyd, B
P17	Impact of COVID-19 on Education: Adapting a virtual platform in critical care medicine	Scioscia, A
P18	Lean Six Sigma and Anesthesiology	Shah, N
P19	Medication Errors with Computerized order entry in critically ill pediatric patients	Sharp, E
P20	Scalability of a remote advanced pharmacy practice experience with post graduate year one pharmacy resident preceptors	Smithburger, PL
P21	Development and Implementation of Virtual medical student emergency clerkship in the ERA of COVID-19	Tobias, A
P22	Survey of providers and staff to determine barriers in contraceptive care access	Srinivasan, S
P23	#ThisisOurShot: Perceptions of the COIVD-19 Vaccine	Trauernicht, E
P24	Preparing Future Residents for Treating Opioid Use Disorder (OUD) Into Mainstream Medicine	Warwick, J
P25	Development of a Question Bank to Enhance Learning and Retention of Board Review in Allergy-Immunology Fellowship	Xie, M
P26	Antiracist Curriculum Implementation for Pediatric Residents	Ragunanthan, B

Oral Abstract Presentations

Title: **A Neighborhood Resource Walk for Teaching Social Determinants of Health**

Authors: Leon-Jhong A[1], Kiazand M[2].
Affiliations: [1]Divison of General Internal Medicine, University of Pittsburgh Medical Center, [2]Department of Medicine, UPMC Mercy

Needs and objective: Internal medicine residents often have limited interaction with the community outside of the clinical setting. This may limit awareness of patients' social needs and impact the quality of care provided. The goal of this project was to improve resident knowledge of the local neighborhood – both challenges faced and resources available.

Setting and participants: The Mercy Health Center (MHC) resident-based internal medicine teaching clinic serves a predominantly African American population, many of whom reside in the nearby Hill District, a historically black neighborhood in Pittsburgh. MHC is located in the Uptown neighborhood, only a few blocks from the Hill District, yet most residents are not familiar with the area.

Description: PGY1 residents on their ambulatory block participated in a 1-hour attending-led walk around the Hill District and Uptown neighborhoods to identify local resources. These included a community center, dental clinic, food bank, addiction treatment center, and homeless shelter. We discussed the history of the neighborhood, including instances of structural racism, divestment and displacement, and current food desert status. Residents were invited to consider how the built environment may affect their own patients.

Evaluation: Six residents participated in the walk from September through December 2020 and completed a post-walk survey. All six residents felt the walk improved their understanding: "(It) allowed me to see certain struggles … faced, it created a picture of the situation, rather than being a distant idea". All residents noted they would change their clinical practice because of the walk: "keeping in mind… patient's circumstances when counseling about lifestyle modifications". Many cited their favorite part of the experience as the walk itself: "the fresh air and exercise was awesome!". Recommendations for improvement were to increase the frequency or length of the walk and to add another type of community experience.

Discussion / reflection / lessons learned: The neighborhood resource walk was very well-received by residents. Many drew on previous experiences to consider with insight and maturity how structural racism may impact the patient-provider relationship. By having a clinic preceptor lead this experience, residents were encouraged to transfer insights gained into their clinical practice. This type of experience could be readily translated to the level of medical student and adapted to different practice settings. Interestingly, many residents commented on the benefits of the walk itself, suggesting the time spent learning outside may contribute to wellness. Future steps will focus on inclusion of community members in the walk, which was limited this year due to the COVID-19 pandemic.

O2

HOW CAN WE HELP?
PERCEPTIONS OF PEDIATRIC FACULTY & TRAINEES IN THE COVID-19 PANDEMIC

Sharp E[1], Kazmerski TM[2], Friehling E[2], Muzumdar I[3], Trauernicht E[2], Miller B[2], Nowalk A[2], Srinath A[2], Muzumdar H[2]

[1]Department of Pediatrics, UPMC Children's Hospital of Pittsburgh; [2]Department of Pediatrics, University of Pittsburgh School of Medicine; [3]Penn State University

Introduction: We evaluated pediatric faculty and trainee perspectives on the COVID-19 pandemic.

Methods: We distributed an anonymous, web-based survey to faculty, fellows, and residents (n=732) at a tertiary-care pediatric hospital November 23 to December 7, 2020 during a period of increased regional positivity rates (>30%). We assessed concerns related to COVID-19, impact on practice and training, and potential interventions to slow transmission and address work-related stressors. We descriptively analyzed results and compared across gender and roles using logistic regression with $p<0.05$ considered significant.

Results: Among 328 respondents (45% response rate, 67% female) 42% were tested for SARS-CoV-2 and 8% of those tested positive; 26% missed at least one day of work due to the pandemic with 10% missing work due to lack of childcare. About half expressed concerns about salary changes (47%), lack of childcare (47%), and the job market (54%); 64% were concerned about academic productivity. Faculty were significantly more concerned about salary changes than trainees, but fellows were significantly more concerned about academic productivity. Women were significantly more concerned about PPE, the pandemic's 'third wave', and redeployment outside of usual scope of practice. Faculty were significantly more likely than trainees to feel that learning to care for COVID-19 patients is an important part of trainee education (*Fig 1A*).

Among faculty, 75% reported the pandemic has negatively impacted their practice of medicine while 84% of trainees felt the pandemic has negatively impacted their training. Almost all trainees (92%) felt that the pandemic has negatively impacted wellness with more than half (53%) of residents characterizing this as "extremely negative" (*Fig 1B*). Almost half of respondents reported that flexible scheduling (45%) and virtual visits (47%) would be very or extremely useful; 35% felt the same about on- site childcare and childcare financial support (*Fig 2*).

Conclusions/Significance: Pediatric faculty and trainees endorse high levels of concern related to the ongoing risks and the long-term impacts of the pandemic. These results highlight the pandemic's dramatic effects on wellness and reveal concerns regarding career advancement. Creative supports related to scheduling, childcare, and promotion, are needed to improve wellness, recoup academic productivity, and unburden those disproportionally impacted by the pandemic.

***Figure 1*: Pandemic Impact on Training & Practice**

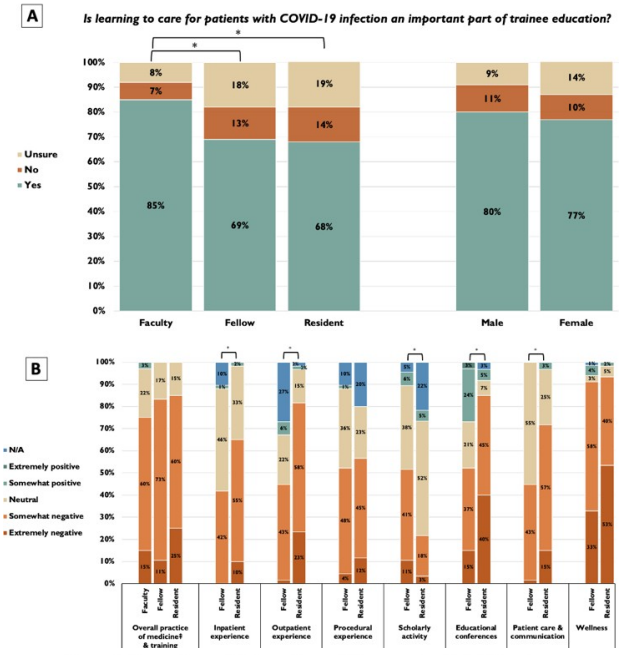
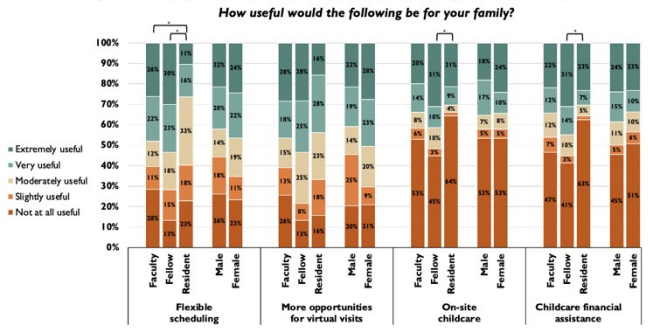


***Figure 2*: Perceptions of Various Support Measures, by Role & Gender**



GENDER BIAS IN FACULTY EVALUATIONS OF EMERGENCY MEDICINE RESIDENTS IN TASK-BASED SIMULATION VIDEOS

Trembley L[1], Congelio L[1], Keller A[1], McGiboney J[1], Smith A[1], Donovan A[2]

[1]Department of Emergency Medicine, University of Pittsburgh School of Medicine
[2]Department of Medicine, University of Pittsburgh School of Medicine

Introduction: Within emergency medicine (EM), gender disparities in resident assessment have been studied both in the clinical setting and in simulation. However, differences in individual resident competency as well as influences from certain gender-based attributes need to be taken into consideration when comparing trainees' evaluations. Thus, we attempted to directly examine the effect of resident gender on faculty evaluations of EM resident performance through use of male and female versions of two identical simulation video cases: a cardiac arrest and a death notification.
Hypothesis: Because leadership ability is more often attributed to male trainees while empathy and communication skills are more often attributed to females, we hypothesized that faculty would score male residents higher in the cardiac arrest case and female residents higher in the death notification case.
Methods: Identical male and female versions of a cardiac arrest simulation and a death notification simulation were recorded, featuring EM interns. Eligible EM faculty from a single academic residency program, blinded to the study objective, were randomized to view either the male in the arrest and female in the death notification, or vice versa. Assessments consisted of 8 items per scenario, which were scored using a 1-5 Likert scale designed to evaluate resident performance on critical actions specific to each simulation. Data from July through September 2020 was analyzed for each simulation using a multivariable linear regression model.
Results: A total of 62 out of 79 (78.4%) eligible EM faculty completed the study. Though faculty scored the female resident higher on average in both the cardiac arrest and death notification scenarios, this did not reach statistical significance (arrest: coefficient 2.54, p=0.106; death notification: coefficient 2.02, p=0.240). In addition, faculty demographic variables including gender, age, race, and academic experience, were also found to have no significant effect on resident score for either simulated case.
Conclusions: In our study of faculty evaluations of EM residents, we did not find any significant difference in scores across resident gender in either the cardiac arrest or the death notification simulation video case.
Significance: These findings suggest that simulation may help to mitigate the gender bias that has been demonstrated within clinical evaluations of trainees and therefore serve as an invaluable component of resident evaluation.
Research/Grant Support: None

Poster Abstract Presentations

Title: **Pediatric Intensive Care Unit (PICU) COVID Mock Codes Improve Provider Knowledge**

Authors: Alessi LJ[1], Pelletier JH[1], Jockel C[1], Farione L[1], Spencer T[1], Vehovic S[1], Kuch BA[1], Au AK[1], Aneja R[1], Hamilton MF[1]

Affiliations: Department of Critical Care Medicine[1], UPMC Children's Hospital of Pittsburgh

Introduction: The COVID-19 pandemic has generated new concerns in minimizing healthcare worker exposure during resuscitation and airway management. Simulation has the potential to improve communication and reduce exposure of providers and equipment.
Hypothesis: Implementing a standardized protocol for intubation and resuscitation of a patient with COVID-19 in the PICU of a large, tertiary care Children's Hospital will improve providers' knowledge, communication, and sense of safety.
Methods: We performed a targeted needs assessment for managing unanticipated codes and intubations of a child with COVID-19. We developed protocols for both scenarios using a multidisciplinary approach with physicians, APPs, respiratory therapists, and nurses, describing the essential personnel and equipment inside and outside of an isolation room (Figure 1). Protocols were disseminated in person, electronically, and in postings outside of rooms. Mock codes were conducted over 5 months to identify potential barriers to patient care and providers' safety, immediately followed by a debriefing to gain feedback from a multidisciplinary team. Barriers were identified and we used a plan-do-study-act model to improve the process. Post-intervention, a questionnaire was completed to evaluate provider knowledge of the protocol and attitude regarding communication and safety. We compared knowledge scores between mock code attendees versus not, using Wilcoxon Rank Sum test.
Results: 55 online questionnaire responses consisted of 14 (25.5%) physicians, 32 (58.2%) nurses, and 9 (16.4%) respiratory therapists. 20/55 (36.4%) respondents had participated in a COVID mock code. 19/20 (95%) felt the COVID mock code improved their sense of safety. 17/20 (85%) thought that the COVID mock code improved communication. Respondents who participated in mock codes performed significantly better on post-intervention knowledge assessment of appropriate equipment utilization ($p = 0.027$, Figure 2).
Conclusions: Multidisciplinary mock codes in the PICU improve providers' knowledge of appropriate equipment utilization, which potentially reduces equipment contamination and staff exposure.
Significance: This pilot study demonstrates that mock codes during the COVID-19 pandemic have the potential to improve equipment conservation which may reduce costs, and also have the potential to improve providers' communication and sense of safety in this unique time. We plan to assess retention of this knowledge, equipment conservation, and cost savings in future studies.
Grant Support: None

P2

Title: The use of podcasts as a tool to improve clinical reasoning: a pseudorandomized and controlled study

Authors: Ryan C. Augustin, MD,[1] Eliana Bonifacino, MD, MS,[1] Deborah J. DiNardo, MD, MS, [1,2] Sarah A. Tilstra MD, MS[1]

1: Department of Medicine, Division of General Internal Medicine, University of Pittsburgh School of Medicine, Pittsburgh, PA, USA

2: VA Pittsburgh Healthcare System, Department of Medicine, Pittsburgh, PA, USA

Introduction: Several academic institutions have emphasized the need for better training in medical-decision making, stimulating national efforts focused on clinical reasoning (CR) education. Podcasts have emerged as a time-efficient, portable method for widespread delivery of educational content. Several CR-focused podcasts use example-based learning (EBL) by exposing listeners to the medical decision-making process of an expert, however, the impact of such podcasts on learners' CR skills has not been established.

Hypothesis: We hypothesize exposure to CR-focused podcasts will improve medical student recognition and application of CR principles.

Methods: Podcasts were developed from four "clinical unknown" cases presented to expert clinician educators. Discussants were prompted to "think out loud" and discuss core elements of CR: problem representation, prioritized differential diagnoses, illness scripts, and cognitive biases. Third-year medical students rotating on their 8-week internal medicine clerkship were pseudo-randomized to complete either pre-established online CR modules, or both the online modules and the novel podcasts in weeks 1&2. Student hospital admission notes for weeks 3-7 were collected, de-identified, and assessed for reporting, diagnostic reasoning, and decision making via the validated IDEA tool. A longitudinal regression model was used to compare groups.

Results: In total, 90 control and 128 intervention admission notes were scored. Over 70% of the intervention group reported listening to the entirety of the four podcasts. Out of 45 total points, mean IDEA scores for the control group were 35.2 and 32.4 at weeks 3 and 7, respectively, while scores for the intervention group were 33.7 and 35.0 at weeks 3 and 7. In regression analysis, there were no significant differences in mean IDEA scores between the two groups at any time point during the study period (p=0.49). Participants in the intervention group were more likely to identify discussion of CR principles by their ward attendings (3.2/5 vs 2.5/5, p=0.05) and reported that the podcasts improved acquisition of knowledge (3.0/5), application of clinical reasoning skills (3.4/5), and expressed that they were likely to listen to podcasts in the future.

Conclusion: In this novel evaluation of clinical reasoning podcasts, we found no significant impact on written clinical reasoning skills in 3rd year IM clerkship students. Despite this, increased recognition of clinical reasoning principles by participants suggests that podcasts may have an important role in priming learners to recognize and appreciate clinical reasoning concepts in the clinical context.

Significance: Podcasts appear to be a viable, well-received, asynchronous tool for medical education, and further exploration of their potential role in fostering the development of clinical reasoning skills is warranted.

Grant Support: Department of Medicine, Division of General Internal Medicine, Educational Research Grant (PI S. Tilstra)

Title: **Racial Equity in Medicine: A Longitudinal Curriculum for Psychiatry Residents**

Authors: Carroll P, Tastenhoye C, Collier A, Travis M, Jacobson S, Spada M

Affiliation(s): Department of Psychiatry, University of Pittsburgh School of Medicine

Abstract:

Needs and objectives –Research studies addressing healthcare disparities in America repeatedly demonstrate significant variations in clinical care delivery based on race. Within psychiatry, Black patients are diagnosed with psychotic disorders at higher rates than whites despite presenting with the same symptoms. To date, there exists minimal research on the best ways to address and change these disparities. Existing studies suggest that the first step in combating structural racism is acknowledging its existence. Unfortunately, medical trainees have minimal exposure to topics such as race based medicine. Rather than focusing on social determinants of health, many curricula propagate race-based teachings that have dominated American healthcare for centuries. To begin to confront structural racism in psychiatry, it appeared crucial to educate residents on the topic, to train them on how to successfully advocate for their communities/patients, and to confront racism that they encounter during their practice.

Setting and participants – This longitudinal curriculum was introduced to PGY1-PGY5 trainees at Western Psychiatric Hospital in fall 2020. Sessions occur during protected teaching time.

Description – The Racial Equity in Medicine (REM) curriculum aims to address racism within medicine as well as psychiatry. This curriculum will educate residents about the history and roots of racism, while also addressing the modern-day impact that racism has. Over a four-year curriculum, residents will learn about the social construct of race and the systemic nature of racism, develop skills allowing them to serve as allies and advocates for patients and communities, and foster their ability to pass along their knowledge to colleagues. By the end of residency, residents will feel confident in practicing racially equitable psychiatry.

Evaluation – Residents were surveyed on their knowledge of systemic racism in medicine prior to the start of the REM curriculum. Residents provide feedback following each REM session and will be surveyed on change in knowledge and impact of curriculum at 6-month intervals.

Discussion/reflection/lessons learned – Residents have been overwhelmingly positive in their feedback. 70.5% of residents responded that they did not feel the topic of race and medicine had been adequately addressed during their medical training. 98% of residents wanted to learn more about the topic.

Support – Support from the Department of Psychiatry, Office of Residency Training.

Title: A NOVEL PHYSICIAN-NURSE RESIDENCY PEER-MENTORSHIP PROGRAM FOR INTERDISCIPLINARY EDUCATION

Authors: Dhruva, A; Cummings E; Szymusiak J; and Miller B.
Affiliations: Department of Pediatrics, University of Pittsburgh School of Medicine

Needs and Objectives: Interdisciplinary education occurs infrequently in medical and nursing training. Prior studies have shown that physicians and nurses have incomplete understanding of each group's roles and responsibilities, which affects their ability to collaborate in patient care. Negative working relationships between the two groups correlate to higher rates of medication errors and patient deaths. The objective of this pilot physician-nurse residency peer-mentorship program is to strengthen interprofessional communication and conflict management skills between intern physicians and nurse residents.

Methods: Conducted at a quaternary care children's hospital, each incoming pediatric intern physician was paired with a pediatric nurse intern for bidirectional shadowing opportunities. This facilitated social interaction, experiential learning, and continued growth of interprofessional relationships throughout subsequent workshops. Participants then participate in periodic interprofessional small group sessions centered on themes of patient safety, professionalism, and conflict management., Each targets several milestone-based competencies, with an emphasis on interpersonal and communication skills and systems-based practice. The first workshop has been completed, the subsequent workshops will be completed in the second half of the academic year and will incorporate novel video segments to facilitate discussions.

Pre- and post-surveys for both the longitudinal experience as well as individual interventions using validated instruments of interdisciplinary collaboration, Likert scale attitudinal questions, and qualitative questions allow for formative assessment and development of the curriculum.

Results: A total of 84 responses (24 nurses, 60 interns) were analyzed in the pre-program survey, with 100% response rate and key representative results below (table 1, table 2).

TABLE 1: Pre-Survey Questions - Physician interns (n = 60)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I have a good understanding about the roles and responsibilities of an nurse	0.0%	8.3%	28.3%	61.7%	1.7%
I have a good understanding of an nurse's day-to-day workflow	0.0%	38.3%	10.0%	43.3%	0.0%
I feel comfortable addressing conflict between myself and a nurse	0.0%	28.3%	33.3%	33.3%	5.0%
Important information is always passed on between residents and nurses	3.3%	30.0%	26.7%	28.3%	11.7%

TABLE 2: Pre-Survey Question -- Nurses (n = 24)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I have a good understanding about the roles and responsibilities of an intern	0.0%	0.0%	29.20%	33.30%	37.50%
I have a good understanding of an intern's day-to-day workflow	0.0%	0.0%	45.80%	33.30%	20.80%
I feel comfortable addressing conflict between myself and in intern	0.0%	20.80%	50%	20.80%	8.30%
Important information is always passed on between residents and nurses	4.20%	25%	20.80%	37.50%	12.50%

Discussion: The initial pre-survey, including qualitative and free-text responses, identified common needs for both cohorts. Namely, need for better closed-loop communication, improved understanding of the other's roles and responsibilities, and conflict management, all of which are being targeted through the longitudinal small-group sessions. As the pilot year of this curriculum is still ongoing, final data about the impact of this program in addressing its objectives is pending – however, preliminary data clearly demonstrates a need with overwhelmingly positive feedback about the interventions thus far.

Support: OFD Education Innovation Grant (PI: Erin Cummings, MD)

P5

Innovation Curriculum Development Within An Academic Anesthesiology Department

Authors: Frabitore, SZ, MD; Beiriger, Jamison, BS; Hickey, Sergio, MD
Affiliation(s): Department of Anesthesiology and Perioperative Medicine, University of Pittsburgh Medical Center

Needs and objectives: *The FDA Center for Devices and Radiological Health recently emphasized the need for innovation within perioperative medicine, leading to a collaboration with the Society for Technology in Anesthesia at this year's American Society of Anesthesiologists annual meeting (1, 2). Between the recent pandemic and Anesthesiology's regard as "... one of the most transformative medical specialties with regard to patient safety (3)", the perioperative environment is ripe with opportunity to innovate. Within the Anesthesiology Department at UPMC, resident interest has highlighted the lack of innovation process knowledge and mentorship included in traditional clinical training. Though Pittsburgh is an innovation hub, no resident-level educational pathway currently exists. In response, our team undertook a three-part project – identifying existing resources, developing meaningful relationships within the innovation ecosystem, and developing a robust curriculum for Anesthesiology residents, fellows, and attending physicians.*
Setting and participants: *Our team began by interviewing UPMC residents who had successfully innovated. We then contacted the Vice-Chancellor for Innovation and the Director of the Center for Medical Innovation at the University of Pittsburgh. We then organized an academic and private sector network of support for residents with ideas. This network includes online resources, funding opportunities, and graduate coursework with degree options in Medical Innovation. Alongside innovation experts, we developed a month-long didactic curriculum incorporating education, professional mentorship, funding application support, and bioengineering support into a PGY-4 elective. From there, we expanded to a 4-year resident track incorporating graduate-level coursework and dedicated time for innovation development, culminating in a Graduate Certificate in Medical Innovation from the Swanson School of Bioengineering at UPitt.*
Description: *Initiated as a need for resource identification, we quickly discovered the true potential for physicians to successfully innovate in our region. By seeking professional insight, identifying available resources, and collaborating with interested parties, we provided an entirely novel certificate-granting opportunity for residents with innovation career aspirations.*
Evaluation: *Our innovation elective is finalizing ACGME accreditation and will be available this coming year. The innovation track is nearing logistical completion and is actively being pursued by residency applicants.*
Discussion / reflection / lessons learned: *We are currently developing fellowship and faculty-level tracks culminating in a certificate or Masters degree in Innovation. Creative investigation and collaboration with the Innovation Institute at UPitt and the Center for Medical Innovation at the Swanson School of Engineering is ongoing. We are communicating with several residency programs at UPMC interested in offering this track to their residents.*

1: https://www.abstractsonline.com/pp8/#!/9085/session/964
2: https://asa-365.ascendeventmedia.com/anesthesiology-2020-daily/pandemic-push-for-innovation
3. JAMA: The Journal of the American Medical Association July 24/31, 2002, Volume 288 (4), p 501–507

P6

***Title*:** **Development of a New Graduate Medical Education Subcommittee to Enhance Resident and Fellow Leadership Opportunities**

***Authors*:** Glaser D[1,2], Chowdhary K[3]

***Affiliation*:** [1]Div. of Rheumatology, UPMC Children's Hospital, Pittsburgh, PA
[2]Dep. of Pediatrics, University of Pittsburgh, Pittsburgh, PA
[3]Dep. of Physical Medicine and Rehabilitation, University of Pittsburgh Medical Center, Pittsburgh, PA

***Objectives**:* UPMC Graduate Medical Education (GME) oversees the 4th largest cohort of residents and fellows in the nation. However, comprehensive trainee involvement has been lacking at the GME organizational level. We identified a need to improve communication between trainees and GME leadership, enhance knowledge transfer between training programs at the trainee level, support development of collaborative trainee-led projects, and offer new leadership opportunities for trainees. We sought to develop a new organization to advance the identified needs.

Setting: A core group of volunteer trainees engaged in a collaborative development process with existing GME leadership to identify a solution to meet the needs of trainees as well as the UPMC GME organization. Additional stakeholders included the Designated Institutional Official, Vice-President of Medical Education, Director of GME Operations, and Graduate Medical Education Committee (GMEC) Subcommittee Chairs. Devising an organizational model was challenging as institutional support for an independent group was complicated by local historical and workplace factors.

Description: A new trainee-only GMEC subcommittee was a novel option to simultaneously grant institutional legitimacy to involved trainees while providing resources for bridging the ongoing goals of the GMEC to a broader trainee audience. Therefore, the Resident and Fellow Association (RFA) Subcommittee was created. The RFA leadership team would develop novel initiatives as well as ensure dedicated trainee representation on other GME subcommittees. The RFA would also provide a direct conduit between trainees and GME organizational leadership.

Evaluation: Creation of the RFA has expanded the interaction between GMEC and the trainees. By situating the RFA chairpersons on equal standing with other GMEC leaders, information flow regarding trainee needs to the GME has improved. Development of the RFA leadership team engaged trainees from multiple residency programs yielding the development of multiple new cross-disciplinary initiatives. These initiatives include a digital housing resource for incoming residents, survey-based evaluation of childcare needs in current trainees, and new wellness outreach initiatives.

Discussion: Establishing the RFA within existing GME structures ensures portability and replicability of the initiative for other academic centers. Offering leadership roles have allowed involved trainees to gain experience effecting change within a complex academic healthcare delivery system. Financial start-up costs for the organization were very low and are unlikely to place an ongoing burden to the sponsoring organization.

***Support**:* DG: T32HD071834 (PI: Terence S. Dermody, M.D.)

P7

Title: A Racial Justice and Health Equity Curriculum for the Mckeesport Family Medicine Residency Program

Authors: Goldstein Hillary[1], Khurana Esha[1], Natarajan Ranjani[1]
1 UPMC Mckeesport Department of Family Medicine Residency Program

Needs and objectives -

In 2003, the Institute of Medicine released the report *Unequal Treatment* acknowledging that racial and ethnic disparities exist in healthcare and calling for curricula to increase healthcare providers' awareness of these disparities. However, a growing body of evidence suggests that physicians' explicit and unconscious biases continue to contribute to higher burdens of disease and death for Black and other minority populations in the United States today. In order to promote the health and wellbeing of our patients and their communities, there is a need to root training in anti-racist principles and to encourage critical thinking regarding the existence and systemic causes for racial health disparities.

Setting and participants

We developed a racial justice curriculum for residents in the Mckeesport Family Medicine residency. This curriculum was developed in collaboration with residency faculty in order to incorporate information with existing lectures on primary care topics. While there had been attempts to integrate conversation on racism in medicine more informally into clinical teaching, this curriculum represents the first formal attempt to address these issues within the residency curriculum at UPMC Mckeesport. By creating a formal space for education and discussion on these topics, there is acknowledgement of the importance of race in affecting the quality and equity of care provided for patients and their communities.

There were several challenges in developing and integrating this curriculum. There is already a breadth of information family medicine residents are expected to learn through the course of their residency and limited time for additional lectures. The current Mckeesport family residency curriculum takes place for approximately 4 hours weekly, with lectures planned months in advance. As a result, making changes or alterations in the existing structure required extensive coordination and conversation with various faculty members. Furthermore, there were concerns that residents may disengage given the emotional nature of the material presented. It was critical to obtain the support of stakeholders such as the residency program director and faculty and to ensure that historical and sociological principles would be taught alongside practical skills and advice applicable to family medicine residents in the clinic as part of each lecture.

Description

Studies indicate that resident physicians carry implicit bias which affects clinical care by perpetuating racial inequities (1-4). There is evidence that addressing these biases and encouraging self reflection through longitudinal lectures and discussions can be an effective way to increase awareness on the impact of unconscious bias on health outcomes. Therefore, we developed this curriculum comprising at least one lecture per month educating residents on racial health disparities and racism in medicine historically from. Lectures were planned to last 1-2 hours and integrated into the core didactic sessions for Family Medicine residents at UPMC McKeesport. The lectures are developed in collaboration with faculty and focus on a single topic and address with historical context how race, class and other social determinants of health affect epidemiology, access and outcomes. Sample topics and objectives covered in previous lectures are noted below:

Lecture 1: Racial inequities in Maternal/infant mortality

1. Identify disparities in maternal and infant morbidity/mortality rates by race.

2) Review routine screening for treatable illness during pregnancy

3) Review pre-eclampsia, gestational hypertension, and other risk factors for adverse outcomes

Lecture 2: Drugs, Doctors and Disparities - Opioid Use and Race

1) **Review a partial history of the cocaine and opioid crisis and disparities associated with their sale, effect and treatment**
2) **Identify motives behind their distribution and association with people of color to the detriment of their families and communities**
3) **Understand how racial bias among physicians leads to disparities in pain management between black and white patients**
4) **Develop a systemic framework for addressing drug use with patients during clinical encounters**
5) **Understand resources available at Latterman for supporting patients with substance use disorder**

The primary goal for this curriculum is to educate residents on the historical and social contexts in which current racial health disparities exist, and highlight ways that race, class, and other social determinants of health impact biomedical outcomes. The curriculum encourages residents to gain confidence in addressing these disparities within the clinical context and in conjunction with Family Medicine ACGME guidelines for management and treatment. The lectures have been tailored to discuss these disparities within the Mckeesport and Pittsburgh communities. By integrating lectures into an existing didactic framework in collaboration with faculty, we were able to begin implementing the curriculum within six months of beginning development.

Evaluation

At this time, surveys have been developed to assess residents' knowledge of these topics prior to the lecture and after the lecture. The curriculum has been planned for the year of 2020-2021 and is currently in the implementation phase, with a total of two lectures over two months now completed and at least a once monthly lecture planned for the rest of the academic year. Of residents who responded to the surveys thus far, 100% perceived that the lecture increased their knowledge of how racism contributes to health disparities. In comments, all the resident respondents also noted the lectures' discussion of the historical context of racism in the US as contributing positively to the educational value. However, only approximately 15% of residents responded to these initial surveys which limits their utility.

Discussion / reflection / lessons learned

We have presented two lectures thus far this year in collaboration with program faculty, and are currently preparing lectures for the remaining months of the academic year. Next steps to promote sustainability of the curriculum include reserving lecture dates in advance for the next academic year, and engaging junior residents to join in content development. Furthermore, we hope to introduce a component of organized discussion and reflection on personal implicit biases for faculty and clinic staff as well as residents in the program. Future evaluation efforts will aim to elicit changes in participants' attitudes towards race and bias in the medical setting, as well as behavioral changes. We also intend to elicit and integrate feedback from the McKeesport community through an existing Community Engagement Committee, encouraging residency-community partnerships in organizing and activism.

References

1. Institute of Medicine. 2003. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*. Washington, DC: The National Academies Press. https://doi.org/10.17226/12875.
2. van Ryn M, Fu SS. Paved with good intentions: do public health and human service providers contribute to racial/ethnic disparities in health? Am J Public Health. 2003 Feb;93(2):248-55. doi: 10.2105/ajph.93.2.248. PMID: 12554578; PMCID: PMC1447725.
3. Maina IW, Belton TD, Ginzberg S, Singh A, Johnson TJ. A decade of studying implicit racial/ethnic bias in healthcare providers using the implicit association test. Soc Sci Med. 2018 Feb;199:219-229. doi: 10.1016/j.socscimed.2017.05.009. Epub 2017 May 4. PMID: 28532892.
4. Sharma, M., Kuper, A. The elephant in the room: talking race in medical education. *Adv in Health Sci Educ* 22, 761–764 (2017). https://doi.org/10.1007/s10459-016-9732-3
5. Chadha, N., Lim, B., Kane, M., Rowland, B. (2020). *Toward the Abolition of Biological Race in Medicine: Transforming Clinical Education, Research, and Practice.* Retrieved from instituteforhealingandjustice.org.
6. Charles, D., Himmelstein, K., Keenan, W. *et al.* White Coats for Black Lives: Medical Students Responding to Racism and Police Brutality. *J Urban Health* 92, 1007–1010 (2015). https://doi.org/10.1007/s11524-015-9993-9
7. Sharma, Malika MD, MEd; Pinto, Andrew D. MD, MSc; Kumagai, Arno K. MD Teaching the Social Determinants of Health: A Path to Equity or a Road to Nowhere?, Academic Medicine: January 2018 - Volume 93 - Issue 1 - p 25-30 doi: 10.1097/ACM.0000000000001689
8. Santoro, T. N., & Santoro, J. D. (2018). Racial Bias in the US Opioid Epidemic: A Review of the History of Systemic Bias and Implications for Care. Cureus, 10(12), e3733. https://doi.org/10.7759/cureus.3733
9. Hansen, H. B., Siegel, C. E., Case, B. G., Bertollo, D. N., DiRocco, D., & Galanter, M. (2013). Variation in use of buprenorphine and methadone treatment by racial, ethnic, and income characteristics of residential social areas in New York City. *The journal of behavioral health services & research*, *40*(3), 367–377. https://doi.org/10.1007/s11414-013-9341-3

Impact of the transition to virtual readouts on junior radiology resident case volumes. Gordon E[1] and Sechrist J[1], Branstetter B IV[1], Hughes M[1]

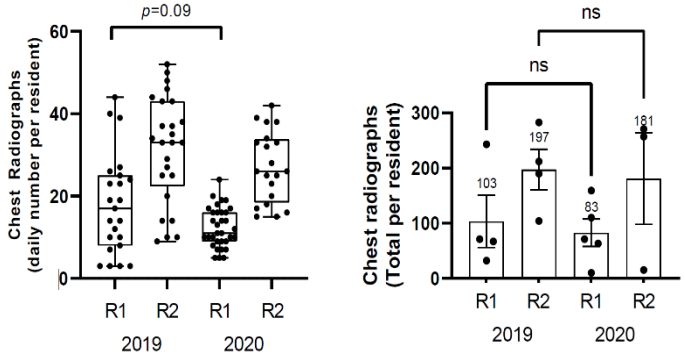
[1]University of Pittsburgh Medical Center, Department of Radiology

Introduction: Until the COVID-19 pandemic, there have been no significant changes to the in-person resident-attending readout, widely regarded as the *sine qua non* of radiology residency. This training model is embedded in the field's culture and well-demonstrated to impact multiple metrics of resident success (1). Throughout the pandemic, radiology departments have shifted to remote readouts to limit intradepartmental spread of the virus. Despite the importance of this practice, no studies to date have analyzed the effect of virtual readouts on resident case volumes.

Hypothesis: The transition from in-person to virtual readouts adversely affects junior radiology resident case volumes.

Methods: A retrospective study was conducted imaging studies in the thoracic division from 7/1 to 8/31 in 2019 and 2020, dates when readouts were exclusively in-person (2019) or completely virtual. Dates were chosen to isolate the effect of virtual readouts since case volumes normalized and residents had returned onsite. The number of all division cases and number of cases coauthored by 1st (R1) and 2nd (R2) year radiology residents was determined. Senior radiology residents were excluded in this analysis as their volumes are most affected by chosen electives and a focus on a singular modality.

Results: 16 radiology residents (R1 *n*=8; R2 *n*=8) during the specified dates in 2019 and 2020 dedicated a similar number of days to chest radiographs (48 and 53 days, respectively) . The number of studies interpreted by the thoracic division decreased slightly from 2019 to 2020(-14%), still in excess for resident interpretation who coauthored less than 50% of all studies. In 2019, R1 residents interpreted an average of 103 chest radiographs (21.1/day) and 83 radiographs (13.1/day) in 2020 (nested *t*-test *p*=0.09). Although statistically nonsignificant, the distribution of daily radiographs is striking, and clusters around lower case volumes in 2020 (M=11,IQR=6) versus 2019 (M=17,IQR=17). No significant differences were observed between R2s or for cross-sectional data (data not shown)



Conclusions: The shift to virtual readouts was accompanied by a trend towards lower case volumes among junior radiology residents. Including more residents in other divisions may result in a statistically significant difference, an area of future research. Resident volume is a critical component of radiology education, and increased volumes of cases has been correlated with improved accuracy (1). Departments must be cognizant of the impact of shifting to virtual readouts and employ mitigation strategies to protect the junior resident educational experience.

Significance: The COVID-19 pandemic led to a change in the radiology resident readout paradigm with the introduction of virtual readouts. If differences in volume occurred, this likely negatively impacted the training of diagnostic radiology residents.

Grant Support: none

P9

ESTABLISHING A VIRTUAL ASTHMA SUPPORT GROUP AT UPMC CHILDREN'S HOSPITAL OF PITTSBURGH: CONNECTING CHILDREN, CAREGIVERS AND PROVIDERS

M Lanlokun, MD[1,2,3], K Schloss, MD, MPH[2], ML Fajt, MD[3], S Miller-Walfish, MPH[2,4], E Forno, MD MPH[2,5], A Larkin, MD[1,2]

[1]Division of Allergy & Immunology; [2]Department of Pediatrics; [3]Division of Pulmonary, Allergy & Critical Care Medicine; Divisions of [4]Adolescent and Young Adult Medicine and [5]Pediatric Pulmonary Medicine.

Needs and objectives: Asthma is the most common childhood chronic disease. Studies evaluating group-based programs for asthmatic children report improved quality of life, family support, and self-management. We established this program at UPMC CHP for patients and caregivers to meet other families, share experiences, and learn about asthma. To meet safety needs in the setting of the COVID-19 pandemic, the program met virtually.

Setting and participants: Once approved by the CHP Privacy Officer and QI Review Committee, patients seen in the Severe Asthma clinic within the last year were recruited via telephone. After verbal consent, meeting instructions and a list of community resources were sent via e-mail. A 60-minute curriculum was created with an interactive slide deck. There were two physician leaders and one teen leader; key stakeholders included Community Health Coordinators and providers from Pediatric Allergy & Immunology and Pulmonology. Challenges included reaching families and technical difficulties with the virtual platform.

Description: Nine children and five parents attended the pilot session, which included introductions/ice breakers, reflections, and education. After introductions, the teen leader shared his experience with asthma and facilitated discussions as the children bonded over their similar experiences and interests. The children then participated in a trivia game with questions about asthma and popular culture. The session concluded with the use of comics as asthma teaching tools. Pre- and post-session surveys were administered on participants' sentiments towards asthma, medication regimen, desire to connect with others, and overall session evaluation.

Evaluation: All 9 children completed the pre-session and 6 completed the post-session survey. Pre-session, 1/9 participants (11%) reported a desire to meet other children with asthma, and post-session, 4/6 (67%) chose this response. Pre-session, 6/9 participants (67%) felt very comfortable with their medication regimen; 4/9 (44%) worried about their asthma, without significant change in these responses on the post-session survey. Participants enjoyed meeting other families and all expressed interest in future sessions. This Asthma Support Group utilized a HIPAA-compliant platform with an interactive presentation and access to community resources to meet the objectives.

Discussion/reflection/lessons learned: This educational tool highlights the importance of a group-based approach to augment asthma management, and both children and parents found the session helpful. It can reduce feelings of isolation due to chronic illness, especially during the pandemic, when isolation may be exacerbated. Future directions include bimonthly sessions and sessions for caregivers. This tool can be utilized as a model for other childhood chronic diseases.

P10

Abstract Type: Educational Innovation
Title: Fellow Motivation with Weekly Challenges to Combat COVID Fatigue
Authors: Lolley R[1], Berlacher K[1]
Affiliation: [1]Department of Medicine, Division of Cardiology, University of Pittsburgh School of Medicine1

Need: The COVID-19 pandemic has not only changed the world's social and economic landscape but has also impacted the medical workflow of those frontline physicians actively in training. Physicians and trainees, in addition to devoting their lives to caring for others, now were being asked to potentially risk their lives. The relentless onslaught of the pandemic, which has resulted in significant COVID burn-out, has also presented with an intervenable opportunity to have a structured focus on trainee wellness.

Objectives: 1. Combat COVID-19 burnout within the cardiology fellowship.
2. Remind fellows to prioritize personal wellbeing.

Setting and participants: Within the UPMC Cardiology Fellowship, a new motivational challenge was sent out every week within the weekly email, which normally details announcements and education for the fellowship. It was initiated at the beginning of the pandemic in March, spanning 40 weeks time. There were 34 cardiology fellow participants, as well as two program coordinators, one fellowship director and two associate fellowship directors.

Description: A new, innovative and motivational challenge was added to the weekly email routinely sent to cardiology fellows and program directors. This challenge was not mandatory, but something the fellows could choose to do during their free time. The challenges ranged from sharing a new recipe, enjoying a nature walk, writing a hand-written letter, or simply thinking about what one is grateful for at the end of each day. Challenges did not add to a fellow's workload, but rather a reminder to take time away from work, specifically COVID-19, to refocus on themselves throughout part of the day or week.

Evaluation: There was no specific evaluation tool used, other than individual fellow feedback or appreciation.

Discussion: Weekly motivational challenges allowed cardiology fellows to prioritize personal wellbeing while combating a global pandemic. This prompted fellows to practice gratitude, reconnect with loved ones or spend time in nature. This is an inspirational tool which may be used across programs world-wide with access to email. In the future, fellow well-being could be monitored more closely with evaluation tools to improve monitoring of efficacy.

Support: UPMC Cardiology Fellowship and Program Directors

Resident Only Rounding Team in the NICU

B LoVerde
Department of Pediatrics, University of Pittsburgh School of Medicine

Introduction: Pediatric residents spend fewer weeks in the Neonatal Intensive Care Unit (NICU) than in the past. At UPMC Children's Hospital, they currently complete only two months in the NICU. Concurrently, clinical advances have decreased the need for invasive procedures, reducing the number residents complete prior to graduation. Educational opportunities have also been diluted by a surge in non-physician providers (NPPs). In an informal needs assessment, academic neonatologists believe residents are safe, but only 21% prefer to work with them, and a mere 4% feel their care is equivalent to NPPs. In our residency, lack of exposure has resulted in decreased resident directed education and clinical experience, setting up a cycle of mistrust in allowing residents to care for ill neonates. Ultimate outcomes of this are reflected in the resident satisfaction in their NICU rotations.

Hypothesis: A resident-only rounding team will increase educational satisfaction in the NICU, improve resident knowledge, increase the number of procedures completed by residents, and maintain patient quality outcome measures.

Methods: We created a resident-only rounding team at UPMC Magee-Womens Hospital, a 65 bed level III academic NICU. At the same time, we made several curricular interventions: updated and expanded lectures, procedure & lecture checklists, and a weeklong NICU "boot camp.” Attendings on the resident team were limited to provide continuity. Measures included resident rotation evaluations, procedure logs, in-training scores, and patient chart reviews. Chi-square tests will compare discrete characteristics and Wilcoxon tests will compare continuous characteristics. Rotation evaluations will receive qualitative analysis.

Results: The first measured end-point of the intervention concluded at the end of October 2020. Statistical analysis of all resident satisfaction, educational, and patient metrics are pending and expected prior to presentation. Informal review of resident evaluations suggests improved satisfaction with the NICU educational environment and increased procedural attempts. Colloquial feedback has been positive, with the improvement recognized by the residency program leadership.

Conclusions: A resident only rounding team in the NICU may improve satisfaction and educational experiences without apparent detrimental effects on patient care.

Significance: Should increases in procedural attempts be statistically significant, this has national implications as a hot topic in medical education.

Research Support: UPMC Office of Faculty Development Pediatric Medical Education Scholars Program Grant (PI: B LoVerde, DO)

P12

Mind the Gaps: The Need for a Pediatric Intensive Care Unit (PICU) Resident Curriculum

Authors: Brauner J[1], Mastropolo R[1], Taft M[1], Alessi L[2], Hamilton M[2], Munjal N[2], Nowalk A[3]

Affiliations: Department of Pediatrics[1], Department of Critical Care Medicine[2],

Department of Infectious Disease[3], UPMC Children's Hospital of Pittsburgh

Introduction: The PICU is a high-volume, high-acuity setting where patient care competes with structured education. Residents have limited exposure to the unique pathophysiology seen in this environment. Despite this gap, there is no formal resident PICU curriculum during their rotation. We assessed resident perceived knowledge gaps to identify high-yield content for a PICU-specific curriculum.

Hypothesis: A pediatric resident needs assessment will inform residency leadership on content and format for a PICU curriculum.

Methods: We administered an anonymous, cross-sectional survey to assess satisfaction with current PICU educational opportunities, comfort answering triage calls, perceived educational gaps on PICU-specific topics, and preferred educational format. 121 resident were surveyed using Microsoft Forms with a 68% response rate. Data from residents who had rotated through the PICU were used to evaluate satisfaction with current PICU educational opportunities and comfort answering triage calls using a 5-point Likert scale. PICU-specific topics were ranked in order of perceived educational gap. Data were analyzed using Mann-Whitney U-test for differences in rank pre- and post-PICU rotation.

Results: 44 of 82 (54%) respondents had rotated in the PICU. Resident satisfaction with current PICU educational opportunities had a median score of 3 ("Neither satisfied nor dissatisfied", n=44). Resident comfort answering triage calls had a median score of 4 ("somewhat comfortable", n=44). All residents ranked sedation, respiratory distress/ventilator management, and increased intracranial pressure management as PICU-related topics for which they had the largest educational deficit (n=88). Sedation management had a statistically significant difference pre- and post-PICU rotation ($p<0.008$) with an improvement in perceived educational gap. Management of increased ICP had a statistically significant difference pre- and post-PICU rotation with a larger gap post rotation ($p<0.008$). 68% of residents identified case-based learning as the ideal curriculum format.

Conclusion:

Sedation, management of shock, diabetic ketoacidosis, and electrolytes all showed a decrease in perceived educational gap after PICU rotation, though it was only statistically significant for sedation. This suggests experiential learning on these topics despite no formal curriculum. Sedation, however, remains the 2nd highest perceived educational gap in the post-PICU group. Respiratory distress/ventilation management, management of seizures, increased ICP and trauma had no decrease in educational gap pre- and post-PICU rotation. Our data identifies a clear need for addressing PICU-specific topics which continue to show large educational gaps post-PICU rotation to inform our future case-based PICU curriculum.

P13

ONLINE BALINT GROUP PARTICIPATION CAN SUSTAIN RESIDENT PROFESSIONAL DEVELOPMENT THROUGH THE PANDEMIC AND BEYOND

Reis E[1], Phelps P[2], Watson K[1]
[1]Department of Pediatrics, University of Pittsburgh School of Medicine
[2]Department of Family Medicine, University of Pittsburgh School of Medicine

Introduction: Balint groups consist of small groups of physicians who meet to discuss and learn from challenging doctor-patient interactions. Created in 1950 by Dr. Michael and Enid Balint, these supportive, facilitated case discussion groups are now held in over 30 countries, most commonly in Family Medicine. In 2013, we partnered with a local Family Medicine program to launch weekly Balint groups for our Pediatric residents. Annual evaluation has revealed that participation in a Balint group fosters growth in resident professionalism skills including empathy, perspective-taking, and self-reflection. For the past 70 years, Balint groups have met in person; however, in 2020, pandemic restrictions limited in person conference attendance. This prompted us to create a novel adaptation of the Balint experience to an online format. Objective: to assess the impact of the online format on Pediatric resident perception of the Balint group experience, professionalism skill development, convenience, and engagement.

Hypothesis: Online Balint group participation is associated with lower perceived growth in resident professional development than in person participation

Methods: 8-12 PL2 Pediatric residents and 2 leaders participated in the weekly online Balint group case discussions from remote locations. Impact of the online experience was determined using our annual anonymous, self-completed resident survey which assesses group environment, leader characteristics, professionalism skill development, and overall evaluation. In 2020, new survey items were added to assess convenience and engagement related to the online format. 2020 survey data were compared to data from the most recent in person group (2019) using the Mann Whitney U test.

Results: Despite concerns that remote attendance would diminish the impact of Balint group participation, all 2020 outcomes were equivalent to 2019 or better. In fact, residents reported greater impact of the online vs. in person experience on: “consideration of both the provider and the patient perspectives” (92.3% vs. 68.0% “strongly agree”, p=.030) and “fosters skills in empathy” (84.6% vs. 56.0% “strongly agree”, p=.031). Furthermore, 88.5% of residents reported online participation was “more” or “much more convenient” than in person, and 92.3% reported they were able to engage in online group participation “very” or “extremely well.”

Conclusion: Online Balint group participation preserves Pediatric resident engagement and sustains professional development while improving convenience.

Significance: This new virtual format can facilitate expansion of Balint groups into training programs of other medical disciplines.

Support: Balint group leadership support provided by UPMC Shadyside Family Medicine Residency Program. Online leadership training by American Balint Society (https://americanbalintsociety.org.)

P14

Enhancement of Medical Skills (EMS): A Supplemental Resource for Medical Students on the Inpatient Pediatric Rotation

Authors: Leyens K, Hooven J, Mastropolo R, Reuman H, Szymusiak J
Affiliation: Department of Pediatrics, UPMC Children's Hospital of Pittsburgh

Needs and Objectives: Clinical knowledge, skills, and practice in pediatrics are significantly different than other rotations in medical school. Pediatric resident and attending physicians have identified the need for supplemental resources for medical students during their third-year inpatient pediatric rotation. The primary objective of the intervention is to provide 30-minute, individualized sessions for third-year medical students to practice a self-identified clinical skill and receive real-time formative feedback from a pediatric resident.
Setting and Participants: This resource is available to all third-year medical students rotating on the inpatient pediatrics clerkship. An introductory e-mail after the first week of the rotation offers this optional resource to all students. Students can self-refer by completing the pre-survey needs assessment and identifying a clinical competency that they hope to improve upon. Pediatric residents who are members of the Pediatric Residents Interested in Medical Education (PRIME) group volunteer in two-week intervals to serve as the resident liaison and provide direct observation and feedback.
Description: On a busy clinical service, it is difficult to devote ample time to individualized medical student skill development. This resource provides the opportunity for interested medical students to receive supplemental enhancement of pediatric clinical competencies from volunteer pediatric residents. It also provides a safe space where students can practice skills separate from the pressures of summative evaluation they feel when working with the residents on their daily team.
Evaluation: All students who participated in the EMS program completed a 8-item survey after their session to assess perceived efficacy and satisfaction of the intervention.
Discussion/Reflection/Lessons Learned: The results of our post-survey demonstrate that 100% of participants (n = 6) noted that the intervention addressed the skill of interest and met their self-identified goal for the session. Overall, 66% of participants (n = 4) felt "Fully Satisfied" with the intervention and 33% (n=2) felt "Somewhat Satisfied". A Likert scale was used to assess confidence in the skill of interest after intervention and was completed by 5 respondents. 40% (n = 2) noted that they were "Fully Confident" while 60% (n=3) were "Somewhat Confident" following the intervention. This intervention is feasible given the small number of medical students who self-refer to this program, but may be difficult to implement if more students were to express interest. Ongoing evaluation is necessary to ensure the intervention meets participant needs.

P15

Title: INDEPENDENT OR INTEGRATED PLASTIC SURGERY RESIDENCY PATHWAYS: DO WE SEE A DIFFERENCE IN REPRESENTATION IN ACADEMIC PLASTIC SURGERY IN THE UNITED STATES?

Authors: Samyd S. Bustos, MD[1], Sarah P. Erpenbeck, BS[2], Brian T. Smith M.S.[2], Francesco M. Egro, MBChB, MSc, MRCS[1], and Vu T. Nguyen, MD[1]

Affiliations: [1] Department of Plastic Surgery, School of Medicine University of Pittsburgh, Pittsburgh, PA, USA

[2] School of Medicine, University of Pittsburgh, Pittsburgh, PA, USA.

Introduction: The training pathway for plastic surgery has evolved in recent years with the adoption and rise in popularity of the integrated model. Studies have demonstrated that there may be differences between integrated graduates and independent graduates, specifically in career choices and type of practice.

Hypothesis: We hypothesize that there are significant differences in representation at academic and leadership positions between graduates of the two pathways.

Methods: A cross-sectional study was conducted in June of 2018 to assess integrated and independent pathway graduate's representation in academic plastic surgery in the United States. Factors examined were career qualifications, academic productivity, faculty positions, and influence of pathway on career advancement.

Results: A total of 924 academic plastic surgeons were analyzed, 203 (22.0%) of whom were integrated graduates and 721 (78.0%) of whom were independent graduates. Independent graduates had greater NIH funding (integrated=$40,802, independent=$257,428, p=0.0043), higher h-index (integrated=7.0, independent=10.0, p<0.001), and higher publication number (integrated=17, independent=25, p=0.0011). Integrated graduates were more likely to be assistant professors (integrated=70%, independent=40.7%, p<0.001) and required a shorter post-residency time to reach all positions examined compared to independent graduates. A summary of leadership and academic rank differences are summarized in **Table 1.**

Conclusions: Residency training pathway influences academic plastic surgeons in research output, qualifications, and academic positions. This is likely due to the relatively new nature of the integrated program compared to the independent, as well as the shorter length of training for integrated graduates. Yet, trends are moving towards integrated graduates showing increased interest and productivity in academic medicine.

Significance: Awareness of these findings is highly relevant to applicants, trainees and training programs, for guiding changes and discussions surrounding training in plastic surgery and a future academic career.

Grant Support: None

Table1 . Academic Rank and Leadership Positions

Position	Integrated (%)	Independent (%)	OR*	95% CI	*p*
Assistant Professor	131 (70.0)	257 (40.7)	3.1	2.2-4.3	<.0001
Associate Professor	42 (22.5)	158 (25.0)	0.9	0.6-1.3	0.49
Full Professor	14 (7.5)	216 (34.3)	0.2	0.1-0.3	<.0001
Residency Director	18 (8.9)	78 (10.8)	0.8	0.5-1.4	0.42
Fellowship Director	21 (10.3)	47 (6.5)	1.7	0.9-2.8	0.07
Chair	9 (4.4)	89 (12.3)	0.3	0.2-0.7	0.0012

OR, Odds Ratio*; CI*, Confidence Interval; *p*, p value
*Independent ref.

P16

Title: **VIRTUAL SUB-INTERNSHIP IN PLASTIC SURGERY: THE START OF A NEW ERA IN SURGICAL EDUCATION?**

Authors: Francesco M. Egro, MBChB, MSc, MRCS[1], Samyd S. Bustos, MD[1], J. Peter Rubin, MD, FACS[1], Jesse A. Goldstein, MD[1], Joseph E. Losee, MD, FACS, FAAP[1], and Vu T. Nguyen, MD[1]

Affiliations: [1] Department of Plastic Surgery, School of Medicine University of Pittsburgh, Pittsburgh, PA, USA

Introduction: Due to the COVID-19 pandemic, surgical training programs ceased offering in-person sub-internships, stripping many medical students of an unparalleled opportunity. To overcome this hurdle, the University of Pittsburgh implemented a virtual Sub-Internship (vSub-I) in Plastic Surgery. Herein, we present our experience and assess its impact on student education and satisfaction.

Methods: A two-week vSub-I was implemented, in which students attended educational and simulation sessions and one-on-one meetings with faculty and residents. Participants gave 15-minutes grand rounds talks about their research/clinical interests. To assess this innovative program, student and faculty satisfaction were evaluated using a survey. Subjective knowledge was assessed before and after completion of the vSub-I.

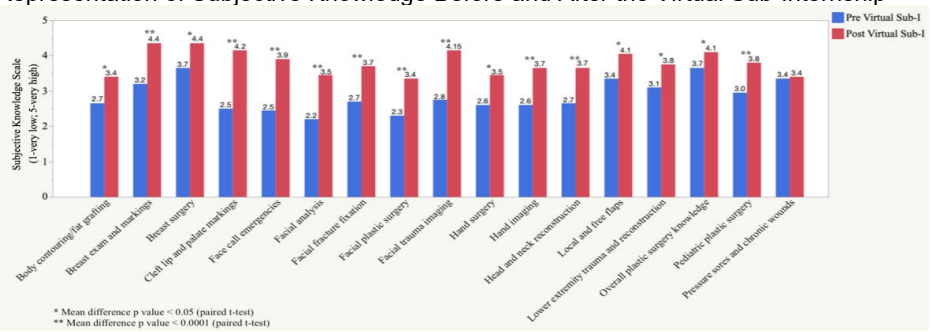
Results: Twenty applicants (10 female and 10 male) took part in the vSub-I between August and October 2020. Overall, 18 (90%) were US-medical students, and two (10%) were international medical graduates. Six (30%) identified themselves as underrepresented minorities. Mean age was 26.9 years (SD 1.9). Mean subjective level of knowledge before and after completion of the vSub-I was 2.9 (SD 1.0) and 3.8 (SD 0.8), respectively, and mean improvement was +0.9 (SD 0.8, $p<0.0001$), as shown in **Figure 1**. Mean student and faculty satisfaction was 4.8 (SD 0.5) and 4.4 (SD 0.8), respectively.

Conclusion: The vSub-I emerged as a response to the challenges of this new era. Our study is the first to objectively assess its impact on medical education and faculty satisfaction, demonstrating high student and faculty satisfaction, and significant knowledge improvement by allowing direct involvement with our program and effective incorporation of plastic surgery topics.

Significance: The virtual sub-internship represents an evolutionary response propelled by the pandemic. The development of virtual educational experiences to medical students can be similarly satisfactory and effective to in-person rotations and may decrease disparities in education.

Grant Support: None

Figure 1. Schematic Representation of Subjective Knowledge Before and After the Virtual Sub-Internship



P17

IMPACT OF COVID-19 ON EDUCATION: ADAPTING A VIRTUAL PLATFORM IN CRITICAL CARE MEDICINE

Scioscia A[1], Rakkar J[1], Pelletier J[1], Ghassemzadeh R[1], Fuhrman D[1,2]

[1]Department of Critical Care Medicine, UPMC Children's Hospital of Pittsburgh
[2]Department of Pediatrics, UPMC Children's Hospital of Pittsburgh

Introduction

The novel coronavirus disease-2019 (COVID-19) has impacted many aspects of medical training and education. Social distancing initiatives and limitations on group gatherings have disrupted in-person, classroom-based teaching. Consequently, learners and educators alike have transitioned to virtual platforms. The effect of virtual learning for critical care education has not yet been evaluated.

Hypothesis

We hypothesized that following the introduction of virtual learning (VL), attendance and participation in conferences amongst critical care learners would increase, and that VL would be favorable over traditional in-person learning.

Methods

In this cross-sectional study, we administered an electronic, anonymous survey to evaluate current satisfaction and the strengths and weaknesses of VL, as well as its impact on work-life balance. Participants included current fellows, attending physicians, and advanced practice providers (APP) in a pediatric critical care department at a quaternary children's hospital. We also collected attendance records from January 2018 to September 2020. We defined a learning period from February-April 2020 to develop our VL platform and revise the educational curriculum.

Results

Following the implementation of VL, average monthly conference attendance increased significantly from 85 attendees per month to 114 attendees per month ($p < 0.05$). Thirty learners (16 attending physicians, 13 fellows, and 1 APP) completed the survey. Twenty-six of the 30 participants (86%) were satisfied and found VL to be similar or more engaging than non-VL. Only 7% (2/30) of learners reported difficulty in using the new platform. Ninety percent (27/30) of participants supported VL as an effective learning tool, and 83% (25/30) reported a positive impact on work-life balance.

Conclusion

Medical education attendance has significantly increased following the introduction of VL. The majority of participants are satisfied with this platform and note a positive impact on their work-life balance.

Significance

Our results suggest that a virtual model has advantages for synchronous and asynchronous learning. Future work evaluating the impact of VL on inter-departmental and inter-institutional collaborations is needed.

P18

Lean Six Sigma and Anesthesiology

Authors: Shah N[1], Emerick T[1]
Affiliation (s): Department of Anesthesiology and Perioperative Medicine, University of Pittsburgh Medical Center, Pittsburgh, PA, USA

Needs and Objectives: Lean Six Sigma (LSS) is a methodology that aims to eliminate waste and reduce variation in processes, thus improving performance and profitability. Implementation has been shown to reduce costs and improve profits within healthcare. However, LSS training is not routinely offered to anesthesiology residents. The objective of this study was to educate residents on the significance of LSS and give resources to obtain certification.
Setting and Participants: A 1-hour Grand Rounds lecture on LSS methodology was developed for anesthesiology residents at a single institution. A standard online pre- and post-survey was sent to residents to assess their interest in LSS certification as well as background knowledge on the topic. Descriptive statistics were used. An obstacle that was overcome included low sample size; multiple reminder emails were sent. Key stakeholders include anesthesiology residents, attending physicians, and ASQ, which offers LSS certification.
Description: A Grand Rounds lecture was selected to optimize information delivery to the whole residency class. After the pre- and post-survey results were collected, a one-page guide on obtaining LSS certification was developed. This “how-to” approach outlined ways that residents could enhance their understanding of LSS via online certification.
Evaluation: The educational Grand Rounds and worksheet helped educate residents on LSS methodology. 17 residents participated in the pre-survey, which showed 52.9% had heard of LSS. As of now, 22 residents participated in the post-survey and 72.7% reported they had head of LSS. 17% more residents were accurately able to define Lean methodology after the presentation. There are 13 residents interested in pursuing LSS certification compared to 11 residents prior to the Grand Rounds presentation. This educational tool did not accomplish certifying residents for LSS but provided background information to encourage residents to pursue certification. One obstacle included cost of certification, which could lead to reluctance in obtaining training if not subsidized by the residency program.
Discussion/Reflection/lessons learned: Quality improvement is a key factor in anesthesiology training. Anesthesiologists are uniquely positioned in the perioperative setting to make lasting impacts on overall healthcare efficiency and delivery. The findings of this project demonstrated that there is interest amongst residents to obtain formal certification in LSS. This is a novel way to help educate residents on ways to increase efficiency. Limitations of this project include that there is no objective data demonstrating a change in resident behavior.
Online resource URL: https://asq.org/training/catalog/topics/six-sigma
Support: None.

P19

MEDICATION ERRORS WITH COMPUTERIZED ORDER ENTRY IN CRITICALLY ILL PEDIATRIC PATIENTS

Sharp E[1], Rakkar J[2], Pelletier J[2], Fuhrman D[1,2] [1]Department of Pediatrics, UPMC Children's Hospital of Pittsburgh
[2]Department of Critical Care Medicine, UPMC Children's Hospital of Pittsburgh

Introduction & Hypothesis: Medication error reduction is a priority for patient safety, healthcare utilization costs, and quality benchmarks. The use of standardized order sets in electronic medical records (EMR) has the potential to decrease prescription errors. The admission order set for the Pediatric Intensive Care Unit (PICU) at our institution includes age and weight-based famotidine dosing but does not account for glomerular filtration rate (GFR). We hypothesized that GFR- based dosing errors exist. We sought to determine the incidence of famotidine dosage errors in our PICU and to elucidate factors associated with inappropriate dosing.

Methods: We performed a retrospective chart review of patients admitted to our PICU from January 1, 2019 – December 31, 2019 with an order for famotidine within the first 24 hours of admission. We excluded encounters that did not have a documented creatinine, weight, and height within the first 24 hours of admission. GFR was calculated using the Bedside Schwartz equation. Ideal famotidine dosing was determined based on our hospital formulary. Errors were defined as a prescribed dose <80% ("underdose") or >120% ("overdose") of the ideal dose.

Multivariable logistic regression was performed to determine factors associated with dosing errors. **Results:** 766 patients met inclusion criteria (average age 8.1 (±6.8) years, 54% male). 103/766 (13%) famotidine orders met the definition of dosing error. In patients with admission GFR ≤50 ml/min/1.73m^2 (n=68), the dosing error rate was 85% vs. 6% in patients with admission GFR >50 ml/min/1.73m^2 (n=698), p=<0.001 (Fig 1). Errors were more commonly overdoses in patients with GFR ≤50 ml/min/1.73m^2 vs. GFR >50 ml/min/1.73m^2, 57/58 (98%) vs. 6/45 (13%), p=<0.001.

Multivariable logistic regression analysis showed that weight, intravenous route of administration, and kidney function were significantly associated with dosing error (Fig 2).

Conclusions & Significance: In this study of famotidine orders in critically ill children, we found dosing error rates of 13% overall and 85% in patients with GFR less than 50 mL/minute/1.73 m^2. While this study reviewed orders for famotidine only, it raises concern that similar errors may be present in other medications. EMRs should actively alert clinicians to changes in kidney function and order sets should account for GFR when dosing medications.

Figure 1: **Dosing Errors in Relation to Glomerular Filtration Rate**

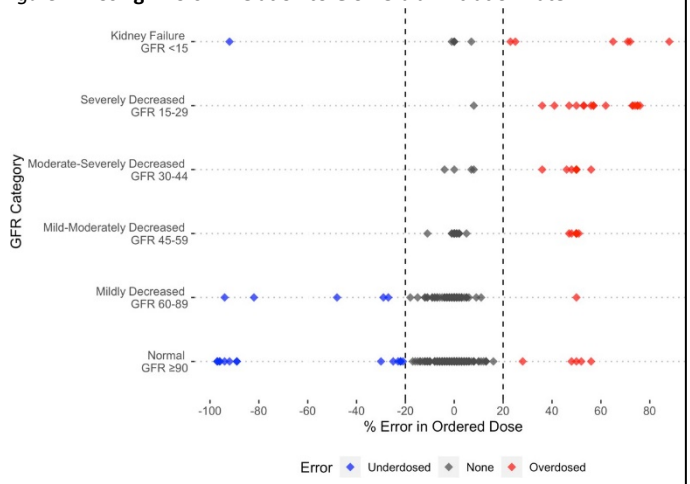


Figure 2: **Results of Multivariable Logistic Regression**

Characteristic	OR[1]	95% CI[1]	p-value
Age	0.95	0.89, 1.01	0.11
Weight	1.03	1.01, 1.05	**0.004**
Gender			
Female	—	—	
Male	0.62	0.36, 1.05	0.078
Route			
Enteral	—	—	
Intravenous	9.36	4.04, 21.2	**<0.001**
GFR Category			
Kidney Failure (GFR <15)	—	—	
Severely Decreased (GFR 15-29)	0.08	0.00, 0.62	**0.034**
Moderate-Severely Decreased (GFR 30-44)	0.71	0.12, 3.85	0.69
Mild-Moderately Decreased (GFR 45-59)	2.31	0.64, 8.96	0.21
Mildly Decreased (GFR 60-89)	34.7	8.83, 151	**<0.001**
Normal (GFR ≥90)	29.8	8.43, 115	**<0.001**

[1] OR = Odds Ratio, CI = Confidence Interval

P20

Title: **Scalability of a Remote Advanced Pharmacy Practice Experience with Post Graduate Year One Pharmacy Resident Preceptors**

Authors: Smithburger PL[1,2], Kobulinsky LR[1], Kreider M[1], Yourich BE[2], Seybert AL[1,2]

Affiliations:
[1]Departmen of Pharmacy and Therapeutics, University of Pittsburgh School of Pharmacy
[2]Department of Pharmacy, UPMC Presbyterian

Introduction: Due to suspension of onsite clinical instruction due to the coronavirus disease 2019 (COVID-19) pandemic, a remote acute care rotation was created to provide students with an Advanced Pharmacy Practice Experience (APPE) and post graduate year one (PGY-1) pharmacy residents with an opportunity to gain experience in precepting roles.
Hypothesis: Student knowledge, clinical skills, communication, satisfaction would improve on this remote rotation and PGY-1 pharmacy residents would be accepting of this remote rotation and it would fulfill residency precepting objectives.
Methods: A five-week remote acute care APPE rotation was created with pharmacy residents serving as co-preceptors. A written evaluation and intermittent clinical examination (ICE) were deployed at baseline and conclusion to assess student knowledge, clinical skills, and communication. Student surveys assessed perceived skill improvement, satisfaction, and assessment of rotation and resident preceptors. Surveys were also utilized to evaluate resident perceived attainment of precepting objectives and residency program fulfillment of precepting requirements
Results: Thirty-four students and 10 residents participated in the rotation. Student knowledge and clinical skills increased from baseline (41 out of 60 [31-52] vs 50 [43-55]; $p<0.001$) and the ICE (36 out of 70 [18-55] vs 59.5 [43-70]; $p<0.001$). There was a statistically significant increase at rotation conclusion in resident rating of extreme competence or extreme comfort in 45% of domains assessed.
Conclusion: A remote APPE rotation is an effective approach to deliver an APPE rotation and can be successfully used to further student knowledge and provide PGY-1 pharmacy residents a precepting opportunity to advance their precepting skills when onsite experiences are limited.
Significance: The ability to scale remote APPE rotations is important in the challenging times of the COVID-19 pandemic. While the provision of remote learning experiences may not be without their challenges, it is apparent that students and residents can continue to fulfill educational objectives and are highly accepting of this format of learning.
Grant Support: None

P21

Development and Implementation of a Virtual Medical Student Emergency Medicine Clerkship in the Era of COVID-19

Authors: Adam Z. Tobias,[1] MD, MPH , Adam J. Janicki,[1] MD, MS, Emily L. Brown,[1] MD , Michele L. Dorfsman,[1] MD

Affiliations: [1]Department of Emergency Medicine, University of Pittsburgh School of Medicine

Background: The COVID-19 pandemic led to an abrupt cessation of many clinical rotations, and severely limited students' ability to travel for electives. Prior to COVID-19, our emergency medicine (EM) clerkship utilized a hybrid model that included patient care in the emergency department (ED), high-fidelity simulation, and asynchronous content.

Objective: We sought to create and implement a virtual EM clerkship for senior medical students to allow for the inclusion of "visiting" students who were unable to travel due to COVID-19 and as an alternative to in-person simulation for our home students.

Methods: We created a four-week virtual EM rotation for "visiting" and home institution students. The course was held in Spring/Summer 2020 and included online content, including virtual simulation and didactic sessions, as well as question and answer sessions with current residents and residency leadership. Additionally, students participated in online residency didactic sessions, including education conferences and journal club.

Results: 32 students from 19 medical schools participated, representing a diverse group of allopathic and osteopathic senior US medical students. Students were very satisfied with the course with a mean overall satisfaction of 4.875 (SD 0.34) on a 1-5 scale. Feedback from the students focusing on the overall quality of the course was overwhelmingly positive. Facilitators found teaching the virtual course to be instructive and similar to in-person simulation teaching.

Conclusions: Although not a complete substitute for in-person patient care, senior medical student clerkships can be successfully taught in a virtual format, with high levels of faculty and student acceptance and satisfaction.

P22

Title: Survey of providers and staff to determine barriers in contraceptive care access

Authors: Srinivasan, S[1]; McClain, KL[2]

Affiliation: [1] UPMC McKeesport Family Medicine Residency Program, [2] University of Pittsburgh, School of Medicine

Needs and Objectives: Long acting reversible contraception (LARC) has been shown to provide an effective and cost-efficient method to decrease the number of unintended pregnancies in the United States. An abundance of literature exists identifying patient barriers to LARC access. However, there remains a disparity in contraceptive access to the full range of methods for patients who express interest. Latterman Family Health Center (LFHC) of UPMC McKeesport serves a diverse, young population of women of childbearing age in Allegheny and Westmoreland Counties of Pennsylvania. Despite addressing initial identified patient barriers to LARC access, preliminary patient data from our health centers demonstrates that gaps remain in patient access and use of contraception. Therefore, understanding the specific challenges faced by care providers and health center staff has the potential to fill in critical gaps in our understanding of barriers to LARC access.

Setting and Participants: The population of interest for this study was faculty, residents and clinic staff at the UPMC McKeesport Family Medicine Residency Program. The program is based at Latterman Family Health Center where full spectrum family medicine including women's health services is provided. Eligibility criteria include all clinicians and staff, of any gender and training level who are actively participating in patient care as employees of LFHC.

Description: A de-identified Qualtrics survey was distributed via email to study participants over a 3 month period.

Evaluation: The responses to the anonymous Qualtrics survey was analyzed via standard descriptive statistical methods in aggregate form. The survey collected provider demographics, as well as prior experience in maternal care and contraception. Survey respondents were assessed based on the following categories: perception/bias, observation, and knowledge.

Discussion: Results include responses from 13/19 surveyed staff members (68% response rate) and 27/48 surveyed prescribing care providers (56% response rate). The top patient barriers as perceived by staff included misconceptions/suspicions and cultural attitudes while providers cited misconceptions and suspicions, side effects and lack of patient interest. The top clinical barriers as identified by staff were patient follow up, scheduling and lack of experience in contraceptive counseling and providers identified patient follow up, counseling and intervention timing as concerns. Knowledge assessment of current contraception guidelines resulted in 59% correct response from staff and 84.5% correct response from care providers. Based on these findings, suggested steps and resources for care providers at LFHC have been suggested to enhance patient access to the family planning methods of their choice.

Word count of abstract body =398

#ThisIsOurShot: Perceptions of the COVID-19 Vaccine

Trauernicht E[1], Miller B[1], Kazmerski TM[1], Friehling E[1], Muzumdar I[3], Nowalk A[1], Srinath A[1], Muzumdar H[1], Sharp E[2]

[1]Department of Pediatrics, University of Pittsburgh School of Medicine
[2]Department of Pediatrics, UPMC Children's Hospital of Pittsburgh
[3]Penn State University

Introduction: In anticipation of COVID-19 vaccine approval, healthcare systems created vaccination plans for frontline healthcare workers. At our institution, this included residents, fellows, and faculty. Opinions about the vaccine held by these individuals had not previously been assessed.

Objective: We sought to better understand pediatric provider perceptions about the COVID-19 vaccine to inform vaccination strategies.

Methods: We performed an anonymous, web-based survey of faculty, residents, and fellows at a tertiary-care pediatric hospital from November 23rd to December 7th, 2020. We descriptively analyzed survey data and two independent coders analyzed qualitative responses using an inductive approach.

Results: Among 328 respondents (45% response rate, 67% female), 85% indicated they would opt to receive a COVID-19 vaccine. Only two respondents (1%) indicated they would not receive the vaccine while 14% were unsure. Of those responding no or unsure, 89% cited concerns about vaccine safety, side effects, and the development process. Eighty-five percent of respondents somewhat or strongly agreed that the COVID-19 vaccine should be mandatory for healthcare providers and 63% agreed that it should be mandatory for everyone (Fig 1). Twenty-two percent of respondents (n=73) elected to type free text responses regarding vaccination. Three major themes emerged: vaccine mandates (38% of responses), vaccine safety (29%), and equity in distribution (15%) (Fig 2).

Conclusion: Most pediatric faculty and trainees plan to receive the COVID-19 vaccine and believe that vaccination should be mandatory for healthcare providers.

Significance: Healthcare systems can address concerns about the vaccine by providing evidence-based resources on vaccine safety and clearly delineated and transparent plans for vaccine distribution.

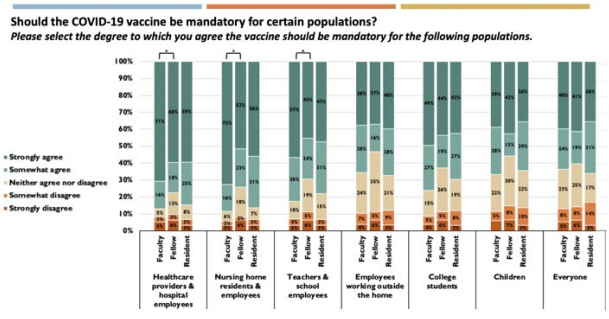


Figure 1: Beliefs regarding mandatory vaccination for different groups by role. Brackets and * indicate significant differences between groups. Faculty were significantly more likely than fellows to believe the COVID-19 vaccine should be mandatory for healthcare providers (OR=1.85, 95% CI 1.00-3.45), nursing home residents (OR=2.75, 95% CI 1.50-5.04), and teachers (OR=1.92, 95% CI 1.08-3.41).

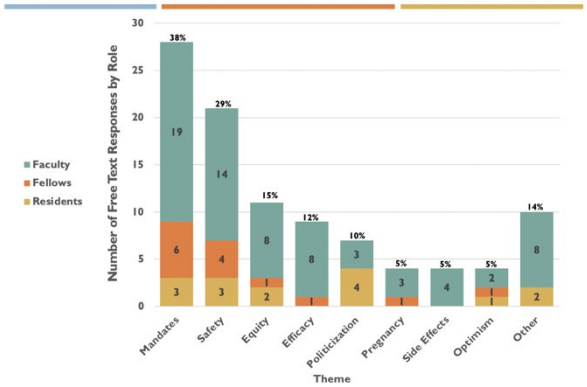


Figure 2: Thematic inductive coding of free text responses revealed thoughts related to multiple topics, predominantly vaccine mandates, safety, and equity in distribution. Percentages indicate what proportion of free text responses were coded into each theme, and absolute values represent number of responses by role. Some responses covered several topics and were coded into more than one theme.

Abstract # 24

Title: Preparing Future Residents for Treating Opioid Use Disorder (OUD) Into Mainstream Medicine

Authors: Douaihy A[1], Kmiec, J[1], Warwick J[2], Hoffman, J[2], and Pringle J[2].

Affiliations: [1]Department of Psychiatry, University of Pittsburgh School of Medicine [2] University of Pittsburgh School of Pharmacy, Program Evaluation and Research Unit

Needs and Objectives: Providing DATA Waiver Training to medical students prior to engaging in residency training can qualify them to treat patients with OUD across specialties with buprenorphine once they complete the requirements for the waiver. With the training they receive through this Program, students will be able to apply for the waiver once they graduate and receive medical and DEA licensure. This training is a significant step forward in increasing the number of physicians who can prescribe buprenorphine. Integrating DATA waiver training into medical school curricula may also contribute to reducing the stigma among residents around substance use disorder.

Setting and Participants: Fifty-eight fourth year medical students (MS4) at UPSoM completed a two-part Providers Clinical Support Network (PCSS) DATA Waiver Training. Part One consisted of a 4.5-hour interactive webinar that was co-facilitated by two experienced UPSoM addiction medicine providers. Part Two consisted of 3.5 hours of self-guided online modules.

Description: MS4 participated in didactic instruction, interactive polling, interactive case evaluation, and self-study. The 8 hours of education were focused on the pharmacology of opioids, OUD assessment, medication for OUD (MOUD) induction and maintenance, evidence-based treatments with antagonist and agonist OUD medications, pain management, and treatment considerations for special populations.

Evaluation: The training was evaluated using a pre- and post- training survey method. Evaluation domains included changes in knowledge, perceived competency, attitudes and perceptions, and perceived training relevance and value.

Discussion: The following mean group post-training increases were identified:

- Core OUD treatment knowledge increased by 8-22% in 4 of 5 areas;
- Perceived practice competency increased by 2.5-10% in 9 of 13 areas; and
- Positive attitudes and perceptions towards working with patients using substances increased by 6-20% in 12 of 13 areas.

All MS4 post-training surveys (100%) indicated that students found the training to be beneficial to their professional careers. Most trainees (90%) reported intent to apply for the DATA Waiver. Survey results indicate that integrating DATA Waiver training into MD curricula is feasible and an effective way to increase the number of hours of education on OUD treatment/MOUD and topics related to managing behavioral health. Other schools may be interested in integrating training using a similar approach.

Support: Grant from the Substance Abuse and Mental Health Services Administration (PI: Antoine Douaihy, MD)

Abstract # 25

Development of a Question Bank to Enhance Learning and Retention of Board Review Topics in Allergy-Immunology Fellowship

Xie M[1,2], Larkin A[2], Fajt ML[1]

[1]Division of Pulmonary, Allergy and Critical Care Medicine, University of Pittsburgh Medical Center
[2]Division of Allergy & Immunology, Children's Hospital of Pittsburgh

Introduction: Allergy-immunology fellows are expected to learn the field of clinical Allergy & Immunology for both adults and children and gain mastery over basic science immunology within 2 years. Experiential learning in clinic is insufficient to review complex clinical and basic science topics covered on the American Board of Allergy & Immunology Certification Exam. Active learning via completion of practice questions is a standard and effective method of test preparation. Currently, however, no centralized electronic question bank comparable to the Medical Knowledge Self-Assessment Program (MKSAP), UWorld, or Pedialink question banks exists for the Allergy & Immunology subspecialty. We propose development of an online allergy-immunology question bank as an effective Board exam preparation study tool.

Hypothesis: Development of an online question bank as a study tool will significantly aid in active learning and Board exam preparation.

Methods: 15 to 20 board-style questions and explanations were prepared each week with subject matter direct from two major reference textbooks in the field: 1) Middleton's Allergy: Principles and Practice 9th Ed and 2) Abbas Cellular and Molecular Immunology 9th Ed. The questions were organized by a topic and housed in an online flashcard format on Quizlet.com for weekly group review by the fellows. After 6 months, 5 allergy-immunology fellows were administered a 5-question survey using a 5-point Likert scale evaluating their attitudes and preferences regarding the usefulness of the question bank.

Results:

4/5 (80%) fellows surveyed agreed/strongly agreed that the online question bank was helpful with learning new material and reinforcing what they had already learned; 1 fellow felt neutral. 4/5 (80%) fellows agreed/strongly agreed that doing questions as a group motivated them to self-study; 1 fellow disagreed. 3/5 (60%) of fellows agreed/strongly agreed that reviewing questions was more helpful as a group than individually; 2 fellows felt neutral. 2/5 fellows agreed/strongly agreed that they preferred using the question bank as a primary study tool; 3 fellows felt neutral.

Conclusions/Significance:

The creation of an organized electronic question bank can be a useful study tool if one does not already exist in the field. Online platforms such as Quizlet.com can be used to house question banks in an easy, accessible format. These question banks can be built over time and preserved as a permanent resource for fellows to use for Board-exam preparation.

Abstract # 26

Antiracist Curriculum Implementation for Pediatric Residents

Authors: Ragunanthan B[1], Szoko N[1,2], Radovic A[1,2], Torres O[1,2]

Affiliations:

1) Department of Pediatrics, University of Pittsburgh School of Medicine

2) Division of Adolescent Medicine and Young Adult Medicine, UPMC Children's Hospital of Pittsburgh

Needs and Objectives: Black, Latinx, and Native American communities have limited representation in medicine, and the impact of racism on health is well-established. While several scholars have called for increased focus on racism in medical curricula, few efforts have been directed at graduate medical trainees.

This study aims to evaluate the impact of an anti-racist training curriculum on pediatric residents' knowledge and skills. This curriculum promotes specific, measurable anti-racist practices:

1. Ability to define and describe at least three examples each of historical oppression, systemic racism, and structural influences on child and adolescent health

2. Implementation of two examples of trauma-sensitive practices in clinical encounters that recognize and repair inequities in health and health care

3. Commitment to share at least one anti-racist practice with colleagues, staff, or other learners/trainees

Setting and participants: We sought to implement this antiracist curriculum among all pediatric residents at a large, predominantly White academic medical center during the 2020-2021 academic year.

Description: We developed a longitudinal noon conference series comprised of six 50-minute sessions every other month during protected resident conference. The first session incorporated expectation-setting and input-gathering from residents, who reflected on wishes for the curriculum, fears/concerns, and preferred mediums for learning. Subsequent sessions explored thematic intersectional topics including racism in schools, healthcare, mass incarceration, employment, and community (housing/transportation). Session content included attention to national trends, local Pittsburgh implications, and take-home antiracist practices. Session format involved lecture-based didactics along with interactive discussion. An additional two-hour small group discussion session of 1-5 residents was held among PGY-1 and PGY-2 residents during community health/child advocacy rotations.

Evaluation: Resident voices from the initial session, gathered through group discussion and anonymous, embedded polling software, formed the basis for curriculum development to align with residents' educational goals. An anonymous, cross-sectional survey was administered to residents (n=81) prior to the first session to assess baseline antiracist knowledge, attitudes, and behaviors. Brief evaluation surveys were administered following our first two content sessions. All respondents (n=12 for both sessions) reported increased knowledge of the impact of racism on children. Most (83% for first session, 100% for second session) agreed that the information presented was useful for their practice.

Discussion/Reflection/Lessons Learned: Our novel, skills-based antiracist curriculum provides a promising framework for incorporating large conference didactics sessions and small group discussions in a way that engages key domains intersecting with child health.

Support: Office of Faculty Development Education Innovation Grant (PI: Torres)

Rita M. Patel GME Leadership Conference

"It's GO TIME! Embracing Change"
February 17, 2021 and February 18, 2021

All Author Index

Last name	Full Name	Abstract # (O)ral or (P)oster
Alessi	Lauren Alessi, MD	P1, P12
Aneja	Raj Aneja, MD	P1
Au	Alicia Au, MD	P1
Augustin	Ryan Augustin, MD	P2
Beiriger	Jamison Beiriger, MD	P5
Berlacher	Kathryn Berlacher, MD	P10
Bonifacino	Eliana Bonifacino, MD	P2
Branstetter	Barton Branstetter, MD	P8
Brauner	Jordan Brauner, MD	P12
Brown	Emily Brown, MD	P21
Caroll	Piper Caroll, MD	P3
Chowdhary	Kuntal Chowdhary, MD	P6
Collier	Allison Collier, MD	P3
Congelio	Laura Congelio, MD	O1

Cummings	**Erin Cummings, MD**	**P4**
Dhruva	**Aashana Dhruva, MD**	**P4**
DiNardo	**Deborah DiNardo, MD**	**P2**
Donovan	**Anna Donovan, MD**	**O1**
Dorsfman	**Michele Dorsfman**	**P21**
Douaihy	**Antoine Douaihy, MD**	**P24**
Egro	**Francesco Egro**	**P15, P16**
Emerick	**Trent Emerick**	**P18**
Erpenbeck	**Sarah Erpenbeck**	**P15**
Fajt	**Merritt Fajt**	**P9, P25**
Farione	**Lindsay C. Farione, MD**	**P1**
Forno	**Erik Forno, MD**	**P9**
Frabitore	**Stephen Frabitore, MD**	**P5**
Friehling	**Erika Friehling, MD**	**O3, P23**
Fuhrman	**Dana Fuhrman, MD**	**P17, P19**
Ghassemzadeh	**Rod Ghassemzadeh**	**P17**
Glaser	**Daniel Glaser, MD**	**P6**
Goldstein	**Hillary Goldstein, MD**	**P7**

Goldstein	**Jesse Goldstein, MD**	**P16**
Gordon	**Emile Gordon, MD**	**P8**
Hamilton	**Mindy Hamilton, MD**	**P1, P12**
Hickey	**Sergio Hickey, MD**	**P5**
Hoffman	**Joshua Hoffman, MD**	**P24**
Hooven	**Jayde Hooven, MD**	**P14**
Hughes	**Marion Hughes, MD**	**P8**
Jacobson	**Sansea Jacobson, MD**	**P3**
Janicki	**Adam Janicki**	**P21**
Jockel	**Christina Jockel, MSN, RN, CCRN**	**P1**
Kazmerski	**Traci Kazmerski, MD**	**O3, P23**
Keller	**Aleksander Keller, MD**	**O1**
Khurana	**Esha Khurana, MD**	**P7**
Kiazand	**Mehrshid Kiazand, MD**	**O2**
Kobulinksy	**Lawrence Kobulinsky, MD**	**P20**
Kmiec	**Julie Kmiec, MD**	**P24**
Kreider	**Madeline Kreider, MD**	**P20**
Kuch	**Bradley Kuch, MD**	**P1**

Lanlokun	**Mosopefoluwa Lanlokun, MD**	**P9**
Larkin	**Allyson Larkin, MD**	**P9, P25**
Leon-Jhong	**Anita Leon-Jhong, MD**	**O2**
Leyens	**Kathryn Leyens, MD**	**P14**
Lolley	**Rebecca Lolley, MD**	**P10**
Losee	**Joseph Losee, MD**	**P16**
LoVerde	**Bianca LoVerde, MD**	**P11**
Mastropolo	**Rosemarie Mastropolo, MD**	**P12, P14**
McClain	**Kara McClain, MD**	**P22**
McGiboney	**Justine McGiboney, MD**	**O1**
Miller	**Benjamin Miller, MD**	**O3, P4, P23**
Munjal	**Neil Munjal, MD**	**P12**
Miller-Walfish	**Summer Miller-Walfish, MD**	**P9**
Munjal	**Neil Munjal, MD**	**P12**
Muzumdar	**Hiren Muzumdar, MD**	**O3, P23**
Muzumdar	**Ishan Muzumdar, MD**	**O3, P23**
Nguyen	**Vu T. Nguyen, MD**	**P15, P16**
Nowalk	**Andrew Nowalk, MD**	**O3, P12, P23**

Pelletier	**Jonathan Pelletier, MD**	**P1, P17, P19**
Phelps	**Phillip Phelps, MD**	**P13**
Pringle	**Janice Pringle, MD**	**P24**
Radovic	**Ana Radovic, MD**	**P26**
Ragunanthan	**Braveen Ragunanthan, MD**	**P26**
Rakkar	**Jaskaran Rakkar, MD**	**P17, P19**
Ranjani	**Natarajan Ranjani, MD**	**P7**
Reis	**Evelyn Reis, MD**	**P13**
Reuman	**Hannah Reuman, MD**	**P14**
Rubin	**J. Peter Rubin, MD**	**P16**
Bustos	**Samyd S. Bustos, MD**	**P15, P16**
Schloss	**Katheryn Schloss, MD**	**P9**
Scioscia	**Andrea Scioscia, MD**	**P17**
Sechrist	**Jacob Sechrist, MD**	**P8**
Seybert	**Amy Seybert, MD**	**P20**
Shah	**Neal Shah, MD**	**P18**
Sharp	**Eleanor Sharp, MD**	**O3, P19, P23**
Smith	**Brian T. Smith**	**P15**

Smith	**Andrew Smith**	**O1**
Smithburger	**Pamela Smithburger, MD**	**P20**
Spada	**Meredith Spada, MD**	**P3**
Spencer	**Todd Spencer MSN, RN CCRN**	**P1**
Srinath	**Arvind Srinath, MD**	**O3, P23**
Srinivasan	**Sukanya Srinivasan, MD**	**P22**
Szoko	**Nicholas Szoko, MD**	**P26**
Szymusiak	**John Szymusiak, MD**	**P4, P14**
Taft	**Maia Taft, MD**	**P12**
Tastenhoye	**Camile Tastenhoye, MD**	**P3**
Tilstra	**Sarah Tilstra, MD**	**P2**
Torres		**P26**
Tobias	**Adam Tobias, MD**	**P21**
Trauernicht	**Emily Trauernicht, MD**	**O3, P23**
Travis	**Michael Travis, MD**	**P3**
Trembley	**Lauren Trembley, MD**	**O1**
Vehovic	**Siriwattana (Noona) Vehovic**	**P1**
Warwick	**John Warwick, MD**	**P24**

Watson	**Katherine Watson, DO**	**P13**
Xie	**Maylene Xie, MD**	**P25**
Yourich	**Bryan Yourich, MD**	**P20**