Seventeenth Annual

Education Research Day

While the cancellation of our in-person research day was necessary given COVID-19, we are deeply grateful for the opportunity to showcase the outstanding work of our presenters in this abstract book.

Icahn School of Medicine at Mount Sinai

Institute for Medical Education

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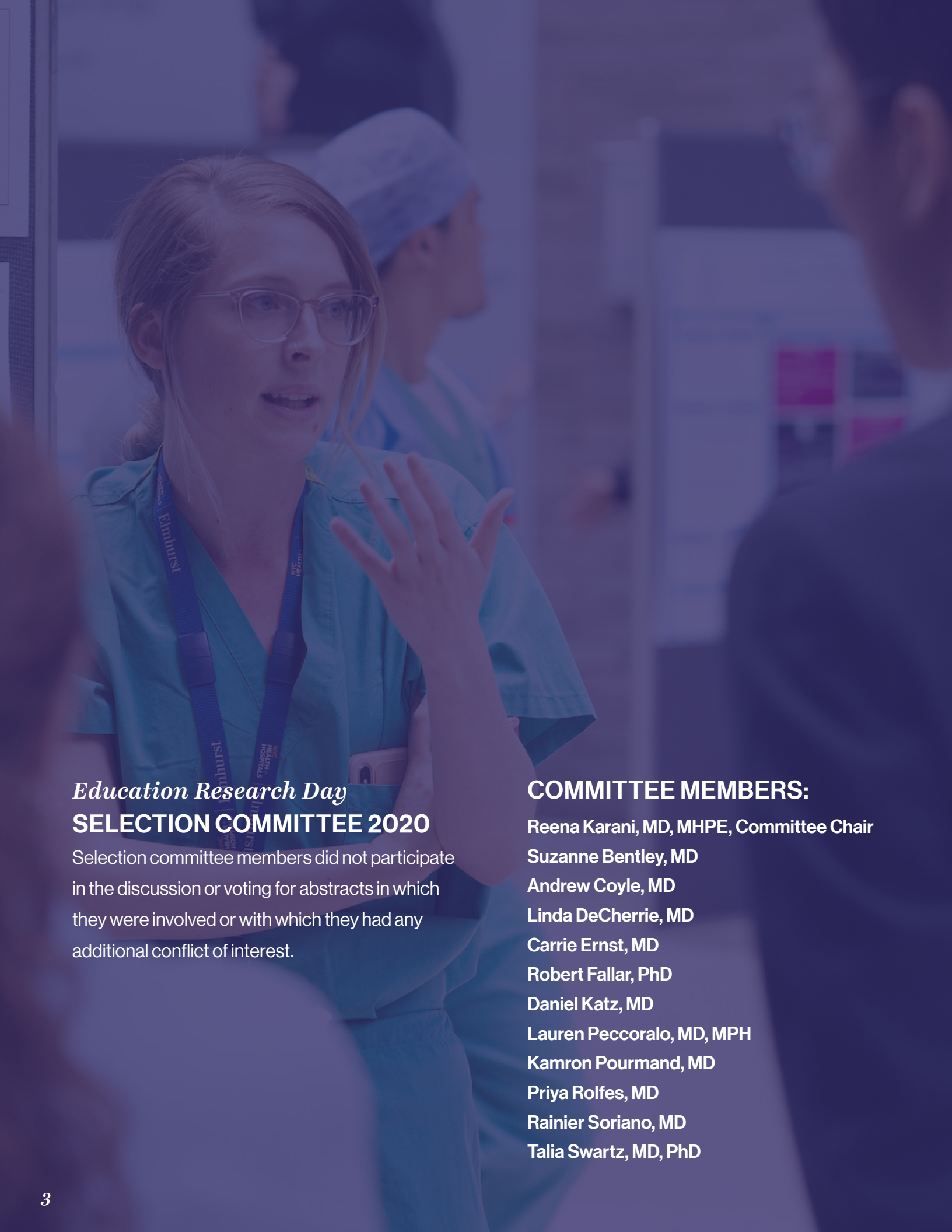

Education Research Day

SELECTION COMMITTEE 2020

Selection committee members did not participate in the discussion or voting for abstracts in which they were involved or with which they had any additional conflict of interest.

COMMITTEE MEMBERS:

Reena Karani, MD, MHPE, Committee Chair
Suzanne Bentley, MD
Andrew Coyle, MD
Linda DeCherrie, MD
Carrie Ernst, MD
Robert Fallar, PhD
Daniel Katz, MD
Lauren Peccoralo, MD, MPH
Kamron Pourmand, MD
Priya Rolfes, MD
Rainier Soriano, MD
Talia Swartz, MD, PhD

EDUCATION RESEARCH DAY 2020

Welcome to the Institute for Medical Education (IME) at the Icahn School of Medicine's seventeenth annual Education Research Day (ERD). It is exciting to see the breadth of innovative medical education scholarship developed by our faculty, trainees, students and staff. Each year we welcome an expanding group of educators from all disciplines and levels of training. We are proud to display the excellent work being done in education research across the Mount Sinai Health System.

There are three goals for ERD:

1. To highlight and disseminate the educational research and innovative curriculum development at Mount Sinai and its affiliate institutions.
2. To provide a forum for educators to learn from each other and collaborate.
3. To prepare authors for regional and national presentation and dissemination of their scholarly educational work.

All submitted abstracts were reviewed by a selection committee. Abstracts were blinded and evaluated based upon established criteria for scholarship in education: Clear Goals, Appropriate Methods, Measures of Quality/Effectiveness, Significant Results and Reflective Critique. Innovation and impact of the project were also considered.

This year, five abstracts were chosen from 78 submitted to receive Blue Ribbons. Blue Ribbon Winners represent outstanding examples of educational scholarship.

We wish to thank the Selection Committee, the Department of Medical Education, and the authors who submitted their work. Congratulations to all of our authors for their dedication to education research and for sharing their innovative work with our community.

Reena Karani, MD, MHPE
Director,
Institute for Medical Education
Icahn School of Medicine at Mount Sinai

Robert Fallar, PhD
Assistant Director,
Institute for Medical Education
Icahn School of Medicine at Mount Sinai

THIS YEAR, 78 ABSTRACTS WERE SUBMITTED BY FACULTY, STUDENTS, TRAINEES AND STAFF ACROSS THE HEALTH SYSTEM.

All abstracts were reviewed by the 2020 ERD Selection Committee. Of the 78 submissions, five abstracts have been awarded Blue Ribbons as outstanding examples of educational scholarship.

Please join us in congratulating the 2020 Blue Ribbon recipients:

ABSTRACT #8
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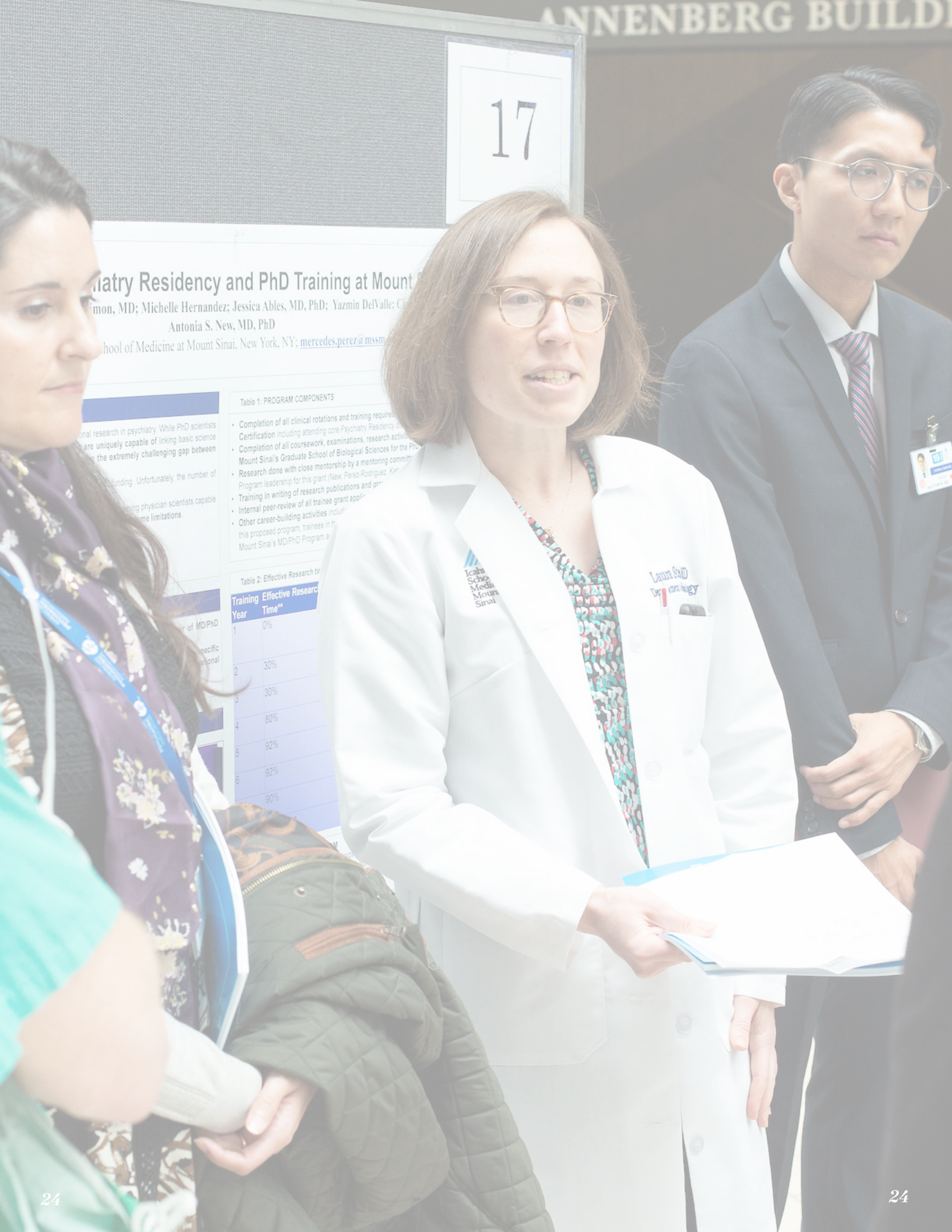
ANNENBERG BUILDI
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iatry Residency and PhD Training at Mount
mon, MD; Michelle Hernandez; Jessica Ables, MD, PhD; Yazmin DelValle;
Antonia S. New, MD, PhD
hool of Medicine at Mount Sinai, New York, NY; mercedes.perez@mssm
Table 1: PROGRAM COMPONENTS
Completion of all clinical rotations and training
Certification including attending core Psychiatry Residency
Completion of all coursework, examinations, research
Mount Sinai's Graduate School of Biological Sciences for the
Research done with close mentorship by a mentoring
Program leadership for this grant (New, Perez-Rodriguez,
Training in writing of research publications and
Internal peer-review of all trainee grant
Other career-building activities
this proposed program, trainees in
Mount Sinai's MD/PhD Program
Table 2: Effective Research
Training Year
Effective Research Time**
1 0%
2 30%
3 30%
4 80%
5 92%
6 92%
90%
Laura Sa
Department of Psychiatry

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SECTION 2:

Assessment

POSTERS 1–4

ABSTRACT #1

ASSESSING LEARNER AND FACULTY'S ATTITUDE TOWARDS THE USAGE OF RACE/ETHNICITY AND SEXUAL ORIENTATION AND GENDER IDENTITY IN CLINICAL CARE

AUTHORS: Rui Jiang, Andrew Coyle, Brijen Shah

PURPOSE: The ACGME's Clinical Learning Environment Review (CLER) has shown that few institutions have a formal strategy to address health care disparities (HCD) involving learners and faculty in system-based solutions. As a part of the ACGME Pursuing Excellence initiative, ISMMS GME aims to focus on addressing HCD in the areas of race and ethnicity and sexual orientation and gender identity. We assessed learner and faculty attitudes toward incorporating race and ethnicity (RED) and sexual orientation and gender identity (SOGI) data as part of building an educational curriculum.

METHODS: Using the Mayo Clinic Learners' Perception of Health Disparities survey as a guide, we developed a survey that evaluates how strongly learners and faculty considered RED and SOGI when developing patient-provider relationship, differential/diagnosis, clinical decision making, and treatment plan on a 5-point Likert scale. Participants included internal medicine residents and ambulatory care faculty at Mount Sinai Hospital.

RESULTS: Overall, 73 (56%) learners across all years and 14 (67%) faculty responded. Both learners (70%) and faculty (76%) agreed or strongly agreed that patient's self-reported RED is important when developing a patient-provider relationship. However, when asked the same question about developing differential diagnosis and clinical decisions, 60% of learners vs. only 43% of faculty indicated agree or strongly agree. Even though 56% of learners consider RED in developing the treatment plan, 50% of faculty rarely or never ask learners to consider RED.

Both learners (81%) and faculty (93%) agreed or strongly agreed that patient's self-reported SOGI is important in developing a patient-provider relationship. However, when asked the same question about developing differential diagnosis and clinical decisions, 83% of learners vs. only 56% of faculty indicated agree or strongly agree. Both learners (67%) and faculty (71%) consider SOGI in developing treatment plans ranging from sometimes, usually, and always. Despite the faculty's lower tendencies as compared to leaners when considering RED or SOGI for differential diagnosis and treatment plan, 43% agreed or strongly agreed that teaching about how to use RED in developing differential diagnosis and treatment plan is an important part of medical education, and 64% for SOGI.

CONCLUSION: While learners and faculty agree that knowing a patient's RED and SOGI is important for patient-provider relationship, faculty are less likely than learners to consider them for the development of differentials and treatment plans. Given the potential benefits of incorporation of RED and SOGI data into clinical care, we identified a need for further education and training given the attitudinal and self-assessed behaviors noted in our needs assessment. In addition to a didactic curriculum for trainees, our data highlights the need for robust faculty development given faculty attitudes and uncertainty.

ABSTRACT #2

EXPLORING HOW WORK-LIFE BALANCE, MENTORSHIP, AND DISCRIMINATION IMPACT GENDER DISPARITIES IN FACULTY BURNOUT

AUTHORS: Carly Kaplan, Jonathan Ripp, Lauren Peccoralo

PURPOSE: Though many studies report gender-based differences in burnout prevalence, few examine factors that differentially contribute to disparities. We conducted a faculty survey at the Mount Sinai Health System to explore how professional and personal characteristics vary by gender and influence gender-based differences in burnout.

METHODS: We administered a web-based anonymous cross-sectional survey to MSHS faculty from 11/2018-2/2019. The survey included validated instruments measuring burnout (MBI-2), depression (PHQ-2) mentorship/leadership, workplace discrimination/harassment, work-life balance, resilience and demographics. Respondents reported workplace discrimination and harassment experienced in the prior year without identifying from whom the behavior came (i.e. patients, staff, supervisor). We report descriptive results, bivariate analyses using ttests, chi square tests and multivariate logistic regressions.

RESULTS: Of 4156 faculty, 1781 (43%) participated in the survey. We included 1411 who identified as either male (704) or female (707). Women were more likely to be younger, work fewer hours/week, be junior faculty, disagree that work leaves enough time for family, and be dissatisfied with their job. Women were more likely to experience gender discrimination (25%vs2%; p<0.001) and harassment (13%vs2%; p<0.001) at work and were at greater risk of burnout (31%vs23%; p=0.002), and positive depression screen (25%vs18%; p=0.002). Both genders were equally likely to have a mentor (28%vs27%; p=0.62) and be satisfied with their supervisor (65%vs70%; p=0.12).

In bivariate analysis, gender discrimination, younger age, and dissatisfaction with supervisor were significantly associated with burnout in both genders. Lack of mentor (OR=1.96; p=0.003) was associated with burnout in men only. More work hours/week was associated with burnout in women, peaking at 51% burnout for women working 71- 80 hours/week (p=0.002); not seen in men (p=0.34).

In multivariate analysis performed separately by gender, reported lack of work-life balance (Women:OR=2.9, p<0.001; Men:OR=2.2, p=0.002), experiencing gender discrimination (W:OR=1.5, p=0.05; M:OR=8.4, p=0.01) and positive depression screen (W: OR=3.512, p<0.001; M: OR=4.143, p<0.001) were significantly associated with burnout in both genders. For every point increase on the Mayo Leadership Index, burnout decreased by 4.0% (p<0.001) for women and 2.9% (p=0.02) for men. For men, having a mentor (OR=1.9; p=0.03) and age >60 years (OR=2.9, p=0.007) were associated with lower burnout. For women, higher resilience was associated with lower burnout; each 1-point increase on the CD-RISC score corresponding to 4.5% decrease in burnout.

CONCLUSION: Many factors contribute to burnout in both genders; however, some factors have greater influence in women and may account for observed gender-based differences in burnout prevalence. Understanding gender differences in burnout factors may be key to developing targeted interventions to mitigate faculty burnout.

ABSTRACT #3

EVALUATION OF A SHORT-TERM TRAINING PROGRAM TO INCREASE DIVERSITY IN THE PUBLIC HEALTH RESEARCH WORKFORCE

AUTHORS: Christopher W. Bland, Luz Claudio

PURPOSE: The purpose of this study is to compare educational attainment of underrepresented minority (URM) undergraduate students who had participated in an NIH-funded Mount Sinai Short-term Mentored Research Program with students who had not participated in this or similar programs.

METHODS: An observational study with 295 responders was conducted using a questionnaire collecting information on demographics, educational attainment, and career attainment. Selected questions were combined into 3 outcomes that could indicate the program's impact on the scientific careers of students. We compared the responses between those who had at least one short-term mentored research internship and those who did not.

RESULTS: Results suggested that those who had short-term internships have a higher number of presentations, published articles, and likelihood to have completed or be pursuing a doctoral degree as compared to responders without at least one of such internships.

CONCLUSION: Even after many years of affirmative action and other educational initiatives, ethnic and racial minorities (URM) continue to be underrepresented in science and medicine. This lack of representation has become more acute as the demographics of the U. S. population become increasingly diverse. We conclude that short-term mentored research internships for URM students can help support students' pursuit of careers in science and medicine and thus reduce underrepresentation of minority populations in these fields.

ABSTRACT #4

"BUT IT'S ALWAYS TOO BUSY." AN INNOVATION DEBRIEFING STRATEGY FOR THE PERPETUALLY BUSY EMERGENCY DEPARTMENT.

AUTHORS: Suzanne Bentley, Laura Iavicoli

PURPOSE: Debriefing after clinical events using a structured model has been adopted with varying degrees of success and potentially offers a nonthreatening and relatively low-cost way to discuss unanticipated outcomes, identify opportunities for improvement, and reflect and heal as a group. Debriefing has been advocated as 1 tool to decrease burnout and normalize and facilitate reflection and open discussion of issues associated with providing medical care. The realities of barriers to debriefing in busy Emergency Departments are often magnified and literature shows infrequent conduction of such debriefings, despite agreement of crucial need.

This novel debriefing format was deployed in the busy, inner city Emergency Department at NYC H+H/Elmhurst inorder to "batch" debriefings from specific incidents into weekly process group of cases and issues encountered to facilitate discussion, sharing and validation of feelings, sharing of struggles and successes, and to capture feedback. Study of this format seeks to test feasibility of format, feedback, and capture themes discussed.

METHODS: Once weekly sessions were held with facilitators (formally trained in debriefing) in which cases and topics for debriefing were solicited from session participants. "Let's debrief the last week in the Elmhurst ED and any cases you want to debrief- how is everyone feeling at work? (Frustrating? invigorating?), what has been going well/smoothly and why? What could be done differently/opportunities for improvement and why?" This allows for high yield debriefing and reflection by providers during convenient, prescheduled times and focuses on issues/cases identified by providers to be debriefed, followed by brief discussion on healthy coping strategies and offer of support resources. Cancellation rate of sessions, feedback from participants, and themes discussed were recorded.

RESULTS: Eight 60 minute debriefing sessions were scheduled and conducted (no cancellations) during regular clinical shift hours with attendings, residents, physician assistants, and nurse practitioners. Participation was voluntary, however, no one declined. Feedback was 100% of score 4 or 5 on Likert 1-5 scale (1: strongly disagree-5: strongly agree) on post-questions ("this session was valuable" and "I would like more of these type sessions.") Provider solicited cases for discussion lead to various session themes including difficulty in caring for patients that remind you of yourself or loved one, unexpected patient demise, culmulative bad outcome effect, and bias and caring for "difficult"/abusive patients.

CONCLUSION: Literature and anecdotes show that emergency providers may be most greatly affected by cases other than "the obvious" topics of cardiac arrest or trauma cases and this format allows for providers to share topics they wish to debrief (including both positive and negative cases) and serves to normalize the culture of shared experiences and debriefing, overall. This format was feasible and well received by participants.


WHAT YOU CAN DO
GET INFORMED.
STOP SMOKING.
SIGNS AND SYMPTOMS
TREATMENT
SIMULATION CENTER

SECTION 3:

Community & Global Health

POSTERS 5-8

ABSTRACT #5

BUILDING INCLUSIVE HEALTHCARE FOR LGBTQ+ YOUTH: IMPROVING THE COLLECTION AND UTILIZATION OF PATIENTS' SEXUAL ORIENTATION AND GENDER IDENTITY (SOGI) INFORMATION, PREFERRED NAMES AND GENDER PRONOUNS IN A PEDIATRIC CLINIC

AUTHORS: Scott K. Jelinek, Fatima Toor, Kristian Becker, Christopher Tenore, Kelly Smith, Lauren Ambler, Bari Winik, Carolyn Birbiglia, Nicole Mann, Laura Hodo, Cynthia Katz

PURPOSE: Transgender and gender diverse youth are more likely than their peers to experience poor physical health and are at higher risk of depression, anxiety, self-harm and suicide. They often have had negative healthcare experiences related to being transgender and gender non-binary (TGNB), including being refused treatment, verbally harassed, physically or sexually assaulted. Research shows addressing TGNB youth by their preferred name is associated with decreased rates of depression and suicide and therefore asking questions about sexual orientation and gender identity (SOGI) can be lifesaving. At the Mount Sinai Pediatric Associates clinic there is no standardized collection of SOGI information or gender pronouns. We set out to address this need by creating a standardized process for educating pediatric physicians and staff with the goal of increasing their knowledge and skills around documentation and utilization of SOGI information.

METHODS: Mount Sinai recently adapted our EMR to easily document patients' SOGI information and to display preferred name and pronoun in the visit banner. Our planned interventions to educate pediatric physicians and staff on using the new smart form include in-person and online training and staff roundtables to improve physician and staff comfort. As a means to enhance our clinical space to increase TGNB patient comfort, culturally sensitive and inclusive demographic forms and signage will be displayed in patient waiting areas, and gender pronoun buttons will be displayed by providers and staff. We will monitor progression of proposed interventions, including: 1) tracking staff completion of in-person and online training 2) measuring staff knowledge and comfort with post training surveys 3) measuring percentage of pediatric patients 12+ years who have preferred name or SOGI documented in the EMR, with the goal of increasing the percentage from 0% to 50% within 3 months.

RESULTS: Currently many providers express lack of comfort and familiarity with obtaining SOGI information. 21 pediatric residents and senior faculty were surveyed. Only 5% reported knowing how to document gender pronouns in the medical record and 0% knew how to document preferred names. Only 20% reported asking their patients "often" about gender pronouns and 0% "always ask." The most common reason participants cited for not asking was lack of comfort, low level of confidence in their ability to properly obtain and document SOGI information from their patients, and minimal education and training.

CONCLUSION: Through a multi-faceted approach to educating providers and staff in our pediatric clinic, we hope to increase comfort, ease, and accuracy in obtaining SOGI information. Increased awareness about SOGI information will help to strengthen the patient-provider relationship and could positively transform the experiences of our TGNB youth. Additional study will aim to establish a sustained impact of our interventions and should address healthcare disparities among this population.

ABSTRACT #6

COAST TO COAST: LESSONS FROM A STUDENT RUNNED FREE CLINIC CONSULTING GROUP WORKFLOW

AUTHORS: Huahsin Tai, Parth Trivedi, David C. Thomas, Yasmin Meah

PURPOSE: Many underserved patients, such as those who are undomiciled or undocumented, rely on student-run free clinics (SRFCs) to provide access to basic care. However, clinics rely on different service models (emergency care, longitudinal care, mixed), offer varying services, and have vastly different levels of financial security. Additionally, no standardized set of practice guidelines exists in the SRFC space. While presentations and publications provide the opportunity for SRFCs to communicate success and failures, rarely are SRFCs able to access aid in strategic planning coupled with individualized feedback. To this end, the EHHOP Consulting Group (ECG) was formed by students from the East Harlem Health Outreach Program in 2015 to amass clinic operation information from SRFCs around America, disseminate best practices guidelines, and aid in their implementation.

METHODS: ECG student consultants have been working with SRFCs from across the United States on a variety of common challenges in order to tailor a unique solution for each clinic. The ECG workflow is broken down into three phases. (1) Client Triage: when a potential SRFC client contacts ECG, they are sent the Initial Assessment Form (IAT) to quickly triage the issues they are facing. (2) Personal Consultant: if determined to be a non-acute issue, a student consultant is assigned to further assess the Clinic Demographic Form and create a timeline to resolve the most prominent issues. (3) Toolkit Creation: afterwards, the consultant compiles a guide using information from every literature review, EHHOP, and client clinics into a digestible Toolkit published on our website.

RESULTS: From the most recent iteration of the Initial Assessment Form, the clients (n = 19) seeking help fall into newly open (15.8%), in development (21.8%), and established (63.2%). The three top areas that need clients are interested in assistance are Clinic Workflow (47.4%), Funding/Budget (42.1%), and Patient Recruitment (42.1%). This year the following guides will be available: Pharmacy, Electronic Medical Record, Recruiting a Medical Director, Recruiting Volunteers, Creating a Clinic Manager Program, and Teaching in a SRFC.

CONCLUSION: Most clinics seeking help are already established and looking for specific workflow optimization unique to their SRFC. Although the Toolkit can provide a starting place for common issues, ECG's personal consultants have the potential to greatly impact the sustainability of SRFCs across the nation. Next steps include promoting ECG's services and partnering with the Society of Student Run Free Clinics to expand the network of SRFC in a collaborative community.

ABSTRACT #7

MOTIVATIONS, EXPECTATIONS, AND ETHICAL PERCEPTIONS OF MEDICAL STUDENTS ON GLOBAL HEALTH TRIPS

AUTHORS: Alina Siddiqui, Priya Dave, Ayla Pelleg

PURPOSE: The demand for global health learning opportunities in United States (US) medical schools and graduate health programs is high. The 2019 Medical School Graduation Questionnaire survey revealed that 24.2% of graduating medical students participated in a global health experience. Studies show that upon returning from the experiences, students grapple with ethical concerns, including the short duration of their stay, host burden, and cross- cultural standards of care. In the long term, students are more likely to care for impoverished patients and participate in further short-term experiences. To date, there have not been any studies on the motivations, expectations, and perceptions of graduate students going on global health trips. Understanding the desires of students who are interested in pursuing global service learning can provide insight into how to best to prepare students for these experiences.

METHODS: We administered a ten-question survey to medical students and other graduate healthcare students who participated in week-long global health trips through the Icahn School of Medicine at Mount Sinai to better understand their reasons for participating, what they expected to gain, and what ethical issues they perceived on such trips. The two weeklong global health trips surveyed for included: Port-au-Prince, Haiti and Nogales, Arizona (a border town along the US-Mexico border). Motivations for participation were assessed on a 5-point Likert scale. Students also responded to open-ended questions on moments of discomfort, positive and negative perceptions, and how the trips impacted their future goals. These responses were subsequently coded using NVivo software to assess common perceptions. Coding was conducted by two medical student researchers who individually performed first-pass coding of the responses to identify initial themes before codes were aggregated into general thematic categories.

RESULTS: Survey results found that students were highly motivated by the opportunity to help others, interact with other cultures, and travel. They were least motivated by the chance to develop interpersonal skills and improve personal confidence. Significant themes that arose in qualitative responses demonstrate that students felt uncomfortable with language barriers, interactions with border control at the US-Mexico border [Nogales trip], and pondering their exact role and contributions on the trip. At the same time, students perceived the trip to be a productive learning experience that allowed them to expand their understanding of global health, sustainable partnerships, and future career options.

CONCLUSION: This study suggests that more pre and post trip reflections regarding the limitations of global health trips and moments of discomfort during the trip should be implemented. Pre-trip curriculums can be modified to better address expectations and ethical issues presented in the context of these global health experiences.

ABSTRACT #8

IMPROVING EMERGENCY DEPARTMENT MANAGEMENT OF HEAD AND NECK TRAUMA IN THE DOMINICAN REPUBLIC

AUTHORS: Shameeke Taylor, Nita Avrith, Ramon Millan, Deepti Thomas-Paulose

PURPOSE: Road traffic accidents are a public health epidemic that plague much of the developing world. Approximately 93% of the world's fatalities on the road occur in low- and middle-income countries. Road traffic accidents account for approximately 1.35 million deaths and 20 to 50 million significant injuries worldwide each year, ranking as the leading cause of death for people aged 5-29. At a rate of 34.6 road traffic deaths per 100,000 population in 2016, the Dominican Republic (DR) ranks as the country with the highest road traffic fatality rate in the Western Hemisphere. In many areas of the DR, there is no formalized trauma curriculum or education through simulation. Our goal is to improve the resident and medical student training at Antonio Musa Regional Hospital in San Pedro de Macoris, DR to help them recognize and treat head and neck trauma and build confidence and foundational knowledge for basic trauma management.

METHODS: Our team developed a 4-day trauma course based on the WHO Guidelines for Essential Trauma Care. The didactic and simulation components of the course included 5 trauma lectures, 3 procedure labs and 4 trauma simulation cases focusing on head and neck trauma. The participants (medical students, Emergency Medicine and Family Medicine residents) received pre- and post-assessments on day 1 and 4, respectively. We evaluated the participants' trauma knowledge with multiple choice tests and their team skills during the simulation using the validated TNOTECH scale and a critical actions checklist. We used a validated trauma provider confidence scale to evaluate participant confidence. Testing was repeated in 2 months to evaluate for knowledge and skill retention. Each participant received the same MCQ test and simulation scenarios for pre, post and retention testing. A repeated measures ANOVA model was used to evaluate differences in MCQ test scores.

RESULTS: A total of 65 people participated (36 medical students, 22 EM and 7 family medicine residents). Analysis of the pre-, post- and retention test scores showed that each group followed a normal distribution. Mean test scores for the written exam were 37.2, 63.5 and 52.2 for pre, post and retention results respectively. Comparisons between pre and post as well as pre and retention showed statistically significant differences ($p=0.0001$). Participant opinion that their ED patients received best care possible and patients' needs were identified and addressed showed statistically significant increases in agreement through each testing phase.

CONCLUSION: A short trauma course can improve trauma specific knowledge with significant retention at two months. A longitudinal integrated trauma curriculum may be useful to bolster retention and learning. Further expansion of the trauma course to neighboring medical schools and residency programs with appraisal of a train the trainer model will help to promote sustainability of the course.


Icahn School of Medicine at Mount Sinai
Objectives
Background
Methods

SECTION 4:

Curriculum (GME)

POSTERS 9-35

ABSTRACT #9

RESUSCITATION SIMULATION IMMERSION FOR EMERGENCY MEDICINE RESIDENTS

AUTHORS: Ryan O'Halloran, Moira Carroll, Sharaf Khan, Lorraine Boehm, Suzanne Bentley

PURPOSE: Emergency medicine (EM) residents completing their intern year have demonstrable anxiety surrounding workflow and procedural competence for their promotion to the resident running the resuscitation bays during their PGY2 year. We sought to design an educational, simulation-based immersion experience to moderate these concerns.

METHODS: Participants were surveyed pre- and post-intervention with questions targeting confidence and preparedness for promotion to "cardiac room resident" prior to beginning the PGY2 year. The intervention is a simulation day focused on procedures for airway, breathing, and circulation emergencies. Questions ascertain perceived ability to complete procedures, efficiently diagnose dangerous conditions, and establish plans to reach diagnostic and treatment thresholds.

RESULTS: 29 junior EM residents participated. From pre to post assessment, all residents noted increased comfort and competence at performing various critical care procedures surveyed (e.g. troubleshooting ventilator settings, placing triple lumen catheter, intubation) and with identifying and managing various critical care conditions surveyed (e.g. cardiac arrest, severe allergic reaction, status epilepticus). There was a significant difference noted ($p<0.5$) for management of "critical care patients, overall", and seen for the following individual procedures and conditions: setting up and troubleshooting Bipap, intubation, setting up ventilator after intubation, troubleshooting the ventilator, cricothyrotomy, and placing a cordis and pigtail catheter, as well as managing cardiogenic shock and managing a patient with difficult airway. 100% of participants noted "strongly agree" on scale of 1: do not agree through 5: strongly agree on the questions: "The EM Resuscitation workshop helped prepare me to work cardiac room shifts," "format was engaging and relevant," and "workshop was effective in increasing my knowledge of resuscitation concepts and procedures."

CONCLUSION: Simulation based resuscitation education can help to promote comfort and competence in managing critically ill patients, improve procedural competence, and improve abilities to troubleshoot skills on commonly encountered critical patient care scenarios. The simulation format utilized was well received with 100% of participants noting it to be engaging and relevant and effective in increasing knowledge and procedural competence in Emergency Medicine resuscitation.

ABSTRACT #10

CLIMATE CHANGE CURRICULUM INFUSION PROJECT

AUTHORS: Nina Prescott, Christian Cayon, Jill Gregory, Perry Sheffield

PURPOSE: Climate change is considered the greatest threat and opportunity to health of the 21st century. Medical schools must investigate how to adequately teach climate-relevant competencies in the medical curriculum. The Climate Change Curriculum Infusion Project (CCCIP) aims to integrate climate change and health course content into existing pre-clinical curriculum.
In an already crowded course load, is "infusing" climate change concepts into existing lectures an effective way of teaching students about associated health consequences?

METHODS: Health-relevant climate change topics were inserted into existing presentation materials, adding a few slides per lecture. We used anonymous student surveys for project evaluation. Faculty also provided process feedback. Findings were used for curriculum refinement and to evaluate the effectiveness of teaching climate change and health competencies created by international climate and health consortia.

RESULTS: 87.8% of respondents (n=34, response rate 24.3%) agreed or strongly agreed that the infused material increased understanding of climate change and health links. 90.9% of respondents thought content was appropriate for the class, and 84.8% thought it was effectively organized. Faculty from other courses have also responded well to our initiative, expressing interest in having climate change slides infused into their lectures.

CONCLUSION: Overall, students and faculty were satisfied with the initial implementation of CCCIP. As of 2018-19, content slides were added to a total of 5 Mt. Sinai courses in 10 different sessions. Future goals include developing a replicable CCCIP model for other medical schools.

ABSTRACT #11

MEDICAL STUDENT PERFORMANCE IN THE PSYCHIATRY CLERKSHIP AT THE ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI, BY GENDER AND EVALUATION TYPE

AUTHORS: Danielle Torres, Lawrence Vaynerchuk, Xavier Diao, Cindy Chiu, Emma Smith, Shreya Nagula, Carrie Ernst, Antonia New, Mercedes Perez-Rodriguez

PURPOSE: Medical schools nationwide use clinical evaluations in the assessment of third-year medical student performance. While clinical evaluations may capture certain skills that standardized exams do not, they are generally more subjective and carry risk of bias (Hemmer et al. 2008; Lee et al., 2017). Clinical evaluations typically contribute to 50-70% of a student's overall grade (Riese et al., 2017). In our clerkship, three clinical evaluations (Attending, Resident/Fellow, and Oral Exam) make up 50% of a student's overall grade. We sought to better understand the interplay between student gender and performance on clinical evaluations.

METHODS: 140 students throughout the 2018-2019 academic year were included in the analysis. Gender was assigned according to gender pronouns used by the physician evaluations included in the Dean's Letter. Psychiatry clerkship administrative personnel compiled student grades and gender information and de-identified the data. Pearson's Correlations were run for the three modalities of evaluation. An independent samples t-test was used to further examine gender differences in grading outcomes.

RESULTS: The overall average scores for the Attending Clinical Evaluation, Resident/Fellow Clinical Evaluation, and Oral Exam were 3.07, 3.21, and 2.95 respectively, and they did not significantly differ. Additionally, all three metrics were positively correlated with one another. The Attending Clinical score was found to be significantly positively correlated with the Resident/Fellow Clinical score (r=.211), as was the Resident/Fellow Clinical score with the Oral Exam score (r=.182). Notably, the Attending Clinical score was found to have a significantly stronger positive correlation with the Oral Exam score, which is usually completed by the same attending- (r=.755). In stratifying performance outcomes by gender, there was found to be a gender difference in performance on the Attending Clinical score that approached significance (p=.107). Specifically, the average scores on the Attending Clinical score were higher for females (x = 3.16) compared to males (x = 2.99; p=.107). This difference corresponds to an effect size of 0.275. Power analysis suggests that these gender differences in average scores on the Attending Clinical evaluation may reach significance if sample size approaches 400 students.

CONCLUSION: The Attending Clinical score was found to have a strong positive correlation with the Oral Examination score, but it was only weakly correlated with Resident/Fellow score. Women outperformed men on the Attending Clinical score with a difference that approaches significance. This difference could be statistically significant with a larger sample size. Further analysis is warranted to better understand the potential role of gender and bias on student performance on different forms of clinical evaluation.

ABSTRACT #12

IMPROVING THE IMPACT OF A PRIMARY CARE ASYNCHRONOUS CURRICULUM IN PEDIATRIC RESIDENCY

AUTHORS: Priya Rolfes, Carolyn Rosen, Rachel Wilkinson, Leora Mogilner

PURPOSE: Few studies have assessed the efficacy of asynchronous curricula (AC) in GME. In 2018 we introduced the John Hopkins Physician Education & Assessment Center, a module-based pediatric primary care AC, to replace in- person didactics (IPD). While residents welcomed the concept of AC, usage was low. This led to further investigation to optimize the impact of AC, resulting in a new blended curriculum (BC). Our aim is to identify resident barriers to AC use; compare participation and satisfaction with old AC vs. new BC; determine if poor AC use in 2018 impacted knowledge as measured on the pediatric in-training exam (ITE.)

METHODS: A survey was sent to residents exposed to 1 year of AC to assess barriers to use and learner preference for IPD vs. AC. Based on results, we designed a BC for 2019 that includes a resident-led monthly conference and faculty- led monthly board review on assigned modules with added incentives for AC completion. After 6 months of BC use, resident satisfaction was assessed; module completion was measured. ITE scores were collected from 2018 and 2019 for residents exposed to a year of IPD and then a year of AC. Questions on primary care topics (PCT) were identified and a PCT subscore was computed. Statistical analysis included Wilcoxon signed-rank test.

RESULTS: 22/32 residents (69%) exposed to 1 year of AC completed the survey. 73% preferred a blend of IPD and AC, whereas prior to AC, 65% preferred AC to IPD. 68% of residents cited either not enough protected time (41%) or no accountability (23%) as barriers to AC completion. After 6 months of exposure to BC, 35/57 residents (61%) responded to the next survey. There was no preference for one BC component over another. The greatest barrier to module completion again was lack of protected time (33%). Module completion for AC vs. BC was compared for 52 residents who did 6 months of each; median module completion increased by 3 in BC ($p<0.003$). Moreover, PGY-1 residents completed 12 modules in BC vs. 5 in AC ($p<0.0001$). PCT subscores were compared for 16 residents exposed to one year of IPD and one year of AC alone; AC alone was associated with an 8-point decrease in PCT subscore ($p=0.001$).

CONCLUSION: A BC that includes in-person components and more accountability led to increased module completion, underscoring the need to provide varied educational modalities to meet diverse learning styles. Resident PCT scores did decrease significantly after 1 year of the underutilized primary care AC. Further study will determine the impact of improved BC participation on resident PCT scores.

ABSTRACT #13

CARING FOR PATIENTS WITH OBESITY: KNOWLEDGE, ATTITUDES, AND BARRIERS AMONG PEDIATRIC RESIDENTS

AUTHORS: Vickie Wu, Carolyn Rosen, Stephanie Pan, Leora Mogilner

PURPOSE: Previous studies have identified attending physicians' perceptions regarding screening for and managing pediatric obesity, but less is known about resident physicians' perspectives and perceived barriers. Identifying barriers to effective counseling on obesity prevention and management can help direct resident education and will be beneficial for both residents and their patients. The objective of this study was to assess pediatric residents' knowledge on obesity screening, their comfort discussing obesity with families, their self-efficacy regarding obesity prevention and management, and the barriers they face discussing obesity with patients.

METHODS: An anonymous survey was electronically distributed to residents at an academic continuity practice. The survey contained multiple choice and open-ended questions based on the AAP's 2007 Expert Committee Recommendations on Obesity and extensive literature review conducted by the authors; questions assessed knowledge, attitudes, and barriers to discussing and managing obesity at preventive visits. Descriptive data and Spearman correlation coefficients were calculated; comparisons were performed using 2 or ANOVA. The study was deemed exempt by the Icahn School of Medicine IRB.

RESULTS: 49 of 58 residents (84%) completed the survey. Mean score on the knowledge questions was 52.7%. Knowledge did not significantly differ by training level. 71.4% of residents felt "somewhat" or "very" well-prepared to counsel families about obesity; 77.6% felt "somewhat" or "very" comfortable discussing overweight/obesity with patients with these diagnoses. In contrast, 77.6% of residents thought their counseling on overweight/obesity management was "not at all" or "slightly" effective and 69.4% thought their counseling on obesity prevention was "not at all" or "slightly" effective. Higher training level was associated with feeling more prepared to counsel families about obesity than lower training level (P=0.003). Insufficient time (77.6%), inadequate training (55.1%), and concern for hurting parents'/patients' feelings (55.1%) were the most common barriers to discussing obesity at preventive visits. Higher scores on knowledge questions correlated with greater comfort discussing overweight/obesity (r=0.31, P=0.03) and self-perceived effectiveness in prevention counseling (r=0.30, P=0.04).

CONCLUSION: Similar to attending physicians, most residents felt well-prepared to counsel families about obesity and comfortable discussing obesity with them. The majority of residents also did not think their counseling on obesity management or prevention was effective. Further study is needed to determine if residents' self-perceived effectiveness impacts patient outcomes. Improving resident knowledge, teaching strategies such as motivational interviewing, and enhancing clinic resources may help to improve obesity management and are currently being studied.

ABSTRACT #14

IDENTIFYING THE OPTIMAL IMPLEMENTATION STRATEGY TO ENHANCE ATTENDANCE DURING A WELLNESS CURRICULUM IN A PULMONARY AND CRITICAL CARE MEDICINE FELLOWSHIP

AUTHORS: Rachel Potter

PURPOSE: Burnout has been a growing area of concern impacting Pulmonary and Critical Care Medicine (PCCM) physicians both professionally and personally. Junior physicians, including medical fellows, have been identified as a population more at risk of developing burnout due to the stress and demands associated with training. Part of graduate medical education includes developing habits and skills a physician will use throughout their career.

Fellowship training presents an ideal opportunity to provide education and facilitate development of adaptive behaviors to cope with stress and decrease burnout.

METHODS: A clinical social worker developed a wellness curriculum (WC) consisting of a variety of topics to address the components of burnout: emotional exhaustion, depersonalization, and reduced sense of personal achievement. Over a 3 year period, a WC of 1 hour facilitated discussions was established and trialed at different times, different days of the week, and frequencies (weekly vs biweekly vs monthly) within the PCCM fellowship program at a single institution. Attendance was tracked for each wellness session.

RESULTS: Over a 3 year period, attendance noticeably increased with modifications to time slots, day of the week, and frequency of wellness sessions. We found that: A) Wellness sessions held during lunch hour resulted in the higher attendance and engagement. B) The best day to hold these sessions was one that coincided with fellows' continuity clinic. C) The optimal frequency was monthly (rather than weekly or biweekly).

CONCLUSION: Over a three year period, a WC was developed and adjusted based on the needs of PCCM fellows. We determined that the optimal time, day and frequency of a well-being curriculum was a lunch hour, after fellows' continuity clinic and monthly (rather than weekly or biweekly). One of the benefits observed through the wellness sessions was increased social support within fellowship. The time of the day, the day of the week, and frequency of wellness sessions should be customized to the structure and schedule of a specific training program in order to reach the largest possible number of trainees.

ABSTRACT #15

IMPLEMENTATION AND EVALUATION OF A NOVEL KIDNEY REPLACEMENT THERAPY CURRICULUM FOR INTERNAL MEDICINE RESIDENTS

AUTHORS: Niralee Patel, Meghana Eswarappa, Kirk Campbell, Samira Farouk

PURPOSE: Kidney replacement therapy (KRT) indications and modalities are not traditionally emphasized as part of internal medicine residency training program core curricula. As a result, trainees may be unfamiliar with the indications and basic mechanisms of dialysis modalities and may struggle when trying to initiate informed discussions with patients and their families regarding the risks and benefits of initiating RRT. In the medical intensive care unit (MICU), trainees regularly care for patients receiving KRT – presenting a need to improve education in this area.

METHODS: We developed and implemented a monthly, 30-minute "The Basics of KRT" lecture for residents rotating in the MICU to address this perceived knowledge gap. The lecture covered the indications for and various KRT modalities, core concepts of clearance and ultrafiltration, and vascular access options. All lectures were delivered by senior nephrology fellows. We conducted an anonymous pre-survey and post-survey to assess knowledge of and attitudes towards KRT immediately before and after the lecture. The surveys assessed understanding and comfort of care for patients on KRT on a Likert scale of 1-5 (5 indicating the highest level of comfort or understanding). To assess knowledge, 4 multiple choice questions (MCQ) were included. These questions addressed similar concepts, though were distinct on the pre and post surveys.

RESULTS: From July 2019 to January 2020, 37 residents (20 PGY-1, 14 PGY-2, 3 missing PGY values) completed the pre-survey and 37 residents (21 PGY-1, 14 PGY-2, 2 missing PGY values) completed the post. The mean comfort level for managing KRT patients increased before and after the lecture (2.6 vs 3.2, $p < 0.0001$). The mean understanding of KRT improved from 2.6 to 3.5 ($p < 0.0001$). Trainees responded correctly to a significantly higher percentage of knowledge questions after the lecture (41.2% vs 63.5%, $p = p < 0.0001$).

CONCLUSION: Implementation of a short, regularly scheduled KRT lecture for internal medicine trainees in the MICU was feasible and increased understanding and knowledge of KRT as well as comfort level for managing patients on KRT. These results of a small study show that knowledge gaps that exist may be addressed with didactic sessions.

ABSTRACT #16

CREATION OF A WELL-BEING CURRICULUM FOR PEDIATRICS TRAINEES: APPLYING POSITIVE MEDICINE, WITH LESSONS FROM THE MOUNT SINAI PEERS PROGRAM

AUTHORS: Jordyn H. Feingold, Annie Hart, Leora Mogilner, Amanda Kimberg, marta hoes, Erica Brody

PURPOSE: Effective interventions to enhance resident well-being are urgently needed. Physician burnout, defined as emotional exhaustion, depersonalization, and a low sense of self-efficacy, affects >50% of US physicians. Programs designed to mitigate burnout are varied in scope and utility. As such, there is a need to design and evaluate solutions that will work specifically for the pediatric residency program at ISMMS. Wellness offerings in this setting so far have been varied, including support groups, mindfulness, narrative medicine, fitness and arts events, problem-solving forums, and others. There have been no positive psychology offerings to present.

METHODS: A needs-assessment with pediatric residents was conducted through 2 semi-structured focus groups outside work hours, using a standard script. This qualitative data was used to customize the PEERS curriculum, a positive psychology intervention for ISMMS medical students, so as to specifically address the needs of pediatric housestaff. Baseline metrics of thriving and satisfaction with current wellness offerings were collected in January 2020. "PGY-PEERS" will incorporate positive psychology interventions in 1-hour sessions on a monthly basis. Metrics will be re-evaluated after 6 months, in order to inform subsequent modifications to the curriculum for continuous development. IRB approval and funding from an IME grant were obtained prior to study initiation.

RESULTS: 14 residents (6 PGY-1s, 5 PGY-2s, and 3 PGY-3s) participated in 2 focus groups. Four principal themes emerged: the specific stressors through residency, limitations of existing support groups, residents' yearning for meaningful connections with one another, and a preference for more concrete wellness activities with an emphasis on skills. The pre-implementation survey had 44 respondents (66%) who each received a $10 gift card after completion. The mean overall well-being score was 7.17/10, SD=1.31. The mean overall negative emotions score was 4.15/10, SD=1.59. 78.3% of residents agree that they can effectively manage the stressors of residency; 6.5% disagree. 51.5% disagree or strongly disagree that they feel better after attending housestaff forum, a session intended to address concerns with all aspects of the residency program. 45.7% disagree that they feel better after attending 'social work support group,' one of the current well-being offerings. Qualitative comments revealed a greater need to connect with one another in residency.

CONCLUSION: To alleviate burnout and enhance well-being, solutions must address both the overarching healthcare system, as well as teach residents effective skills to optimize their personal and professional lives. PGY-PEERS intends to disseminate such a skillset, while also building relationships, strengthening community, and providing an opportunity to troubleshoot various levels of resident concerns with their training experiences. A program-wide commitment to resident well-being can shift culture, and enable residents to thrive.

ABSTRACT #17

APPLICATION OF THE MODIFIED DELPHI TECHNIQUE FOR IMPLEMENTING CHANGES WITHIN AN ANESTHESIOLOGY RESIDENCY PROGRAM

AUTHORS: Lauren Lisann-Goldman

PURPOSE: Implement changes in an anesthesiology residency program with the ultimate goal of reducing burnout and improving resident well-being.

METHODS: The intervention consists of a serires of discussion groups, specifically a modification of the Delphi method, with the overarching goal of understanding what obstacles exist to resident well-being, and with the aim of addressing those challenges with organization-level changes. The Delphi method is a framework for surveying & meeting where repeated discussions occur to arrive at the solution to a problem.

Modified Delphi Process for the current project:
Round 1: Open-ended prompt or question, emailed to residents (in this case, prompt relates to resident workplace wellness)
Round 2: Each participant reviews & reacts to information provided in the first round (e.g, through Likert scale ratings and commentary). In this round, the prompt/question becomes more focused, in order to evoke suggestions for organizational change in the residency program or anesthesiology department.
Round 3: Reaction to and evaluation of changes made in the program by residents.
Round 4: Assessment of changes made in the program by program director, attendings, chiefs, and administrators, along with opportunity to react to residents' assessment of the change.

RESULTS: Meetings are still underway and the intervention is ongoing. Thus far, responses to initial prompts fall under the themes of residents feeling overworked and not having enough time to balance studying, working, and spending time with family. Changes to work hours are underway.

CONCLUSION: Changes in work hours and staffing are in progress to improve residents' ability to manage their time outside of work in terms of studying and spending time with family. Feedback will be elicited and further meetings will occur to assess the impact of the changes made to resident work schedules.

ABSTRACT #18

THE NEW BALLARD SCORING - LOST ART OF CLINICAL EXAMINATION?

AUTHORS: Parvathy Krishnan, Uday Patil, Chia-Hua Chiu

PURPOSE: Gestational age which is a major determinant of neonatal care and admission to the NICU is assessed using NBS in high risk population with limited prenatal care. NBS is a clinical skill that the pediatric residents are expected to perform when needed yet may not be routinely taught in the curriculum. In this pilot study, we hypothesized that formal teaching can significantly improve this deficit. We aim to assess the level of confidence and knowledge in performing the New Ballard Scoring in pediatric residents and medical students following a formal curriculum and demonstration of clinical examination.

METHODS: An online questionnaire was distributed among 25 trainees to assess knowledge and confidence. Knowledge was assessed using 4 questions and confidence was assessed using a scale from 1-5. Following this, a focused and interactive didactic session supervised by 2 NICU faculty was conducted using audiovisual aids and handouts. The NBS was demonstrated on a mannequin. Audiovisual aids and the teaching materials were emailed to all the participants at the end of the session. The participants were instructed to complete a post intervention online survey.

RESULTS: There was a total of 25 trainees who took part in the session and we had 100% response rate. Among, 16 % were medical students and 84% were pediatric residents. 68% reported that they never received formal education on how to perform the NBS. 20 % received training during medical school and only 12% received training during residency training.
Mean confidence level prior to intervention was 2.28 (SD= 1.20) with 40% of the participants reporting the lowest confidence level of 1. Mean level of knowledge was 1.72 (SD= 0.93). Confidence correlated with the training level with PGY4 residents demonstrating a higher level of confidence. After the didactic session, 96% reported an increase in confidence in performing the NBS. Mean confidence level was increased to 4.48 (SD= 0.55) and confidence was increased to 3.68 (SD= 0.84) ($P<0.0001$). 76% of the participants strongly agreed on the need for a hands-on training session in the future.

CONCLUSION: Majority of Pediatric residents did not receive formal teaching in NBS. The confidence and knowledge level among the trainees significantly increased with a focused didactic session. The importance of formal curriculum for clinical examination skills like NBS is understated. We plan to conduct further studies to assess the retainment of knowledge and confidence as well as effectiveness of hands-on training sessions.

ABSTRACT #19

ENHANCING QUALITY IMPROVEMENT LEARNING FOR FELLOWS BY IMPROVING FACULTY KNOWLEDGE AND MENTORSHIP SKILLS

AUTHORS: Kelly Cummings, Helen Fernandez, Christine Chang, Brijen Shah

PURPOSE: Quality improvement (QI) and patient safety (PS) are top priorities in health care and the ACGME core competencies for trainees and faculty. A barrier to the expansion of QI/PS in medical education is the lack of faculty to engage in this experiential learning. A survey of faculty for the Mount Sinai geriatrics and palliative care fellowship 2018-2019 QI curriculum revealed 42.9% never completed a formal QI curriculum, only 43% felt comfortable being a QI mentor and 86% would welcome QI faculty development. Our project aims to increase trainees' knowledge and engagement in QI/PS by improving faculty QI skills and mentorship.

METHODS: For faculty development, we employed the train the trainer method using asynchronous learning through Institute for Healthcare Improvement (IHI) online modules with the incentive of earning MOC points and group sessions to reinforce basic QI principles and coach faculty on how best to facilitate fellows in the QI process. Faculty met for scheduled work sessions with a team of fellows during the year to monitor progress of a QI project and provide feedback. Knowledge, skills and attitudes of faculty and fellows were evaluated pre-curriculum and will be assessed post-curriculum using surveys and the QI Knowledge Application Tool (QIKAT), a standardized case-based instrument to assess the application of QI knowledge. Fellows evaluated mentors at midpoint and will again at the end.

RESULTS: 10 of 16 mentors completed the pre-curriculum survey. Half were first-time QI mentors. 60% had prior formal QI training and 50% felt somewhat comfortable as a QI mentor, however 30% felt somewhat uncomfortable as a QI mentor and only half completed the pre-assigned IHI modules. Average total QIKAT score was 22.5 out of 27 (range 16 to 27). Common themes in midpoint feedback on faculty by fellows included need for improved communication and more direct guidance.

CONCLUSION: Although our study shows some faculty may have had previous formal QI training, their comfort in being QI mentors varies as well as their skills in the application of QI knowledge to clinical scenarios. We anticipate post- curriculum surveys will show increased skills and comfort in QI concepts by both faculty and fellows.

ABSTRACT #20

IMPLEMENTATION OF A MORNING MICU CURRICULUM FOR INTERNAL MEDICINE RESIDENTS

AUTHORS: Mira John, Thomas Tolbert, Andrew Coyle, Yoland Philpotts, Samuel Acquah, Hooman Poor, Jean Hsieh

PURPOSE: Internal Medicine (IM) residents are required to complete three to six months of critical care experiences during their thirty-six months of residency training. A significant portion of this training and exposure to the physiology and pathophysiology of critical illness is in the medical intensive care unit (MICU), which provides a rich clinical learning setting. Pairing that environment with didactics or classroom-based teaching, however, has previously proven difficult, given the unit's busy and unpredictable schedule and unstable patients. At the Icahn School of Medicine at Mount Sinai's IM Residency program, we aimed to address this gap by creating and implementing a formal morning curriculum for residents during their month-long MICU rotation.

METHODS: Recognizing the lack of educational standardization during the MICU rotation, a curriculum aimed for post- graduate year (PGY) -1 and -2 IM residents in the MICU was developed by a small curricular leadership group of residents, fellows, and faculty. Commitment was then secured from MICU leadership for protected teaching time in the morning before attending rounds. Initial topics covered in these half-hour morning sessions were shock, shock management (use of vasopressors), respiratory failure and mechanical ventilation, and acute respiratory distress syndrome (ARDS) diagnosis and management. Topics were chosen based on MICU common pathologies as well as consensus by the initial MICU curriculum leadership group. Sessions were delivered by pulmonary/critical care (PCCM) fellows (either a fellow on service in the MICU or a fellow on research block) and consisted of oral didactics with an accompanying power-point presentation. The power-point presentations were created by a current PCCM fellow on the initial curriculum group and were vetted for accuracy, quality, and appropriate audience level by the resident and faculty on the curriculum group. Content in each session was designed to augment learner knowledge in critical-care topics and comfort in creating a treatment plan for critically-ill patients.

RESULTS: During initial implementation (Blocks 1-5 of the academic year), four to five sessions were conducted during each month-long block. Preliminary feedback from both the housestaff audience and MICU leadership about the curriculum and about having protected morning didactics has so far been extremely positive. Extra didactic sessions about other critical-care topics, such as sedation and renal-replacement therapy, have also since been added to the curriculum roster. Given the curriculum's initial success, the curricular leadership has been formalized within the department with designated faculty members now serving as official curricular leads. Official evaluation of the initial curriculum is ongoing.

CONCLUSION: We demonstrated that implementing a consistent morning curriculum for IM residents in the MICU was feasible and well-received with buy-in from the IM residency, PCCM fellowship, and MICU leadership.

ABSTRACT #21

WINNING THE POPULAR VOTE: ITERATIVE TEACHING MODALITIES FOR HAZARDS OF HOSPITALIZATION

AUTHORS: Samantha Lau, Claire Davenport, Rosanne Leipzig, Ravishankar Ramaswamy

PURPOSE: As of 2018, there are 49.2million older adults in the US. The goal was to improve format of and student engagement with geriatrics curriculum on Hazards of Hospitalization (HoH) since all medical students, regardless of future specialty, will encounter predominantly older adults in the inpatient setting.

METHODS: ACG clerkship hosts 144 medical students yearly, with 18 students every 6 weeks. Students participate in an hour-long didactic on HoH, which includes topics like delirium, pressure injury, and hospital-acquired debility.

Traditionally, HoH was taught in a lecture format. Needs assessment was based on anonymous student feedback and faculty discussion. Curriculum was developed through an iterative process with inclusion of board-style MCQs, Team Based Learning, peer learning and journal club discussion, technological tools like PollEverywhere and EPrognosis, and flipped classroom learning. The goal was for students to understand risk factors and prevalence of HoH and apply interventions to prevent and treat those syndromes. Curriculum change was implemented in academic year 2018-19 by a senior geriatrics fellow with faculty supervision. Students submitted feedback through SurveyMonkey®. Lectures were rated for three components: Quality of Presenter, Teaching Format, and Educational Content on a 5-point scale. We analyzed changes in ratings over the year.

RESULTS: Eight lectures were evaluated in the last 18 months since curriculum change. Survey response rate was <50%. Changes were made between lectures, except from lectures 3 to 4. Overall trends in format and content were positive, starting at 3.18 and 3.14 (lecture 1), peaking at 3.7 and 4.2 (lecture 3), declining to 3.08 and 3.19 (lecture 5), before rising again 4.0 and 4.1 (lectures 6-8). Qualitative themes were also analyzed. The best rated lectures (lectures 6-8) were case-based with focus on clinical practice tools. The worst rated lectures (lectures 1 and 5) involved pre- course reading and small groups.

CONCLUSION: Downward trend in Educational Content, despite same content for Lectures 3 and 4, highlight importance of adjusting material over the academic year as students' knowledgebase grows. Lecture 5 was adjusted independent of evaluations, with a drop in ratings, emphasizing that changes should be driven by feedback. In summary, students prefer case-based, discrete tools (ePrognosis, CAM, pressure ulcer tools), and high-yield board-review questions.

Students did not find pre-reading or breaking into small groups helpful, unless small groups were more structured. Next steps include incorporating hazards teaching into clinical experience and evaluating knowledge retention and application.

ABSTRACT #22

DEVELOPMENT, IMPLEMENTATION, AND EVALUATION OF A NOVEL, ONLINE, CASE-BASED OPHTHALMOLOGY WORKSHOP AND SKILLS SESSION FOR INTERNAL MEDICINE RESIDENTS

AUTHORS: Mark Edouard, Samira Farouk, Nisha Chadha

PURPOSE: Ophthalmologic complaints in the outpatient primary care setting are common, comprising 5-19% of visits. However, undergraduate ophthalmology education has declined. Consequently, primary care residents express discomfort with ophthalmic presentations. Our aim was to conduct a needs assessment (NA), and pilot and evaluate the effectiveness of a novel ophthalmology workshop for internal medicine residents (IMR).

METHODS: An 18-item NA, querying participants on comfort with common ophthalmic presentations and exam skills, was administered to 64 post-graduate year PGY -2 or PGY-3 IMR. After completing the NA, IMR participated in one 2- hour workshop, offered on 3 occasions. Prior to the workshops, a case-based, online teaching tool (20/20 SIM, www.2020SIM.com), including 6 HIPAA compliant cases was developed in WordPress. In the workshops, IMR were guided to use the teaching tool. The interactive session was facilitated by an ophthalmologist, who provided expert feedback, as residents worked through the cases in small groups. 20/20 SIM cases covered basic eye anatomy, red eye differential diagnosis, and evaluation of cataract, diabetic retinopathy, and glaucoma.

The 2nd hour of the workshop focused on the ophthalmic exam. Following a brief, 15 minute Powerpoint review of the ocular exam and demonstration of panoptic use, IMR practiced the fundoscopic exam, using the panoptic, on peers who volunteered for pupillary dilation. Feedback and guidance was provided by the ophthalmologist. IMR also used a panoptic fitted with a smartphone adaptor to record and share fundus findings. A 6-question exit survey comprised of multiple choice, Likert scale, and free response questions, was used to evaluate the session.

RESULTS: 33 IMR completed the NA, 25 participated in the workshop, and 23 completed the exit survey. Not all residents could to participate due to clinical responsibilities. Of the 33 NA respondents only 57.6% indicated having prior primary care education on the eye. 97% were neutral to very uncomfortable with basic eye anatomy, but 68.8% felt it was important. At least 50% were comfortable assessing visual acuity, pupils, and extraocular muscles, while few felt comfortable assessing confrontational VFs, performing ophthalmoscopy, and the external exam. 63.6% and 36.4% were uncomfortable generating a differential for vision loss and the red eye, respectively. The most common barriers to performing the eye exam were discomfort with the exam (97%), and limited time (75.8%). Following the 2-hour workshop, 91.3% rated 20/20 SIM as a useful educational tool. In terms of case difficulty level, 34.8% selected “challenging,” while 60.9% felt they were “just right.”

CONCLUSION: NA of IMR indicated discomfort with eye anatomy, common ophthalmic presentations, and the eye exam. Use of an online, case-based teaching tool to teach ophthalmology in workshops to IMR is feasible, and was well received by participants. Further studies are required to assess knowledge and skills retention.

ABSTRACT #23

A MODEL QUALITY IMPROVEMENT CURRICULUM FOR GERIATRIC AND PALLIATIVE CARE FELLOWS

AUTHORS: Christine Chang, Nami Safai Haeri, Kelly Cummings, Helen Fernandez

PURPOSE: Educating physicians in the principles of quality improvement (QI) and patient safety (PS) is a national imperative. The Accreditation Council for Graduate Medical Education (ACGME) program mandates that residency programs formally teach quality improvement (QI) concepts and skills as part of the practice-based learning and improvement core competency. An 8-month QI curriculum was developed for geriatric and palliative care fellows.

METHODS: Program Description: The 2018-2019 Geriatric and Palliative care Fellow's QI curriculum employed a flipped classroom model that used Institute for Healthcare Improvement (IHI) online modules to teach basic QI concepts and four 1-2 hour protected class time sessions to reinforce knowledge application of QI concepts through active learning methods. Fellow's QI roadmap, brainstorming worksheets, presentation templates were created to guide project workflow. Fellows worked on departmental prioritized team-based QI projects, which were presented to the department at midterm and end-of-year.

Program Evaluation:
Prospective pre-post surveys were administered which consisted of:
Demographics
8-item comfort with QI concepts questionnaire 5-point Likert Scale (5= Extremely Comfortable, 1= Not Comfortable)
3 cases from the Quality Improvement Knowledge Application Tool (QIKAT) Fellow 2 question open-ended course evaluation:
What are the strength and weaknesses of this course?
Do you have any recommendations to improve this course?

RESULTS: 30 geriatric and palliative care fellows completed the QI curriculum and presented their work on 8 departmental quality initiatives. 66% (20) completed both PRE and POST QIKAT. Post curriculum, fellows demonstrated improved QI knowledge via QIKAT (Pre 10.3, Post 11.3; Paired t test p value = 0.0049) as well as reported improved comfort with utilizing the 8 key QI concepts and tools ($p < 0.05$). Course evaluations were positive with recommendations to include more protected work time with QI concept refreshers, education on data collection and analysis, stronger faculty facilitation, and advice to improve equitable group participation.

CONCLUSION: A structured QI curriculum that employs a flipped classroom that engages fellows on meaningful departmental QI initiatives is effective in teaching fellows relevant quality improvement skills.

ABSTRACT #24

DEVELOPING A MECHANICAL VENTILATION CURRICULUM FOR INTERNAL MEDICINE RESIDENTS – REACHING A CONSENSUS BETWEEN TEACHERS AND LEARNERS

AUTHORS: Bertin D. Salguero, Joseph P. Mathew, Priscilla Loanzon, James S. Salonia

PURPOSE: There exists a lack of a validated curriculum and adequate education in mechanical ventilation (MV) among Internal Medicine (IM) Residency Programs. Despite being required knowledge by the American Board of Internal Medicine, variability exists in knowledge and skill acquisition of IM residents in MV. Current education is limited to informal teachings by the critical care physicians during intensive care unit (ICU) rotations. Given the paucity of literature on MV education, a needs assessment was conducted to develop a novel multilevel learners' curriculum for the IM residents.

METHODS: The project aimed to develop a multilevel learners' MV curriculum. A two-step needs assessment was utilized. An online survey questionnaire was administered to the IM Residents identifying the three key points about MV education: barriers, challenges, and opportunities. This survey generated an initial learning needs list. The list was validated by the ICU faculty as content experts using a two-round modified Delphi Technique. A list of ten essential topics was finalized from the IM residents' responses and the expert panelists.

RESULTS: Fifty three of the 126 categorical residents completed the survey (42%). The respondents were PGY-1 (32.1%), PGY-2 (39.6%), and PGY-3 (28.3%). Ninety-four percent of the residents reported no previous formal training on MV. Three key points: (1) Barriers: lack of basic resources to learn about MV (28%), the pressure to not manipulate the ventilator (28%), low priority from the residency program to teach MV (21%) and variable ICU learning opportunities (17%). (2) Challenges: inconsistent teaching during ICU rounds – 25% consistently taught, 70% occasionally and 5% never, and inconsistent knowledge and skills acquisition methods – 50% ICU rounds, 25% textbooks, 11% online lectures. (3) Opportunities: importance of MV education rated as 8.5/10, perceived knowledge deficit: non-invasive MV 4.5/10 and invasive 4/10, the anticipated ventilator management as a hospitalist (12%).
Six of the 10 invited faculty completed the Delphi technique process. The 10 topics considered most important were: blood gas interpretation, types of respiratory failure, MV indications, physiologic effects of positive pressure ventilation, modes of ventilation, setting up the ventilator, ventilator waveforms interpretation, peak and plateau pressures analysis, troubleshooting common MV alarms and liberation from MV.

CONCLUSION: A well-defined standardized curriculum is essential for IM residents optimal education in MV. A multilevel learners' simulation-based curriculum requires connecting the learners' perceived needs and the clinical experts' consensus. In our Center for Advanced Medical Simulation, we developed a novel, innovative MV curriculum to address the varied knowledge, skills and experience of our multilevel learners.

ABSTRACT #25

A SPIRITUALITY IN MEDICINE CURRICULUM: UNDERSTANDING AND LEVERAGING AN OFTEN OVERLOOKED SOCIAL DETERMINANT OF HEALTH FOR PATIENTS AND RESIDENT TRAINEES

AUTHORS: Jennifer P. Weintraub, David Fleenor, Amanda Pechman, Lauren Peccoralo

PURPOSE: Studies show that spirituality curriculums during residency not only improve a physician's ability to provide spiritual care but leave positive impacts on professional and personal formation for years to come. The objectives for our curriculum are that primary care (PC) residents will be able to: 1. Integrate spiritual care into their medical care of patients; and 2. Identify and employ their own spiritual resources in an effort to increase well-being and resilience.

METHODS: PC Program and chaplain leadership created six one-hour sessions on topics in spirituality and medicine to be delivered during primary care elective blocks over a three-year residency. 18 PC residents will participate, with each session given to six residents at a time.

The six sessions are: 1. Introduction to spirituality and medicine; 2. Integration of the health care chaplain in medical care; 3. Spirituality at end of life; 4. Coping with death and dying as a physician; 5. Managing transference and counter-transference; and 6. Moral injury, personal spirituality, and effects on caring for the patient. The sessions are developed and delivered by a chaplain educator via brief didactics and structured discussions.

We conducted a pre-intervention needs assessment survey consisting of likert style questions, and will conduct a post-survey after the curriculum has been delivered. We also send brief interim surveys after individual sessions with likert style questions and an option for free-text comments.

RESULTS: 14/18 PC residents completed our needs assessment survey. Results showed that only 50% of residents felt comfortable asking patients about their spiritual and/or religious identities. While 85.7% felt they understand the role of a chaplain, only 43% knew when a referral would be helpful. Interestingly, 64% felt they had transgressed deeply held moral beliefs while learning and practicing medicine, and 50% know how to use their own spirituality/religion/worldview to cope with the stress of learning and practicing medicine.

A recent interim survey completed by 4/6 residents showed this to be the highest rated session in our entire curriculum, with comments that this was "one of the best sessions we have ever had," creating "a safe space to chat" and "very useful."

CONCLUSION: While studies support the usefulness of spirituality curricula on resident trainees, there is a paucity of data on how this learning impacts a trainee's ability cope with the moral injury and stresses of medical training. We learned that it is essential to acknowledge this stress and provide a space for reflection and discussion of these topics. Limitations include a small sample size and limited interim data given the early stages of our curriculum delivery.

ABSTRACT #26

REVAMPING NOON CONFERENCE TO IMPROVE ENGAGEMENT, CLINICAL KNOWLEDGE AND SKILLS BASED LEARNING

AUTHORS: Michele Stanchina, Adiac Espinosa Hernandez, David Weininger

PURPOSE: Noon conference is a mandatory part of residency training, however, it has been shown that adults become disengaged and retain less from passive-learning. This project was designed to infuse new life to a traditional learning tool, and increase its effectiveness by improving engagement, satisfaction, knowledge retention, and relevant skills- based learning.

METHODS: We performed an initial needs assessment via Survey Monkey to elicit responses about resident engagement, existing proficiencies and defects in cognitive and psychomotor skills. A new curriculum was developed transforming traditional lectures into shorter interactive sessions with increased format variety. We focused on deepening understanding of high yield topics such as reading EKGs through recurring modules and held bi-weekly Jeopardy games with questions based on prior didactics to increase retention. Skills training with intraosseous line insertion, ultrasound, and mechanical ventilation was provided to improve comfort with psychomotor tasks. Post- surveys were completed after curriculum implementation.

RESULTS: 45 residents filled out the needs assessment. Most residents attended conference 2-3 times/week (57.8%) or 4-5 times/week (24.4%). 70% stated their expectations were met ≤ half the time, or not at all (4.4%). Only one third (33.3%) felt their expectations were met more than half the time or all the time (2.2%). Preferred methods of teaching varied but short review sessions, case-based learning, board questions, self-study, and games were among the favorite. Noon conference was a somewhat effective modality (55.5%) for clinical knowledge, but was not effective (80%) for learning new skills, or increasing comfort level with procedures. 40% of residents reported focusing 50% of the time which may be related to low levels of enjoyment, with 35.5% stating conference was not enjoyable. Most residents felt distracted at least 2-3 days/week (47.7%) from clinical duties, pages, boredom, unengaging speakers or cell phones. Residents expressed interest in more interactive sessions, fewer lectures, greater focus on high yield topics, and practical skills training.

The new curriculum was implemented on July 1, 2019. Initial data (n =24) show a significant increase in attendance, with 54.17% attending 4-5 times/week, and conference meeting expectations twice as often as last year (66.6% vs 33.3%). The most striking improvement was in procedural skills, where 80% of residents had previously reported conference as not effective, 70% of residents now stated that it was somewhat or very effective for learning new skills. Focus improved to 75%, and 58.3% now expressed enjoyment.

CONCLUSION: Preliminary results show that while residents preferred a variety of teaching modalities, by offering more variety, we were able to deepen engagement, and meet resident expectations a greater percentage of the time. Residents were more focused, attendance improved, and the residents' comfort level with new skills improved significantly.

ABSTRACT #27

RETHINKING JOURNAL CLUB: A NEW CURRICULUM AIMED AT MILLENNIAL LEARNERS

AUTHORS: Caroline Massarelli, Cynthia Katz, Leora Mogilner

PURPOSE: A fundamental goal of pediatric residency education is to teach trainees to critically evaluate medical literature and apply scientific evidence to patient care. The traditional educational format to teach these skills includes having trainees read a scholarly article and present and discuss it at a formal didactic "journal club," although it is unclear whether this format is successful in teaching trainees to critically evaluate and apply medical literature.

Understanding residents' attitudes and practices regarding evaluating medical literature is key to designing and implementing an accessible, effective curriculum. The purpose of this project is to determine pediatric residents' current practices and attitudes regarding critically appraising medical literature and to assess residents' reading habits and comfort with interpretation of medical literature before and after implementation of a novel, interactive journal club format.

METHODS: A literature search was conducted to understand current educational strategies used to teach residents how to interpret and apply medical literature. An anonymous online survey assessed PGY-1 to PGY-3 pediatric residents' reading practices and attitudes related to medical literature. A new resident-led, discussion-based journal club was devised and implemented biweekly in a pediatric residency program. An anonymous online survey will be administered to assess changes in residents' habits and attitudes 6 months after implementation of the new curriculum.

RESULTS: 30 out of 58 pediatric residents (response rate 51.7%) completed the survey. 50% of respondents reported reading 1-3 scholarly articles in the preceding month, and 30% read no articles at all. 83.3% of respondents reported regularly reading only portions of articles rather than reading and interpreting an entire article. 26.7% of respondents reported feeling comfortable critically appraising scholarly articles. No respondents reported feeling very comfortable critically appraising scholarly articles. The greatest reported barriers to reading medical literature were lack of time and comfort with critical interpretation of medical literature.

CONCLUSION: The majority of pediatric residents read few scholarly articles and few felt comfortable interpreting and applying medical literature. This survey highlights the need for more education and training on interpretation and application of medical literature, which will be addressed by the new resident-led, discussion-based journal club curriculum. Future study will assess the impact of this new curriculum on residents' reading habits and comfort with applying medical literature to patient care.

ABSTRACT #28

SYNAPSIS: A RESIDENT-LED FLIPPED CLASSROOM MODEL FOR THE THIRD YEAR CLERKSHIP

AUTHORS: Benjamin Brush, Laura Stein, Michelle Fabian

PURPOSE: Education on the wards during third year clerkships remains a combination of spontaneous bedside teaching and didactics on basic concepts. Yet, didactic sessions often either pull students away from the wards or pull residents away from their clinical responsibilities. Synapsis is a just-in-time dual-component educational tool to create a flipped classroom learning setting for the clerkship to improve education and facilitate stronger resident-as-teacher interactions. Similar projects have examined the use of additional didactic resources and have demonstrated success in surgical clerkships and radiology clerkships with overall very positive reception, increased interest in the specialty, and equal or increased exam performance. However, no such model has been applied and studied in a neurology clerkship, nor has a resident-directed interactive component been attempted. While initially rolled out and studied specifically for neurology, this model can easily be applied more pervasively throughout other third year clerkships.

METHODS: Synapsis consists of a two-part approach: 1) generation of a collection of brief (~15 minute) audio lessons on core topics for students paired with 2) generalizable discussion stems for residents to be applied to real patients on service. These audio didactics are delivered via ubiquitous podcast services every student already has on their phone. Each teaching episode focuses on one core topic and is designed to fit into the inescapable downtime students face while residents write notes or address patient care responsibilities. After completing their duties, the resident then uses the discussion stems to guide the learner through the real-world case that the student just saw on service.
To evaluate Synapsis, clerkship rotation blocks will alternate between conventional clerkship didactics and those in which Synapsis is deployed. Survey data will evaluate 1) satisfaction with the materials provided 2) frequency and method of use of materials provided and 3) impact on understanding, 4) overall interest in neurology. Preexisting data on clerkship satisfaction and shelf performance allows pre- and post-implementation evaluation.

RESULTS: Study to be performed 2020-2021

CONCLUSION: By replacing the impromptu didactics often employed in the curriculum with high quality audio lessons and practical case discussions, Synapsis will improve the education of Neurology clerkship students by fostering more meaningful discussion and patient-centered application of concepts. Instead, resident led teaching will be allowed to focus on maximizing student problem solving, allowing time for critical thinking, and answering of questions - all with overall less time taken away from their clinical responsibilities. This increased engagement and situational relevance will improve the student's experience of the clerkship and appreciation of neurology in general as well as increase their understanding and retention of the core concepts of the field.

ABSTRACT #29

NEAR PEER DIRECT OBSERVATION AND FEEDBACK

AUTHORS: Monica Sethi, Christina Hajicharalambous, Angela Chen

PURPOSE: Assessing clinical knowledge of Emergency Medicine residents and providing feedback is essential to residency training. However, resident assessments usually involve unstructured evaluations of residents by faculty, complicated by the unpredictable environment of the ED, faculty availability, and limited training in providing feedback. Our objective was to improve resident assessments by the creation of resident-to-resident feedback curriculum, involving a dedicated senior resident with direct observation shifts of juniors, and the use of a standard direct observation tool. Additional objectives were to provide senior residents an opportunity to learn to give feedback, and to introduce a culture of feedback within the department by increasing opportunities for feedback to be given.

METHODS: PGY3 residents were assigned 4 weeks where they served as the Teaching Resident (TR). The TRs were assigned approximately ten 2-hour observation shifts per month. PGY1 residents were observed in the general ED while PGY2s were observed in the critical care area. The TR used a modified CORD standard direct observation tool (SDOT) to evaluate the junior residents. After evaluating the residents, the TR would review the SDOT with the observed resident to highlight areas of strength and areas for improvement.

RESULTS: Results are currently pending final data collection. To measure the effectiveness of this curriculum, we will both survey residents to assess its impactfulness, as well as measure the number of faculty evaluations of residents' pre- and post- curriculum initiation.

CONCLUSION: The impact of the near peer direct observation shift curriculum is trifold. It creates an opportunity for senior residents to become formally trained in providing feedback, an invaluable skill that is often not taught in residency. It also allows for junior residents to receive adequate and timely feedback from a near peer. Finally, it helps to create a culture of giving and soliciting feedback in an often busy and time constrained environment.

ABSTRACT #30

WORK-RELATED MUSCULOSKELETAL DISORDERS IN GENERAL SURGERY TRAINEES: A CALL FOR INCREASED FOCUS ON ERGONOMICS TRAINING

AUTHORS: Tamar Nobel, John Meyer, Celia Divino

PURPOSE: Emotional well-being has been the primary focus of recent increased discussion of trainee physician wellness; however, the physical strains of general surgical training has not received much consideration. Surgical trainees are at high risk for work-related musculoskeletal disorders (WRMSDs) but ergonomics has a minimal role in current surgical training curricula. The purpose of this study was to characterize the prevalence of WRMSDs among general surgical trainees, and determine the extent of ergonomics training as part of the trainee curriculum in surgery.

METHODS: An online survey was administered to general surgical trainees at two clinical sites within a single academic medical institution which contained questions pertaining to demographics, surgical risk factors and awareness of WRMSD and ergonomics. WRMSDs were quantified using the standardized Nordic Questionnaire. These data represent the preliminary results of a larger ongoing prospective study assessing the relationship between musculoskeletal pain and wellness among surgical trainees.

RESULTS: Among 72 general surgery residents, 46 (64%) responded to the survey. Respondents included 15 PGY1, 11 PGY2, 8 PGY3, 8 PGY4 and 4 PGY5. The average age of respondents was 29.5 years (SD 2.9) and 21 (46%) were female.

The majority (85%) of respondents reported musculoskeletal pain within 4 weeks prior to survey completion. The most common sites of symptoms were the neck, shoulders and upper/lower back. The most common symptoms were ache (n=35), pain (n=28), stiffness (n=27), and fatigue (n=20). There were 5 residents (11%) who received treatment for their symptoms.

Most (72%) residents reported that they did not feel very comfortable asking attendings to make ergonomic adjustments on their behalf, such as adjusting the table height. The majority of residents (61%) reported never receiving any ergonomics training; however, 80% were interested in receiving more education.

CONCLUSION: General surgery residents are at high risk for WRMSDs given 80-hour work weeks involving forceful, repetitive movements in nonneutral positions. There is a need for increased emphasis on ergonomics within surgical training.

ABSTRACT #31

A PICTURE IS WORTH A THOUSAND WORDS: A NOVEL NEUROIMAGING EDUCATION CURRICULUM FOR MEDICAL STUDENTS DURING THE NEUROLOGY CLERKSHIP

AUTHORS: Kenneth K. Leung, Michelle Fabian, Helen Cheung, Laura Stein

PURPOSE: Neuroimaging has become an increasingly routine and essential tool in the evaluation of patients with neurologic disorders. The Liaison Committee on Medical Education (LCME) has identified "the ability to select, justify, and interpret clinical tests and imaging" as a foundational competency for medical students. Our experience has been that students often get brief exposure during their non-clinical years but lack significant formal teaching on the basic science of neuroimaging, indications for ordering the appropriate neuroimaging studies, neuroimaging interpretation, or its clinical correlation to their patients. A Likert-scale based needs assessment revealed that 75.8% felt slightly or not at all competent with ordering the appropriate neuroimaging study and 75.8% felt slightly or not at all competent interpreting neuroimaging. 95% felt additional neuroimaging training would be moderately to extremely beneficial. Currently, no formal curriculum exists even though neuroimaging studies remain an integral part of patient care on the Neurology services. Furthermore, our review of the literature suggests no validated neuroimaging curricula exist for medical students. We sought to address this unmet need by developing a novel neuroimaging curriculum and assessing its impact on medical student comfort levels and knowledge.

METHODS: Medical students participate in the neuroimaging curriculum during their 4-week Neurology clinical clerkship. This includes 1. two interactive didactic sessions, 2. structured interpretation of their own patients' neuroimaging studies guided by a worksheet and reviewed with the resident, 3. a stroke code simulation involving rapid assessment of neuroimaging findings, and 4. online case-based modules. Students complete a pre- and post-test evaluation including survey questions on their comfort levels with ordering and interpreting neuroimaging (Likert scale 1-5), as well as knowledge-assessment questions (score range 0-10).

RESULTS: In the first seven months of the study, 50 third-year medical students completed the pre- and post-test evaluations. 88% looked at their patient's new scans every time or almost every time. Students reported a significant improvement in comfort with choosing the appropriate neuroimaging modality, interpreting computed tomography (CT) images, and interpreting magnetic resonance images (MRI) ($p<0.01$). Among curricular interventions, students felt that interactive review with the Neurology residents was most helpful. Mean knowledge assessment scores improved from 4.96 (SEM 0.218) pre-intervention to 7.22 (SEM 0.214) post-intervention ($p<0.01$). Because of this curriculum, 82.4% felt moderately to extremely more likely to look at their patient's imaging rather than relying solely on written reports.

CONCLUSION: Preliminary results demonstrate an overall improvement in comfort levels and knowledge with choosing the appropriate neuroimaging modality based on indication and interpreting neuroimaging studies. Future study is required to evaluate the ability to integrate and reproduce the results of this curriculum in different medical school settings.

ABSTRACT #32

UTILITY OF ELECTROCARDIOGRAM AMONG SUB-SPECIALTIES AFTER INTERNAL MEDICINE TRAINING

AUTHORS: Ameesh Isath, Angela Palazzo, Vaani P. Garg

PURPOSE: Training for basic electrocardiogram (EKG) interpretation is provided during Internal medicine (IM) residency. Maintaining competency in EKG interpretation requires ongoing practice. The significance, utilization and knowledge of EKG after IM without a dedicated Boards section to assess competency is not known.

METHODS: We invited 244 practicing physicians and fellows among sub-specialties at Mount Sinai St. Luke's and West other than Cardiology who have completed IM training to complete an online needs-assessment survey. Data was analyzed using descriptive statistics.

RESULTS: We received 89 (36.4%) responses among which 63 (70.8%) were practicing physicians and 26 (29.2%) were fellows in training. This included 21 (23.6%) Primary care, 17 (19.1%) Hematology/Oncology, 14 (15.7%), Hospital medicine, 13 (14.6%) Pulmonary/critical care, 9 (10.1%) Infectious disease, 6 (6.7%) Nephrology, 2(2.2%) Rheumatology, 4(4.4%) Endocrinology and 3(3.3%) Gastroenterology subspecialties.

A total of 67.4% (60) of respondents saw 11-20 patients on average per day and a majority (74.2%) used EKG <25% of the time. Of respondents, 40.4% believed residency training in EKG was not adequate for their clinical practice and over half (56.3%) learned EKG interpretation through clinical practice.

The most common reason for ordering EKGs was abnormal vitals (80.9%) followed by chest pain (77.5%) or QTc monitoring (75.3%). Interpretation of EKGs was self-performed by 82% of practitioners greater than 75% of the time while 15.7% of respondents depended on automated computer interpretation and 2.2% texted a colleague to confirm interpretation.

The most common conditions diagnosed since graduation were atrial fibrillation (92.1%), prolonged QTc (78.7%), atrial flutter (64%) and LBBB (61.8%). Among emergency/non-miss diagnoses, ventricular fibrillation was diagnosed by 23(25.8%) respondents, STEMI by 40(44.9%) respondents and NSTEMI by 48(53.9%) respondents since graduation.

A total of 15.7% of respondents believed EKG was not important for clinical practice. Among these, 64% (9) were oncology-hematologists and 100% were > 6 years into practice. Over 80% of the respondents thought EKG was important for clinical practice and 74.3% among them preferred online modules as a form of CME for refreshment of EKG knowledge.

We did further analysis by excluding inpatient-based specialties of pulmonary/critical care and hospital medicine. There was no significant difference in the reasons for ordering EKGs or in the trends in diagnosis. In the outpatient setting, 22.5% of respondents believed EKG was not important for clinical practice while 100% of the inpatient based- specialties believed EKG was important for clinical practice.

CONCLUSION: EKG remains significant to clinical practice with wide variability in use among sub-specialties. We extrapolate the need for improved EKG education during medical residency as well as targeted EKG learning modules for fellows and attendings in non-Cardiology medicine subspecialties.

ABSTRACT #33

A PRELIMINARY REPORT ON "THE HUMAN CONNECTION: INVESTIGATING THE EFFECT OF ENHANCED PATIENT CONNECTION ON PROVIDER BURNOUT"

AUTHORS: Yaowaree Leavell, Mary Sun, Jessica Tran, Michelle Fabian, Laura Stein

PURPOSE: Although burnout is prevalent among neurology providers and trainees, few randomized controlled trials have investigated interventions. Finding work meaningful has been associated with lower rates of burnout. Our aims are to evaluate the effect of a novel intervention to increase patient-provider connectedness on burnout, and understand perceptions of burnout by level of experience.

METHODS: Participants completed pre- and post- Maslach Burnout Inventory (MBI) surveys. Students on teams randomized to the intervention completed and shared a patient interview adapted from the Tell Me More initiative during rounds. Teams randomized to the control arm conducted rounds as usual. In this preliminary analysis, Pre- and post- MBI subscales were compared within groups using paired t-tests. A grounded theory approach to qualitative data was applied.

RESULTS: The control cohort (n=6) demonstrated no change in the Emotional Exhaustion (EE) (p=0.32), Depersonalization (DP) (p=0.61) or Personal Accomplishment (PA) (p=0.56) subscales of the MBI. The intervention cohort (n=11) showed no significant change in the EE subscale (0.51), but demonstrated a tendency towards significant increase in the PA (p=0.07) and DP subscales (0.07). The percentage of participants experiencing at least one symptom of burnout was unchanged for the intervention and increased in the control group by 16.7%. Themes related to burnout expressed by experience level varied: poor administrative support (attendings), scant personal time (residents), unclear expectations/insufficient time with educators (students). None of the intervention participants who crossed threshold values from average to high rates of burnout were students, suggesting a protective effect of the patient interview.

CONCLUSION: Although underpowered, this preliminary sample demonstrates a trend toward increased subscales (PA, DP) in the intervention cohort and protection against increased burnout level and symptoms. Early review of open-ended responses suggests different sources of burnout by experience level. Analysis of the entire study cohort will help assess significance of preliminary findings.

ABSTRACT #34

EXPLORING THE VALUE OF THE PATIENT EXPERIENCE IN A RESIDENT BASED PRACTICE

AUTHORS: Danielle Tepper, Alfred Burger, Daniel Steinberg, Christina M. Cruz, Leonard Amoruso, Nelson Valentin, Matthew Weissman

PURPOSE: The ACGME Program Requirements for Internal Medicine training state that residency programs should use multiple evaluators to gather feedback on residents' performance. Feedback from patients is often limited, yet it is an important metric used after training. We implemented a real-time, digital feedback system to measure patients' experience in our ambulatory continuity teaching practice. To our knowledge, few residency practices have implemented real-time electronic patient satisfaction surveys.

METHODS: Quality Reviews® collects, analyzes, and reports patient experience data to partnering healthcare organizations. Through a text-based application, known as Q-Reviews, the company surveys patients to gain an in- depth understanding of their experience and makes this information accessible to the provider on their dashboard. This form of real-time feedback has proven successful in improving patient experience and creating professional development opportunities in other clinical areas at Mount Sinai. We implemented Q-Reviews in the resident primary care clinic at Mount Sinai Beth Israel in November 2019. Although Q-Reviews is customizable, we chose to implement the survey design used in our Faculty Practice to best mimic post- graduate practice. Ten survey questions were chosen to capture data on the operations of the facility and provider performance. Patients were surveyed across the following dimensions: access, staff, wait time, clinical care, facility, and likeliness to return. Text messages were set to contact patients within four hours of their visit, and again 24 hours after their visit for patients who did not respond initially. Patients with visits primarily for social work, pharmacy, or diabetes education were not surveyed. Only patients who opted in received the survey link. Both trainees and program directors were granted access to the provider dashboards.

RESULTS: To date, 2,469 patients have received a text message from Quality Reviews; of these, 263 have responded (10.25%). This response rate is similar to our primary care Faculty Practice (12.9%). The communication success rate, which identifies whether the text message was successfully delivered to the patient, was 100% and 65.9% in November and December, respectively. This new program was communicated to the residents in a single email prior to the launch. To date, none of the residents who were granted access have activated their accounts and reviewed their data.

CONCLUSION: Since implementing Q-Reviews, we have successfully engaged patients in providing feedback on their experience at the clinic. We still have further work to do around communication of this program to the residents and increasing their engagement in the process. Once uptake by residents has improved, our focus will shift to informing and measuring resident behavior change, as well as its impact on patient experience.

ABSTRACT #35

ASSESSING THE BENEFITS OF INCORPORATING COMPREHENSIVE USMLE STEP 1 ANKI DECKS INTO THE INSTITUTIONAL CURRICULUM AT THE ICAHN SCHOOL OF MEDICINE

AUTHORS: Patrick Lasowski, Connor Tukel, Charles Saylor, Lauren Linkowski

PURPOSE: Anki is an open-source, freely available memory retention software. The program utilizes the principles of spaced repetition and active recall to allow users to learn and retain large quantities of information. User-created comprehensive files of Anki flashcards, which consolidate information from several different USMLE preparatory resources (E.g. Pathoma, Boards and Beyond, etc.), have become increasingly popular among medical students.

In an unpublished survey of 78 students from the Icahn School of Medicine at Mount Sinai who had completed the STEP 1 exam, more than half of the respondents reported using comprehensive Anki decks (Linkowski, 2019).

Numerous studies have demonstrated that the principles Anki utilizes are effective for improving long-term memory recall (Morris et al. 2005; Kerfoot 2010; Storm et al 2010; Dobson 2012; Taveira-Gomes et al. 2014) and for improving Step 1 scores (Deng et al. 2014).

There is currently no institutionalized system to help ISMMS students synchronize use these widely-used Anki decks with the material that they are expected to learn in class. We hypothesize that integrating existing Anki resources, in a way that parallels the school's curriculum, will increase longitudinal information retention and board exam performance, while also decreasing student anxiety regarding their Step 1 preparedness.

METHODS: The Icahn School of Medicine at Mount Sinai currently asks its medical students to complete a survey after taking the USMLE Step 1 exam. We would like to add the following questions to this survey in order to assess the perceived value of implementing such a system:

- At what point did you begin using spaced repetition software such as Anki?
- Do you wish you began using Anki earlier, later or neither?
- How would you describe your satisfaction with the Anki-related resources that were provided to you by Sinai (MedEd office, student advisors, Peer tutors, etc.)?
- Did you use an anki deck made for Step 1 (Zanki, lightyear, Anking, etc.) to learn and retain material you were expected to learn for classes at Mt. Sinai?
- How would you rate your stress levels regarding the use of Anki for Step 1?
- Did you feel responsible for independently learning a significant amount of information that was not included in or otherwise integrated with the Sinai curriculum?
- How did your feeling about this alignment or lack thereof affect your anxiety and stress levels during 1st year, 2nd year?
- Did you use anki to supplement the material you learned in class so that you would be better prepared for the Step 1 exam?

RESULTS:

We hope to implement these survey questions and have results by this coming summer.

CONCLUSION:

This study seeks to explore a rapidly growing yet understudied subfield of medical school education that may help students achieve greater success in classes and on national exams.

ABSTRACT #36

EFFECTIVE IMPLEMENTATION OF PELVIC EXAM, SUTURE AND KNOT-TYING AND VAGINAL DELIVERY SIMULATION MODULES INTO THE OBSTETRICS AND GYNECOLOGY (OB/GYN) CLERKSHIP

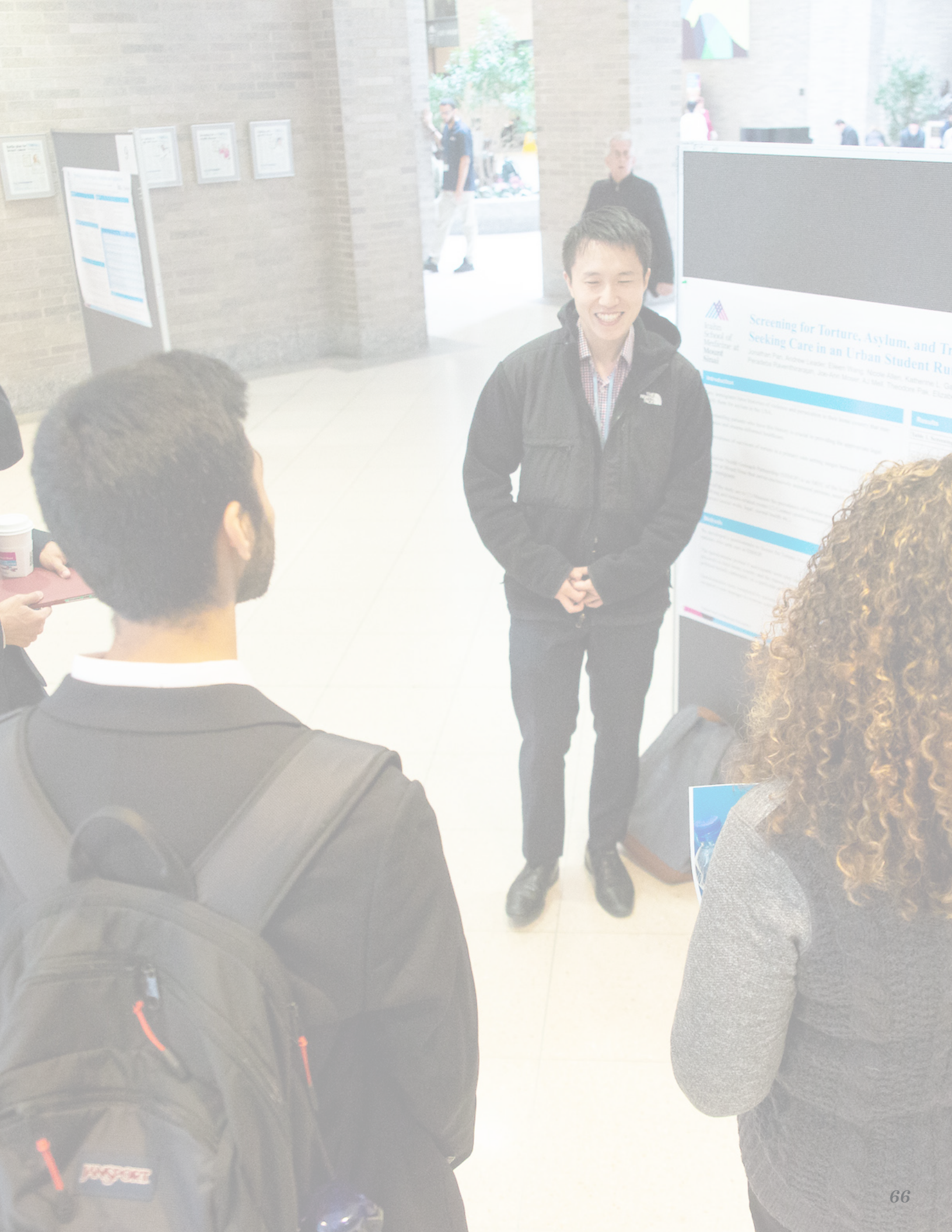
AUTHORS: Cynthia Abraham

PURPOSE: In OB/GYN training, simulation significantly improves learner knowledge and confidence. However, space and time constraints may hinder routine integration of simulation into medical student education. Hence, the purpose of this study was to evaluate the effectiveness of concise and easy-to-implement pelvic exam, suture and knot-tying and vaginal delivery simulation modules on medical student confidence during the OB/GYN Clerkship. Additionally, medical student perception of utility and favorability of presentation of these modules were assessed.

METHODS: An on-campus outpatient space was used for a simulation curriculum aimed at third year medical students. The modules occurring at the start of the OB/GYN clerkship were: (1) pelvic exam simulation on a task trainer with use of ambulatory gynecology supplies (focused on speculum and bimanual exams), (2) suture and knot-tying on meat with the use of needle driver, tissue forceps and scissors (3) vaginal delivery simulation of fetus and placenta on a portable birthing mannequin. 8-9 students participated during each one-hour module. The pelvic exam and vaginal delivery simulation modules took place during the first week of the clerkship. The suture and knot-tying module took place during the second week of the clerkship. All students received reading material which also included video links (if applicable) prior to each module. Medical students completed questionnaires before and after each module regarding confidence (based on a 1-5 Likert scale, 5 being very confident). At the end of the OB/GYN clerkship, students also completed questionnaires indicating how useful module content was and favorability of presentation (based on a Likert scale, 5 being very).

RESULTS: Data for 65, 42 and 68 students were obtained for the pelvic exam, suture and knot-tying and vaginal delivery simulation modules, respectively. Mean confidence scores significantly increased from 1.8 to 3.7 ($p < 0.001$), 3.0 to 3.9 ($p < 0.001$) and 2.4 to 3.7 ($p < 0.001$) for pelvic exam, suture and knot-tying and vaginal delivery simulation modules before and after the module, respectively. Ratings pertaining to utility of content for pelvic exam, suture and knot-tying and vaginal delivery simulation modules were 4.5, 4.1 and 4.4, respectively. Ratings pertaining to favorability of presentation for pelvic exam, suture and knot-tying and vaginal delivery simulation modules were 4.4, 4.1 and 4.4, respectively.

CONCLUSION: A concise and easy-to-implement medical student curriculum consisting of pelvic exam, suture and knot- tying and vaginal delivery simulation modules significantly improves medical student confidence.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SECTION 5:

Curriculum (UME)

POSTERS 36–49

ABSTRACT #37

THE ROLE OF THE HUMAN RIGHTS CLINIC: IMPACT ON MEDICAL EDUCATION, PROFESSIONAL IDENTITY, AND CAREER DEVELOPMENT

AUTHORS: Madison Edens, Stephanie Schonholz, Sophie Karwoska Kligler, Axel Epie, Kimberly A. Baranowski, Elizabeth Singer

PURPOSE: According to Physicians for Human Rights (PHR), medical student groups focusing on health and human rights currently exist at more than 60 different medical schools around the country. However, little data exists about the opinions and perspectives of medical students active in these programs, and how these programs impact the medical education and career trajectories of those involved. This study sought to investigate what, if any, clinically applicable skills students acquire through longitudinal involvement with the Mount Sinai Human Rights Program and how participation in the program influences career paths.

METHODS: This study utilized a Consensual Qualitative Research (CQR) methodology by which 15 semi-structured interviews of medical students who were active in the MSHRP throughout their educations were analyzed to determine core themes.

RESULTS: Nearly all the students interviewed indicated they had developed important, clinically applicable skills through their involvement with the MSHRP that enhanced their traditional medical education. Specifically, they stated that the program prepared them to: 1) effectively lead and manage teams; 2) conduct thorough trauma-informed forensic evaluations; 3) influence program establishment, development, and growth; 4) navigate the medical-legal process of affidavit writing; and 5) establish community partnerships and identify available social services. Furthermore, students indicated that their participation directly influenced their professional identities and future career directions by: 1) reinforcing previous interest in human rights and social justice work; 2) impacting medical specialty and residency program selection; 3) fostering commitment to working with immigrant populations.

CONCLUSION: The results of this study indicate that longitudinal involvement in the MSHRP contributed to the acquisition of important clinical skills that were not otherwise attained in students' early medical education. Findings suggest that there is significant opportunity for student clinical and leadership development outside the traditional preclinical and clinicial setting, and that exposure to human rights education explicitly shapes professional identity and career path.

ABSTRACT 38

The Blepharoplasty Teacher: Origami Model for Learning Eyelid Anatomy

Authors: Daniel Henick, Ilana Margulies, Farah Sayegh, Amy Zhong, Peter Taub

Purpose: The ability to master the anatomy of complex structures foundational to certain operations remains a challenging pursuit for students and trainees. Therefore, the authors developed a low-tech and low-cost teaching model that creatively uses the principles of origami, the art of paper folding, to promote educational engagement and understanding of the eyelid anatomy critical for performing blepharoplasty. A randomized-control trial was conducted to analyze the efficacy of the developed origami model, The Blepharoplasty Teacher, in improving education and knowledge retention.

Methods: Twenty-one first and second year medical students at the Icahn School of Medicine were recruited. Participants were administered a ten-question pre-test about eyelid anatomy to evaluate baseline knowledge and were then surveyed regarding comfort level with this anatomy. Participants were randomized to receive The Blepharoplasty Teacher (n=11) or textbook pages covering the same anatomy (n=10) and were given 30 minutes to study their designated resource. They were then administered a different ten-question post-test about eyelid anatomy, and their comfort level was re-assessed. Students who used The Blepharoplasty Teacher were also asked how likely they were to recommend it to a colleague. Statistical analysis was performed using Chi-square and paired t-tests.

Results: Students who used The Blepharoplasty Teacher significantly improved their test scores by an average of 1.4 points (SD=1.7, $p=0.017$) while students using the textbook did not achieve significant improvement (average=0.1 points, SD=1.8, $p>0.05$). 73% of students using The Blepharoplasty Teacher improved their score by at least 1 point, as compared to 30% in the textbook group ($p=0.05$). 55% of students who used The Blepharoplasty Teacher felt more comfortable with eyelid anatomy after the study, as compared to 10% of students using the textbook ($p=0.031$). 82% of students would recommend The Blepharoplasty Teacher to a colleague.

Conclusion: An innovative and low-tech approach to teaching the eyelid anatomy relevant to the operative approach in blepharoplasty can effectively facilitate student learning. Similar models should be created for teaching the anatomy of other complex structures.

ABSTRACT #39

DISCRIMINATION AND STRUCTURAL BIAS AGAINST SEXUAL AND GENDER MINORITY MEDICAL TRAINEES: A QUALITATIVE ANALYSIS

AUTHORS: Eva Chernoff, Mary Hawk, James Egan, David Finegold

PURPOSE: Sexual and gender minority (SGM) medical trainees may train and work in environments that are discriminatory towards both SGM patients as well as medical practitioners. Although some studies have been completed regarding SGM medical trainee discrimination, there remains a lack of current and relevant research on the subject of mistreatment of SGM medical trainees. Qualitative research informs the social and cultural context from which students experience discrimination, how they feel they should address it, and issues surrounding reporting. The main research question for this project is: What is the experience of medical training for medical trainees who identify as SGM? This question hopes to contribute to the public health knowledge of structural bias among underrepresented SGM medical trainees and the long-term effects that bias can potentially cause.

METHODS: Qualitative interviews were conducted with 6 medical students at the University of Pittsburgh School of Medicine who identify as SGM. Interviews were analyzed qualitatively using Nvivo software to identify and determine common themes among responses. The final themes identified will establish the current professional issues that SGM medical trainees face in today's medical training environment.

RESULTS: Participants described the following themes: 1) The medical training environment can be heteronormative, gender restricted; 2) There is an inability to be one's "true" self in a professional setting such that participants need to "fit the mold" of conventional medicine; 3) Discrimination consisted mostly of microaggressions and covert comments; 4) Participants noted that their identity caused a large burden of stress for their medical training, which had negative effects on their mental health, as well as their physical health; 5) The reporting system was described as intimidating due to lack of transparency regarding what will happen if a report is made. Many students also worried about their anonymity after reporting.

CONCLUSION: The medical environment for SGM medical students at the University of Pittsburgh is still one that requires additional resources, services, and change to be a positive learning environment. Recommendations for change include restructuring of the reporting system and an open medical school space and professionalism code that is more inclusive of queer ideas, personalities, dress codes, and values.

ABSTRACT #40

A NOVEL PLASTIC SURGERY CURRICULUM TO OBTAIN OBJECTIVE DATA AND IMPROVE ROTATING STUDENT EXPERIENCE: THE PSSICK PROJECT

AUTHORS: Matthew Freeman, Paul Shay, Max Mandelbaum, Harrison Lands, Peter Henderson, Peter Taub

PURPOSE: During medical school, students interested in plastic surgery often complete between one and four month-long visiting sub-internships to gain experience and learn the basics of plastic surgery.

The authors believe the key to having a competitive residency program is attracting the most talented residents in terms of technical ability and knowledge. Few programs have a structured sub-internship curriculum. The purpose of this study is to determine whether a structured sub-internship program 1) produces a more educational experience for rotators, 2) improves our residency's image and/or reputation, 3) generates baseline data regarding students that can be used to track outcomes in the future, and 4) to improve future resident quality after matriculation by improving both technical skills and knowledge.

METHODS: The plastic surgery sub-internship curriculum and knowledge (PSSICK) program was developed which includes knowledge testing at the beginning and end of rotation, educational didactic lectures, hands-on exercises, and surgical technique testing in order to educate and obtain objective data about applicants. Sessions will be weekly and one hour. Data will be retained each year in order to determine program improvements as well as the relative performance of each student to better inform our ranking process. We designed a questionnaire to send to programs that matriculate these students to determine the quality of the residents.

The students will be evaluated by residents/faculty and will also evaluate the residency program and curriculum in order to determine if the goals of the program are met.

A pilot study for procedural skills was performed where one student was taught to palm a needle driver by opening and closing the instrument, then alternating 180 degree rotations clockwise and counter-clockwise between each closing for 20 times. Another student was taught and timed performing 50 alternating one-handed silk knot ties. We believe these are two essential skills that translate to improved performance both as a student as well as a PGY1 resident.

RESULTS: The PSSICK is to be implemented for the first time during sub-internship season (July through October 2020). During the pilot study, sub-interns were seen practicing their assigned tasks during downtime. Both students improved by nearly 50%, enjoyed the exercise, and reported feeling proud.

CONCLUSION: The goals of the curriculum are to provide sub-interns with a superior rotation experience, improve the image rotating students have of the program, generate objective data to better determine rank order, and to obtain data to longitudinally track the qualities that make the best residents. Limitations include not testing students prior to the implementation of the curriculum to determine baseline improvement in procedural skills or knowledge.

ABSTRACT #41

USMLE STEP 1 CONTENT HIGHLIGHTS GENDER GAP IN MEDICAL EPONYMS

AUTHORS: Sarah MacLean

PURPOSE: There is ongoing debate regarding the United States Medical Licensing Examination (USMLE) Step 1 and its importance in applying for residency. The importance of the exam is highlighted throughout preclinical undergraduate medical education, with students using "First Aid for the USMLE Step 1" as a major study tool to prepare. This book, therefore, can be used as a tool to complete a cross-sectional analysis of undergraduate medical education content. In this study, it was used specifically to analyze the gender distribution of medical eponyms.

METHODS: The index of First Aid (2019) was searched to identify all proper nouns and an internet search was used to identify which were named for humans. Internet searches were then used to determine if each was named for a male or female by which it was discovered. Terms that were named for patients or fictional characters were removed.

RESULTS: Overall, 360 terms named for 431 people were identified. Among these, 418 (96.98%) were male and 13 (3.02%) were female. Only 6 terms were named solely for women and the vast majority were white.

CONCLUSION: Some may argue that the gender gap is purely a historical issue, especially since women now make up nearly half of medical residents. Young girls and people of color may find it harder to succeed, however, when they attempt to enter a field with a history so clearly dominated by white men.

ABSTRACT #42

INTERPROFESSIONAL EDUCATION THROUGH THE LENS OF MOTIVATIONAL INTERVIEWING: A SESSION FOR SECOND-YEAR MEDICAL AND SOCIAL WORK STUDENTS

AUTHORS: Jennifer P. Weintraub, Beverly Forsyth, Emma Sollars, Nancy Xenakis

PURPOSE: In this next decade of health care, team-based interprofessional practice (IPP) is a central focus. The Liaison Committee for Medical Education (LCME) accreditation standard now requires a core curriculum to prepare medical students to function on interprofessional teams. Our Interprofessional Education (IPE) session was developed for medical and social work students to: 1. Describe the unique and overlapping roles of physicians and social workers on interprofessional teams; 2. Recognize the use of patient-centered language common to all team-members; 3. Discuss aspects of IPP during a standardized motivational interviewing.

METHODS: Physician and social work faculty co-developed this two-hour IPE session, delivered during the second-year doctoring course at the Icahn School of Medicine at Mount Sinai. 124 second-year medical students and 25 second- year social work students participated, divided into four classrooms and then subdivided into smaller groups. Each session was co-facilitated by an experienced physician and social worker. A scenario between a physician, social worker, and standardized patient was utilized to demonstrate IPP through motivational interviewing and post-acute care planning. The co-facilitators used a "time-out" technique to focus on IPP and motivational interviewing core competencies. During pre-determined "time-outs," students worked collaboratively in their small interprofessional groups to respond to discussion questions and shared key learnings. Electronic surveys were sent to all learners immediately after the session, consisting of a mix of Likert-scale questions and free text responses.

RESULTS: 121 out of 149 participating students completed the survey. The results were analyzed by learner type and the written comments were coded by theme. 62% of learners felt that IPE sessions enhanced their future ability to work on IPP teams, and 60% felt that working with students from other health professions enhanced their education. 54% felt they were able to identify the roles and responsibilities of the physicians and social workers on an IPP team. The following key themes emerged from the written comments: presence of hierarchy and roles within the healthcare system; importance of respect and communication skills in IPP; desire for more opportunities for IPE.

CONCLUSION: We describe an innovative model using human simulation to implement IPE that can be easily expanded to include additional disciplines or scenarios. Limitations include a lack of a pre-test survey, and the lack of a longitudinal curriculum that may be more useful as students enter their clinical years and have experience working on interprofessional teams. We learned that an effective IPE session must allow time for students from different disciplines to learn about one another's training and roles, and we will build this into future sessions. We are currently developing IPE sessions for third- and fourth-year medical students to address these issues.

ABSTRACT #43

MEDICAL STUDENTS ACHIEVING COMPETENCY IN GERIATRIC ASSESSMENT VIA SKILLS SESSION

AUTHORS: Laura Belland, Fredrick T. Sherman, Ravishankar Ramaswamy

PURPOSE: Older adults >65 years of age will make up 20% of the US population by year 2030. Upon graduation, the vast majority of medical students will care for older adults throughout their career regardless of specialty. The key areas of geriatric care, known as Geriatric 5Ms, are: Mind, Mobility, Medications, Multi-Complexity, and Matters Most. The purpose of our project was to create a learner-centered interactive session designed to improve student awareness and retention of geriatric assessment skills focusing on the Geriatric 5Ms.

METHODS: Mount Sinai third-year medical students complete a 6-week Ambulatory Care - Geriatrics clerkship, during which they participate in didactics every Friday afternoon. In October 2019, we modified the didactic session on Geriatric Assessment with an hour-long "geriatric skills session". The 15-18 students in each pod are divided into small groups of 5-6 and each group rotates through three "skills stations", facilitated by geriatrics fellows. The topics include: administering a MoCA (Montreal Cognitive Assessment) test, performing a medication reconciliation, and identifying assistive devices. Each station lasts 15-18 minutes and employs one or more interactive teaching tools: card sorting game, props (walkers, cane), instant feedback through video recording and review, and patient simulation with multiple medication bottles. Key take-aways are provided to students as a hand-out at each station. Anonymous feedback is sought via SurveyMonkey using a 5-point scale to rate the teaching format (TF), educational content (EC) and quality of presenters (QP).

RESULTS: To date, three cycles of students (n=49) have attended the skills session. Of these, 28 (57%) completed the post-session survey. When compared to last academic year (n=55), there has been improvement in all three components of feedback from students (TF 4.41 vs 4.07; EC 4.39 vs 4.02; QP 4.35 vs 4.17). Comments from students have also been positive. Fellows who volunteer to teach these sessions have expressed satisfaction from learning through teaching, and have continued to volunteer in subsequent sessions.

CONCLUSION: An interactive skills session that includes simulation, gamification, and instant feedback is feasible in disseminating geriatric assessment skills to third-year medical students and increases student engagement and satisfaction. Challenges include procuring several facilitators for each session and maintaining standardization between facilitators. Future directions include creation of a facilitator guide to assist fellows in their teaching, and expansion of the skills session to other domains of geriatric assessment like nutrition, vision and hearing screening, and advance care planning.

ABSTRACT #44

THE SUMMER ENRICHMENT PROGRAM: A NOVEL PRE-MATRICULATION CURRICULUM FOR MEDICAL STUDENTS

AUTHORS: Samuel M. Kase, Charles Sanky, Robert Fallar, David Bechhofer, Jeffrey Laitman

PURPOSE: Medical schools are increasingly accepting students from Alternative Academic Pathways ("Alt Path"), such as early assurance programs or after gaps of time in education. These students may have difficulty with the rigors of medical school and need further preparation to succeed. Exposure to first-year content prior to starting has been shown to improve students' academic performance. Through a novel pre-matriculation Summer Enrichment Program ("SEP"), we sought to prepare Alt Path medical students for their transition to medical school and first-year courses. Our objectives include: (1) evaluating the impact of the SEP on the performance of ISMMS medical students in their first-year courses, (2) comparing coursework performance between the SEP participants and traditional path peers, and (3) understanding the effect of the SEP on Alt Path students' perceptions of preparedness and confidence in starting medical school.

METHODS: Prior to matriculating, students complete a 5-week intensive curriculum focused on foundational coursework, including anatomy and cellular/molecular biology, with didactics, laboratories, review sessions, and weekly assessments. SEP content is taught by the same faculty teaching the first-year coursework. This curriculum has been adapted to reflect changes in pre-clinical academics, course evaluation responses, and focus groups. Current data analysis via SAS includes comparisons of coursework performance between Alt Path and traditional students among the Classes of 2019-2023 cohorts. For the 2023 cohort, the perceived impact of the SEP on academic performance and adjustment to medical school is being evaluated using surveys and focus groups to holistically triangulate students' experiences with the SEP.

RESULTS: Preliminary data shows that 20 Alt Path students completed the SEP in the 2019 cohort. Of these 20, 2 received a marginal pass/failure in first-year coursework (anatomy; cellular/molecular biology courses) (10%). Out of 98 traditional path medical students, 8 received a marginal pass/failure in these courses (8%). Thus, the performance in first-year coursework of Alt Path students who completed the SEP may be comparable to the performance of their traditional path peers. A larger sample size is needed to determine significance. Future analysis of five cohorts (Classes of 2019-2023; n=700) may reveal additional insights. Qualitatively, via evaluations and focus groups, Alt Path students have positively reviewed the SEP and expressed feeling prepared and confident in first-year coursework.

CONCLUSION: The SEP addresses knowledge gaps of incoming Alt Path students. It is critical for educators who recruit and accept Alt Path students to consider adopting a pre-matriculation program to best prepare these students for medical school. Providing foundational first-year coursework opportunities may academically and professionally benefit these Alt Path students. Further directions include assessing outcomes of USMLE Step 1 scores among Alt Path and traditional students as well as clinical competency.

ABSTRACT #45

STAR: STROKE, THROMBECTOMY, AND ACUTE REVASCULARIZATION, A PRELIMINARY REPORT ON A NEUROLOGY EXPOSURE PROJECT

AUTHORS: Daniella C. Sisniega, Kenneth K. Leung, Desiree M. Markantone, Michelle Fabian, Laura Stein

PURPOSE: Despite revolutionary developments in acute stroke treatment, there is misperception that neurological disorders are devastating and untreatable. Additionally, many students experience "neurophobia" with difficulty applying complex neuroscience to clinical neurology. At the same time, we face a shortage of neurologists when the prevalence of neurological conditions continues to rise. A needs assessment of 58 Icahn School of Medicine at Mount Sinai (ISMMS) third year students revealed that 86% (n=49) had no clinical exposure to stroke prior to the neurology clerkship and 90% (n=52) thought they would benefit from additional stroke exposure during the neurology clerkship. We sought to increase pre-clinical exposure to acute stroke treatment and assess the impact of this exposure on familiarity with a career in neurology, level of interest in neurology, and knowledge of acute stroke.

METHODS: Pre-clinical students elect to participate in a 4-week clinical observation period (COP), during which they observe as many acute stroke codes and revascularization cases as they wish. After the COP, participants attend a small group session to debrief the cases they observed. Students complete a Likert scale survey on familiarity with a career in neurology, level of interest in neurology, and knowledge of acute stroke at 3 time points: prior to the start of the COP, after the small group session, and one year after completion of the COP. COP participants will be matched to pre-clinical students who defer participation in the COP and serve as controls.

RESULTS: In the first three months of the study, 11 COP participants completed the baseline survey. 18% (n=2) had seen a stroke code and only 9% (n=1) a thrombectomy. While students are familiar with the job of a neurologist (Likert mean=3), they lack familiarity with the job of a vascular neurologist (Likert mean = 2.4) and relationship between vascular neurologists and neuro-endovascular surgeons (Likert mean=2.3). Students have more confidence in recognition of the signs of acute stroke (Likert mean=2.6) than management of acute stroke and vascular territory affected (Likert mean=2.3 and 1.7, respectively).

CONCLUSION: Preliminary results demonstrate student interest in pre-clinical exposure to acute stroke, moderate-to- high baseline interest in neurology, and poor confidence in clinical domains. Full analysis of the study cohort will help assess the impact of pre-clinical stroke exposure on interest in neurology and clinical knowledge of acute stroke.

ABSTRACT #46

TRANSGENDER HEALTHCARE: ADVANCING MEDICAL STUDENT TRAINING THROUGH VISUAL TECHNOLOGY

AUTHORS: James A. Young, Jill Gregory, Gale Justin, Tamara Kalir

PURPOSE: Transgender health competency among medical students and clinicians remains poor, while research into Transgender health education in US medical schools is lacking. This project aims to advance ISMMS's Transgender health curriculum by: a) surveying baseline knowledge and comfort of Transgender health topics in student years 1-4; b) creating an illustrated learning module; and c) implementing the module into the 2nd year course "Sexual and Reproductive Health" (SRH). We hypothesize that medical student understanding and comfort with Transgender healthcare is poor, despite human rights advances and development of the Center for Transgender Medicine and Surgery (CTMS). We also hypothesize that visual interventions are key to enhance comprehension of embryology, pelvic and breast anatomy, and core healthcare procedures for Transgender patients.

METHODS: All actively enrolled medical students at ISMMS were surveyed in Fall 2019 to assess knowledge and comfort of 9 Transgender health topics, as well as perceived integration into coursework. A second survey will be distributed after students take the illustrated learning module. The module was created using Adobe Captivate in collaboration with ITG and CTMS; survey answer choices were designed using a Likert scale. Outcomes and trends will be analyzed with one-way ANOVA or t-test.

RESULTS: Of the 9 health domains, students feel least comfortable with Transgender-specific medical interventions, gender affirmation surgeries, and intersex healthcare. 67% of MS4's and 53% of MS3's believe preclinical curricula to be either "very poor," "poor," or "fair." There is a wide range of preferred learning styles, with majority preferring discussion and images.

CONCLUSION: Transgender health education at Mount Sinai currently appears insufficient. In March 2020, we will implement our learning module into SRH and assess its efficacy. Future goals include integration of visual material into more classes, including those identified as inadequate in teaching Transgender health: Structures, Endocrine Physiology, and InFocus/ASM.

ABSTRACT #47

THE IMPACT OF IPADS ON LEARNING IN THE ISMMS STRUCTURES COURSE

AUTHORS: Daniella Curcio, Samuel M. Kase, Jeffrey Laitman

PURPOSE: In the first year of medical school, students at the Icahn School of Medicine at Mount Sinai complete Structures, an intensive course that integrates Gross Anatomy, Histology, and Embryology. In the Fall 2019 Structures course, we incorporated iPads to assist with student learning and enhance the course's daily anatomy dissection labs – an essential component of the 9-week curriculum. The use of technology in medical education has been widely supported by the literature. Through this project, we aim to evaluate the impact of the iPads in Structures 2019, considering insights and feedback reported by students and educators.

METHODS: In Structures, we divide the first-year class into 24 anatomy groups of 5-6 students each. Each group performs a full cadaver dissection, supervised and supported by course faculty, Mount Sinai physicians, and course Teaching Assistants (TAs). Our TAs take part in daily in-lab teaching, review sessions, and administer Table Conferences – our in-lab oral assessment on practical anatomy knowledge. The conception of the iPad in Structures was developed by course directors/faculty, Senior TAs, members of the Department of Medical Education, and Mount Sinai Information Technology (IT). Together, we tailored the system to best suit our unique course, including hardware installation, content development and selection of software, including textbooks, atlases, and related applications. Each one of our 24 anatomy groups received two iPads to use as study tools and dissection aides. Through a survey and qualitative analysis, we assessed the outcomes of our project to understand its impact on the students' and TAs' experiences in Structures and have considered plans for improvements for Structures 2020.

RESULTS: Qualitative data support the use of iPads in the Structures course. Positive feedback from both students and Senior TAs, the two groups that most utilize the iPads, include gains from customized dissection instructions and videos, and content integration with access to blackboard materials. Main challenges reported were related to accessibility of certain visual contents, especially from atlases, and navigability between apps.

CONCLUSION: The goal of Structures is to provide our students with a foundation in anatomy, histology and embryology as they progress in their medical education. The use of technology in the anatomy lab is not a new paradigm; it has been reported to enhance the learning experience of medical students. In terms of the development of custom-tailored content and purposeful selection/development of applications and web-based platforms, the innovation and creativity of the iPad has plenty of room to flourish and to effectuate an even more significant impact on learning. We believe the outcomes of this project will help shape the vision of the use of technology in the Structures course in future years. We plan to conduct further studies with both quantitative and qualitative data, specifically involving medical students' perceptions of the use of iPads in the Structures course, next Fall.

ABSTRACT #48

DOG EAR PREVENTION: END TO END OR DOUBLE-HALVES

AUTHORS: Chukwuemeka Mbagwu, Chika Okafor, Robert Wilson

PURPOSE: To determine which method of suturing the skin, end to end, or double-halves, leads to more dog ear formation. This is a fundamental of surgery to any student taking a basic intro to surgery clerkship, in order to develop great initial habits. Dog ears are unsightly folding of the skin that may be cosmetically unappealing when on visible areas of the body, such as the forearm.

METHODS: Two investigators, one medical student and one Orthopaedic surgery resident, sutured 10 mm straight surgical incisions on 20 fowl. Sets of 5 were closed as:

- end-to-end with subcutaneous layer
- end-to-end with nonsubcutaneous layer
- middle-to-end with subcutaneous layer
- middle-to-end with nonsubcutaneous layer

An orthopaedic resident determined dog ear status.

RESULTS: 25% of end-to-end closures had dog ears. 45% of middle-to-end closures had dog ears (p-value: 0.320). 5% of samples with subcutaneous and end-to-end closure had dog ears. Subcutaneous closure had fewer dog ears (p-value: 0.741) than nonsubcutaneous closure.

CONCLUSION: There is a trend towards subcutaneous end-to-end closure. An increased sample size would increase the power, allowing results to reach statistical significance. Based on the data, the authors advise surgeons to suture close incisions end-to-end with subcutaneous layer. Because of acquiring this data with fowl, this is a great experience for medical students immediately entering their surgery clerkship to learn some proper suture techniques in a controlled environment.

ABSTRACT #49

WORKING BACKWARDS: A METHODOLOGY TO STRUCTURE DIDACTIC PLANNING AND DELIVERY AT STUDENT-RUN FREE CLINICS

AUTHORS: Ariel Bar-Mashiah, Brittany Glassberg, Emily Tixier, Joe-Ann Moser, David C. Thomas, Yasmin Meah

PURPOSE: Student-run free clinics (SRFCs) have a dual mission in providing quality care to underserved populations and ensuring an effective learning and practice environment for health professions students. US schools serving the graduate health sciences provide limited hands-on training for students to master the skills necessary to succeed as teachers. SRFCs provide an ideal space for senior students to practice and deliver didactics on healthcare and medicine to junior colleagues. To ensure success, student teachers benefit from a lesson plan template derived from tried and true methods in education. Mount Sinai's SRFC, the East Harlem Health Outreach Partnership (EHHOP) has developed a curriculum template for fourth-year medical students using the "Backwards Design" paradigm used by educators across the country. This template focuses on setting goals before designing assessment and instructional methods. Here we aim to assess the utility of the "Backwards Design" as a way to educate medical trainees about lesson planning, specifically in the SRFC setting.

METHODS: Fifteen senior medical student clinicians at EHHOP were taught the "Backwards Design" method. A lesson template was provided for senior students at the conclusion of the session. The senior student clinicians used this education methodology to design over 40 weekly didactic sessions in a SRFC for one year. At the conclusion of the year, the senior student clinicians were invited to complete a survey about the effectiveness of the method.

RESULTS: All 15 student clinicians used the "Backwards Design" lesson plan template to teach primary care topics to over 200 medical students over the course of 12 months; at the conclusion of the year, 12 completed a survey assessing its utility. Nearly 60% (7/12) of respondents rated the "Backwards Design" template highly in helping them create lessons. Over 90% (11/12) stated the template enhanced their ability to create interactive didactic sessions, with group activities embedded into the lessons. Potential areas for improvement of the "Backwards Design" lesson template include specific time management guidance and incorporation of evidence-based medicine techniques.

CONCLUSION: Most health professions students are expected to be educators upon entering the workforce. The "Backwards Design" lesson template gives health professions students a standard methodology to create effective didactic lessons in a variety of teaching settings.

ABSTRACT #50

MENTORSHIP IN UROLOGY RESIDENCY PROGRAMS IN THE UNITED STATES

AUTHORS: Eric Bortnick, Jeffrey Stock, Vannita Simma-Chiang

PURPOSE: To characterize the status of mentorship programs for Urology residencies in the United States, highlight the importance of mentorship in the career of a urology resident, and identify the obstacles of implementing a mentorship program.

METHODS: With Internal Review Board exemption and approval from the Society of Academic Urologists, a survey was sent to the Program Directors of the Urology Residency programs in the United States containing questions about the presence and structure of a mentorship program in their department.

RESULTS: Response rate was 54%. Seventy-five percent of respondents approved of formal mentorship programs. Fifty-eight percent of respondents had one established. Five percent of programs had an official training course for faculty mentors. Thirty-eight percent of programs had no requirement on mentor and/or mentee meeting frequency. The most common reason for not having a formal mentorship program was because the program felt that informal mentorship sufficed.

CONCLUSION: While the vast majority of Program Directors for Urology Residency programs in the United States approve of formal mentorship programs, only a little over half have one established. Programs should strive to create a formal mentorship program in their residency programs due to their recognized importance.


Attachment, Autonomy,
to Age 5
Luesse Ph.D • Carrie Quinn M.D.
CONCLUSIONS
Geriatrics & Palliative Medicine

SECTION 6:

Professional Development

POSTERS 50-55

ABSTRACT #51

TRAINING AND TRANSFORMATION OF THE PEDIATRIC HEALTHCARE ENVIRONMENT TO PROMOTE POSITIVE PARENTING

AUTHORS: Aurora Lewis, Aliza Pressman, Mariel Benjamin, Carrie Quinn, Ellen Galinsky, Blair S. Hammond

PURPOSE: To assess the impact of physical messaging and a 1-hour staff training on staff's knowledge, attitudes, and behavior in regards to promoting infant brain development in everyday healthcare interactions.

METHODS: Non-physician staff on Mount Sinai Hospital Postpartum floors were assessed with surveys before and after an environmental transformation and a 1-hour training on the science of early learning and positive parenting behaviors. Anonymous surveys were administered on an iPad. Self-reported knowledge and attitudes were measured on a Likert scale, and behaviors were measured on a dichotomous scale. Responses were analyzed using t-tests. The study was deemed exempt by the Icahn School of Medicine IRB.

RESULTS: 75 staff completed the pre-project survey and 62 completed the post survey. There were statistically significant changes in reported behavior, knowledge, and attitudes. The average number of behaviors staff reported engaging in to promote early learning increased from 5.6 to 6.1 out of 7 behaviors ($p=0.04$). Staff knowledge regarding infant brain growth in the first five years of life, the importance of positive relationships with caring adults for early brain development, and the importance of talking to children even before they learn to talk all increased significantly ($p=.008$, $p=.006$, $p=.0046$ respectively). Staff attitudes regarding the opportunities they have to promote early brain development during typical interactions, the role of staff in promoting early childhood development, and the feasibility of routinely demonstrating positive adult-child interactions for parents and caregivers all increased significantly ($p=.0001$, $p=.015$, $p=.0007$ respectively).

CONCLUSION: A combination of a 1-hour staff training and physical messaging significantly changed staff knowledge, attitudes, and reported behaviors regarding promoting early learning. A program that targets all families and recognizes the importance of interprofessional staff interactions to promote brain development in the healthcare space is a novel way to reimagine pediatric healthcare opportunities. This initiative is being expanded to other pediatrics units at Mount Sinai and is undergoing further research.

ABSTRACT #52

IMPACT OF NEAR-PEER EDUCATION IN A STUDENT-RUN FREE OPHTHALMOLOGY CLINIC ON MEDICAL STUDENT TEACHING SKILLS

AUTHORS: Davis B. Zhou, Nitin Chopra, Robert Fallar, Nisha Chadha

PURPOSE: Medical students have been widely incorporated as near-peer teachers throughout medical school training. Past studies have demonstrated the impact of student involvement in both pre-clinical and clinical education, which yields benefits to both student educators and peer recipients. No studies, however, have focused on the utility of near-peer medical student teachers in ophthalmology. We examined the impact of near-peer teaching experiences in the ophthalmology branch of the East Harlem Health Outreach Program (EHHOP), a student-run clinic, on teaching skills of fourth-year medical student Teaching Seniors (TS).

METHODS: In this mixed-methods observational study, EHHOP ophthalmology TS alumni were surveyed via an online survey and subsequent, optional, individual telephone interview. The web survey queried former TS's on the impact of EHHOP ophthalmology experiences on self-reported teaching skills and comfort with teaching. Quantitative analysis of survey questions and qualitative analysis of telephone responses were performed and analyzed for themes.

RESULTS: All 14 TS alumni participated in the survey, and 8 participated in the follow-up interview. Participants taught an average of 23.5 hours and 9 medical students. Majority reported improved ability teaching ophthalmology concepts, teaching the slit-lamp exam, and serving as mentors as a result of their experience. Fewer TS alumni reported improved comfort in providing feedback or leading didactics. Qualitative analysis of telephone interviews revealed four major themes: 1. TS's were a self-selected group of individuals with prior interest in teaching, 2. Teaching experiences in EHHOP had a positive impact in many teaching-related domains, 3. TS's perceptions of teaching skills gained did not necessarily align with junior students' perceptions of teaching received, and 4. Despite increased confidence and satisfaction with teaching experiences, TS's desired more formal instruction in teaching.

CONCLUSION: While TS's perceptions of teaching gained in EHHOP ophthalmology were overwhelmingly positive, TS's still desired formal instruction in teaching. Additionally, the effectiveness of near-peer education in a subspecialty like ophthalmology, with limited formal curricular time, may be more effective later in training, when a more solid foundation of knowledge is acquired.

ABSTRACT #53

EXPLORING THE LEARNING NEEDS OF RESEARCH RESIDENTS: DEVELOPING A WEBSITE FOR EARLY CAREER INVESTIGATORS

AUTHORS: Layla Fattah, Janice Gabrilove, Karen Wilson

PURPOSE: An Emerging Investigators website has recently been lauched to support early career researchers at Mount Sinai. Research residents are early career researchers who may have specific research-related learning needs and require resources tailored to those needs. To support the development of a website that effectively meets the needs of research residents, a series of focus group interviews were undertaken with research residents at Mount Sinai. These focused on eliciting the participnats' self-perceived learning needs and determining what support an online resource could provide to meet these.

METHODS: A convenience sample of research residents at Mount Sinai were contacted for participation. Two focus groups were conducted with a total of ten residents. Participants were initially asked to consider the challenges they face in engaging with research at Mount Sinai and their personal learning needs in relation to research knowledge and skills. Participants were then asked to discuss the resources or support they thought would help them to manage the challenges or meet the learning needs they identified; specifically which of these resources or support could be provided by an online resource. These questions were semi-structured to allow the conversation to flow naturally, and to allow the participants to discuss issues of importance to them. Focus group sessions lasted approximately 1 hour. Sessions were audio recorded with the participant's permission.

RESULTS: Interview data was transcribed and thematic analysis was used to identifying patterns or themes within the data. Key learning needs were categorized as: mentorship, scientific writing, connecting with peers and career progression.

When asked to prioritize topics for inclusion in the website, participants identified a range of resources that they would find valuable, including a calendar of events, a forum though which to connect with other research residents, information on funding sources and examples of successful grant applications. Participants also highlighted some of the challenges they face in engaging with research, including time management and managing expectations

CONCLUSION: The outcomes of the research residents' focus groups have been used to create a section of the Emerging Investigators website that specifically addresses the learning needs of research residents at Mount Sinai. Each of the key themes is reflected in the learning and resources is provided through this online resource. A forum for research residents to connect with one another has also been created. The focus groups provided much valued insight to underpin this project and ensure that a valuable resource is created that will meet the needs of early career researchers. Evaluation of the website will involve tracking engagement metrics and collecting qualitative and quantitative data. This will lead to further refinement of the website in terms of content and usability.

ABSTRACT #54

DEVELOPING AN APPROACH TO PHYSICIAN LEADERSHIP TRAINING: THE MOUNT SINAI PHYSICIAN LEADERSHIP ACADEMY (PLA)

AUTHORS: Andrew Kupchik, Benjamin Kornitzer, Lisa Bloom, Arthur Klein, Cara DellaVentura, Brijen Shah, Diane Adams

PURPOSE: As Mount Sinai Health System (MSHS) continues to grow its ambulatory practices across geographies, the role of the medical director is critical to ensuring that the health system meets its goals and consistently delivers high quality care and services. The medical directors, like many physician leaders, were placed into leadership positions with no formal leadership training. MSHS created its Physician Leadership Academy to engage and empower the medical directors to be effective leaders and foster a sense of community to share best practices and learnings across geographical boundaries.

METHODS: The Mount Sinai Health Network and the Talent Development and Learning Division leadership collaborated to develop a longitudinal training program for medical directors and high potential physicians. The curriculum was developed based on a learner needs assessment (including in-person interviews and an electronic survey) and anchored to a 5-part medical director role profile. We used a cognitive and constructivist approach in the design of the program with the goal of creating a community of practice amongst the learners. The course contained 12 interactive evening sessions, a Hogan leadership assessment and coaching debrief session, a full-day personal leadership development retreat, and peer-to-peer coaching forums. CME certification was obtained. The program evaluation consisted of monthly session evaluations and an extensive end-of-program survey with reflection items, including quantitative items using a 3- to 5-point scale. A total of 55 physician leaders completed the program, 56% (N=31) of which participated in the survey. Qualitative analysis was conducted of the reflection responses to develop themes.

RESULTS: The majority of respondents (84%) agreed that the PLA helped them to identify development goals and more than 90% agreed the PLA helped them to achieve their goals. Over 50% of respondents reported they "agree" or "strongly agree" the PLA increased their sense of camaraderie and expanded their network. Furthermore, the majority of respondents (72%) felt that the evening sessions and retreat made a moderate to strong impact on their learning.

Themes from how respondents will apply learning include: better alignment with the system, thoughtful approaches to communication, influence, and feedback, role modeling, strengthening dyad relationships, more structured recruiting, onboarding, and mentoring, and leveraging the program community. The majority of respondents (61%) strongly agreed they would recommend the PLA to their peers.

CONCLUSION: The Physician Leadership Academy's role-anchored and multi-faceted structure helped develop a community of practice, increase institutional engagement, and enhance role empowerment and perceived effectiveness. This proof of concept can be used to create development programs for other groups of physician leaders. Long-term impact and sustainability will be measured and assessed through follow up surveys, practice metrics, and interviews.

ABSTRACT #55

PROMOTING INTERDISCIPLINARY LEARNING THROUGH INSTITUTE FOR TRANSLATIONAL EPIDEMIOLOGY SHORT COURSE OFFERINGS

AUTHORS: Wil Lieberman-Cribbin, Naomi Alpert, Donatella Placidi, Bian Liu, Katherine Ornstein, Rebecca M. Schwartz, Emanuela Taioli

PURPOSE: The Institute for Translational Epidemiology (ITE) has developed a diverse set of short course offerings open to faculty and students of all backgrounds and research areas to enhance the integration of epidemiology methods and analyses into research performed within and outside of Mount Sinai. These courses include Introduction to the Use of Healthcare Databases for Population Health Research, Introduction to Qualitative Research Methods, and Healthcare Data Science, an international collaboration with the University of Brescia.

METHODS: Introduction to the Use of Healthcare Databases for Population Health Research was first held in January 2018; this two-day course provides an overview of utilizing healthcare databases and provides students essential knowledge on diagnostic and procedure codes and algorithms for estimating comorbidities and risk scores. This curriculum also teaches data linkages with Electronic Health Records and other common health and administrative datasets. Students are encouraged to explore their own research questions throughout the course. An offshoot, Healthcare Data Science, was prepared with the University of Brescia to tailor this course to an international audience. Introduction to Qualitative Research Methods is a one-day forum taught by instructors trained in Health Psychology, Sociology, and Clinical Psychology providing an overview of qualitative research including differences between quantitative and qualitative research and how these apply to data collection and project design. Students learn to apply qualitative research methods through conducting focus groups and individual interviews. Students are then instructed on how to present qualitative findings in grant proposals, conference presentations, and manuscripts.

RESULTS: Introduction to the Use of Healthcare Databases for Population Health Research has undergone three iterations with the fourth session taking place on April 23-24. The fourth iteration of Introduction to Qualitative Research Methods was recently held on January 27. Eighty-one students have completed Introduction to the Use of Healthcare Databases and 116 students have completed Introduction to Qualitative Research Methods. These courses have collaborated with Mount Sinai Information Technology to provide audio and video recordings of course sessions to a virtual audience. This has resulted in course attendants from outside institutions (e.g. New York University, University of Wisconsin, Pennsylvania State University), and allowed Mount Sinai to disseminate expertise to shape future interdisciplinary collaborations. Students completing course evaluations have consistently rated the quality of content and course faculty as excellent.

CONCLUSION: ITE courses are actively open to faculty and students of all backgrounds and research areas to promote transfer of knowledge on epidemiological methods and analyses performed at Mount Sinai.

ABSTRACT #56

SCHEDULING PSYCHIATRY RESIDENTS AT MOUNT SINAI HOSPITAL

AUTHORS: Genevieve Yang, Thomas Maples

PURPOSE: Call shift schedules are still often manually generated, consuming weeks of schedule-makers' time. Hospitals provide 24-hour service with a limited number of residents as the main providers. On-call shifts are distributed among residents while they also work regular day shifts. These call schedules must meet hard requirements, such as duty hour limits and eligibility for certain shifts depending on a resident's day shift hours, as these shifts cannot overlap. There are also soft preferences, such as avoiding call assignments on weekends adjacent to the start and end of a resident's vacation block. Many hospitals still overwhelmingly use manual techniques in preparing these schedules. Typically, a designated resident will devote almost a week to the task, often more. Human errors then often require revisions. Additional resident preferences are difficult to integrate in advance, due to the overall cognitive load and opportunity for error. This further constrains work-life balance. There are 139,639 on-duty residents working in the 2019-2020 academic year in the 11,626 ACGME-accredited programs in the USA, many of which face this problem. We developed a preliminary version of an automated call-scheduling program and piloted it on the psychiatry resident cohort that started residency in 2019 at Mount Sinai Hospital, main campus.

METHODS: Using the Python programming language, we wrote a computer program that, in seconds, generates call schedules for residents based on hard requirements (e.g. duty hour restrictions, service-block requirements) and soft preferences. We implemented a beta version of this software, which generated the 2019-2020 call schedules for the Mount Sinai psychiatry interns. Our software scrapes service block assignments directly from Amion and incorporates personal requests from a shared open-access document. It also generates calendar visualizations of the shifts for easy review.

RESULTS: The pilot program generated a 2019-2020 year call schedule (including back-up shifts) which fulfilled all hard requirements (duty hour and call eligibility rules) while also respecting several soft preferences (avoiding call shifts adjacent to vacations, allowing each resident up to four requests for consecutive 2-day blocks without call). Call burden was evenly distributed for weekdays, Fridays, holidays, and weekend days. Schedule generation time was <5 minutes.

CONCLUSION: Our innovation is a computer program that, in seconds, generates call schedules for residents based on hard requirements and soft preferences. These features reduce the effort required to generate schedules, which in turn paves the way to incorporate additional soft preferences into later iterations of this software without undue cognitive burden upon schedulers. In doing this, our innovation addresses a call shift scheduling need that is as yet largely unmet for residents.


ROBERT J. DESNICK, MD, PHD
BRIAN D. BROWN, PHD
YIANNIS A. IOANNOU, PHD
NINA BHARDWAJ, MD, PHD
PRITI BALCHANDANI, PHD
ANGELA DIAZ, MD, PHD
DIANE E. MEIER, MD
ADOLFO GARCIA-SASTRE, PHD
PETER PALESE, PHD
DOCTOR

SECTION 7:

Quality Improvement

POSTERS 56-70

ABSTRACT #57

STICKING POINTS: ASSESSING PREVALENCE, PROVIDER AWARENESS AND NURSE PERCEPTIONS ABOUT FINGERSTICK BLOOD GLUCOSE TESTING IN HOSPITALIZED PATIENTS

AUTHORS: Alyssa Gontzes, Madeline Floodstrand, Jared Dashevsky, Samir Kamat, Caroline Liu, Annie Linker, Grenye O'Malley, Grenye O'Malley

PURPOSE: Fingerstick blood glucose (FSBG) testing in the hospital setting allows real-time insulin adjustment, protecting patients from significant hypo/hyperglycemia. Admitted diabetic patients are often placed on sliding scale insulin with four times per day FSBG testing, regardless of home insulin use. FSBG test materials cost $9 per use, and we estimate that $500,000 is spent annually on FSBG supplies for our inpatient teaching service. In patients who are low risk for inadequate glycemic control, FSBG monitoring may add to nursing workload, cause patient discomfort, and waste resources without improving quality of care. We assessed the opportunity to reduce FSBG testing in low risk diabetic patients on the hospital medicine teaching service (HMTS).

METHODS: Our student-run team conducted a multi-faceted assessment of FSBG practices on the HMTS at an urban academic 1,100-bed tertiary care center. This included a point prevalence study (PPS), a provider awareness study (PAS), and a nurse perceptions survey (NPS). The PPS identified the number of patients receiving FSBG monitoring (per the EMR). The PAS tested provider awareness of FSBG orders. Each provider (intern/resident/attending) was given his/her patient list and was asked to identify (in real time) patients with FSBG orders in the last 24 hours, without looking at the EMR. The NPS was a five-question survey of practice patterns/perceived workload attributed to FSBG testing.

RESULTS: The PPS identified that 55 of 103 patients were receiving FSBG monitoring. 31 providers (100% completion) took the PAS. 3/31 correctly identified all patients with FSBG orders. 1/12 interns, 1/12 residents, and 1/7 attendings correctly identified patients with FSBG orders. 42% of interns overestimated and 42% underestimated the percentage of patients on FSBG. 33% of residents overestimated and 50% underestimated the percentage of patients on FSBG. 70% of attendings underestimated the percentage of patients on FSBG. The mean percentage of patients with FSBG testing correctly identified was 66%.

The NPS was administered to 28 nurses with 100% completion. 67.9% reported needing 4-6 minutes to administer a FSBG test, and 17.9% reported requiring 7-10 minutes. 60.7% estimated that fewer than 50% of patients undergoing FSBG testing are given insulin in response to test results.

CONCLUSION: Our student-run study demonstrates that FSBG testing is common, that provider awareness of FSBG monitoring is low, and that nurses require 4-10 minutes per fingerstick. In aggregate, FSBG is costly and little research has targeted it as a potential area for waste reduction. As such, FSBG testing represents a potential quality gap. Our work will inform quality improvement interventions to decrease fingersticks that are not changing care, maximize providers' time and hospital resources and improve patient experience.

ABSTRACT #58

USE OF THE MAYO CLINIC DECISION AID AS A TOOL TO INCREASE ADHERENCE TO ANTIDEPRESSANTS AT A RESIDENCY-RUN FEDERALLY QUALIFIED HEALTH CENTER (FQHC)

AUTHORS: Julie Schoonover, Sophie Gottesman, Regina Ginzburg, Julie Schultz, Goldie Alfasi

PURPOSE: Major Depressive Disorder and Generalized Anxiety Disorder are frequently managed in the primary care setting, however, low patient adherence rates and premature discontinuation of pharmacotherapy are still common. This study aimed to determine whether the use of the Mayo Clinic Decision Aid (MCDA) increased patient adherence and continuation of pharmacotherapy and whether the use of such a decision aid is feasible in a resident staffed FQHC.

METHODS: This was a multi-center quality improvement project involving two family medicine residency programs. Program A consisted of 18 residents who were trained to use the Mayo Clinic Decision Aid (MCDA) in September 2019 via didactic sessions and emails. They were instructed to use a pre-set phrase in the electronic medical health record to access the decision aid at time of initial prescription. A second pre-set phrase to be used during follow up visits evaluated patient satisfaction of their treatment including side effects and desire to continue medication. Program B (control group) consisted of 21 residents who were trained to use the second pre-set phrase only. Health records of all patients who received an initial prescription for an antidepressant from resident physicians at both clinical sites between 9/11/2019 and 3/11/2020 were reviewed.

RESULTS: Results are pending as 6 months of data collection is needed. Items evaluated at the end of 6 months will be:

- Percentage of patients in each group who returned for follow-up prescriptions
- Percentage of patients in each group who did not return for follow-up visits after the initial prescription visit
- Patient satisfaction with medication as assessed through questions in the EHR pre-set phrase
- Use of MCDA assessed by number of residents in Program A who used the pre-set phrase

CONCLUSION: We anticipate that the MCDA group will have a higher percentage of return visits for refills, a lower percentage of no-shows for refill visits and a higher level of satisfaction with their meds than the control group.

ABSTRACT #59

IMPLEMENTING VIDEO VISITS AT A RESIDENT PRIMARY CARE TEACHING PRACTICE

AUTHORS: Justin T. Gasper, Martha Catalina Morales Alvarez, Leonard Amoruso, Alfred Burger, Matthew Weissman, Christina M. Cruz

PURPOSE: Poorly controlled hypertension is a common problem in urban, resident teaching practices. Studies demonstrate that video visits improve hypertension control, yet adoption has lagged. We have begun piloting a teaching practice workflow for hypertension management as part of a patient-centered approach for patients with poor hypertension control.

METHODS: Our outpatient medicine resident teaching clinic serves an urban community in New York City. On recent review of several quality metrics, our patient population hypertension control is at 40.8%--below the national average of 48%--and reflects the health disparities experienced by our racially and ethnically diverse population. Access to physicians and prescriptions present the greatest challenges in addressing poor hypertension control. While multiple large RCTs demonstrate telemedicine improves hypertension control, implementation is sparse. Telehealth interventions are rapidly being adopted for a variety of indications, but there have been only limited trials focused in the emergency and rural settings. Recent New York telehealth parity law ensures reimbursement for telehealth for Medicaid patients. Additionally, patient web portals have integrated technology allowing video visits.

We have implemented video visits at our resident teaching practice for patients with poorly controlled hypertension. Patients with hypertension and access to the video application of their patient web portal were considered. Exclusion criteria include hospitalization or fall within three months, BP ≥180/110, or diagnosis of dementia. We hope that by eliminating transportation barriers, reducing wait times, and reducing medication barriers our patients will experience both continuity and improved hypertension control.

RESULTS: The primary result is the successful implementation of a video visit infrastructure at our resident primary care practice. With the video visit infrastructure in place, we have begun recruiting patients to participate in video visits.

Once fully implemented, we plan to survey patients and residents about their experience with video visits. We plan to monitor the effect of video visits on hypertension control as reported by our quality data as well as monitoring enrolled patients. IRB submission is in progress.

CONCLUSION: The implementation of video visits at our resident Primary Care practice has allowed several key lessons including:

- Understanding state-specific telehealth laws and coverage informs feasibility and target populations.
- Guidance regarding trainee supervision for video visits is not fully developed nationally. Specific guidance around supervision varies by institution.
- Both patients and residents have demonstrated interest in using video visits to manage chronic disease.

ABSTRACT #60

IMPACT OF INTRODUCING A PATIENT EXPERIENCE QI CURRICULUM IN IMPROVING PHYSICIAN – PATIENT COMMUNICATION

AUTHORS: Sadia Rehman, Marutha Arulthasan, Elaheh Mossayebi, Abdullah Alsakka, Nazma Begum, Gurpreet Singh, Foma Munoh Kenne, Bisrat Nigussie, Maryline Nformi, Swann Tin, Tien Tran, Jennifer Collins, Andrew Burt, Jessie Saverimuttu

PURPOSE: Patient and caregiver experience has been a leading conversation in national healthcare. Studies done since the inception of Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) have identified a direct correlation between workforce engagement, patient experience and clinical outcomes.

During the 2018-2019 academic year, the Department of Medicine's Residency Program at Richmond University Medical Center (RUMC), completed a pilot study relating to patient and provider communication. A key recommendation derived from this study was to expand the study beyond the authors to the entire residency program.

At the beginning of the 2019-2020 academic year the qualitative patient experience physician communication interviews became the first educational component integrated into the residency program's quality curriculum. The goal of introducing these interviews was for residents to get firsthand information of patient's perception regarding physician communication, and using this experience to improve their own communication with patients.

METHODS: The participants were assigned a week every month to complete the surveys. The inclusion criteria were, minimum of two days admission, should be alert and oriented. Patients with a diagnosis of: active psychiatric disorder, altered mental status or acute stroke were excluded. The patients were asked questions in relation to their communication with their primary attending, residents and specialists. Also taken into consideration was the proposed improvements suggested by patients regarding communication by physicians. Over two hundred assessments were completed between September and December of 2019. At the end of the study, all resident's feedback was gathered for analysis, via real-time live polling application, Poll Everywhere.

RESULTS: The study found that 55% of the residents polled strongly agreed or somewhat agreed that the patients made at least one statement or response that they were not expecting, 60% of residents strongly agreed that the survey exposed them to patients concerns from the patient's point of view, 47% of the residents strongly agreed or somewhat agreed that they will make at least one adjustment to their approach when communicating with patients, and 50% of the group strongly and somewhat agreed that they understood better now than at the beginning of the program the connection between communication and clinical outcomes, while 29% remained neutral.

CONCLUSION: The introduction of this survey in the QI curriculum, although is not yet reflected in the HCAHPS scores, but the fact that 60% of the residents strongly agreed that it exposed them to understand the patients' problems from the patients' point of view, we propose to expand this methodology to the incoming residents in order to enhance their communication skills.

ABSTRACT #61

ADDRESSING INPATIENT GLYCEMIC MANAGEMENT: A CURRICULUM INITIATIVE FOR INTERNAL MEDICINE RESIDENTS

AUTHORS: Sananda Moctezuma, Heba Yassin Jioussy, Rahul Agarwal

PURPOSE: Hyperglycemia is associated with adverse outcomes. Per published data, patients with hyperglycemia may constitute up to one-third of the census of hospitalized patients. Guidelines for inpatient management of hyperglycemia, in non-critically ill adults are inconsistently implemented within our hospital system. Thus, we strove to develop a formal curriculum for the internal medicine program at Mount Sinai St. Luke's, West, and BI to improve resident knowledge, and prioritize glucose control within our medicine units.

METHODS: We conducted a brief survey of internal medicine residents to determine the self-reported level of comfort, and knowledge of hyperglycemia management in non-critically ill patients. The questionnaire was circulated on paper and online. We designed a three-phase cross sectional educational intervention to be initially explored in one team of residents who are on service in a general medicine unit. The first phase will consist of a pre-survey, and two short modules on basic concepts of diabetes, hyperglycemia monitoring, and insulin titration. The second phase will consist of real-time application of the reviewed concepts in patients currently admitted to the medicine unit, with frequent input from expert faculty. The third phase will focus on reviewing the management strategy chosen in those patients who had documented hyperglycemia in the previous two weeks. A final survey will assess changes in management, and acquired knowledge.

RESULTS: In the initial survey, over 44% of the respondents were junior residents, and 31% were first year residents. Only 8% of the respondents reported feeling comfortable with their level of knowledge, and current management of inpatient hyperglycemia. Trends in responses varied widely, with lower scoring in concepts related to pharmacokinetics of insulin, and American Diabetes Association guideline recommendations for management of hyperglycemia. Over 36% of the respondents had never consulted an inpatient diabetes service, despite reporting low confidence with titration of hypoglycemic agents.

CONCLUSION: Most residents have not had formal training in the management of hyperglycemia, and recognize significant gaps in knowledge during their medicine service rotations. Support by the diabetes service providers, which is available for all residents, is often overlooked. We are in need of structured training that stresses the importance of adequate glycemic control, and provides tools to manage common scenarios in the inpatient setting. Post-intervention data will permit further clarification of the knowledge gaps to be addressed, and whether the intervention will be successful when implemented in a larger scale.

ABSTRACT #62

INCREASING SUBSTANCE USE DISORDER SCREENING AND INITIATING RISK REDUCTION STRATEGIES IN A GERIATRIC AND PALLIATIVE CARE OUTPATIENT CLINIC

AUTHORS: Ciera Sears, Mitchell B. Wice, Carl-Philippe Rousseau, Megha Patel, Samantha Lau, Vanessa Rodriquez

PURPOSE: According to the American Geriatrics Society, in adults 65 years and older, the incidence of alcohol and illicit substance misuse is 2-18% and less than 1%, respectively. Alcohol and drug use is often under-recognized in the outpatient setting in older adults by health care providers. There is no standardized screening tool for alcohol and substance misuse for geriatrics or palliative care clinics. Starting July 1, 2019, the Department of Health requires all article 28 and primary care practices to screen for alcohol and substance use at least annually. Our goal was to improve alcohol and substance abuse screening from baseline to a minimum of 70% by May 2020 for all patients seen in the Martha Stewart Center for Living Uptown Clinic.

METHODS: We created a process map for how patients are screened for alcohol and illicit substance misuse and identified four potential intervention points: 1) completion of screens by medical assistants; 2) documentation of screens; 3) provider knowledge of screening 4) management of positive screens. Using a fishbone diagram we brainstormed contributing factors for failure to screen.

Our first PDSA cycle included baseline data collection, and a provider needs assessment. We reviewed 200 randomly selected charts of geriatric patients seen between September 2019 and November 2019. Additionally, providers were emailed a needs assessment that evaluated their screening modality and frequency, and also explored barriers to screening.

RESULTS: Chart review showed that 80% of geriatric patients had been screened. There was one positive screen for alcohol misuse and zero for substance misuse. The positive screen did not have the appropriate subsequent full evaluation. The needs assessment had a 59% response rate and revealed that 65.2% of providers screen for substance use disorder. However, screening procedures vary considerably amongst providers mainly due to limited time during visits.

CONCLUSION: At this time we our currently meeting our screening metric but through this process we identified a need for improvement in provider education on screening protocol. Our next PDSA cycle will focus on provider education about screening process and documentation. This will involve the participation of member of our inter-professional team to additionally initiate appropriate plan of care.

ABSTRACT #63

DETERMINING POTENTIAL IMPACT OF INPATIENT NALOXONE DISTRIBUTION AT MOUNT SINAI HOSPITAL: A MEDICAL STUDENT- LED FEASIBILITY ASSESSMENT

AUTHORS: Kevin M. Weiss, Linda Wang, Terence Hughes, Bhavana Patil, Amey Vrudhula, Rebecca Kellner, Michael Herscher

PURPOSE: There has been a substantial rise in opioid overdose deaths in the past two decades. Increased access to naloxone, an opioid antagonist that has reversed thousands of overdoses, is an essential harm reduction approach to countering the opioid epidemic. Presently, naloxone is not distributed to hospitalized patients at Mount Sinai Hospital (MSH). Medical students, trained in overdose prevention using naloxone, can play a central role in expanding naloxone access. We evaluated the feasibility of inpatient naloxone distribution at MSH by estimating the number of naloxone-eligible patients and identifying potential implementation barriers.

METHODS: As part of this feasibility assessment, we surveyed existing offerings at MSH:
Identifying Patients: Using a daily EMR report of MSH emergency department (ED) or hospital-admitted patients with possible opioid use disorder (OUD), students applied Substance Abuse and Mental Health Services Administration criteria for naloxone provision to identify eligible patients across categories: history of OD or OUD; concurrent benzodiazepine and opioid use; current receipt of/at risk for returning to a high opioid dosage.

Naloxone Distribution: Free naloxone kits are obtained from the NYC Department of Health and Mental Hygiene- sponsored Opioid Overdose Prevention Program at REACH, a primary care clinic for people who use drugs. Students conduct educational sessions and distribute naloxone semiweekly at REACH and the Mount Sinai West inpatient detoxification/rehabilitation unit.

To identify possible barriers to inpatient distribution, key stakeholder conversations were held with MSH leadership, including representatives of the Pharmacy and Therapeutics Committee (P&T) and the Departments of Medicine and Emergency Medicine.

RESULTS: Among 405 patients screened in January 2020, 146 (36%, 5.0/day), were deemed naloxone-eligible. More than half (56%, 2.8/day) of naloxone-eligible patients were in the ED. One-third (32%) of naloxone-eligible patients were discharged prior to student EMR review, limiting reachable patients to 3.4/day. Students will collaborate with REACH to pilot an inpatient model of naloxone distribution targeting naloxone-eligible patients.

Key implementation barriers identified by stakeholders included: naloxone storage/distribution logistics, long-term financing, legal responsibility, and training comfort among providers and students. Participating students and faculty mentors are working to address these barriers and will present solutions to P&T, followed by implementation of a pilot model at MSH.

CONCLUSION: Inpatient naloxone distribution at MSH can reach more than 1240 eligible patients/year. Reach may grow with real-time patient identification and naloxone distribution at discharge. Successful project implementation could benefit patients and enhance harm reduction education for students and providers. Future knowledge, attitudes, and skills assessments of students and providers following project implementation are planned.

ABSTRACT #64

SUSTAINED REDUCTION IN CATHETER-ASSOCIATED URINARY TRACT INFECTIONS AT RICHMOND UNIVERSITY MEDICAL CENTER FROM 2016 TO 2019: A CONTINUOUS QUALITY IMPROVEMENT INITIATIVE WITH FOCUS ON ENHANCING HEALTH CARE PROVIDER AWARENESS

AUTHORS: Maryline Nformi, Foma Munoh Kenne, Elaheh Mossayebi, Nazma Begum, Fuad Abaleka, khin Zin, Muhammed Atere, Sadia Rehman, May Zaw, Marutha Arulthasan, Elsabeth Asare, Banyar Aung, Tigist Gemechu, Khaingshwe Lin, Gurpreet Singh, Swann Tin, May Breitling, William Lim, Jennifer Collins, Jessie Saverimuttu

PURPOSE: Catheter-associated Urinary tract infections (CAUTIs) are the most common device–associated nosocomial infections. They negatively impact patient outcomes leading to increased morbidity, mortality, length of stay, and health care cost. The primary modifiable risk factor for developing a CAUTI is the duration of catheterization. Eliminating unnecessary Foley catheter use and limiting the duration of catheterization can prevent most CAUTIs.

METHODS: A multidisciplinary team of physicians, nurses, and infection control specialists was put together in 2016 to reduce the incidence of CAUTIs. We implemented evidence-based practices for CAUTI prevention according to CDC guidelines. We used the PDCA model to continuously improve our processes and followed the results through 2019. Our strategies included:
- Periodic education of healthcare personnel on the appropriate indications for urinary catheterization, alternatives to indwelling catheters, aseptic insertion and maintenance techniques and urine culture stewardship.
- Requirement for daily renewal of Foley orders by physicians and a nurse-driven protocol to discontinue catheters when no longer indicated.
- Daily hospital-wide rounds to review necessity of Foleys and we incorporated discussions about indwelling Foley catheters into interdisciplinary rounds and handoffs.
- Monthly meetings by the team to evaluate progress, perform root cause analysis on each identified CAUTI, and provide feedback on improvement opportunities.
- A survey in January 2020 to assess residents' awareness of CAUTI prevention

RESULTS: Reduction in the number of CAUTIs from 49 in 2016, to 14 in 2017, 11 in 2018 and 10 in 2019. Our standardized Infection Ratio (SIR) dropped from 2 in 2016 to 0.9 in 2017, 0.9 in 2018 and 0.7 in 2019. Catheter days reduction from 16211 in 2016 to 11211 in 2017, 8867 in 2018, and an increase to 9812 in 2019. Our Standardized Utilization Ratio dropped from 1.2 in 2016 to 1 in 2017, 0.8 in 2018 and 0.9 in 2019 75% of residents reported knowledgeable or very knowledgeable about CAUTI prevention in January 2020 compared to 50% at the beginning of the academic year.

CONCLUSION: A multidisciplinary effort, using the PDCA model, continuously educating and engaging physicians and nurses on evidence based CAUTI prevention practices resulted in a sustained reduction of CAUTIs by 79.6% and catheter use by 39.5% from 2016 to 2019. Our SIR has been maintained below 1.0 (national average) for the past 3 years. We will continue to improve our current strategies and additionally, focus on reducing our catheter days, to move our institution closer to its goal of "Zero" CAUTIs.

ABSTRACT #65

A NEW QUALITY IMPROVEMENT PROCESS TEACHING IMPROVED CLINICAL CHARTING THROUGH ACTIVE PROJECT ENGAGEMENT.

AUTHORS: Heidi Baer, Daniel Satnick, Joshua McHugh, Eric Legome

PURPOSE: As part of a department QA/QI program, as well as OPPEs and other regular chart reviews modalities, opportunities are regularly found to improve clinical charting deficiencies and optimize the patient's medical record. Our project focuses on teaching improved charting by engaging attendings in a QI project focused on chart reviews with a standardized, explicit and validated template. By using this template on their own and colleagues' charts, attendings will improve their understanding of how to write a concise, yet clinically effective chart for improved care and potentially diminished malpractice risk. We believe they will have a better understanding of the elements of a "good" chart as well as opportunities for improved care. Other benefits expected include enhanced ability to discover minor quality issues and trends, engage staff physicians in QA and provide guidance on resource utilization.

METHODS: Senior EM clinicians, using a combination of previous case reviews from several sources developed a simple template with clinical examples highlighting best practices to evaluate for during a chart review. A separate group of attendings with QI expertise will be validate the template for both validity and internal consistency. Once the template is validated, all fulltime EM staff will participate in the chart review process using a standardized template with explicitly designed criteria. They will review and score between 10-20 of their colleagues' charts in areas such as resource utilization, medical decision-making documentation, medicolegal documentation. Each physician will receive a collated score, as well as the department will have a score. Any chart scores outside of acceptable will be further reviewed in QI as part of the usual department process to improve care. A second round will be done several months after the first to understand if the department as a whole improved in any or all areas. All attendings will also receive a second individual score.

RESULTS: The IRB submission was performed and we recently received exemption as this is also a planned QI project. We have the developd the initial template and will be starting our validation process soon. In this process, eight content experts will review both charting templates with instruction and then each content expert will review the same 10 charts to ensure inter-rater reliability. Once that is complete, in March or April Phase 2: All faculty will be in- serviced on the charting templates and will be charts to be randomly selected and distributed to all faculty for review.

CONCLUSION: Pending

ABSTRACT #66

IMPROVING ACGME SURVEY COMPLIANCE WITH "EDUCATION NOT COMPROMISED BY EXCESSIVE RELIANCE ON NON- PHYSICIAN OBLIGATIONS" BY DECREASING INPATIENT MEDICINE CLERICAL BURDEN

AUTHORS: Natalie Marte, Leslie Seijo, Daniel Steinberg, Alfred Burger, Christina M. Cruz

PURPOSE: Identify sources of non-physician obligations that compromise education. Implement a discharge coordinator service on the inpatient medicine teaching service to decrease clerical burden Improve compliance on the ACGME resident survey with "Education not compromised by excessive reliance on non-physician obligations."

METHODS: Increased clerical burden is a well-recognized risk factor for physician burnout. As such, the ACGME Resident Survey asks residents to rate program compliance with "Education (not) compromised by excessive reliance on non-physician obligations". In multiple annual ACGME Resident Surveys our program compliance with "Education (not) compromised by excessive reliance on non-physician obligations" measured below the national average. We set out to design an intervention to address compliance with this measure. Via resident surveys, we identified discharge coordination from the Internal Medicine Inpatient Teaching Service as a source of increased work intensity, non- physician obligations and burnout. We designed and implemented a discharge coordination service as a way to decrease work intensity, improve compliance with "Education (not) compromised by excessive reliance on non- physician obligations" on the ACGME Resident Survey and decrease burnout.

The residency program managed the implementation of the discharge coordinator. Daily communication between the residents and our discharge coordinator occurred primarily through Cureatr, a web based messaging application linked to patients' records. Once discharge appointments were made, the discharge coordinator entered these into the inpatient electronic health record.

Pre and post-intervention data collection occurred via well-established survey processes (ACGME Resident survey, MSBI Wellness survey and annual internal anonymous surveys via New Innovations). This project received IRB exemption.

RESULTS:
Compliance with "Education not compromised by excessive reliance on non-physician obligations" improved by 11% on the 2019 ACGME Resident Survey as compared to the 2018 survey, from 26% in 2018 to 37% in 2019.

Compliance with an "80 hour" work week improved by 11% on the 2019 ACGME Resident Survey as compared to the 2018 survey, from 82% in 2018 to 93% in 2019. We saw a decrease in residents identifying "Paperwork" as "reasons for exceeding clinical experience and educational work rules" from 18% to 10%. The implementation of the discharge coordination service allowed new collaboration with discharge coordination and readmission programs. Burnout Survey data analysis pending.

CONCLUSION: Implementation of a discharge coordinator improved compliance with the ACGME Resident Survey items "Education not compromised by excessive reliance on non-physician obligations" and the "80 hour work week". As medicine and the needs of trainees and patients evolve, we will need to continue to move beyond our traditional roles as educators and begin to impact the systems of care that affect our trainees and patients.

ABSTRACT #67

CHAT ABOUT THE M-CHAT IN CONTINUITY CLINIC

AUTHORS: Cynthia Katz, Jessica Zweifach, Ivy Giserman-Kiss

PURPOSE: Currently, 1 in 59 children in the United States has a diagnosis of autism spectrum disorder (ASD). The American Academy of Pediatrics recommends that all children be screened for ASD at 18 and 24 months due to robust evidence that early intervention significantly improves long-term outcomes in ASD. The Modified Checklist for Autism in Toddlers-Revised (MCHAT-R) is one recommended screening tool. We identified that the MCHAT-R has not been administered as advised in our resident continuity clinic. We aimed to improve appropriate resident utilization of the MCHAT-R.

METHODS: Residents completed surveys regarding their beliefs about universal screening for ASD and perceived barriers to routine implementation. An educational intervention for residents consisted of: an overview of ASD symptoms, evidence for universal screening, demonstration of MCHAT-R administration, and common challenges to screening. Pre- (April 2019) and post- (June 2019) intervention MCHAT-R utilization rates among 62 pediatric residents were calculated via EPIC data extraction. Statistical analyses were conducted to determine changes in resident MCHAT-R utilization rate. The project was approved by the Mount Sinai Pediatrics Performance Improvement (QI) Committee.

RESULTS: Thirty resident surveys were completed (53% response rate). Results revealed that 74% of pediatric residents believe that universal screening should be implemented into daily practice; however, a number of barriers interfere, including lack of time during appointments, confusion around which patients to screen, and remembering to administer the screener. Analyses revealed that 10.0% of patients within the age range were screened by residents in the month pre-intervention, and 13.7% of patients were screened by residents in the month post-intervention. Pre- and post- intervention screening rates did not differ significantly (X^2 (1) = .57, p = .45).

CONCLUSION: Post-intervention screening rates remained low in the clinic and the improvement in MCHAT-R utilization rate was not significant. However, the slight increase in post-intervention screening rate suggests that more residents are aware of the need for universal screening. Additional intervention is necessary to ensure compliance with universal screening recommendations. Reported resident barriers will help inform future interventions to improve screening rates.

ABSTRACT #68

QUALITY IMPROVEMENT INITIATIVE: REDUCING SURGICAL SITE INFECTIONS IN MEDICAL FACILITY SERVING THE UNDERSERVED POPULATION

AUTHORS: Chukwuemeka Mbagwu, Rolanda Willacy, Carl Monfiston, Charles Adebayo, Robert Wilson

PURPOSE: This project aims to decrease surgical site infections (SSIs) rate in an underserved population by 5% due to an educational lecture and reminder signs throughout the operating rooms (ORs). Because barriers to healthcare often hit those with the hardest means to repay, we sought to evaluate SSI infection rate in a primary demographic of the uninsured population and how we are able to reduce this burden on the already economically struggling population. SSIs lead to prolonged hospital stays, adjunctive procedures, and additive costs. They comprise approximately 20% of all hospital-associated infections (HAIs) and are the second-most common type of HAIs in the United States. Previous studies have demonstrated that SSIs were the most common nosocomial infection in surgical patients and were responsible for 38% of all infections within that category. SSI rates are an indicator of the quality of surgical and postoperative care, which calls for the need of increased surveillance systems for these infections. Our hypothesis is that aseptic surgical technique should be taught, rather than learned via observational methods, and refreshers on this skills would benefit people involved in surgical care. According to literature, SSIs are a preventable cause of increased morbidity and mortality by aseptic technique, perioperative antibiotics, and excellent wound closure. Because one aspect of SSI development is aseptic technique, which is something that may learned briefly and informally in medical school, having a formal class and reminders throughout the hospital may be an effective technique to standardize aseptic technique and lower SSI rate.

METHODS: A retrospective chart review will be conducted at a single medical institution providing care to the underserved population, defined as being those on Medicare or Medicaid in Washington, DC, Maryland, Virginia (DMV area) between 2015-2018 to evaluate the rate of SSIs between that time period. A patient safety lecture will be given to the surgical residency programs of the institution. The lecture will discuss the current national trends of SSIs and then the SSIs at the host institution in order to have comparison. Next, signs showing proper technique will be placed over the OR sinks. The final phase of the study will be to conduct a chart review to evaluate if there is a change in SSI rates at the institution, followed by results.

RESULTS: None to report at the moment as data is being gathered.

CONCLUSION: This project is in its preliminary phase and will be an ongoing initiative. Developing institution-wide protocols and curricula that address these topics can aid in increasing surveillance systems monitoring concerns such as SSIs.

ABSTRACT #69

THE SILENT EPIDEMIC – A NEED TO COMBAT RESIDENT BURNOUT

AUTHORS: Bisrat Nigussie, Vaishali Krishnamoorthy, Maham Suhail, Esmael Yimer, Tigist Gemechu, Elaheh Mossayebi, Jennifer Collins, Amirhossein Moaddab, Muhammed Atere, Foma Munoh Kenne, Jessie Saverimuttu

PURPOSE: Burnout is defined as a state of mental and physical exhaustion related to work place activities, and is an epidemic lacking successful intervention. AMA estimated that 49% of internal medicine physician reported being burnt out. JAMA recently reported a study of nearly 3,600 second-year residents who were followed-up with questionnaires since medical school, 45 percent reported burnout symptoms and 14 percent reported regret over their career choice.

METHODS: Maslach Burnout Inventory (MBI) is an introspective psychological inventory, and the survey of choice to evaluate and diagnose the Burnout. Surveys are conducted at the beginning of the residency year and 6 months following implementation of changes. These include efforts to create awareness among residents through various social activities, reducing resident workload by improving EMR and resident work flow, giving interns at least 48hours off every 4-5 weeks, creation of small groups to discuss various issues, and having a psychologist hired for counseling. In the survey, all volunteer internal medicine residents except for chief residents were included.

RESULTS: At the 1-month check-in, 14% of PGY-1's claimed no emotional exhaustion and 0% reported severe emotional exhaustion. At 6-months, all PGY-1's reported some degree of emotional exhaustion, with 25% reporting severe exhaustion. At 1-month, 27% reported no degree of depersonalization. At 6 months, all PGY-1's reported some degree of depersonalization with 47% and 29% reporting moderate and severe depersonalization, respectively. At 1- month, all PGY-1 residents felt some level of personal achievement vs. at 6 months, in which no PGY-1 residents felt a high feel of personal achievement. At the beginning of PGY-2, 54% of residents felt a high sense of personal achievement vs. 6 months in which 0% of residents did. At 1-month, 38% of PGY3 residents felt severe exhaustion, 50% felt severe depersonalization. At 6 months, 3% felt severe exhaustion and 0% felt severe depersonalization.

CONCLUSION: The MBI was useful in providing an estimated level of resident burnout. It allowed comparisons between years, as detailed above in results. Trends included an increase in burnout in PGY1 and PGY2 vs. a decrease in PGY3. This data is crucial in implementing future changes that can eventually target and resolve resident burnout.

ABSTRACT #70

IMPROVING MEDICAL ORDERS FOR LIFE-SUSTAINING TREATMENT (MOLST) USE FOR PATIENTS ADMITTED TO A GERIATRIC INPATIENT SERVICE

AUTHORS: Gerard Casale, Renata Scalabrin Reis, Laura Belland, Amy Reyes Arnaldy, Martine Sanon, Christine Chang

PURPOSE: The MOLST form documents patient preferences regarding life-sustaining treatment (LST). It is intended for patients with serious health conditions who want to limit any or all LSTs; reside in long-term care or require long-term care services; and/or might die within the next year. MOLST is the only authorized form in New York for documenting nonhospital DNR and DNI orders and is recognized in a variety of health care settings. A high percentage of our inpatient population meet criteria for MOLST (mean Charlson Comorbidity Index=6; 45.5% readmission rate, 59.1% preference for DNR/DNI), but MOLST completion remains low at only 9.1%

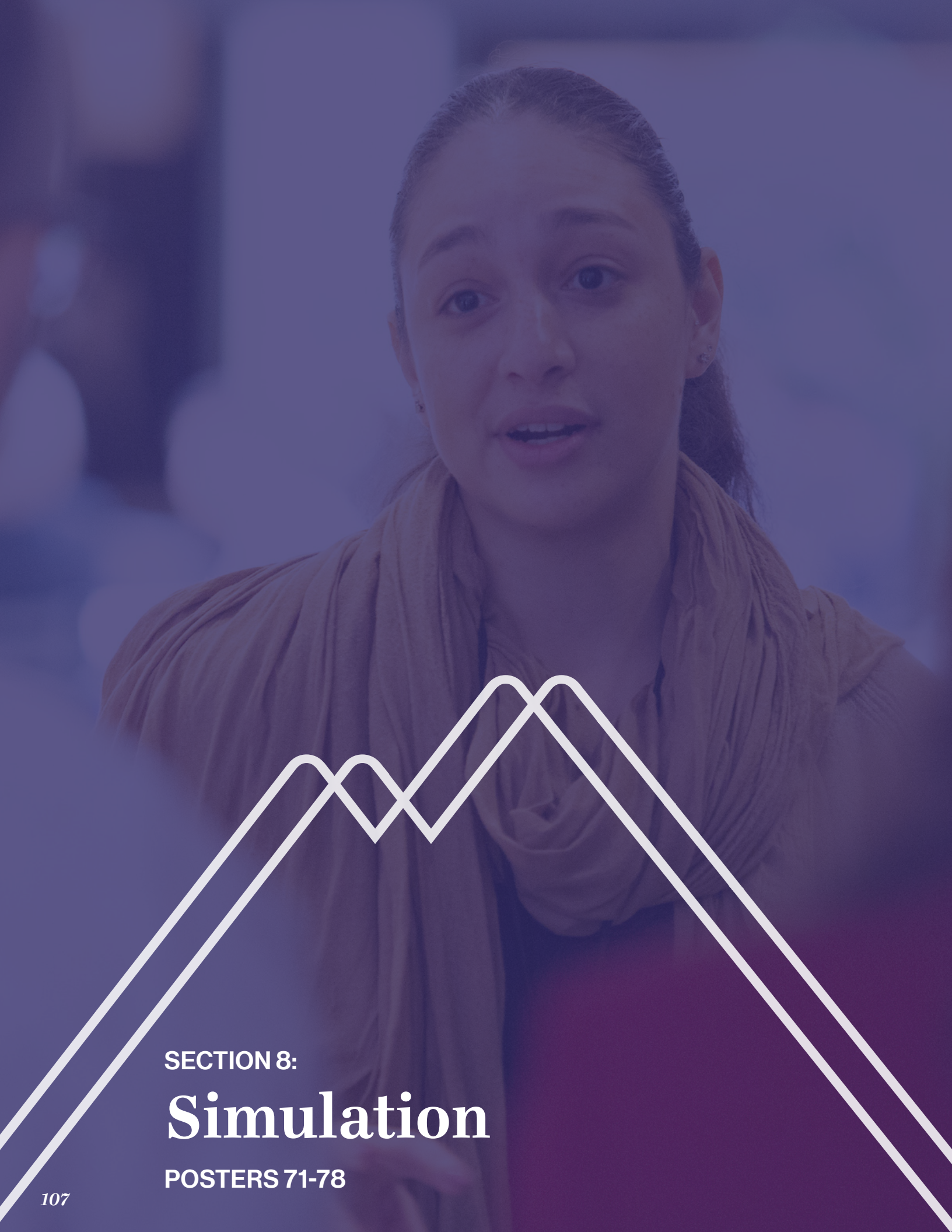
OBJECTIVES: To improve MOLST completion for our inpatients from 9.1% to 25% by May 2020

METHODS: Traditional quality improvement methods were used. Process mapping and Ishikawa fishbone were created and analyzed to identify barriers to MOLST completion. A retrospective chart review of demographics and MOLST completion was performed for baseline measures. Change concepts were brainstormed based on baseline data and interventions for "Plan Do Study ACT" (PDSA) were developed for implementation. Prospective analysis of impact of these PDSAs will be undertaken.

RESULTS: Retrospective review of 44 patients admitted between 7/24/19 and 10/5/19 showed that 59.1% of admitted patients had DNR/DNI with only 9.1% documented MOLST (per monthly IT-generated advance care planning ACP compliance report). Manual chart review of these 44 patients found 15.9% (7/44) actually had a MOLST documented somewhere in the EMR but only 9.1% (4/44) were scanned to the proper location. In addition, 20.5% (9/44) patients were transferred to the palliative care unit and 45.5% (20/44) had 2+ admissions to the inpatient geriatric service in the last year.

CONCLUSION: Completion of the MOLST is especially beneficial for patients with life expectancy <1 year, frequent hospitalizations, and preference for DNR/DNI. Preliminary retrospective review indicates that MOLST is underutilized and inaccurately captured by IT-generated ACP compliance reports. A standardized provider education module will be developed to train providers about the MOLST and how to properly document and scan completed forms into the EMR. Impact of this and other PDSA interventions on MOLST completion will be prospectively evaluated.


EMMA GUTTMAN-YASSKY, MD, PHD
ROBERT J. DESNICK, MD, PHD
LYNNE D. RICHARDSON, MD
BRIAN D. BROWN, PHD
JOSEPH D. BUXBAUM, PHD
YIANNIS A. IOANNOU, PHD
HELEN S. MAYBERG, MD
NINA BHARDWAJ, MD, PHD
DOCTOR



SECTION 8:

Simulation

POSTERS 71-78

ABSTRACT #71

UTILIZATION OF A VOICE BASED VIRTUAL REALITY ACLS REFRESHER COURSE: AN EXPLORATORY ANALYSIS

AUTHORS: Garrett Burnett, ronak shah, Chang Park, Anjan Shah, Adam Levine, Daniel Katz

PURPOSE: The incidence of cardiac arrests per year in the United States continues to increase, yet in-hospital cardiac arrest survival rates significantly vary between hospitals. Current methods of face-to-face training are expensive, time consuming, and difficult to scale, which necessitates improvements in ACLS training aimed at improving patient survival. Virtual Reality (VR) has been proposed as an alternative or adjunct to high fidelity simulation (HFS) in several environments. Although it has been studied in the realm of ACLS education, no evaluations to date have explored the ability of a VR program to examine both technical and behavioral skills as well as demonstrate a cost comparison.

Additionally, prior studies involving VR applications in ACLS education relied on additional peripheral devices and did not utilize a fully immersive VR environment. The objective of this study is to evaluate the feasibility, human factor impact, and cost of a voice based VR ACLS refresher course as compared to high fidelity simulation.

METHODS: This prospective observational study performed at an academic institution consisted of 25 PGY-2 residents. Participants were randomized to high fidelity simulation or virtual reality training, and then crossed groups after a two- week washout. Participants were graded on technical and non-technical skills. Proctors were assessed for fatigue and task saturation and cost analysis based on local economic data were performed.

RESULTS: Of 25 participants, 23 were included in the scoring analysis. Less participants were familiar with VR compared to high fidelity simulation (36% vs 100% $p<0.001$). Neither modality was overtly preferred, however significantly more participants felt high fidelity simulation provided better feedback (99 [89-100] vs 79 [71-88], $p<0.001$). Scores were higher in the high fidelity simulation group, however, non-technical scores for decision making and communication were not significantly different between modalities. VR sessions were 21 [19-24] minutes shorter than high fidelity simulation, NASA task load index scores for proctors were lower in each category, and VR sessions were estimated to be $103.68 less expensive in a single learner single session model.

CONCLUSION: Utilization of a VR based refresher for ACLS skills is comparable to high fidelity simulation in several areas. The VR module was more cost effective and was easier to proctor, however, high fidelity simulation was better at delivering feedback to participants. Further studies are needed to examine the utility of VR based environments at scale.

ABSTRACT #72

YOU'RE THE CAPTAIN NOW: UTILIZING SIMULATION TO FACILITATE RESUSCITATION LEADERSHIP TRAINING

AUTHORS: Robert Levokove, Heidi Baer, Daniel Satnick, Joshua McHugh

PURPOSE: In many residency programs, residents' clinical and supervisory roles advance in the mid to later portion of the clinical year. In our program, PGY2 residents become responsible for supervising resuscitations in the emergency department and PGY 3 residents revert to the role of airway management. Although useful to allow for a transition with a more senior resident present, second year residents often struggle with this abrupt transition to a new high pressure role.

There were two main objectives for this intervention: (1) To provide an opportunity for second year residents, as team leader, to utilize best practice methods of communication and leadership during in-situ simulated resuscitations. (2) To provide an opportunity for third year residents to review in-situ airway management techniques and strategies for difficult airways.

METHODS: For two weeks daily simulations were performed in the emergency department in lieu of traditional morning reports. The second year resident (n=11) was provided a two minute pre-notification. The trained EM debriefers utilized a comprehensive validated checklist to evaluate: (1) The team leader's leadership, communication, and medical management skills, (2) the third year resident's airway management, and (3) overall team performance.
Debriefing focused on residents' completion of critical actions and the root and secondary causes of delays or adverse patient outcomes.

RESULTS: Common themes that emerged during debriefing for the second year residents included: (1) the importance of leadership identification and defining roles for team members, (2) minimizing "thin air commands" and employing closed loop communication, (3) recapping and establishing a shared mental model, and (4) timely activation of appropriate resources. A common theme for the third year residents was utilizing any advanced notice for airway equipment preparation.

CONCLUSION: In-situ simulation is a useful modality for preparing residents for roles and responsibilities during patient resuscitation. It was unclear how each resident class would adapt to role changes. The second year residents, through facilitated debriefing, identified breakdowns in communication with nursing due to "thin air commands." This lack of closed loop communication led to sub-optimal perceptions of the resuscitation flow. Third year residents self- identified their failure to prepare airway equipment during pre-notification. The third year residents cited a long hiatus from this role as a reason for this deficiency. However, when prompted during the debrief the third year residents were able to name a comprehensive list of necessary airway equipment and adjuncts. This illustrates the gap between comprehension and application that can be bridged with simulation. Moving forward we plan to institute this program every year during the resident role transition period.

ABSTRACT #73

A SIMULATION-BASED MECHANICAL VENTILATION CURRICULUM FOR MULTILEVEL LEARNERS IN AN INTERNAL MEDICINE RESIDENCY PROGRAM – A PILOT STUDY

AUTHORS: Bertin D. Salguero, Joseph P. Mathew, Priscilla Loanzon, Barbara Karagiannis, Adam Rothman, Kwesi Daniel, James S. Salonia

PURPOSE: There exists a lack of a validated curriculum and standardized education in mechanical ventilation (MV) among Internal Medicine (IM) Residency Programs. Current education is limited to didactic lectures and informal teachings by the critical care physicians during intensive care unit (ICU) rotations. Additionally, it is a challenge to incorporate hands-on training for multilevel learners that vary in their clinical experience and learning needs. This study aimed to evaluate a novel multilevel learners' simulation-based MV course for IM residents.

METHODS: The project aimed to evaluate the effectiveness of a multilevel learners' MV curriculum for IM residents in improving their comfort level and knowledge. The MV curriculum was developed from a needs assessment survey of the IM residents and faculty consensus using a modified Delphi technique. The final education curriculum was composed of three parts 1) didactic lecture on MV concepts, 2) supervised hands-on training with the ventilator (Maquet Servo-I, Solna, Sweden) and test lung 3) targeted case-based high fidelity simulation utilizing SimMan 3G (Wapinger Falls, NY) for each level of learners: alarm interpretation for PGY 1 (case: endotracheal tube obstruction), ventilator manipulation for PGY 2 (case: ARDS), and advanced MV concepts for PGY 3 (case: status asthmaticus). The evaluation method had a two-fold purpose: 1) to measure the application of knowledge for each level of learners utilizing multiple-choice questionnaires, pre, and post-training, and 2) to determine the statistical difference between pre- and post-MV training comfort level through a questionnaire using a Likert-type scale. All questionnaires were administered immediately before and after training.

RESULTS: A total of 79 residents participated in the study: PGY1 26 (33%), PGY2 27 (34%) and PGY3 26 (33%). 100% of the participating residents completed the surveys, of which only 7 (9%) had completed an IM residency in the past. The survey questionnaire evaluated the residents' comfort level (attitude) and knowledge (cognitive).

Components of the comfort level included (1) ordering basic parameters of ventilation improved from 5/10 to 7/10, (2) troubleshooting common ventilator alarms increased from 4/10 to 6/10 and (3) recognizing emergency situations improved from 4/10 to 6/10. In the knowledge section, increase in the correct answers was the primary metric. A mean increase of 27% was noted between pre- and post-training scores across all learners. The PGY 1 scores increased from 69% to 97.5%, while PGY 2 improved from 56% to 86% and PGY 3 from 49% to 86%.

CONCLUSION: A multilevel learners' simulation-based MV curriculum improved IM residents' comfort level in troubleshooting clinically relevant MV issues while also improving their knowledge of complex MV concepts. A multilevel learner-centered approach can provide meaningful education for IM learners with varying levels of knowledge and experience.

ABSTRACT #74

"NOW WHAT DO I SAY?" SIMULATED PRACTICE FOR DIFFICULT CONVERSATIONS: ERROR AND COMPLICATION DISCLOSURE, DEATH NOTIFICATION, AND END OF LIFE GOALS OF CARE

AUTHORS: Suzanne Bentley, Louise Derevlany, Lorraine Boehm, Laura Iavicoli, Sara Hock

PURPOSE: Discussing bad news is a daunting, emotionally challenging task that physicians are sure to encounter throughout their careers. Studies show that minority are ever educated on such discussions, while most agree it is crucial. One study reports <50% of physicians received death notification training in medical school or residency; even less reported education on medical error disclosure; and far fewer reported receiving feedback on these skills. These delicate conversations require advanced communication skills and providers often suffer emotional distress after such events, alongside the patients and families, often exacerbated by stress of delivering the bad news.

The aim of this project is to formally educate medical staff on best practice guidelines for discussing error/complication disclosure, death notification, and end of life goals of care via use of simulation and debriefing for deliberate practice opportunities delivering such news.

METHODS: Participants completed a pre-survey of their prior education on, interest in education on, and experiences with disclosing medical error, disclosing a complication, notifying family of patient death, and disuccing end of life care/goals, as well as self-perceived competence on discussing these topics. Participants completed a 60 minute educational session of small group simulations comprised of 10 minute overview of guidelines and best practices (devised by panel of experts including team from palliative care and risk management/legal) followed by 4 stations of small group simulations, each requiring difficult conversation of types listed above and concluding with structured debriefing. Post- surveys were completed.

RESULTS: 60 Emergency Medicine residents participated. Pre-assessment surveys revealed 18% received prior education on error disclosure, 62% on death notification (majority noting education = "on the job" discussion with attending), and 58% on end of life goals of care discussion (majority noting education = "on the job" discussion or a lecture). 100% noted 4 or 5 (on Likert 1-5; 1: not interested- 5: Very interested) interest level in more education on disclosing error/complication and 86% noted 4 or 5 level of interest in both death notification and end of life care discussion. 100% noted self-perceived competence to disclose medical error of 1 or 2 (on Likert 1-5; 1: not competent-5: Very competent), 90% noted 1 or 2 for complication disclosure, 48% noted 1 or 2 for death notification, and 42% noted 1 or 2 for end of life goals of care discussion. Following participation, 96% noted 5 (on 1-5; 5:very true) for "simulation session was an effective teaching tool" and "will change my future practice."

CONCLUSION: Discussing bad news is difficult, awkward, and rarely formally taught or practiced. Simulation offers a deliberate practice model to facilitate such practice and offer structured debriefing and feedback. This intervention was well received and majority of providers feel it will change their future practice.

ABSTRACT #75

SIMULATION SEEDS: HOW TO OVERCOME OBSTACLES FOR SIMULATION-BASED TRAINING AT YOUR INSTITUTION.

AUTHORS: Daniel Satnick, Heidi Baer, Joshua McHugh

PURPOSE: To demonstrate innovative methods for expanding the use of simulation within your department for both resident and attending education.

METHODS:
Conduct a needs assessment with concurrent development of goals and objectives.
Identify areas to implement simulation. Examples: high risk/ low frequency events, in-situ, procedures.
Identify departmental and institutional obstacles. Our examples: Lack of Space/ timing/ lack of mannequins / content experts (faculty).

Identify solutions. Our examples:
- Creative with space / creating low fidelity mannequins / incentivizing faculty participation.
- Implement simulation.
- Make constructive changes and continue simulations on a consistent basis.

RESULTS:
1) Examples of our outcomes:
- Quarterly resident simulation day.
- Quarterly faculty development simulation.
- Incorporation of monthly mock in-situ simulations.

2) Our goal is to generate solutions for institutional incorporation of simulation with participants.

CONCLUSION: When striving to incorporate a new educational tool such as simulation, it is important to lead with a needs assessment and realistic goals. Identification of obstacles will facilitate creative solutions and implementation of best practices.

ABSTRACT #76

IN SITU SIMULATION TO ASSESS THE CURRENT STATE OF CARDIAC ARREST CARE IN THE PREGNANT PATIENT

AUTHORS: Rachel Carroll-Bennett, Alexander Meshel, Lorraine Boehm, Barbara Dilos, Guirlene Dube, Mamie McIndoe, Latchmi Nagaswar, Suzanne Bentley

PURPOSE: Maternal mortality has been on the rise over the last 15 years. From 2014-2016, in New York, the maternal mortality rate for black women was 51.6 deaths per 100,000 live births, compared to 15.9 deaths per 100,000 live births for white women in 2014-2016. Previous education at NYC H+H/Elmhurst did not include simulation based training for maternal cardiac arrest. This initiative seeks to assess and improve the current state of maternal cardiac arrest care.

METHODS: 19 impromptu, in situ, standardized, code team simulations were conducted on the labor and delivery unit with the actual, responding code teams in order to allow for systematic assessment and capture of areas of weakness and LSTs divided into four main categories (equipment, medication, resource/system, technical skill). Additionally, participants (n=52) completed The National Aeronautics and Space Administration Task Load Index (NASA-TLX) questionnaire which is a multidimensional assessment tool administered post-simulation to rate perceived taskload (scale 0-20) in order to assess taskload domains and distribution among provider types and serve as a surrogate of task, system, and team taskload effectiveness.

RESULTS: NASA TLX: The average score of all participants is 12.51±2.88. Of note, the subcategories of mental demand and temporal demand were particularly high at 15.07±3.90 and 14.50±3.59, respectively. LST analysis: 37 unique threats were identified with the most common themes including deficiency in AED knowledge, role assignment and team leader identification, equipment use and location, code team activation, and time to cesarean section.

CONCLUSION: Using the results of the taskload and LST analysis, a number of improvements were made with the Obstetrics department at Elmhurst. Aimed at reducing the mental taskload of healthcare team members, a cognitive aid (sign) was placed above the beds in the labor unit reminding providers to perform lateral uterine displacement during CPR.

Standardized teaching points have also been incorporated into sessions in response to the LST and TLX scores. In an attempt to improve quality and continuity of CPR and reduce physical demand of the providers, communication training has been emphasized. A review of the defibrillator is completed during each debriefing session for all participants (including switching between different modes and how to maximize its use to obtain feedback and ensure high quality compressions).

In response to the LST and temporal taskload that providers were having difficulty obtaining a scalpel prior to the 4 minute guideline to perform a cesarean section, a system has been implemented to stock scalpels in a lock-box inside each patient room.

In situ simulation allows for systems testing in the real clinical environment. In situ simulation has been a powerful tool to assess provider taskload and system threats to ultimately guide education and training, as well as equipment allocation and signage, with the goal of improving patient outcomes.

ABSTRACT #77

TRIGGER WARNING: ACTIVE SHOOTER TRAINING

AUTHORS: Joshua McHugh, Heidi Baer

PURPOSE: Mass shootings are a common occurrence and national epidemic. While many emergency departments prepare for a mass casualty incident, how many departments prepare for an actual shooter in the hospital setting? This interactive course will help learners strengthen their skills of situational awareness, review "Run, Hide and Fight," and understand how they can create a simulation curriculum for an active shooter drill at their emergency department.

METHODS: Pre-simulation survey was done to assess learners understanding of situational awareness and prior exposure to an active shooter drill. After this assessment, learners participated in a simulation where an active shooter was present. Debriefing this simulation lead to discussions of environmental situational awareness, "run, hide, fight," and what to do if an active shooter presents in their environment.

RESULTS: Preliminary data showed that learners were more mindful of situational awareness and what to do if an active shooter is presents. Learners also had an opportunity to review their pre-hospital medical training. Learners were also very appreciative of the training they received.

CONCLUSION: Active shooter training is already occurring in schools and other public settings. While the ED often prepares for an influx of patients from these mass casualty incidents, the ED should also be prepared for if an active shooter is present in the ED. Simulation helps learners to have environmental situational awareness and acquire the skills of what to do if an active shooter is present.

ABSTRACT #78

CODE LEADER BOOTCAMP: UTILIZATION OF SIMULATION TO DESIGN A CARDIAC ARREST LEADERSHIP CURRICULUM

AUTHORS: Alexander Meshel, Lorraine Boehm, Barbara Dilos, Mamie McIndoe, Rachel Carroll-Bennett, Alfredo Astua, Elizabeth Awerbach, Joseph Lieber, Suzanne Bentley

PURPOSE: Simulation has been shown to help identify latent safety threats (LSTs), evaluate clinical guideline adherence, and assess leadership and teamwork with the goal of improving safety and outcomes. This study proposes utilization of simulation to evaluate and maximize code team management outside of the traditional simulation lab in order to ultimately utilize the simulation findings to guide formation of a novel code leader curriculum. As part of the NYC H+H/Elmhurst Internal Medicine Residency, residents undergo 1 month during which they are the "team leader" for all cardiac arrests in the hospital, making explicit training in leadership crucial.

METHODS: The "Team Leader Bootcamp" was designed based on the results of an educational needs assessment during which 56 impromptu, in situ, code team simulations were conducted throughout NYC H+H/Elmhurst with the actual, responding code teams. Debriefing data as well as video review allowed for latent safety threats to be identified and categorized. The National Aeronautics and Space Administration Task Load Index (NASA-TLX) is a multidimensional assessment tool completed post-simulation by the participants to rate perceived taskload across 6 subcategories (scale 0-20).

RESULTS: The educational needs assessment analysis of the LSTs and NASA-TLX scores were collected from 56 simulations prior to the initiation of code leader curriculum and 46 unique threats were identified with the most common themes including deficits in code leadership, role designations, and familiarity with location/use of equipment/resources. The NASA-TLX mean score (max score 20) of 87 participants was 12.39±3.10. Participants with less prior simulation or code experience reported higher total taskload (12.93±2.95 vs 11.40±3.16, $p<0.05$), physical demand (12.19±5.25 vs 9.13±6.45, $p<0.05$), and mental demand (15.52±3.57 vs 13.64±4.52, $p<0.05$).

CONCLUSION: Simulation can assess performance, system threats, and provider taskloads. This information can help inform and guide novel education, such as development of a novel code leader curriculum designed for resident physicians. Simulations tailored for the curriculum are based on the common debriefing themes, LSTs, and taskload scores—for example simulated sessions on best practices for code team leadership (including the leader's position, body language, communication, role designation, and ACLS deployment). To reduce and redistribute taskload, specifically mental and temporal demand domains, the curriculum includes practice managing chaotic scenes, improving familiarity with equipment, and simulated practice of common procedures performed during cardiac arrest management.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Director
Institute for Medical Education

Robert Fallar, PhD
Assistant Director
Institute for Medical Education

Olga Alagiozidou, MBA
Program Manager
Institute for Medical Education

IME CONTACT INFORMATION:

E-mail: InstituteMedEd@mssm.edu

Website: Icahn.mssm.edu/IME

Twitter: @InstituteMedEd

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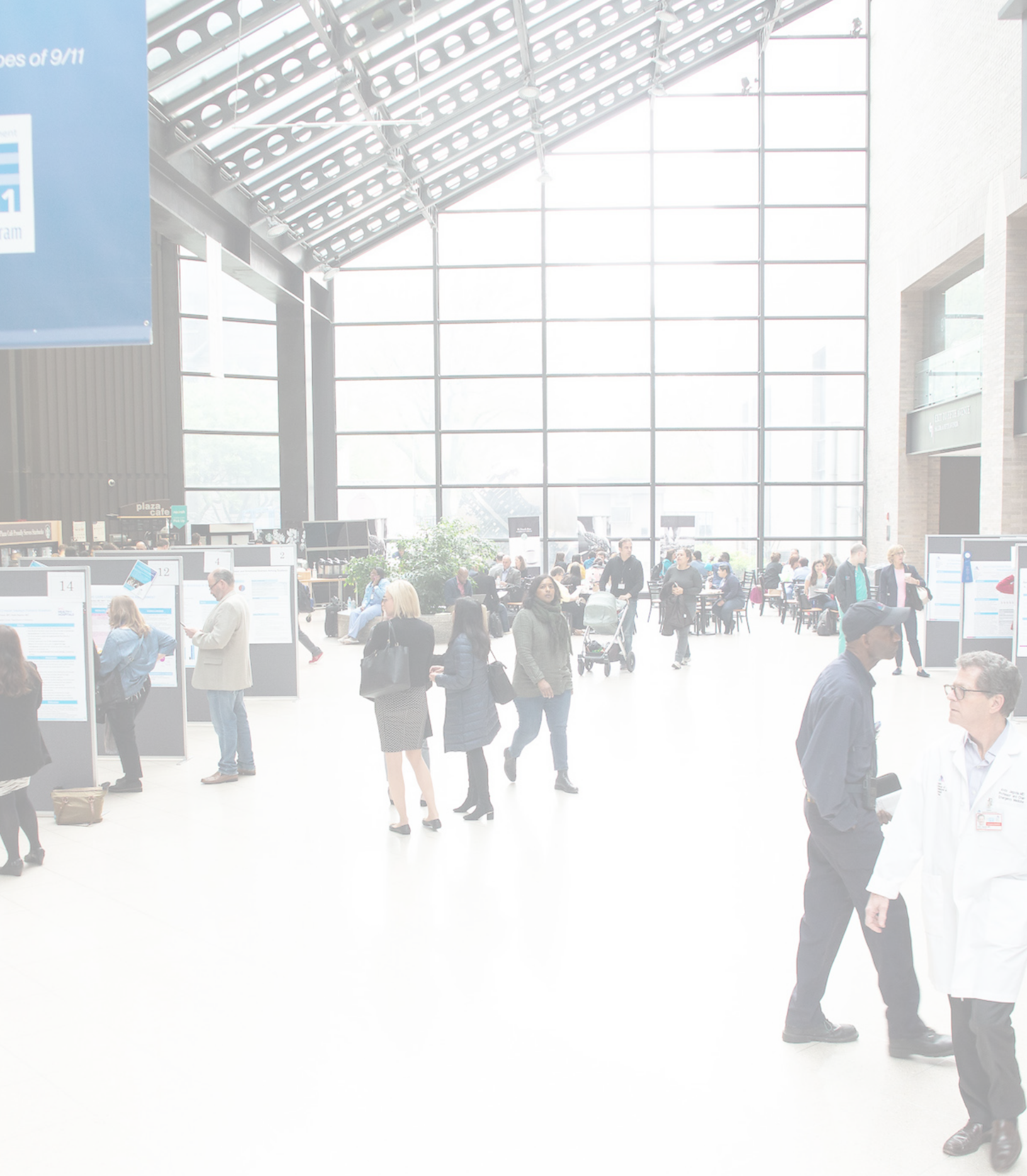
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While the cancellation of our in-person research day was necessary given COVID-19, we are deeply grateful for the opportunity to showcase the outstanding work of our presenters in this abstract book.

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