NINETEENTH ANNUAL
Institute for Medical Education

Education Research Day
Abstracts

Tuesday, April 26, 2022, 10 am – 4 pm
<table>
<thead>
<tr>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Committee and Introduction</td>
<td>(pages 3–4)</td>
</tr>
<tr>
<td>Program and Blue Ribbon Recipients</td>
<td>(pages 5–6)</td>
</tr>
<tr>
<td>List of Abstracts</td>
<td>(pages 8–19)</td>
</tr>
<tr>
<td>Assessment</td>
<td>(pages 20–24)</td>
</tr>
<tr>
<td>Community Health</td>
<td>(pages 25–27)</td>
</tr>
<tr>
<td>Curriculum (GME)</td>
<td>(pages 28–44)</td>
</tr>
<tr>
<td>Curriculum (UME)</td>
<td>(pages 45–54)</td>
</tr>
<tr>
<td>Global Health</td>
<td>(pages 55–57)</td>
</tr>
<tr>
<td>Professional Development</td>
<td>(pages 58–61)</td>
</tr>
<tr>
<td>Quality Improvement</td>
<td>(pages 62–73)</td>
</tr>
<tr>
<td>Simulation</td>
<td>(pages 74–81)</td>
</tr>
<tr>
<td>IME Acknowledgements</td>
<td>(pages 82)</td>
</tr>
</tbody>
</table>
COMMITTEE MEMBERS:

Reena Karani, MD, MHPE, Committee Chair
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Education Research Day
SELECTION COMMITTEE 2022

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.
EDUCATION RESEARCH DAY 2022

Welcome to the Institute for Medical Education (IME) at the Icahn School of Medicine's nineteenth 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 54 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, 54 ABSTRACTS WERE SUBMITTED BY FACULTY, STUDENTS, TRAINEES AND STAFF ACROSS THE HEALTH SYSTEM.

All abstracts were reviewed by the 2022 ERD Selection Committee. Of the 54 submissions, five abstracts have been awarded Blue Ribbons as outstanding examples of educational scholarship.
Please join us in congratulating the 2022 Blue Ribbon recipients:

ABSTRACT #14
A MULTIMODAL CURRICULUM TO IMPROVE INTERNAL MEDICINE AND PEDIATRICS RESIDENTS’ KNOWLEDGE IN THE CARE OF YOUNG ADULTS WITH DEVELOPMENTAL DISABILITIES
Alexis Tchaconas, Guillaume Stoffels, Joseph Truglio

ABSTRACT #15
HOW TO TEACH CROSS CULTURAL COMMUNICATION:
A WORKSHOP USING THE EXPERIENTIAL LEARNING MODEL
Angie Buttigieg, Deanna Chieco, Maria Maldonado, Kelly Wang, Allison Gault, Leora Mogilner

ABSTRACT #39
QUALITY IMPROVEMENT INITIATIVE ON EFFICIENT UTILIZATION OF STOOL OVA AND PARASITE EXAMINATION
Shabari M. Shenoy, Randy Leibowitz, Shanique Wilson, Frank Nelson, Matthew Scott

ABSTRACT #49
IMPACT OF HIGH-FIDELITY SIMULATION ON RESIDENT PERFORMANCE IN REGIONAL ANESTHESIA: A RANDOMIZED CONTROLLED TRIAL
Allen Ninh, Garrett Burnett, Nihir Patel, Christina Jeng, Chang Park

ABSTRACT #53
IMPACT OF VIRTUAL-REALITY-GUIDED MINDFULNESS ON FOCUS PRIOR TO HIGH-FIDELITY SIMULATION DEBRIEF
Brett Weingart, Garrett Burnett, Stephanie Hojsak, Daniel Katz
List of Abstracts
**LIST OF ABSTRACTS**

<table>
<thead>
<tr>
<th></th>
<th>ABSTRACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>SERVING THOSE WHO SERVED: THE YELLOW RIBBON PROGRAM AND US MEDICAL EDUCATION</td>
</tr>
<tr>
<td>4</td>
<td>MEDICAL STUDENTS’ KNOWLEDGE AND PERCEPTION OF IRRITABLE BOWEL SYNDROME IN COMPARISON TO INFLAMMATORY BOWEL DISEASE</td>
</tr>
<tr>
<td>5</td>
<td>RACIAL INEQUITIES OF POSTPARTUM PAIN MANAGEMENT DURING THE BIRTHING HOSPITALIZATION: A SYSTEMATIC REVIEW</td>
</tr>
<tr>
<td></td>
<td>Title</td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>6</td>
<td>PROVIDER-PERCEIVED BARRIERS TO TELEMEDICINE IN A RESIDENCY CLINIC</td>
</tr>
<tr>
<td>7</td>
<td>ASYNCHRONOUS RESEARCH EDUCATION FOR INTERNAL MEDICINE RESIDENTS: A PROPOSAL</td>
</tr>
<tr>
<td>8</td>
<td>THINK OUTSIDE THE ROOM: TRANSFORMING CARDIAC POINT-OF-CARE ULTRASOUND TEACHING AMONG RESIDENTS</td>
</tr>
<tr>
<td>9</td>
<td>CREATING AND IMPLEMENTING A WEB-BASED COLORECTAL CANCER SCREENING MODULE FOR RESIDENCY AMBULATORY CURRICULUM TO IMPROVE INTERNAL MEDICINE RESIDENTS’ KNOWLEDGE OF CURRENT GUIDELINES</td>
</tr>
<tr>
<td>10</td>
<td>NEED FOR A FORMALIZED ONCOLOGY CURRICULUM FOR INTERNAL MEDICINE RESIDENTS</td>
</tr>
<tr>
<td>Page</td>
<td>Title</td>
</tr>
<tr>
<td>------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>11</td>
<td>HEALTHCARE ADVOCACY CURRICULUM FOR INTERNAL MEDICINE TRAINEES</td>
</tr>
<tr>
<td>12</td>
<td>OPTIMIZING INPATIENT PAIN MANAGEMENT: A RESIDENT-DRIVEN EDUCATION INITIATIVE</td>
</tr>
<tr>
<td>13</td>
<td>THINKING FAST AND SLOW: A VIRTUAL CURRICULUM TO TEACH TELEMETRY INTERPRETATION AND ARRHYTHMIA MANAGEMENT</td>
</tr>
<tr>
<td>14</td>
<td>A MULTIMODAL CURRICULUM TO IMPROVE INTERNAL MEDICINE AND PEDIATRICS RESIDENTS’ KNOWLEDGE IN THE CARE OF YOUNG ADULTS WITH DEVELOPMENTAL DISABILITIES</td>
</tr>
<tr>
<td>15</td>
<td>HOW TO TEACH CROSS CULTURAL COMMUNICATION: A WORKSHOP USING THE EXPERIENTIAL LEARNING MODEL</td>
</tr>
</tbody>
</table>
| 16 | IMPACT OF NIGHT-FLOAT ROTATION LENGTH ON PERCEIVED WELLNESS AMONG 3RD-YEAR MEDICAL STUDENTS  
Kaitlin Hanss, Ella Cohen, Horatio Holzer |
| 17 | DEVELOPING STAR MEDICAL STUDENTS: KEY LEARNINGS FROM THE STROKE, THROMBECTOMY, AND REVASCULARIZATION NEXUS COURSE  
Emma Loebel, Desiree Markantone, Daniella Sisniega, Laura Stein |
| 18 | MEDICAL ETHICS IN OPHTHALMOLOGY RESIDENCY TRAINING: A PILOT CURRICULUM  
Nitin Chopra, Jacob M. Appel, Harsha S. Reddy, Nisha Chadha |
| 19 | IMPLEMENTATION OF A DIAGNOSTIC REASONING CURRICULUM AMONG MEDICAL INTERNS, A PSEUDO-RANDOMIZED CONTROLLED TRIAL  
Rahul Maheshwari, Jason Freed, Adam Strauss, Brian Persaud |
| 20 | FELLOWS AS EDUCATORS: IMPLEMENTATION OF A TECHNOLOGY-DRIVEN TEACHING SCHOLARS CURRICULUM PILOT  
Mirna Mohanraj, Brandon Veremis, Alexander Davidovich, Paru Patrawalla, Brijen Shah |
<table>
<thead>
<tr>
<th></th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>ULTRASOUND-GUIDED NERVE BLOCKS IN THE ED: IMPROVING COMPETENCY THROUGH DIDACTIC AND SIMULATED WORKSHOP INSTRUCTION</td>
<td>Jordan Brown, Elizabeth Yetter</td>
</tr>
<tr>
<td>22</td>
<td>A COMPARISON OF ONLINE LEARNING AND INDEPENDENT READING FOR EMERGENCY MEDICINE PROCEDURAL SKILLS</td>
<td>Jared Kutzin, Christopher Strother</td>
</tr>
<tr>
<td>23</td>
<td>EVALUATION OF A ROLE FOR VIRTUAL NEUROSURGICAL EDUCATION FOR MEDICAL STUDENTS OVER TWO YEARS OF A GLOBAL PANDEMIC</td>
<td>Michael Martini, Peter Morgenstern</td>
</tr>
<tr>
<td>24</td>
<td>THE FLIPPED CLASSROOM MODEL AS AN ENGAGING WAY TO TEACH CARDIOLOGY</td>
<td>Garred S. Greenberg, Mayce Mansour</td>
</tr>
<tr>
<td>25</td>
<td>“QUEER(ING) MEDICINE”: RECENTERING QUEER EXPERIENCE IN UNDERGRADUATE LGBT MEDICAL EDUCATION VIA A STUDENT DESIGNED AND LED ELECTIVE COURSE</td>
<td>Christopher DeVita, Alli C. Morgan</td>
</tr>
<tr>
<td>26</td>
<td>EVALUATING THE IMPACT OF SEGREGATED CARE ON THIRD-YEAR MEDICAL STUDENT PERCEPTIONS: A SINGLE-SITE ANALYSIS OF A NEW YORK CITY (NYC)-BASED MEDICAL SCHOOL</td>
<td>Bethany Dubois, Adriana Pero, Emily Xu, Terence M. Hughes, Jillian Keegan, Reena Karani, David Muller</td>
</tr>
<tr>
<td>27</td>
<td>PILOT OF A NOVEL WEB-BASED INTERACTIVE PEDIATRIC OPHTHALMOLOGY WORKSHOP FOR PEDIATRIC CLERKSHIP STUDENTS</td>
<td>Jessica H. Tran, Thomas Quehl, Robin Ginsburg, Douglas Fredrick, Samira Farouk, Erin Walsh, Nisha Chadha</td>
</tr>
<tr>
<td>28</td>
<td>MEDICAL STUDENTS’ KNOWLEDGE OF RACE-RELATED HISTORY REVEALS AREAS FOR IMPROVEMENT IN ACHIEVING HEALTH EQUITY</td>
<td>Charles Sanky, Halbert Bai, Celestine He, Jacob M. Appel</td>
</tr>
<tr>
<td>29</td>
<td>SICKLE CELL DISEASE &amp; SOCIAL DETERMINANTS OF HEALTH: A NOVEL MEDICAL SCHOOL CURRICULUM</td>
<td>Shana Berwick, Rima Patel, Eileen Scigliano</td>
</tr>
<tr>
<td>30</td>
<td>ADDRESSING SOCIAL AND STRUCTURAL DETERMINANTS OF GLOBAL WOMEN’S HEALTH: PRESENTING A FEMINIST FILM CURRICULUM FOR UNDERGRADUATE MEDICAL EDUCATION</td>
<td>Esha Bansal, Krishna Patel, Yonis Hassan, Arifa Zaidi, Susan Kim, Timothy Rice</td>
</tr>
<tr>
<td>#</td>
<td>Title</td>
<td>Authors</td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>31</td>
<td>STUDENT PERFORMANCE IN A WILDERNESS MEDICINE ELECTIVE OFFERED REMOTELY IN THE TIME OF COVID-19</td>
<td>Adam Hill</td>
</tr>
<tr>
<td>32</td>
<td>TEACHING VS NON-TEACHING HOSPITAL EFFECT ON INFECTIVE ENDOCARDITIS IN-HOSPITAL OUTCOMES: A NATIONAL INPATIENT SAMPLE DATA ANALYSIS</td>
<td>Pradeep Kumar Devarakonda, Monika Karki, Lalitsiri Atti, Vishal Dhulipala, Dishang Bhavsar, Samir Garyali, Viswanath Vasudevan, Sarath Reddy</td>
</tr>
<tr>
<td>33</td>
<td>PERCEPTIONS ON GLOBAL HEALTH WITHIN THE GLOBAL SURGERY STUDENT AND RESIDENT COMMUNITY</td>
<td>Taylor J. Ibelli, Helen Liu, Lester Silver, Peter Taub</td>
</tr>
<tr>
<td>34</td>
<td>WORKING TOGETHER FOR RESEARCH SUCCESS: TEAM SCIENCE TRAINING FOR COMMUNITY PARTNERS</td>
<td>Layla Fattah, Devin Madden, Crispin N. Goytia-Vasquez, Timnit Ghebretinsae, Nita Vangeepuram, Janice Gabrilove</td>
</tr>
<tr>
<td>35</td>
<td>THE RESIDENCY INTERVIEW PREP PROGRAM: A NOVEL CURRICULUM TO PREPARE MEDICAL STUDENTS FOR RESIDENCY INTERVIEWS</td>
<td>Ryann Quigley</td>
</tr>
</tbody>
</table>
| 36  | DEVELOPING AN INTERN BOOTCAMP  
    Fredy N. Gonzalez, Christina Cruz, Sreekala Raghavan, Andrea Delgado-Nieves, Bridget Dolan, Hesham Elmariah, Sreelakshmi Vasudevan, Natasha Qureshi, Minira Aslanova, William Loughney |
| 37  | DOCUMENTING AND ADDRESSING SOCIAL DETERMINANTS OF HEALTH IN AN UNDERSERVED ACADEMIC URBAN CLINIC  
    Ines M. Robles Aponte, Sananda Moctezuma, Tamara Goldberg |
| 38  | IMPROVING NAFLD SCREENING IN AN URBAN PEDIATRIC CLINIC  
    Gabriela Araujo, Janet Lee, Marcy Stein Albert, Kathrin Balaoura, Bikram Singh, Gayle Lashansky |
| 39  | QUALITY IMPROVEMENT INITIATIVE ON EFFICIENT UTILIZATION OF STOOL OVA AND PARASITE EXAMINATION  
    Shabari M. Shenoy, Randy Leibowitz, Shanique Wilson, Frank Nelson, Matthew Scott |
| 40  | RESIDENT EDUCATION FOR IMPROVED QUALITY AND CONFIDENCE IN INPATIENT HYPERGLYCEMIA MANAGEMENT  
    Maxwell E. Horowitz, Keerthana Haridas, Sananda Moctezuma, Rahul Agarwal |
<p>| 41 | ASSESSMENT OF THE KNOWLEDGE, ATTITUDES, AND BEHAVIORS OF INTERNAL MEDICINE RESIDENTS TOWARDS STOOL-BASED COLORECTAL SCREENING | Dewan Giri, Rui Jiang, Gres Karim, Alaina Mandrapilias, Carolina Villarroel, Sera Satoi |
| 42 | A HYPERTENSION EDUCATIONAL MODEL FOR CLINIC STAFF AND PATIENTS IN A PRIMARY GERIATRICS CLINIC | Farah Adamali, Mike Gorenchtein, Rebecca Masutani, Mikail Kamal, Nitzy Munoz Casablanca, Nisha Rughwani |
| 43 | MEDICAL STUDENT-RUN INPATIENT NALOXONE TRAINING AND DISTRIBUTION AT MOUNT SINAI HOSPITAL | Calla K. Khilnani, Nathaniel Saffran, Zerubabbel Asfaw, Remington Schneider, Linda Wang, Michael Herscher |
| 44 | A VIRTUAL FUTURE? AN EVALUATION AND TRAINING OF MEDICAL STUDENT IN TELEHEALTH | Justin Tang, Susmita Chennareddy, Jonathan Goldstein, Emily Spiera, Erica Glaser, Nickolas Dreher, Emily Xu, Nicole Zatorski, Grenye O’Malley, Madeleine Rouviere, George Mellgard, Harish Jasti, David Thomas, Yasmin Meah |
| 45 | INVESTIGATING LEVEL OF STUDENT ENGAGEMENT AND BARRIERS TO ANTI-RACIST WORK AT ISMMS | Francesca M. Silvestri, Jennifer Dias, Emily Xu, Paloma Orozco, Scott, Kevin Weiss, Leona Hess |</p>
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>46</td>
<td>A &quot;TIME IN&quot; TO FACILITATE DISCUSSION AND REDUCE BIAS IN MEDICAL SCHOOL ADMISSIONS</td>
<td>Valerie Parkas, Jessica Maysonet, Jacqueline Chudow, Leona Hess, Talia Swartz</td>
</tr>
<tr>
<td>47</td>
<td>EFFICACY OF ED SCREENING TESTS FOR CHILDREN ADMITTED TO AN INPATIENT PSYCHIATRIC UNIT FOR ACUTE MENTAL HEALTH EMERGENCIES</td>
<td>William Bonadio, Eric Legome, Carly Rosen, David Lam, Connor Welsh</td>
</tr>
<tr>
<td>48</td>
<td>UTILIZING SIMULATION TO IMPROVE GOALS OF CARE DISCUSSIONS FOR EMERGENCY MEDICINE RESIDENTS</td>
<td>Wei Li</td>
</tr>
<tr>
<td>49</td>
<td>IMPACT OF HIGH-FIDELITY SIMULATION ON RESIDENT PERFORMANCE IN REGIONAL ANESTHESIA: A RANDOMIZED CONTROLLED TRIAL</td>
<td>Allen Ninh, Garrett Burnett, Nihir Patel, Christina Jeng, Chang Park</td>
</tr>
<tr>
<td>50</td>
<td>USING VIRTUAL ESCAPE ROOMS TO ENGAGE LEARNERS ON ZOOM</td>
<td>Jared Kutzin, Christopher Strother</td>
</tr>
</tbody>
</table>
| 51 | USING IN SITU SIMULATION TO IMPROVE STROKE MANAGEMENT AND METRICS IN THE EMERGENCY DEPARTMENT.  
Jonathan DeAssis, Wei Li, Catrina Cropano, Daniel Satnick, Joshua Mchugh, Heidi Baer |
| 52 | IMPROVING PEDIATRIC READINESS IN A COMMUNITY EMERGENCY DEPARTMENT THROUGH SIMULATION  
Jesse Humm, Dr. Czer Anthoney Lim, Dr. Erik Blutinger, Jared Kutzin |
| 53 | IMPACT OF VIRTUAL-REALITY-GUIDED MINDFULNESS ON FOCUS PRIOR TO HIGH-FIDELITY SIMULATION DEBRIEF  
Brett Weingart, Garrett Burnett, Stephanie Hojsak, Daniel Katz |
| 54 | AN EMBEDDED LEADERSHIP THREAT SIMULATION: A NOVEL CARDIAC ARREST TEAM LEADER TRAINING  
Alexander Meshel, Sam Robinson, Daniel Lugassy, Jessica Lichter, Julie Kanevsky, Suzanne Bentley |
Assessment
POSTERS 1–4
ABSTRACT #1

EVALUATING THE RESEARCH NEEDS AND PROCESSES OF THE HEMATOLOGY/ONCOLOGY FELLOWSHIP


PURPOSE AND GOALS: The Hematology/Oncology Fellowship is a three-year program, 18 months of which is devoted to research. Fellow research productivity has increased over the past five years due to expanding faculty size and growing focus on research within the program. Statistical support is available to fellows in a limited fashion through Tisch Cancer Institute (TCI) or mentor grant funding, although many fellows do not have access to support for fellow-driven projects. Access to clinical data for retrospective research is also limited. We developed a working group to assess fellows’ research needs to provide recommendations to the Division of Hematology/Oncology for supporting research endeavors.

METHODS: The working group consisted of fellows and program leadership, faculty, and staff involved in quality, data acquisition, and statistics. Through discussion about goals and barriers, the group created a survey to quantify fellows’ access to statistical and data support. The results of the survey were reviewed, and possible interventions discussed. The needs assessment and proposed interventions were summarized in a report submitted to Division leadership.

EVALUATION PLAN: Survey-based assessments are commonly utilized for needs assessment. The survey focused on statistical support and data access. The survey was sent electronically to fellows.

SUMMARY OF RESULTS: The survey was completed by 21 of 22 fellows; 10 interested in solid tumors, 9 in malignant hematology, and 2 in benign hematology. With regards to research, 91% wrote abstracts/manuscripts, 67% performed electronic health record review, 62% wrote protocols/IRB applications, 52% completed database queries, and 48% developed clinical trials. When asked if their mentor had funding for fellow research, 24% replied yes, 24% no, and 48% did not know. The following research required a statistician: retrospective chart review (57%), clinical trials (43%), grants (24%), and quality (10%). Of the fellows who required statistical support, 50% were able to access support, 21% accessed support with difficulty/challenges, and 29% were never able to access support. When asked how fellows obtained clinical data for research studies, responses included manual chart review (62%), Epic SlicerDicer (43%), and other databases (29%). The working group composed a report summarizing these results with proposed interventions, including a long-term contract for fellows between the Division and TCI Biostatistics Core and data access via TCI Quality Improvement team.

REFLECTIVE CRITIQUE: We successfully created a working group to assess the research needs of the fellows and reported these needs with interventions to Division leadership, which found the report informative. Based on this work, an implementation phase is being developed including a roadmap and funding strategy for development, scientific review, and analytic and statistical support of fellow projects. The model of utilizing a working group to create a formal needs assessment and interventions can be used by trainees requesting support.
ABSTRACT #2

SERVING THOSE WHO SERVED: THE YELLOW RIBBON PROGRAM AND US MEDICAL EDUCATION

AUTHORS: Christopher Bellaire, Joo Yeon Shin, Katrina S. Nietsch, Ricky M. Ditzel, Jacob M. Appel

PURPOSE AND GOALS: The GI Bill opened higher education to military veterans returning from World War II. Since that time, however, the financial landscape of medical education has changed dramatically: from 1960 to 2018, tuition associated with a medical degree increased by 750% to approximately $300,000 on average. In 2008, the Post 9/11 GI Bill created the Yellow Ribbon Program, allowing for additional funding above the tuition reimbursement cap set by the GI Bill. The present study investigated the Yellow Ribbon Program at the 155 US medical schools in the AAMC to highlight how financial disparities may contribute to the absence of military veterans in medical education.

METHODS: We reviewed the 2019-2020 Post 9/11 GI Bill and Yellow Ribbon Program policies at the 155 US medical schools in the AAMC, comparing benefits with similar professional graduate programs (JD and MBA programs) at the same institutions.

EVALUATION PLAN: The evaluation plan involved defining objectives, stakeholders, evidence and dissemination. The primary objective was to determine if there were significant disparities in Yellow Ribbon Program funding. Stakeholders were the leadership of medical education departments at AAMC affiliated institutions. The evidence was statistically significant differences in Yellow Ribbon funding. The dissemination plan involved publishing our results in a medical education journal to share our findings and to encourage an equitable distribution of tuition funding to veterans in medicine.

SUMMARY OF RESULTS: Financial barriers likely contribute to military veterans “missing in action” in US medical education. In 2018, the median parental income for new medical students was $130,000. In contrast, military veterans predominantly come from middle-class families, with the majority (64%) of new recruits from neighborhoods with family incomes between $41,692 and $87,850. For the 2020-2021 academic year, the maximum tuition reimbursement rate for private academic institutions was set at $25,162. This contribution, while significant, was less than half the average annual tuition ($54,589) for the 61 private US medical schools belonging to the AAMC. Approximately one-third of private AAMC institutions did not participate in the Yellow Ribbon Program at all, while JD and MBA programs at these same institutions nearly universally contributed. Of the 21,869 total matriculants to US medical schools in 2019, only 131 students (0.60%) reported having served in the military.

REFLECTIVE CRITIQUE: Without addressing the systemic disparities in financial support in comparison with peer graduate degree programs, US medical education runs the risk of only attracting a narrow swath of military veterans who have the financial means to attend medical school. This will disproportionately marginalize enlisted servicemembers, first- generation students and those from backgrounds already under-represented in medicine.
ABSTRACT #3
ASSESSMENT OF THE HEMATOLOGY/ONCOLOGY FELLOWSHIP EDUCATIONAL CURRICULUM


PURPOSE AND GOALS: The Hematology/Oncology Fellowship program, comprised of 22 fellows, is a three-year training program. The fellowship’s educational curriculum consists of weekly faculty-led conferences organized by disease-focused blocks. In an effort to increase fellows’ engagement and incorporate current adult learning theory principles, we proposed a flipped-classroom, a learning model in which learners prepare for conference in advance and conference time is spent reinforcing new concepts through discussion and case-based learning. Utilizing a plan-do-study-act (PDSA) model of quality improvement, we developed a post-conference evaluation with the goal of evaluating the learning model, providing feedback to faculty, and improving the educational curriculum.

METHODS: The chief fellows created a post-conference evaluation, which was reviewed and approved by program leadership. The chief fellows send an email to faculty to schedule conferences, which includes the topic, conference format, as well as sample board questions. Following each conference, the fellows are electronically sent an anonymous evaluation through Google forms. The chiefs review the evaluations, and a summary of the results is sent to individual faculty following the conference.

EVALUATION PLAN: The post-conference evaluation focuses on the following areas: presenter quality, amount of information, understanding of subject matter, and preparation for conference. There is also additional space to provide comments.

SUMMARY OF RESULTS: To date, there have been 30 educational sessions reviewed by the fellows. The average number of fellows completing each evaluation is 9. On average, the fellows have rated the quality of the faculty as 4.5 and the amount of information presented during conference as 4.4 (on a scale of 1-5 with 1 being poor to 5 being excellent). The majority of fellows (86%) said their understanding of the subject matter has increased after the conferences.

REFLECTIVE CRITIQUE: We successfully created a post-conference survey to evaluate a new learning model and provide real-time feedback to faculty. Utilizing sequential PDSA cycles, we have made improvements to the conferences. Based on early fellows’ feedback, we initially recommended a flipped-classroom model in which faculty lead a case-based conference without PowerPoint slides. After months of this learning model, fellows expressed interest in increased formal didactic instruction due in part to the difficulty of virtual conversations as well as the challenges of fellows’ preparation for conference. Based on this feedback, we now recommend faculty present a brief topic overview including high-yield slides with learning objectives, followed by interactive questions to reinforce knowledge. We plan continued PDSA cycles for evaluation of the conferences for the remainder of the academic year. We will analyze our aggregate data in June 2022 and present our results and recommendations to the fellowship Program Evaluation Committee (PEC) to plan the 2022-2023 curriculum.
ABSTRACT #4

MEDICAL STUDENTS’ KNOWLEDGE AND PERCEPTION OF IRRITABLE BOWEL SYNDROME IN COMPARISON TO INFLAMMATORY BOWEL DISEASE

AUTHORS: Daniel Henick, Tyler Italiano, Hannibal Person, Laurie Keefer

PURPOSE AND GOALS: Gastroenterologists tend to hold less favorable attitudes towards functional disorders such as Irritable Bowel Syndrome (IBS) when compared to organic disorders such as Inflammatory Bowel Disease (IBD), leading to worsened health outcomes and unnecessary healthcare utilization. Knowledge and perception of these disorders in medical students has not been directly studied, and may be critical in understanding the genesis and propagation of differing attitudes. This cross-sectional study evaluated students’ attitudes and knowledge of IBS and IBD across the academic experience, helping to determine the effect of education and exposure on their understanding of and biases towards these disorders.

METHODS: 107 students (27 MS1, 30 MS2, 23 MS3, 27 MS4) at the Icahn School of Medicine at Mount Sinai participated in a survey via email invitation. Students read vignettes about patients with IBS and IBD, then answered both factual and subjective questions about each. Student burnout was measured to assess its impact on attitudes. Measures utilized a Likert scale and were adapted from the validated Maslach Burnout Inventory, IBS Perceived Stigma, and Patient-Physician Relationship Scales.

EVALUATION PLAN: Paired t-tests were run to directly compare students’ knowledge and attitudes towards the IBS and IBD patients. Spearman correlation coefficients were calculated to find associations between knowledge, attitudes, and burnout. Additionally, ANOVA was used to assess for trends across the years of medical training.

SUMMARY OF RESULTS: Medical student attitudes towards IBS were similar to those seen in physicians. IBS was perceived as a less real (t(105) = -4.838, p<.001) and more exaggerated disorder (t(105) = 4.560, p<.001), and IBS patients were seen as more difficult to treat (t(105) = -5.376, p<.001). Students reported being taught more about IBD (MS1, p=0.11; MS2-4, p<.001) and thus having a greater understanding of the disorder. As students obtain more clinical exposure, they tended to endorse that IBS is a less real illness (F(3,102) = 3.748, p=.013) but held fewer negative attitudes towards the IBS patient. Greater familiarity with both IBS (rs(105) = .292, p=.002) and IBD (rs(105)= .378, p=.001) was associated with fewer negative attitudes. Burnout was not shown to be directly correlated with attitudes (p=.072).

REFLECTIVE CRITIQUE: Biases towards patients with IBS originate as early as the beginning of medical school and perhaps even before. Over time, these attitudes shift as clinical experience shapes the perception of IBS as a “less real” disorder. Curricular modifications can promote learning about IBS and IBD, which may help remove the underlying biases of trainees. Specific interventions may include exposure to IBS through patient presentations in preclinical years and dedicated IBS didactics during clinical years. A prospective study should evaluate the efficacy of reforms in improving knowledge and perceptions of IBS and IBD by re-administering this survey longitudinally across 4 years of medical school.
Community Health

POSTERS 5-6
ABSTRACT #5

RACIAL INEQUITIES OF POSTPARTUM PAIN MANAGEMENT DURING THE BIRTHING HOSPITALIZATION: A SYSTEMATIC REVIEW

AUTHORS: Leah Habersham, Yasmin L. Hurd, Annie Levesque, Mishka Terplan

PURPOSE AND GOALS: This systematic review is intended to determine if there are racial disparities in the management of postpartum pain with the use of opioids, during the birthing hospitalization of postpartum patients.

METHODS: PubMed and Scopus databases were searched from January 1, 1991 through December 31, 2021. To be included, studies had to describe pain management stratified by race during the birthing hospitalization in the United States. Abstracts were reviewed, and data extracted by two authors.

EVALUATION PLAN: This systematic review is meant to explore the existing literature that evaluates the presence of racial inequities in the management of postpartum pain during the birthing hospitalization. The literature demonstrates that in general, there are racial disparities in pain management. Further, the literature demonstrates that disparities in pain management are limited by the utilization of standard pain management protocols.

SUMMARY OF RESULTS: To date, 194 abstracts were screened, 7 full texts were reviewed, and 5 studies met the criteria. All were retrospective in design, and published since 2018. All, but one study, were performed at a single site. Two articles were from overlapping populations. Two of the five articles included both cesarean and vaginal mode of deliveries, while the other three included vaginal delivery or cesarean section alone. Racial and ethnic inequities in opioid receipt were identified in four studies. Two studies reported that less opioids were received, despite higher pain scores of Black and Hispanic patients. Only one study measured the number of pain assessments and found approximately one fewer pain assessments performed for Black and Hispanic patients compared to White patients, and higher pain scores (percentage of those with greater than 7 on a scale of 0-10: Black 30.3% at 0-24hr and 40.2% at 24-48hr; Hispanic 22.9% at 0-24hr and 35.4% at 24-48hr). Further, Black, Asian, Hispanic patients were prescribed less opioids (tablet equivalents of 7.5, 6.6, 5.1, respectively for the first 0-24hr; 5.9, 4.6, 5.5, respectively) than their White counterparts (received tablet equivalents of 8.3 at 0-24hr, 7.2 at 24-48hr). However, most studies failed to report basic information such as pain assessments, pain scores, along with detailed opioid amounts.

REFLECTIVE CRITIQUE: There are racial inequities in postpartum pain management during the birthing hospitalization. These inequities may contribute to the stark inequities in maternal morbidity and mortality in the US. Hospitals should collect and analyze data by race so as to identify and address possible inequities. Standardized care pathways (such as Enhanced Recover After Surgery pathways) may lessen racial inequities.
ABSTRACT #6

PROVIDER-PERCEIVED BARRIERS TO TELEMEDICINE IN A RESIDENCY CLINIC

AUTHORS: Pratyusha Nunna, Tamara Goldberg

PURPOSE AND GOALS: To identify provider perceived barriers and bias in the adoption and utilization of telemedicine services. To recognize the need for the requirement of formal medical education training for residents.

METHODS: This cross-sectional, single-site initiative is part of a larger effort to identify access to primary care among a medically underserved patient population. To understand the challenges and attitudes toward telemedicine, we surveyed residents in all 3 academic years (PGY1, PGY2, PGY3), preceptors and ancillary staff at the site who provided these services. A link to an electronic survey was emailed to the physicians and a copy of the link via QR code was posted at the clinic documentation rooms with a goal to obtain a 40% response rate. The surveys are anonymous and voluntary and all the data was devoid of any personal identifiers.

EVALUATION PLAN: Residents were evaluated on their capabilities and comfort in conducting a televisit. No prior training had been provided to residents which may also contribute to an underlying bias with some of the barriers perceived. This will provide an insight into the need for a formal medical education curriculum to overcome the bias and improve telemedicine implementation.

SUMMARY OF RESULTS: 38.8% (n=61) of providers responded, with 90% (n=55) being residents. 78.7% (n=48) of providers surveyed having conducted at least one televisit and 42.6% (n=26) of the providers surveyed were more comfortable with an in-person visit compared to a televisit. Among those who had conducted a televisit, the major barrier identified was limitations of physical exam 77% (n=47), followed by patient’s inability to navigate the software for a video visit 70.5% (n=43), and provider’s challenges with the software/accessories on-site 55.7% (n=34). 32.7% (n=20) of providers mentioned that most of the time or occasionally they were not confident in their ability to conduct a video visit. 92% felt that they would like to continue telemedicine post-pandemic.

REFLECTIVE CRITIQUE: Based on our survey, the main provider-perceived barriers to telemedicine use at an urban federally qualified health center were 1. limitations of the physical exam 2. inadequate patient access to needed technology, and 3. provider comfort with televisit navigation on-site. Whether these are true barriers or simply perceived barriers of the physicians surveyed requires further investigation. Future directions include incorporating formal telemedicine teaching and education as a part of resident training.
Curriculum
(Graduate Medical Education)
POSTERS 7-22
ABSTRACT #7

ASYNCHRONOUS RESEARCH EDUCATION FOR INTERNAL MEDICINE RESIDENTS: A PROPOSAL

AUTHORS: Sophia Golec, Salvatore Cilmi, David Thomas, Emily Gallagher

PURPOSE AND GOALS: The traditional method of research education is a linear curriculum of in-person didactics. There are several limitations to this model. Residents only receive lectures when they are on specific rotations. Clinical responsibilities limit ability to attend conferences. The current COVID-19 pandemic frequently interrupts didactics series in unpredictable ways. Residents are at multiple levels of prior research training and have diverse needs. In-person didactics limit education to one campus of the Mount Sinai system. The purpose of this project is to design an asynchronous research education program for Internal Medicine residents at The Mount Sinai Hospital.

METHODS: An anonymous initial needs assessment was performed among incoming Internal Medicine Residents to the Icahn School of Medicine at Mount Sinai residency in 2021. A total of 44 residents responded out of 52 (84% response rate): 65% stated that they strongly or somewhat agreed that they planned on pursuing an academic career with a focus on research. The residents rated themselves as most comfortable with manuscript writing, designing a research question, and finding a research mentor. They rated themselves as least comfortable with performing a survival analysis, univariable and multivariable analyses, and basic biostatistics. This proposed research curriculum will address these education needs. The primary resource will be the Research Toolkit, a written resource explaining key research concepts. This will be a self-sustaining resource where residents add topics with faculty guidance. There will be a short syllabus of accompanying videos. In the future, this content will be adapted into in-person workshops that allow for interface with expert research physicians.

EVALUATION PLAN: Evaluation will span multiple levels of the Kirkpatrick model of program evaluation including reaction, learning, and behavior. Resident satisfaction with the research education program will be assessed intermittently after release of the materials. This will allow for quality improvement. One key process measure will include use of the resources. This will be measured through view counts on videos and survey questions regarding usage. Resident learning of the material will be tracked through anonymous self-assessments before and after content. Impact on resident behavior, specifically research productivity, will be measured through exit surveys at the end of residency inquiring about the impact of the curriculum on their successful publication efforts.

SUMMARY OF RESULTS: The results of this project will attempt to answer several questions: does asynchronous research education improve resident satisfaction with research education, improve resident ability to solve key biostatistics problems, and contribute to resident research productivity.

REFLECTIVE CRITIQUE: The impact of the program on clinical outcomes is impossible to measure. Future studies can explore the relationship between research in residency training and likelihood to pursue a career as a physician-researcher.
THINK OUTSIDE THE ROOM: TRANSFORMING CARDIAC POINT-OF-CARE ULTRASOUND TEACHING AMONG RESIDENTS

AUTHORS: Arpanjeet Kaur, Yoni Balboul, Adam Rothman

PURPOSE AND GOALS: Point-of-care ultrasound (POCUS) is becoming increasingly important for rapid assessment and diagnosis in a variety of clinical situations. There is therefore a paramount need to provide POCUS training to internal medicine housestaff. Acquiring adequate images and clips and correctly interpreting them, however, requires extensive training. Typical training sessions are days-long, in-person, and require a low expert-to-learner ratio. This is not always feasible given the busy schedule of physician learners and educators, especially with the ongoing COVID-19 pandemic. The aim of this study is to determine whether a virtual one-hour session, consisting of a didactic lecture and a series of practice questions, is adequate to improve learner competency for a specific POCUS topic, in this case, assessment of left ventricular (LV) systolic function.

METHODS: An hour long session, involving a short lecture and fourteen practice questions was created. The questions consisted of cardiac ultrasound clips from real patients, evaluated by three POCUS experts, who had to unanimously agree on the estimated LV function. For each clip, LV systolic function was classified as hyperdynamic, normal, reduced, or severely reduced. The session was given separately to a group of interns (n1=30) and a group of senior residents (n2=39) virtually via Zoom. The series of clips were shown as the lecture progressed and participants recorded their answers as either hyperdynamic, normal, reduced, or severely reduced using the polling feature within the Zoom platform.

EVALUATION PLAN: From the data collected, effect size as the percent of correct responses was calculated. Data was then analyzed using SPSS software with independent t-test and paired t-test analysis with a level of statistical significance as p ≤0.05.

SUMMARY OF RESULTS: The intern group had a mean score of 69.9% [SD 21.8%] and the resident group had a mean score of 74.2% [SD 21.5%]. All participants achieved a mean score of 67.6% [SD 26.0%] during the first half of the lecture, which then improved to 77.6% [SD 14.2%] in the second half [p value 0.547]. Both groups showed similar overall trends, although these were not statistically significant. When combined, extremes of LV function (hyperdynamic and severely reduced) were better recognized than more subtle differences (reduced and normal) [p value 0.001] overall.

REFLECTIVE CRITIQUE: Compared to the conventional in-person, time-consuming, and hands-on approach described in the literature, this study highlights the potential for virtual didactic sessions in POCUS training. Residents demonstrated a good grasp of the topic after a brief lecture, with impressive results when recognizing extreme cardiac findings. Additional studies are needed to see if similar results are achieved with other hour-long sessions on different POCUS topics which if successful, may eventually transition part of POCUS training to a virtual format.
ABSTRACT #9

CREATING AND IMPLEMENTING A WEB-BASED COLORECTAL CANCER SCREENING MODULE FOR RESIDENCY AMBULATORY CURRICULUM TO IMPROVE INTERNAL MEDICINE RESIDENTS’ KNOWLEDGE OF CURRENT GUIDELINES

AUTHORS: Morgan C. Goodman, Jaclyn H. Chesner, Samira Farouk, Brijen Shah, Bhavana B. Rao

PURPOSE AND GOALS: Colorectal cancer (CRC) is the third most common cancer type in both American men and women. Missed screening opportunities account for nearly half of CRC related deaths. Given the notable increase in CRC incidence among 40-49-year-olds, the American College of Gastroenterology (ACG) and the United States Preventive Services Taskforce (USPSTF) updated their guidelines in 2021 to recommend CRC screening beginning at age 45 years. Providers must be up-to-date on these guidelines in order to appropriately counsel patients and competently discuss the tests available. Hence, we created a case-based web module for our open-access, gastroenterology (GI)/hepatology educational website, GiSIM (adapted from NephSIM) with the objective of teaching internal medicine (IM) residents about the updated screening guidelines. Content will be disseminated on GiSIM and through weekly ambulatory didactic sessions at Mount Sinai’s resident-run clinic, Internal Medicine Associates (IMA).

METHODS: Our module, “Colorectal Cancer Screening,” was developed using the 2021 ACG and USPSTF CRC screening guidelines with details on current recommendations and methodologies. The interactive module incorporates hypothetical patient cases with multiple-choice content-check questions providing real-time feedback.

Module was uploaded to GiSIM and IM trainees were alerted via email and twitter. In the project’s next phase, we will conduct ambulatory IMA didactic sessions incorporating the module, after in-person teaching resumes in Spring 2022.

EVALUATION PLAN: User demographic information and feedback on website usability, content quality, difficulty level, and perceived educational value were collected via web-based survey. Prior to the lectures, residents will fill out a pre-test indicating their current CRC screening knowledge, comfort level, and practices. The didactic session will incorporate the GiSIM module and have residents work through the cases. A post-test at the end of the session will evaluate change in knowledge and comfort level.

SUMMARY OF RESULTS: Since launch of the module on GiSIM in May 2021, it has received 98 views and 4 survey responses. Respondents include 1 GI/hepatology attending, 2 residents, and 1 identified as “other”. Module completion time was <5 minutes (50%) or 5-10 minutes (50%), which 75% of users deemed “just right.” All users agreed or somewhat agreed that the module was interactive, easy to use, enhanced understanding and improved confidence in the topic, and reported that they would use the resource again and recommend it to their colleagues.

REFLECTIVE CRITIQUE: Preliminary results demonstrate subjective enhancement in CRC screening knowledge through our module. The study’s second stage will provide insight into whether this translates into objective knowledge gain. We have created an innovative, interactive web-based module that enables self-directed and instructor-led learning to update trainees on important CRC screening-related guidelines.
ABSTRACT #10

NEED FOR A FORMALIZED ONCOLOGY CURRICULUM FOR INTERNAL MEDICINE RESIDENTS

AUTHORS: Rima Patel, Shivani Handa, Sridevi Rajeeve, Vasundhara Singh, Eileen Scigliano

PURPOSE AND GOALS: Internal medicine (IM) residents frequently serve as the front-line provider for cancer patients admitted to the hospital and thus, should be comfortable managing common oncologic issues. However, there are no current formal curricula for IM residents. Oncology didactics often focus on details of diagnosis and treatment rather than pertinent skills and scenarios IM residents encounter on oncology floors. The goal of this project was to conduct a needs assessment to gauge IM residents’ comfort levels on managing inpatient oncology issues. Based on these results, we plan to create a new interactive oncology curriculum catered specifically to the needs of IM residents.

METHODS: At Mount Sinai West (MSW), IM residents rotate on the inpatient oncology floor and take care of patients with various hematologic and solid malignancies. In April 2021, hematology/oncology (heme/onc) fellows initiated weekly informal 30-minute lectures to IM residents on the oncology rotation. We conducted a survey-based needs assessment to all IM residents at MSW who had rotated on the oncology ward from April to September 2021 to determine how comfortable residents felt managing common inpatient heme/onc issues since the initiation of these lectures.

EVALUATION PLAN: Residents were asked to rate how comfortable they felt managing certain inpatient heme/onc issues. Residents were also asked about other topics that should be covered in the oncology didactics and their preferred learning styles.

SUMMARY OF RESULTS: Thirty-five IM residents completed the survey with a response rate of about 58%. Residents felt more comfortable managing neutropenic fever, tumor lysis syndrome, hypercalcemia of malignancy, cord compression and working up a new mass concerning for malignancy as the median comfort level for these issues was 3 (where 1= very uncomfortable, 2= uncomfortable, 3=neutral, 4= comfortable, 5= very comfortable). On the contrary, the median comfort level for handling leukostasis, side effects of chemotherapy and side effects of immunotherapy was 2. When asked which teaching styles they found most effective, residents preferred case-based discussions (37.1%) and small group problem-based learning (37.1%). In terms of other topics to include in the oncology curriculum, CAR-T cell therapy, pain management and anticoagulation in cancer were noted.

REFLECTIVE CRITIQUE: The results of our survey demonstrate that IM residents feel uncomfortable managing certain heme/onc issues and highlight the need to improve this. Limitations of our survey include the small sample size and bias amongst respondents given varying levels of experience and exposure to oncology. We plan to create an interactive case-based curriculum addressing these common inpatient oncologic issues described in our needs assessment. The curriculum will consist of a series of 30-minute case-based discussions led by heme/onc fellows. The discussions will be held weekly with IM residents who are rotating on the oncology floor at MSW.
ABSTRACT #11

HEALTHCARE ADVOCACY CURRICULUM FOR INTERNAL MEDICINE TRAINEES

AUTHORS: Gabriela Bernal, Tamara Goldberg

PURPOSE AND GOALS: This one-year advocacy curriculum was implemented during the 2021-2022 academic year for all PGY1 residents in the Primary Care Track at MSMW Internal Medicine (IM) program. All residents have their continuity practice sites at a federally qualified health center serving an under-resourced population. Utilizing both classroom-based and community-based components, we aim to develop graduate trainees who will become effective physician advocates.

METHODS: While the bodies that govern IM all recognize advocacy skills as important, few programs have formal training in physician advocacy. A focus group of our residents conducted in May 2021 revealed that while most felt it was important to identify and address social determinants of health, they lacked knowledge and experience in how to engage in meaningful advocacy to address these. To close this gap, we developed a 3-phase curriculum. Phase 1 (already completed) consisted of classroom-based discussions on the foundational elements of physician advocacy including an introduction to the CDC advocacy framework, a flipped classroom activity, and group peer work centered on promotion of telehealth equity. During phase 2 (January 2022), residents will continue to develop their telehealth advocacy project through guided small group sessions. Phase 3 (April 2022) will focus on dissemination of their policy work with intent of future enactment. Residents will be expected to either present their advocacy intervention during a national advocacy collaborative or publish their work in an academic journal or as a poster at a conference.

EVALUATION PLAN: Success of this initiative will be evaluated through resident surveys, implementation of advocacy interventions, and participation in a regional/national health advocacy collaborative. To measure attitudes, knowledge, and confidence levels, residents will participate in pre- and post-intervention surveys during each phase. During Phase 3, as a capstone to their project, residents will be assessed based on their participation in a health advocacy collaborative such as SGIM’s Health Policy Committee or NYACP Advocacy Day.

SUMMARY OF RESULTS: After phase 1, 100% of participating residents strongly agreed that the material learned will be useful to them after training and 100% strongly agreed that they learned specific advocacy strategies that they plan to use in their advocacy efforts.

REFLECTIVE CRITIQUE: Through a targeted need assessment, we learned that our residents feel confident in their ability to identify social determinants of health, yet often feel overwhelmed and powerless to address these barriers for patients. Survey results from phase 1 of our curricular intervention showed that all respondents strongly agreed that the curriculum provided specific advocacy strategies that they could use in the future. The next phases of curricular intervention will aim to target the educational gaps and engage residents in advocacy activities that promote healthcare equity and mitigate healthcare disparities for their patients.
ABSTRACT #12

OPTIMIZING INPATIENT PAIN MANAGEMENT: A RESIDENT-DRIVEN EDUCATION INITIATIVE

AUTHORS: Sophia Zhitomirsky, Priyanka Lakshmanan, Natalie Cedeno, Mangalore Shenoy, Noelle M. Javier

PURPOSE AND GOALS: Pain is one of the most common complaints reported by hospitalized patients. Inadequate pain control has adverse clinical outcomes and affects patients’ satisfaction. Several studies have documented knowledge gaps and biased perceptions among healthcare professionals, that interfere with optimal assessment and management of pain. A needs assessment survey among internal medicine residents in our facility identified the need to enhance knowledge and skills in this area. Our goal is to design and implement a resident-driven, peer-to-peer learning-based curriculum for inpatient pain management.

METHODS: We collaborated with palliative care, pain, and pharmacy services to identify the following areas of focus; characterizing pain, selecting an appropriate regimen that includes non-opioid and opioid analgesics based on patient co-morbidities, dynamics of Patient-Controlled-Analgesia (PCA), and the use of non-pharmacologic interventions for pain. We drafted clinical vignettes and elaborate discussion scripts highlighting these teaching points. Four residents were trained to lead focused group workshops based on this standardized script. Sessions for internal medicine residents at our program were conducted during December 2021.

EVALUATION PLAN: Before and after the training session, participating learners were asked to complete a questionnaire assessing knowledge and comfort level in pain management.

SUMMARY OF RESULTS: 55 and 48 learners from three different post-graduate (PGY) levels submitted the questionnaire before and after the learning session, respectively. 31 participants (56%) self-rated their knowledge and comfort level as 3 or higher before the case workshop compared to 39 (81%) participants who rated themselves in that range after the case workshop ($X^2 (1, N = 103) = 7.29, p =0.006$). Median and average knowledge test scores before the educational activity were 4 and 3.89 respectively compared to 5 and 4.45 after the educational activity. Scores for learners who took the test before and after the activity differed significantly (Mann–Whitney $U = 933.5, n_1 = 55 \ n_2 = 48, p = 0.01$ two-tailed). In the verbal comment section, 28 out of 48 participants included positive descriptors in their comment, and 8 responders indicated their preference for a case-based workshop approach over a standard lecture.

REFLECTIVE CRITIQUE: The goal of this initiative is to promote knowledge and clinical competency in pain management amongst residents. Results indicate a statistically significant increase in self-rated knowledge and comfort level with pain management and higher rates of success in an objective knowledge assessment immediately following the teaching session. The next steps include expanding sessions with the aim of training more residents to fulfill a teaching role within this curriculum, as well as creating a parallel curriculum for hospitalists.
ABSTRACT #13

THINKING FAST AND SLOW: A VIRTUAL CURRICULUM TO TEACH TELEMETRY INTERPRETATION AND ARRHYTHMIA MANAGEMENT

AUTHORS: Sarah E. Nussbaum, Aarti Rao, Brian

PURPOSE AND GOALS: Telemetry is a ubiquitous feature on the inpatient cardiology floors, yet the ability to systematically interpret telemetry data is not routinely taught in a standardized curriculum. Furthermore, tachy and bradyarrhythmias can often arise suddenly and require timely diagnostic and management skills for optimal patient outcomes. We observed that many learners on the cardiology floors and cardiac intensive care unit did not have a framework for how to utilize and respond to telemetry, and designed a curriculum to teach these skills. The goal of this educational curriculum was to teach a systematic way to review and interpret patient telemetry data and alarms. The curriculum also taught a framework for diagnosing and treating common arrhythmias seen on the inpatient floors, including but not limited to atrial fibrillation, supraventricular tachycardia, ventricular tachycardia, and complete heart block. This curriculum was implemented in a virtual setting to better adapt to the ongoing limitations on in-person learning.

METHODS: We created a series of educational videos that were sent to learners prior to the start of their rotation on the cardiology floor or cardiac ICU. The videos were created to target a PGY1 trainee, however students and senior residents were also able to participate. Participation for all levels was opt-in. These videos taught how to review patient telemetry systematically by reviewing alarm events, monitoring patient trends, and differentiating signal from noise. The didactic videos also covered an approach to rhythm interpretation and arrhythmia management. The videos used example images from the telemetry monitors used on the wards to help simulate a real-world experience. Videos were interspersed with knowledge check questions to stimulate engagement.

EVALUATION PLAN: Curricular evaluation was done using pre- and post-curricular surveys. Learners were asked to identify their current training level and rate their confidence on a 1-5 Likert scale in their ability to interpret telemetry and manage common arrhythmias. The survey also consisted of knowledge-based questions of varying difficulty. After completing the curriculum, students were again asked to rate their confidence and given different knowledge check questions. On the post-curricular survey, students were also invited to leave reflective comments on the curriculum, which were evaluated with qualitative methods.

SUMMARY OF RESULTS: Learners reported they felt more confident in their ability to utilize and interpret telemetry after completing the curriculum. Overall, learners had positive reflections on the curriculum and felt more prepared for their rotations after completion.

REFLECTIVE CRITIQUE: We chose to create a virtual curriculum in light of social-distancing considerations as well of ease of dissemination. However, virtual lectures have a limited amount of learner-engagement and require baseline self-motivation.
ABSTRACT #14

A MULTIMODAL CURRICULUM TO IMPROVE INTERNAL MEDICINE AND PEDIATRICS RESIDENTS’ KNOWLEDGE IN THE CARE OF YOUNG ADULTS WITH DEVELOPMENTAL DISABILITIES

AUTHORS: Alexis Tchaonas, Guillaume Stoffels, Joseph Truglio

PURPOSE AND GOALS: To design a multimodal workshop to improve knowledge gaps among pediatrics and internal medicine residents in caring for individuals with developmental disabilities (IDDs), including common developmental disabilities, guardianship and transitions of care.

METHODS: Study participants include PGY 1-3 internal medicine, pediatrics and med-peds residents. The workshop is a 1-hour interactive session with didactics, clinical cases and role playing that use two common developmental disabilities, autism and cerebral palsy, to teach about school services, applying for guardianship and the transition of care from pediatric to adult providers.

EVALUATION PLAN: A pre-workshop questionnaire is used to assess trainees’ baseline knowledge of medical and social issues specific to IDDs. Immediately after, 2 months after and 6 months after the workshop, trainees’ knowledge is reassessed using the same questionnaire, with additional questions on session quality, comfort with the content and applicability to practice. Data were analyzed using SAS statistical software, employing random-intercept logistic regressions to determine whether respondent accuracy changes over study time points.

SUMMARY OF RESULTS: A total of 91 residents participated. Sixty-six residents responded to the baseline questionnaire, a majority of whom were PGY-2 internal medicine residents (79%) with no prior experience working with IDDs (68%). Among the 13 pediatrics trainees, 38% completed a developmental pediatrics rotation. Among all trainees, there was a significant increase in knowledge from pre- to immediate post-workshop in the areas of transitions of care (5 to 71%, p<0.0001), school services (32 to 67%, p=0.002) and guardianship (23 to 60%, p=0.0003). Pre-workshop to 6-months post-workshop, the significant increase in knowledge of transitions of care persisted (5 to 24%, p=0.008). When all knowledge questions were combined into a single score, there were significant increases in knowledge from baseline to immediate post-workshop (p<0.0001) and baseline to 6-months post-workshop (p=0.04).

REFLECTIVE CRITIQUE: A multimodal workshop on young adults with developmental disabilities significantly increased knowledge among internal medicine and pediatrics residents, both immediately and 6-months after the workshop. The workshop also increased residents’ recognition of the topic as highly important immediately afterwards, though there were no significant attitudinal changes at later time points. These data suggest an even greater potential for impact with a longitudinal curriculum. A majority of residents also indicated interest in future curriculum focused on clinical skills to enhance interactions with IDDs, which we plan to incorporate into a second year curriculum for residents.
HOW TO TEACH CROSS CULTURAL COMMUNICATION: A WORKSHOP USING THE EXPERIENTIAL LEARNING MODEL

AUTHORS: Angie Buttigieg, Deanna Chieco, Maria Maldonado, Kelly Wang, Allison Gault, Leora Mogilner

PURPOSE AND GOALS: In 2020, the Accreditation Council for Graduate Medical Education (ACGME) released updated pediatric residency program requirements, including competence in communication with patients from diverse backgrounds. Studies show pediatric residents cite a lack of training in cross-cultural communication (CCC). Our goal was to design a CCC workshop that uses the experiential learning model to teach two CCC models, Kleinman’s 8 questions and LEARN (Listen, Explain, Acknowledge, Recommend, Negotiate), measure participants’ awareness of the effect of their cultural identity on CCC and familiarity with and confidence in CCC pre/post workshop.

METHODS: We based our learning objectives on the Tool for Assessing Cultural Competency Training from the Association of American Medical Colleges. Workshop design, based on Kolb’s experiential learning model, included active reflection on one’s cultural identity and past cross-cultural interactions, introduction to two CCC models, and application to a cross-cultural case. In 2020-2021, we delivered this 2-hour workshop to trainees at two large, urban, sites. Trainees included pediatric and preventive medicine residents and medical students.

EVALUATION PLAN: We administered an anonymous, retrospective, pre/post survey after the workshop. We measured participants’ awareness of the effect of their own cultural identity on CCC, familiarity with CCC models, and confidence in using CCC models with 5-point Likert scales. We analyzed responses using Wilcoxon signed rank tests.

SUMMARY OF RESULTS: We gave the workshop to 62 trainees, 44 completed the survey (71%). Of respondents, 84% were pediatric residents. Post workshop, 36.4% were extremely aware of the effect of their own cultural identity on CCC compared to 4.5% pre-workshop (p<0.0001). Responses of “quite” or “extremely” familiar with Kleinman’s 8 questions and the LEARN model increased post-workshop compared to pre (68.2% vs. 6.8% p<0.0001) and (83.7% vs. 2.3% p<0.0001), respectively. Confidence in managing cross-cultural misunderstandings when conveying a diagnosis and explaining disease management increased post-workshop compared to pre (70.4% vs. 25%, p<0.0001) and (70.5% vs. 20.5%, p<0.0001), respectively.

REFLECTIVE CRITIQUE: A workshop that uses the experiential learning model to teach CCC increased participants’ awareness of how their cultural identity affects CCC and increased familiarity with and confidence in using two CCC models. Future studies will assess retention of CCC skills and their effects on patient satisfaction. This workshop provides pediatric program directors with a useful tool to enhance CCC curriculum and meet ACGME requirements.
ABSTRACT #16

IMPACT OF NIGHT-FLOAT ROTATION LENGTH ON PERCEIVED WELLNESS AMONG 3RD-YEAR MEDICAL STUDENTS

AUTHORS: Kaitlin Hanss, Ella Cohen, Horatio Holzer

PURPOSE AND GOALS: Performing full histories and physical exams (H&Ps) is an essential educational component of internal medicine (IM) clerkships. However, the majority of admissions to general medicine wards occur overnight. A previous study at the Icahn School of Medicine at Mount Sinai (ISMMS) demonstrated that an IM night-float rotation during 3rd-year increased opportunities for H&Ps and students reported improved clinical skills, yet the rotation was associated with negative student wellness. Our aim was to assess whether providing additional time for night-to-day transitions improved students’ self-reported wellness while preserving educational value.

METHODS: The study took place at one urban medical school in New York. An anonymous survey was sent to third-year medical students at ISMMS after completing the IM night-float during academic years ‘20-’21 (5 contiguous night shifts) and ‘21-’22 (4 contiguous night shifts).

EVALUATION PLAN: 5-point Likert-scale variables (1=strongly disagree; 3=neutral; 5=strongly agree) were collapsed into disagree versus neutral or agree for positive statements about night-float, and into agree versus neutral or disagree for negative ones. Two-sided chi-squared tests were performed to compare student responses in ‘21-’22 and ‘20-’21.

SUMMARY OF RESULTS: At interim analysis, 62% of students in ‘20-21 (n=108) and 67% of students in ‘21-22 (n=32) completed the survey. The percentage of students who felt lacking in enthusiasm dropped from 27% in ‘20-’21 to 12% in ‘21-’22 (p=0.08), while the percentage who felt physically exhausted dropped from 44% to 28% (p=0.1). While the average number of H&Ps completed dropped from 4.3 in ‘20-21 to 3.3 in ‘21-22, 75% and 81% of students reported night-float was a neutral or positive educational experience in ‘21-22 and ‘20-’22 respectively (p=0.5).

REFLECTIVE CRITIQUE: While the current ‘21-’22 study size limits statistical power, interim analysis suggests a shortened IM night-float experience was associated with a trend towards improved student-reported wellness. Importantly, there was no change in the perceived educational value of the four versus five-night curriculum. These findings, if confirmed in the final analysis, will help educational leaders develop curricula that unlock the educational resources of overnight rotations without adverse impact on student wellness.
Purpose and Goals: Almost 800,000 Americans experience strokes annually, and stroke is a leading cause of death. Yet, 16% of schools lack required neurology rotations and students may never see a stroke code or care for a stroke patient during training. To address this educational gap, our neurology trainee-led Stroke, Thrombectomy, and Revascularization (STaR) elective course aimed to enhance medical student exposure to and knowledge of stroke and vascular neurology.

METHODS: Our team included one fourth year medical student, two neurology residents, and a vascular neurology attending. We developed curricular materials utilizing evidence-based stroke guidelines and content from the American Academy of Neurology. STaR was publicized internally at The Icahn School of Medicine at Mount Sinai through email and publicly on Twitter. Participants from any institution across the globe were welcome to enroll. The study team led eight one-and-a-half hour weekly sessions from March – April 2021 virtually on Zoom. Sessions consisted of lecture-based learning with interactive practice questions, multidisciplinary guest lecturers, a journal club session, and a virtual stroke code simulation.

EVALUATION PLAN: Participants had the option to complete a voluntary, anonymous 10-question pre-test and post-test, end-of-class surveys after each session, and an exit survey. All surveys that were at least partially completed were included in analysis. When the surveys involved a 5-point Likert scale, we grouped categories of “strongly disagree” plus “disagree” and “strongly agree” plus “agree” for ease of interpretation.

SUMMARY OF RESULTS: 40 people signed up for the course, ranging from undergraduate university students to medical graduates, and from more than 10 different institutions. The average score on the 10-point pre-test (n=19) and post-test (n=8) was 5.3 and 7.3, respectively (p=0.014). 63 post-session surveys were completed, averaging 8 (SD=3.4, range 3,13) responses per each of the 8 sessions. In 100% (n=63) of the responses, the lecture was recommended, in 83% (n=52) educational quality was rated as “excellent”, 16% (n=10) as “very good” and 2% (n=1) as “satisfactory.” The exit survey (n=11) showed 0% disliked the course, and 100% felt the course was high quality, increased understanding and knowledge, and increased interest in stroke neurology and related fields. Simulation was the most favored teaching modality.

REFLECTIVE CRITIQUE: The educational gap in neurology, and stroke specifically, can be in part addressed with virtual didactics with a variety of learning methods. Despite low survey response rates, students appeared to enjoy the course, increase their understanding and knowledge of stroke as well as interest in the field. In the future, we hope to continue the course and adapt it to be relevant to more medical trainees.
ABSTRACT #18

MEDICAL ETHICS IN OPHTHALMOLOGY RESIDENCY TRAINING: A PILOT CURRICULUM

AUTHORS: Nitin Chopra, Jacob M. Appel, Harsha S. Reddy, Nisha

PURPOSE AND GOALS: Navigating ethical dilemmas is an important skill for physicians. While medical students may gain some medical ethics exposure, it is often general and not subspecialty specific. The purpose of our project is to develop, pilot, and evaluate the impact of a novel, ophthalmology-specific medical ethics curriculum for ophthalmology residents. The goal of the curriculum is to explore common ethical challenges encountered in ophthalmology and how applying ethical principles can guide residents to navigate these situations.

METHODS: Ophthalmology-specific medical ethics cases were created in collaboration with a practicing medical ethicist (Jacob Appel, MD, JD, MPH). Ophthalmology residents (PGY-1 to 4) at our institution participated in four, 1-hour medical ethics sessions facilitated by Dr. Appel. Each session consisted of a lecture on a core medical ethics topic (confidentiality, informed consent, boundary crossings, healthcare rationing), followed by a discussion of ophthalmology cases specific to that topic.

EVALUATION PLAN: An anonymous 10-item pre- and post-test of ophthalmology-specific situational judgement questions was used to assess knowledge gains. Pre and post surveys were administered to assess course reception.

SUMMARY OF RESULTS: 52% (n=17/33) of ophthalmology residents participated in all sessions and completed all surveys. 73% of residents improved on the post-test, with an average improvement of 24%, from 68% to 84%. All post-survey queries received an average score of >4/5: for example, “How would you rate these ethics sessions as a whole?” (4.6); “I feel more comfortable approaching ethical situations after this series” (4.2); and “I recommend this series be offered in the future” (4.8).

REFLECTIVE CRITIQUE: Medical ethics education, and in particular subspecialty-specific ethics, is important in graduate medical education. Our novel medical ethics curriculum for ophthalmology residents improved situational judgement and was well received. Future discussion-based sessions will afford an opportunity to reflect on cases encountered in practice with fellow residents and attendings.
IMPLEMENTATION OF A DIAGNOSTIC REASONING CURRICULUM AMONG MEDICAL INTERNS, A PSEUDO-RANDOMIZED CONTROLLED TRIAL

AUTHORS: Rahul Maheshwari, Jason Freed, Adam Strauss, Brian Persaud

PURPOSE AND GOALS: Undergraduate and graduate medical education curricula focus on medical knowledge acquisition and lack formal training in diagnostic reasoning. Expert clinicians have both mastery of medical knowledge and diagnostic reasoning skills, and physicians with higher inventories of reasoning demonstrate improved patient outcomes. Prior studies have examined the effects of a diagnostic reasoning curriculum on standardized assessments and in medical student cohorts, but have not evaluated these effects on real-world application with resident physicians.

Our aim was to teach a diagnostic reasoning curriculum for post-graduate year 1 internal medicine residents and to assess for subsequent evidence of diagnostic reasoning in admission notes.

METHODS: PGY-1 internal medicine trainees at Beth Israel Deaconess Medical Center were involved in our study over 4-weeks during January 2020 organized into experimental and control arms. The experimental group received our curriculum in diagnostic reasoning, focused on semantic qualifiers, Bayesian reasoning, and therapeutic-decision making, as well as application of these concepts to patient cases they had admitted. Admission notes were subsequently evaluated by two evaluators for evidence of reasoning using the IDEAS framework.

EVALUATION PLAN: 8 trainees (4 in each arm) participated in our study with a total of 163 admissions. There was a high degree of interrater reliability (Spearman rho 0.83, Crohnbach alpha 0.83). We did not see a statistically significant difference in IDEAS scores in our experimental group.

SUMMARY OF RESULTS: The results of study demonstrated no statistically significant difference in the averaged IDEA assessment tool scores of admission notes in the intervention arm during the 1st week of curriculum compared to the second. After accounting for admissions noted to be transfers from non-medical services or an ICU, post-procedural monitoring admissions, 30-day readmissions, or custodial admissions, and additionally accounting for medical student contribution, there was no statistically significant difference. There was additionally no trend towards improvement in any of the scores.

REFLECTIVE CRITIQUE: We created a diagnostic reasoning curriculum for PGY-1 trainees that did not demonstrate a change in evidence of diagnostic reasoning in admission notes. We would advocate for future similar studies with larger trainee sample sizes.
ABSTRACT #20

FELLOWS AS EDUCATORS: IMPLEMENTATION OF A TECHNOLOGY-DRIVEN TEACHING SCHOLARS CURRICULUM PILOT

AUTHORS: Mirna Mohanraj, Brandon Veremis, Alexander Davidovich, Paru Patrawalla, Brijen Shah

PURPOSE AND GOALS: Trainees who participate in a teaching scholars curriculum (TSC) can improve teaching skills and jumpstart educator careers. Utilizing digital education technologies may improve instructor efficiency and self-directed learning. We describe a novel tech-driven TSC for subspecialty fellows (supported by the Icahn School of Medicine Institute for Medical Education).

METHODS: We designed a 14-month foundational TSC. Subject matter experts were paired with a Tech Mentor to transform traditional content into asynchronous and virtual modules. Learners completed assignments, virtual check-ins, and surveys. Batched feedback informed development of subsequent modules.

EVALUATION PLAN: Focus group data were collated by Kirkpatrick level. Post-module survey data were described; statistical analysis was not performed due to the small learner pool.

SUMMARY OF RESULTS: Four pulmonary and critical care medicine fellows volunteered as learners. Qualitative data is summarized by Kirkpatrick level.

- Level 1: 3/4 learners completed 10 modules to date. 1 learner graduated after 8 modules.
- Level 2a - Learners enjoyed the interactivity, self-pacing, virtual check-ins, and safe environment for asynchronous modules. Virtual modules were valued for real-time engagement with experts. Assignments with third-party engagement were challenging. Learners considered the LMS difficult to navigate.
- Level 2b - Learners gained insight into personal teaching style and areas for growth.
- Level 3 - TSC provided opportunities for real-world skill application. Strongest knowledge acquisition came from interactive exercises. Curriculum development modules were not paired with an education project and perceived as less authentic.
- Level 4a - Learners appreciated the sustainability of tech-driven modules.

Post-module survey data was strongly positive. Learners agreed or strongly agreed that: content was important to development and appropriate for level of training; knowledge and skills increased; faculty were knowledgeable, accessible, engaging; module components were easy to navigate. Two modules (self-directed learning and education technology) received neutral ratings for user-friendliness.

REFLECTIVE CRITIQUE: Our innovative, tech-driven TSC provided distanced and time-constrained fellows with education in the method and practice of teaching. Learner participation was enhanced by interactive exercises, virtual check-ins, and self-pacing. Pairing with a medical education project would increase TSC impact. Learners rated all modules as highly valuable; however, truncating the course from 14 to 12 months would allow for more convenient delivery.

Employing a user-friendly LMS would enhance learner enjoyment. This TSC may form the backbone for a Clinician Educator Track in any program. Programs that lack a breadth of Clinician Educator faculty may especially value the TSC to provide self-paced learning modules that are scalable to the demands of clinical fellowship.
ABSTRACT #21

ULTRASOUND-GUIDED NERVE BLOCKS IN THE ED: IMPROVING COMPETENCY THROUGH DIDACTIC AND SIMULATED WORKSHOP INSTRUCTION

AUTHORS: Jordan Brown, Elizabeth Yetter

PURPOSE AND GOALS: Ultrasound-guidance has made nerve blocks more efficacious and safer to perform and, additionally, the opioid epidemic further lends credence to the increased utilization of opioid-sparing analgesia. Standardized competency has not yet been defined in Emergency Medicine (EM) with regards to nerve blocks but it is accepted that incorporation of a procedural modality into practice should build upon some basic level knowledge and experience to minimize the risk to the patient. Our purpose was to determine if the combination of a didactic session and simulated workshop could demonstrably improve ultrasound-guided nerve block knowledge-base and procedural skills for participants.

METHODS: This study was conducted over 3 weeks by voluntary response sampling of EM residents at Mount Sinai Morningside-West. The participants, as a residency requirement, attended a 30 minute virtual didactic session on “ED Nerve Blocks” and 1 week later attended a 1.5 hour hands-on workshop of four simulated (meat-model) nerve blocks. Participants were emailed a survey via Google Forms before the lecture (“pre” survey) and after the workshop (“post”). Respondents’ names and emails were recorded to ensure accuracy. Eight multiple-choice questions were written by the author for this study. The “pre” participants were divided randomly into two groups (A and B) to receive one of two sets of four questions. The “post” survey had participants answer all eight questions.

EVALUATION PLAN: The primary outcome was pre versus post test score. Secondary outcomes assessed the effect of repeat vs new test questions, change in self-rated knowledge and procedural comfort and workshop effectiveness in improving two components of procedural skill as rated on a 5-point Likert scale.

SUMMARY OF RESULTS: There were 32 participants in the “pre” survey (89% response) and 37 in the “post” survey (86% response). 32 of “post” participants attended both lecture and workshop, 5 attended only the workshop. Lecture and workshop participants test scores improved from 45.3% to 72.7% (p≤ 0.01). There was no difference (p≥ 0.05) in correct response rate comparing new versus repeat questions between Groups A and B in the “post” survey among participants who had participated in both surveys (14 in Group A and 12 in Group B). Self-rated knowledge level improved (3.22 vs 1.66, p≤ 0.01) as did procedural skills rating (3.24 vs 1.66, p≤ 0.01). All 37 “post” survey participants selected 4 or 5 (“agree” or “strongly agree”) that the workshop improved their ultrasound “in-plane” needle visualization skills and ability to differentiate the correct interfascial injection from an incorrect intramuscular injection.

REFLECTIVE CRITIQUE: Overall, we conclude that EM residents can improve their ultrasound-guided nerve block competency, both knowledge and procedural, through a focused combination of didactic and simulated workshop instruction.
ABSTRACT #22

A COMPARISON OF ONLINE LEARNING AND INDEPENDENT READING FOR EMERGENCY MEDICINE PROCEDURAL SKILLS

AUTHORS: Jared Kutzin, Christopher Strother

PURPOSE AND GOALS: The purpose of this project is to compare online adaptive learning to independent reading and the impact on clinical skills acquisition. The goal is to create online adaptive learning related to central venous catheter insertion and LP insertion and compare the online learning modules to independent reading.

METHODS: Residents’ skills will be assessed before and after they are randomized to online adaptive learning modules or independent reading. The content in the two formats will be similar including a step-by-step instruction of how to perform the procedure. Residents will be assessed using a standardized checklist before and after completing the learning module/reading.

EVALUATION PLAN: The participants are assessed before and after participating in the educational modalities. They will demonstrate their ability to perform a central venous catheter insertion and a LP. After this assessment, that will be scored using a standardized checklist, participants will be assigned to a learning modality and once complete, the participants will return to demonstrate their skills a second time. The time between the 2 assessments will be approximately 5 weeks to allow for enough time to do the learning (repeatedly if they want) but not too much to allow for improved practice due to learning in the clinical environment.

SUMMARY OF RESULTS: This project is currently collecting data, but should be complete by April.

REFLECTIVE CRITIQUE: The pandemic has significantly impacted participation, but the modules that have been built will be assessed for usability. The assessment of the modules was not part of the original plan, but will be added to the project.
Curriculum
(Undergraduate Medical Education)
POSTERS 23–31
EVALUATION OF A ROLE FOR VIRTUAL NEUROSURGICAL EDUCATION FOR MEDICAL STUDENTS OVER TWO YEARS OF A GLOBAL PANDEMIC

AUTHORS: Michael Martini, Peter Morgenstern

PURPOSE AND GOALS: Sub-internships are recognized as critical experiences for medical students applying into neurosurgery to acquire fundamental knowledge of the field and network with future colleagues. During the COVID-19 pandemic, in-person visiting rotations were suspended for 2020 and reduced for 2021. In 2020, our department developed a neurosurgical course designed to address this need. The course was continued in 2021, enabling assessment of student perceptions of this novel virtual course as the pandemic progresses.

METHODS: The virtual course consisted of weekly 1-hour seminars over a 3-4-month period. Pre- and post-course surveys were implemented to evaluate course utility during both the 2020 and 2021 cycles. Responses from students completing both pre- and post-course surveys were included, analyzed in pairwise fashion, and compared across course years. Quantitative variables were evaluated using Student’s T test, while categorical variables were analyzed using a Chi-Squared test. All analyses were completed using Prism 7 (Graphpad, La Jolla, CA).

EVALUATION PLAN: Prior to starting the course, participants were sent a comprehensive survey assessing their backgrounds, experiences, and confidences in core concepts across neurosurgical sub-disciplines. After the course, participants were also asked to complete post-course surveys assessing their opinions of the course’s value and their confidence in the same neurosurgical topics.

SUMMARY OF RESULTS: A total 32 students completed the surveys in 2020, while 8 completed them in 2021. Students from both cohorts shared similar baseline characteristics in terms of demographics, educational background, and exposure to neurosurgery prior to the course. In the 2020 and 2021 cohorts, quality ratings for presentations were favorable for all seminars and participants reported significantly increased confidence in core topics across all neurosurgical disciplines after the course (2020: 3.36±0.26, p<0.0001; 2021: 3.56±0.93, p=0.005). Most participants felt the course would remain useful following the pandemic in both the 2020 (96.9%) and 2021 (100.0%) cohorts.

REFLECTIVE CRITIQUE: The consistent positive feedback in course quality and the sustained improvements in student confidence in core neurosurgical topics point to a continued benefit of a virtual didactic neurosurgical course for medical students. In attempting to fill an educational gap identified during the COVID-19 pandemic, we observed that educational opportunities for medical students in neurosurgery vary widely. Survey results suggest that the course adds value for students seeking a basic didactic curriculum to supplement their education and perhaps an online curriculum for medical students would still be beneficial going forward as in-person rotations resume.
ABSTRACT #24

THE FLIPPED CLASSROOM MODEL AS AN ENGAGING WAY TO TEACH CARDIOLOGY

AUTHORS: Garred S. Greenberg, Mayce Mansour

PURPOSE AND GOALS: The purpose of this project was to evaluate the flipped classroom model, accompanied by small-group teaching, as a model with which to effectively educate medical trainees on high yield cardiology topics.

METHODS: An email invitation to this optional course was sent to third-year (MS3) and fourth-year (MS4) medical students at the Icahn School of Medicine at Mount Sinai. Interested students were sent a document providing optional pre-session self-directed educational materials designed to take approximately one hour to review. The materials included videos, graphics, and short sections of articles related to heart failure (HF), acute coronary syndrome (ACS), and tachyarrhythmias (TA). Participants were then scheduled for a 30 minute small-group session with an internal medicine resident, during which they reviewed the diagnosis and management of HF, ACS, and TA on an online video conference platform. The Socratic questioning method was used to review these topics, with all participants answering questions in a fixed rotation.

EVALUATION PLAN: Participants completed an anonymous pre-lesson and post-lesson survey that assessed learner satisfaction with current curricula, satisfaction with this pilot course, self-assessment of skills, and a knowledge assessment consisting of four custom multiple-choice questions.

SUMMARY OF RESULTS: The pilot course consisted of five small group sessions with a total of 21 MS3s and MS4s. Nineteen out of 21 students completed the course and the post-survey. Forty-eight percent were satisfied or very satisfied with their current cardiology education. Seventy-seven percent of the students reported completion of at least half of the self-directed pre-work. After completion, 32% were satisfied and 63% were very satisfied with the course; satisfaction was high with both the self-directed (89%) and small-group session (95%) components. Eighty-nine percent of the participants strongly agreed the content was clinically applicable. The average score on the knowledge assessment rose from 42% to 71% after the course. Before the course, less than 20% felt comfortable contributing to management decisions for patients with HF, ACS, or TA. After the course, this self-assessed comfort with management rose to 95% for HF, 84% for ACS, and 68% for arrhythmias.

REFLECTIVE CRITIQUE: The high satisfaction scores of this pilot indicate that medical students felt engaged by this flipped classroom and small-group model of learning important cardiology topics. After this brief intervention, over four times as many students felt comfortable contributing to patient care and knowledge scores improved by 70%.

The limitations of this survey are that the same educator proctored all the small-group sessions, limiting generalizability. Additionally, the knowledge assessment was administered immediately after the intervention, so retention of the material presented is unclear. Further evaluation of this course could involve multiple educators or another knowledge assessment several months after the intervention.
ABSTRACT #25

“QUEER(ING) MEDICINE”: RECENTERING QUEER EXPERIENCE IN UNDERGRADUATE LGBT MEDICAL EDUCATION VIA A STUDENT DESIGNED AND LED ELECTIVE COURSE

AUTHORS: Christopher DeVita*, Alli C. Morgan*

PURPOSE AND GOALS: Despite increasing attention to the need to incorporate LGBT topics into undergraduate medical education, curricular integration of such topics remains inadequate. In instances where LGBT topics are featured in mandatory pre-clinical lectures, we found that the sessions typically followed a disparities model, consequently reducing LGBT populations to singular health risks (e.g. gay men and HIV, lesbian women and obesity, bisexuals and tobacco use).

In efforts to provide a counter to this monolithic representation of queer lives, as second year medical students we drew upon our academic and professional backgrounds in the arts and the humanities to design and deliver an elective course for medical students at the Icahn School of Medicine at Mount Sinai.

METHODS: Through “Queer(ing) Medicine: LGBTQ Health Beyond Disparities” we sought to reimagine and redefine queer medical education beyond disparities, delivering a ten week elective course that examined a heterogeneous array of topics such as minority stress, intersex justice, the past and present of queer activism, pleasure, kink, and professional survival, all through the lens of queer and feminist theory.

EVALUATION PLAN: While the course content sought to supplement—and sometimes correct—our formal medical school curriculum, the course structure itself was informed by a queer logic. Instead of replicating the models of rigid benchmarks, assessments, and hierarchy that have come to define medical education, our efforts were instead motivated by affect, community, and experience. In this sense, we evaluated our course alongside our students and guest speakers from week to week, reflecting together on emergent themes.

SUMMARY OF RESULTS: We found that throughout the course, the conversation shifted focus from a concern of how a straight model of medicine might better attend to queer patients, to the capacity for queer history, theory, and queer practitioners themselves to transform contemporary healthcare. Emerging themes shifted in focus from instructive to imaginative, from healthcare for queer populations to healthcare that is fundamentally queer.

Reflective Critique:

Given our decision to deemphasize standardization and evaluation, our pedagogical experiment inherently presents a challenge to educators and administrators who value metrics for curricular evaluation. Additionally, given that this was an elective course, the students who chose to enroll likely shared a similar level of commitment to queer health and education than the broader student body. In addition to running iterations of the course in future years, we plan to continue to explore the affordances of queering educational structure itself.

* Co-First Authors
ABSTRACT #26

EVALUATING THE IMPACT OF SEGREGATED CARE ON THIRD-YEAR MEDICAL STUDENT PERCEPTIONS: A SINGLE-SITE ANALYSIS OF A NEW YORK CITY (NYC)-BASED MEDICAL SCHOOL

AUTHORS: Bethany Dubois, Adriana Pero, Emily Xu, Terence M. Hughes, Jillian Keegan, Reena Karani, David Muller

PURPOSE AND GOALS: At NYC academic medical centers, patients with Medicaid are often cared for in different locations, by different care teams, or with different appointment availability than patients with private insurance—termed segregated care. Because Black and Latinx patients in NYC are more than twice as likely to be insured through Medicaid than white patients, segregating patients by insurance status de facto segregates by race. Moral injury can occur when inequitable systems demand students or physicians act against their values, and the effect of training in a segregated system has not been adequately assessed. This study aimed to evaluate the impact of training in a segregated system on medical students.

METHODS: An online survey was administered quarterly between March 2019 and September 2021 to each class of 140 third-year medical students at the Icahn School of Medicine at Mount Sinai. Students had two-weeks at the end of each 12-week module to complete the survey. Starting September 2021, survey completion was incentivized with a raffle for a $50 gift-card. The survey contained closed and open ended questions, assessing whether students witnessed segregated care in the clerkship environment and its impact on their perception, education and wellbeing.

EVALUATION PLAN: Responses were analyzed using a mixed-methods approach of quantitative and qualitative methodologies. Qualitative responses were analyzed on a five-point Likert scale from strongly negative to strongly positive, and coded thematically by one author and checked for consistency by a second author.

SUMMARY OF RESULTS: The survey received 388 responses from 2019-2021; respondents completed the survey at multiple time-points throughout third-year, so response rate cannot be determined. Across clerkships and electives, 58.7% of respondents reported witnessing differences in available treatment services, and 50.2% reported differences in patient care. Qualitatively, students most frequently observed different care team composition (24.0%), impact on student education (16.9%), increased student responsibility when working with publicly or uninsured patients (14.3%), and differing amounts of patient-provider time (11.7%). Of the 61 respondents who qualitatively reported how segregated care impacts their learning, 93.4% were negative, with greatest concern expressed for how experiencing segregated care normalizes segregated care (34.4%), perpetuates racism and bias (11.5%), and increases student burnout (6.6%).

REFLECTIVE CRITIQUE: Many respondents reported observing segregated care during clerkships and its impacts on their learning and wellbeing. Accordingly, desegregating care should be prioritized by medical schools seeking to provide an anti-racist education that advances student wellbeing. Going forward, continued data collection will build on this body of evidence, with the goal of incorporating these student perspectives into ongoing curricular redesign efforts to proactively mitigate potentially negative impacts on student learning and wellbeing.
ABSTRACT #27

PILOT OF A NOVEL WEB-BASED INTERACTIVE PEDIATRIC OPHTHALMOLOGY WORKSHOP FOR PEDIATRIC CLERKSHIP STUDENTS

AUTHORS: Jessica H. Tran, Thomas Quehl, Robin Ginsburg, Douglas Fredrick, Samira Farouk, Erin Walsh, Nisha Chadha

PURPOSE AND GOALS: Ophthalmology exposure across medical schools is variable and as a result, many incoming residents report low confidence in evaluating and treating ocular complaints. Developing innovative methods to include more ophthalmology education in a busy medical school curriculum is needed to prepare future physicians to deliver adequate ophthalmic care. In this study, we developed, piloted, and evaluated a novel online pediatric ophthalmology (PO) case-based learning workshop with medical students (MS) in the pediatric clerkship.

METHODS: We developed five PO self-guided cases including multiple choice questions, based on competencies from the Association of University Professors of Ophthalmology and the Council on Medical Student Education in Pediatrics. We published them on 2020SIM.com, which was adapted from NephSim.com, a free open access medical education resource, using Wordpress, a web publishing software. During the pediatric clerkship, students participated in a one-hour PO workshop (hybrid in-person and online format) utilizing the online learning tool. The workshop was led by one of the ophthalmologist authors.

EVALUATION PLAN: Students were asked to complete a 5-item pre-test prior to the workshop. A post-test and exit survey, which included Likert scale questions regarding their perceptions of the PO case-based learning workshop, were distributed to students four weeks following the session. For analyses, we used descriptive statistics to examine MS attitudes and performed paired and unpaired t-tests to compare pre-post student knowledge.

SUMMARY OF RESULTS: At interim analysis, 71 students participated in the workshop, of which 39 (55%) and 25 (35%) completed the pre-test and post-test/exit survey, respectively. 84% and 72% of students perceived the workshop to be relevant to their pediatric education and high yield for their medical training, respectively. 68% reported feeling more comfortable in how to approach pediatric complaints following the workshop. Furthermore, most students preferred the interactive workshop to traditional didactics (56% vs 16%). There were no significant differences between mean pre- post scores in the unpaired (1.80 vs 1.83, p=0.87) and paired cohort (1.79 vs. 1.83, p=0.67, n=6). Similarly, there were no differences in pre-post scores by test item.

REFLECTIVE CRITIQUE: Early findings indicate that the PO case-based learning workshop was well-received and positively rated by students. Though there was no significant improvement in mean scores, our study identifies potential knowledge gaps in both pediatric and ophthalmology competencies. Introduction of our free, open access, ophthalmology education tool to students can assist with addressing these knowledge gaps and provide a resource which can be accessed when needed. Moreover, our partnership with the pediatric core clerkship reflects a strategy to increase ophthalmology education longitudinally and recruitment into the field.
ABSTRACT #28

MEDICAL STUDENTS’ KNOWLEDGE OF RACE-RELATED HISTORY REVEALS AREAS FOR IMPROVEMENT IN ACHIEVING HEALTH EQUITY

AUTHORS: Charles Sanky, Halbert Bai, Celestine He, Jacob M. Appel

PURPOSE AND GOALS: Medical schools have increasingly integrated social justice, antiracism, and health equity training into their curricula. Yet, no research examines to what extent medical students understand the complex history of racial injustice. The purpose of this study is to investigate the relationship between medical students’ historical knowledge and beliefs regarding health equity.

METHODS: Medical students were surveyed at one large urban medical school in collaboration with the institution’s medical education and diversity and inclusion leadership. After obtaining IRB exemption and institutional approval, participants opted-in to complete an anonymous online survey. They self-rated how familiar or important various racially-significant historical events and persons were, as well as their agreement with statements regarding health equity, education, and preparedness to act.

EVALUATION PLAN: Descriptive and multivariate analyses were conducted in R. Frequencies of self-rated knowledge for each historical term was calculated. Descriptive analyses were conducted for participants’ perceptions regarding health equity. Finally, a multivariate model analyzed the relationship between these variables and self-identified demographic characteristics.

SUMMARY OF RESULTS: Of 166 (RR=31.3%) participants, 96% agree that “Understanding historical context is necessary in advocating for health equity, diversity, and inclusion in medicine.” Yet, 65% of students on average cannot describe the historical significance of racial events or persons. Almost all participants agree that understanding the historical racial context of medicine is important. Only 57% believe that they understood this context, and the same percentage felt other medical students did not. A minority of students feel empowered (40%) or prepared (31%) to take action when they witness racial injustice in healthcare. Multiracial identity was significantly associated with increased knowledge of African American history (p<0.01), and a humanities background was significantly associated with increased knowledge of Latinx history (p=0.017).

REFLECTIVE CRITIQUE: While students agree that racism has no place in healthcare and knowing relevant history is essential, there remains a paucity of knowledge regarding many events and figures in the history of American race relations and civil rights, with implications for future physicians’ patient care and health equity efforts. These findings could inform the recommendation for an undergraduate requirement of studying race-related history and other relevant coursework before arriving to medical school. Additionally, continued efforts to integrate the context in which medicine occurs in existing curricula may prove beneficial. Finally, supporting the preparation and empowerment of students to speak up when they witness injustice in medicine is a critical area for improvement in medical education.
ABSTRACT #29

SICKLE CELL DISEASE & SOCIAL DETERMINANTS OF HEALTH: A NOVEL MEDICAL SCHOOL CURRICULUM

AUTHORS: Shana Berwick, Rima Patel, Eileen Scigliano

PURPOSE AND GOALS: Further strides need to be made to dismantle the impact of systemic racism on our management of patients with sickle cell disease (SCD). Incorporating this issue into formal undergraduate medical education (UME) is a crucial step to further this aim. While the clinical hematopathology of sickle cell disease (SCD) is well covered in UME courses, the social pathology that overlies SCD and the effect upon healthcare outcomes is not frequently addressed.

METHODS: The goal of this project is to develop a learning module that will explore the social determinants of health for SCD. This learning module is scheduled as a session in the 2022 "Art and Science of Medicine" course for second-year students at the Icahn School of Medicine at Mount Sinai. This curriculum will convey social determinants of health through a case-based format that displays social barriers to medical care faced by patients with SCD. The case will aim to foster collaborative reflection and open dialogue on how to approach and address internalized and institutionalized racism. There will be several different conceptional exercises utilized including (1) self-reflection to create an "empathy bridge" (2) alternative clinical perspective exercises (3) real-world interviews of SCD patients and (4) open forum dialogue emphasizing the instructor-as-student paradigm.

EVALUATION PLAN: The efficacy of this module will be evaluated by comparing students' response to a medically-framed case on SCD incorporated into the fall semester hematology pathophysiology course with their responses to the same case presented in a socially-framed context during the later ASM spring semester course. Three open-response questions "what are the causes of this patient's pain?," "how would you manage this patient?" and "what are the barriers to managing this patient?" will be posed to the students during each course and answers will be coded as either addressing the "medical" or "social" pathology, comparing the classification of responses in the fall and spring courses.

SUMMARY OF RESULTS: Data collection is currently underway, planned for January-February 2022. This will be followed by data analysis.

REFLECTIVE CRITIQUE: The efficacy of this curriculum has yet to be evaluated, as February 2022 will be the inaugural session.
ABSTRACT #30

ADDRESSING SOCIAL AND STRUCTURAL DETERMINANTS OF GLOBAL WOMEN’S HEALTH: PRESENTING A FEMINIST FILM CURRICULUM FOR UNDERGRADUATE MEDICAL EDUCATION

AUTHORS: Esha Bansal, Krishna Patel, Yonis Hassan, Arifa Zaidi, Susan Kim, Timothy Rice

PURPOSE AND GOALS: At all levels of medical education, film has emerged as a novel platform to build trainees’ experiential knowledge and narrative competence in addressing patients’ lived experiences, particularly in cross-cultural settings. However, film-based interventions engaging students in global women’s health topics through a feminist lens have not been reported in the literature. This study outlines the curriculum and results of an 8-week undergraduate medical elective course that explored relationships between women’s health and feminism in diverse world regions through regular film viewings and discussions.

METHODS: As part of an eight-session, voluntary, not-for-credit enrichment course entitled “Film in Medicine” at the Icahn School of Medicine at Mount Sinai, hosted on Wednesday evenings in March and April 2021. Discussions took the form of 75-minute virtual meetings that included didactic teaching and open discussion facilitated by medical faculty, residents, and medical students. Participants were medical and graduate students at the Icahn School of Medicine at Mount Sinai who viewed the assigned film prior to each session.

EVALUATION PLAN: Quantitative and qualitative data were collected from participants during the session and via post-session surveys.

SUMMARY OF RESULTS: Quantitative and qualitative data revealed that participants responded very favorably to the film viewing and discussion intervention. For instance, one participant “enjoyed the discussion of the patriarchal gaze” of Western cinema in the film Cléo from 5 to 7 (1962), while another gained increased understanding of “the anxieties [women] face while awaiting test results” in relation to the protagonist’s looming breast cancer diagnosis. The Saudi Arabian film Wadjda (2013) addressed puberty and epistemic justice; one participant noted that the ensuing conversation about female activism for reproductive rights in the Middle East “did broaden my understanding of life in Saudi Arabia and of the struggles that the director of Wadjda had to push through.” Black Girl (1972), describing the journey of a Senegalese immigrant to France, exposed participants to anti-racist and anti-colonialist feminism as well as the mental health consequences of undercompensated female labor and social invisibility; on a 10-point scale, 3 of 3 participants reported increased understanding of suicidality among women of color after watching the film.

REFLECTIVE CRITIQUE: A feminist, film-based curriculum for medical and graduate students may broaden trainees’ theoretical and experiential knowledge of, and interest in, global women’s health. In medical education, film may serve as an effective tool to encourage a life-course and gender equity approach to women’s health topics, rather than more traditional sexual-reproductive framings.
ABSTRACT #31

STUDENT PERFORMANCE IN A WILDERNESS MEDICINE ELECTIVE OFFERED REMOTELY IN THE TIME OF COVID-19

AUTHORS: Adam Hill

PURPOSE AND GOALS: Wilderness medicine (WM) education traditionally incorporates hands-on, in-person training. Due to a temporary moratorium on such learning during the early stages of the COVID-19 pandemic, a WM medical student elective was modified and offered via a remote format. Previous research has shown that on-line, remote education in other areas of medicine is non-detrimental to student performance. We sought to determine how a remote approach to WM education would affect student learning.

METHODS: In order to limit any curricular changes associated with the transition, educational videos and web-based simulations were created to replace content previously taught in-person, including a series of “choose-your-own-adventure” style simulations that students completed on their own. Students and instructors met twice via Zoom during the two-week elective to discuss content and answer any related questions.

EVALUATION PLAN: We assessed student performance on a 20-question multiple choice final exam, comparing scores from the modified remote elective in 2020 to those achieved during the 2019 offering of the standard elective. A sample size of 28 was necessary to achieve a statistical power of 90%, assuming a non-inferiority margin of -1.6 (derived from standard deviations of prior course offerings).

Using a five-point Likert scale, students completed a course evaluation to gauge thoughts and opinions related to the unique educational offering.

SUMMARY OF RESULTS: Mean final exam scores were 18 (+ 1.6, n=12) and 17.6 (+ 1.8, n=16) when analyzing student performance in 2019 and 2020, respectively, resulting in a mean score difference of -0.4 (90% CI -0.7-1.5). The mean score difference is within the pre-established non-inferiority margin, thus considered non-inferior.

All (n=16, 100%) of remote course participants felt the course was interesting, engaging, and enjoyable and would recommend to others if offered again due to social distancing. There was a split in opinion on the need for increased interaction with the instructors via Zoom, with 25% against, 37.5% having no preference, and 37.5% in favor of more video sessions. 81.3% recommended more video simulation exercises.

REFLECTIVE CRITIQUE: The results support remote offerings of a WM medical student elective as a viable education option should social restrictions related to COVID-19 once again require the cessation of in-person training. The final exam did not assess a student’s technical skills essential to the field (i.e. improvised gear and knot tying) nor decision making related to treatment and rescue in austere environments, even though videos and simulations were created to teach such topics. Future endeavors seek to determine a way to incorporate skills and decision-making assessments into the remote WM elective.
ABSTRACT #32

TEACHING VS NON-TEACHING HOSPITAL EFFECT ON INFECTIVE ENDOCARDITIS IN-HOSPITAL OUTCOMES: A NATIONAL INPATIENT SAMPLE DATA ANALYSIS

AUTHORS: Pradeep kumar Devarakonda, Monika Karki, Lalitsiri Atti, Vishal Dhulipala, Dishang Bhavsar, Samir Garyali, Viswanath Vasudevan, Sarath Reddy

PURPOSE AND GOALS: Infective endocarditis (IE) is a life-threatening cardiac condition with substantial mortality and morbidity. However, a hospital-level variation on the in-hospital outcomes remains unknown. The aim of the study is to assess the impact of hospital teaching status on endocarditis in-hospital outcomes.

METHODS: In this retrospective analysis, we used 2017-2018 National Inpatient Sample (NIS) data to assess the impact of hospital teaching status on the mortality, length of stay (LOS), and total charges for patients with a primary diagnosis of IE using International Classification of Diseases (ICD-10 code I330). Teaching and non-teaching status is identified using the NIS variable HOSP_LOCTEACH.

EVALUATION PLAN: Outcomes were evaluated using linear and logistic regression models to adjust for confounders.

SUMMARY OF RESULTS: A total of 25,024 patients with IE were included, 23% of them were admitted in non-teaching hospitals and 76% were admitted in teaching hospitals. In-hospital mortality was higher among teaching hospital patients (4.4%) than non-teaching hospitals patients (2.8%); the crude odds ratio was 1.58 and the adjusted odds ratio was 1.57 (p<0.024). LOS was also higher in teaching hospital patients (13.5 vs. 11.5 days), with an adjusted odds ratio of 2.07 (p<0.001) Similarly, mean total charges were also high in patients among teaching hospitals is ($100114 $ vs. $166452).

REFLECTIVE CRITIQUE: Patients with IE were admitted more frequently in teaching hospitals than non-teaching hospitals. Interestingly, in-hospital mortality, total charges, and LOS were also significantly higher among teaching hospitals, compared to non-teaching hospital patients.
ABSTRACT #33

PERCEPTIONS ON GLOBAL HEALTH WITHIN THE GLOBAL SURGERY STUDENT AND RESIDENT COMMUNITY

AUTHORS: Taylor J. Ibelli, Helen Liu, Lester Silver, Peter Taub

PURPOSE AND GOALS: The advent of the Lancet Commission’s Global Surgery 2030 publication steered the world’s attention towards the defining role of surgical care in global health discussions. Surgical care was often neglected as a legitimate component in the global health dialogue, possibly due to skepticism of surgery’s impact on global health.

Understanding perspectives within the global surgery community can serve as an essential benchmark for global health initiatives and a jumping-off point for future educational efforts. To this end, we sought to characterize the underpinnings of student and resident perceptions on the role of surgery in the global health discourse, specifically within the global surgery community.

METHODS: An anonymous questionnaire was distributed from December 2021 to January 2022 over the Global Surgery Student Alliance (GSSA) listserv. Participants ranked 11 items coded on a Likert Scale from strongly disagree (1) to strongly agree (5). Data was summarized using descriptive statistics, where applicable, and multivariate regressions comparing demographic responses and Likert Scale scores were performed.

EVALUATION PLAN: The first set of survey questions assessed eligibility criteria and demographics. The second set of survey questions assessed current perceptions and biases amongst medical students and residents interested in global surgery. The goal of our data analysis is two-fold: First, to determine if biases exist within the global surgery community and second, to evaluate if specific demographic factors are associated with global surgery biases.

SUMMARY OF RESULTS: A total of 74 responses were analyzed. Approximately 8/11 (72.7%) statements were answered correctly, 2/11 (18.2%) statements were answered incorrectly, and 1/11 (9.1%) were answered neutral. There were no statistically significant associations between demographic factors and survey responses.

REFLECTIVE CRITIQUE: Surgery’s emerging role in alleviating the global health burden is more apparent than ever before. Despite the lack of statistical significance, our results suggest that biased perceptions still remain within the global surgery student and resident community. Future studies should investigate ways to confront these perceptions.
WORKING TOGETHER FOR RESEARCH SUCCESS: TEAM SCIENCE TRAINING FOR COMMUNITY PARTNERS

AUTHORS: Layla Fattah, Devin Madden, Crispin N. Goytia-Vasquez, Timnit Ghebretinsae, Nita Vangeepuram, Janice Gabrilove

PURPOSE AND GOALS: Active participation of stakeholders representing a range of disciplines is a foundational research practice referred to as “team science.” It is increasingly apparent that to have impact, research teams must include stakeholders outside the usual research community, particularly diverse patients and community members. Our interdisciplinary team piloted the “Working Together for Research Success” workshop with community members previously enrolled in a capacity-building workshop on community based participatory research (CBPR). The workshop aimed to provide this group with essential tools for effectively engaging in collaborative work with research teams by introducing new language and concepts that build deeper understanding in the complexities of teamwork.

The workshop emphasized overcoming challenges commonly found in multidisciplinary work, enabling diverse stakeholders to participate in team science effectively.

METHODS: We developed a 90 minute virtual, synchronous workshop based on a constructivist approach to learning. Participants were split into teams of three to engage in a tangram activity. This low-stakes activity grounded in play created a supportive foundation from which participants could dissect dimensions of collaborative work. We assessed satisfaction and achievement of learning outcomes through an anonymous post-workshop survey. Optional long-form questions allowed attendees to share qualitative feedback.

EVALUATION PLAN: A total of 6 community members attended the pilot workshop. All survey responded (100%) indicated the course format was engaging, increased their knowledge of team science, was valuable to them in their roles as community partners. When asked to indicate what percentage of the material they thought they would use in their role, the mean response was 83.5%. Free text responses included these themes: more consideration of team dynamics when participating in teamwork, expanded awareness of the challenges faced when working in teams, greater confidence to engage in team science projects.

SUMMARY OF RESULTS: All respondents felt that participation in the workshop would serve them professionally and personally, and that this material would be relevant to a larger audience. With an ever-increasing focus on engaging community members in research, workshops such as this may provide a safe space to develop the skills and knowledge needed to participate in team science. There is value in incorporating this workshop into other courses for stakeholders interested in CBPR.

REFLECTIVE CRITIQUE: This was a small sample pilot project. Further work is needed to expand the project to reach more community members and increase the reliability of our findings.
ABSTRACT #35

THE RESIDENCY INTERVIEW PREP PROGRAM: A NOVEL CURRICULUM TO PREPARE MEDICAL STUDENTS FOR RESIDENCY INTERVIEWS

AUTHORS: Ryann Quigley

PURPOSE AND GOALS: Applying and matching into residency programs is one of the most stressful and high stakes processes a medical student can go through during their training. A large variable in a student’s likelihood of matching rests in the interview performance. Given the importance of the residency interview shown in the 2020 Program Director Survey from the National Residency Matching Program, NYU School of Medicine expanded upon existing curriculum to develop a novel curriculum to better prepare students for the residency interview and use faculty time efficiently, known as the Residency Interview Coaching Sessions. This project aims to increase student’s knowledge about the interview process, skill practice, feedback, reflection, and simulates the authentic residency program interview.

METHODS: Through a mixed methods study, this project evaluated the Residency Interview Coaching Sessions by examining if the program increased student self-confidence on practice interviews through a Likert score based retrospective pre post survey.

EVALUATION PLAN: A paired t-test analysis was used to compare students’ responses to the retrospective pre-post survey questions. Descriptive statistics was used to evaluate student satisfaction with the sessions content and materials. Content analysis was used to examine the qualitative open-ended survey questions in the evaluation by the lead researcher.

SUMMARY OF RESULTS: Of the 88 students invited, 62 students (70.45%) participated in the Residency Interview Coaching Program. The response rate to the post-event survey was 54.80% (n=34). Those who participated in the coaching sessions rated the sessions highly (m=4.64 of 5.00). Additionally, the differences in mean scores between pre-post survey showed statistical significance indicating increases in students reported ratings of confidence and preparedness. When considering the number of open-ended responses, content analyses demonstrated that the students enjoyed the sessions and found them valuable. When considering the comments regarding positive outcomes, coupled with the evaluation of the session, it was inferred the students, generally, were satisfied with the program.

REFLECTIVE CRITIQUE: This research should be continued throughout the academic year to understand if and how the coaching sessions improved performance on mock interviews by comparing performance of coaching students to non-coaching students through a faculty rubric on select interview questions. Additionally, further research can be conducted to look at student satisfaction using a retrospective program evaluation both after interview season is over and after Match Day. The coaching program should be continued for future classes to obtain larger samples.

Additionally, expanding the coaching sessions to more of a series or curriculum should be considered to improve students’ performance. Finally, should a “successful match formula” ever be created or identified, this curriculum should be modified or enhanced to best increase the student’s likelihood of matching.
ABSTRACT #36

DEVELOPING AN INTERN BOOTCAMP

AUTHORS: Fredy N. Gonzalez, Christina Cruz, Sreekala Raghavan, Andrea Delgado-Nieves, Bridget Dolan, Hesham Elmariah, Sreelakshmi Vasudevan, Natasha Qureshi, Minira Aslanova, William Loughney

PURPOSE AND GOALS:

GOAL:
To recognize areas of improvement in the intern orientation process to better provide upcoming PGY1s for internal medicine at Mount Sinai Beth Israel with the knowledge, tools, and resources to effectively transition into the intern year.

OBJECTIVES:
Appropriate utilization of MSBI app for daily tasks.
List common daily intern tasks and improve confidence in executing.
Address common scenarios where the intern is expected to function autonomously or with limited supervision with guidance towards “best next step”.

METHODS: Based on data collected from current PGY1 class, we will develop a digital information resource to be distributed to the incoming intern class regarding intern topics, tasks, responsibilities, and expectations to improve effective transition into intern year. Using this information, an intervention group from the incoming PGY1 class will be randomly selected to undergo a series of interactive sessions integrating technology and hands-on experience.

EVALUATION PLAN: A pre-intervention survey is to be sent to the entire incoming PGY1 class to assess confidence in- and prior experience with common PGY1 tasks and topics. A post-intervention survey is to be sent to the intervention group and control group via separate links to compare outcomes.

SUMMARY OF RESULTS: Project is still in development phase. Plan is to send post-intervention survey in October 2022 when the majority of PGY1s have completed similar rotations. Will compare confidence levels in performing common PGY1 tasks and roles between groups, as well as a subanalysis of satisfaction with types of intervention (written document only vs additional in-person session).

REFLECTIVE CRITIQUE: Strengths: Allows direct comparison of intervention to assess effectiveness prior to full scale implementation.

Addresses current deficiencies in transition period.

LIMITATIONS: At risk for Hawthorne effect, as well as voluntary, non-response, and recall bias. Intervention group may not be of equal representation between preliminary and categorical PGY1 given randomization which may limit generalizability of results.
ABSTRACT #37

DOCUMENTING AND ADDRESSING SOCIAL DETERMINANTS OF HEALTH IN AN UNDERSERVED ACADEMIC URBAN CLINIC

AUTHORS: Ines M. Robles Aponte, Sananda Moctezuma, Tamara Goldberg

PURPOSE AND GOALS: Studies suggest a gap between physicians’ appreciation for the impact of social determinants of health (SDH) on health outcomes and their knowledge of how to address these social barriers.

Our goal is to increase identification and documentation of SDH among patients at a federally qualified health center and to improve appropriate resource utilization to address SDH during the clinical encounter.

METHODS: This initiative is based at two urban Federally Qualified Health Centers that also serve as the primary care continuity practice sites for our internal medicine residents. A baseline survey of 52% (n= 65) of our internal medicine residents revealed that 98.5% recognized the importance of SDH on health outcomes, but only 10% reported screening for SDH and less than 5% consistently documented SDH as assessments. To address the disconnect between provider awareness of inequities and the application of skills needed, this project aimed to improve resident practice regarding screening and EMR documentation of SDH as well as utilizing resources to address SDH for all diabetic patients.

Beginning in July 2021 we initiated a clinic-based, peer to peer resident education intervention during pre-clinic huddle sessions. A provider guide was e-mailed and posted in the clinic exam rooms to teach residents how to access SDH screening tools in the EMR, how to document findings as Z-codes, and how to utilize appropriate resources to address the identified social determinant. We then examined data at 6 month follow up.

EVALUATION PLAN: To assess the effect of these interventions, we measured changes in the use of EMR-based SDH screening tool utilization. Beginning in the first quarter of 2022, we will additionally measure Z-codes assessment documentation and tracking of specific interventions and referrals.

SUMMARY OF RESULTS: Out of the 1597 patients with diabetes seen in the clinic in 2019, only 2.9% (n=47) had the EMR-based SDH screening tool completed. In 2020, of the 1490 patients with diabetes seen in the clinic, 5.6% (n=84) had the SDH screening tool completed. After our intervention, of the 292 diabetic patients seen in the clinic between July 2021 and November 2021, 64% (n=187) had the SDH screening tool completed.

REFLECTIVE CRITIQUE: Our peer-to-peer resident intervention using brief pre-clinic huddle talks and dissemination of a reference guide led to an 11-fold increase in resident documentation of SDH with nearly two-thirds of all patients with diabetes screened. Educators should consider this peer-to-peer method as a high-yield, low-effort intervention to change provider behavior related to SDH in clinical practice. Novel educational strategies are needed which are attuned to the application of SDH knowledge and skills within the reality of the clinical practice setting.
ABSTRACT #38

IMPROVING NAFLD SCREENING IN AN URBAN PEDIATRIC CLINIC

AUTHORS: Gabriela Araujo, Janet Lee, Marcy Stein Albert, Kathrin Balaoura, Bikram Singh, Gayle Lashansky

PURPOSE AND GOALS: Nonalcoholic fatty liver disease (NAFLD) has become increasingly prevalent in pediatric populations. Despite increasing prevalence, screening for NAFLD may be lower than recommended in older children/adolescents. We designed and implemented a student-led quality improvement project to increase NAFLD screening rates in our patient population.

METHODS: NYC Health + Hospitals/Queens, located in Jamaica, New York, offers primary care services for children and adolescents, and has a childhood overweight and obesity rate of 23%. Providers in our practice were inconsistently screening for NAFLD. We developed a brief educational intervention, including a workflow diagram, for our clinicians. We leveraged electronic health record (EHR) personalization to include screening labs for NAFLD in customized order sets, with the hope of increasing the NAFLD screening rate by 20%. Patients aged 8 to 17.9, with a BMI percentile of 85 or greater, and 18 to 22 years old, with a BMI of 25 or greater, who were seen in the Pediatric Department for an in-person well-child visit, were included in our analysis.

EVALUATION PLAN: We performed retrospective chart reviews for the above parameters.

SUMMARY OF RESULTS: Baseline analysis included 196 patients who met the above criteria from January to April 2021. Of this total eligible population, only 86 patients were appropriately screened for NAFLD (43.9%). After our initial educational intervention, we performed a follow-up analysis utilizing the same criteria. From May to August 2021, 108 out of 151 individuals in the eligible population were screened for NAFLD (a screening rate of 71.5%), demonstrating an improvement of 27.6%.

REFLECTIVE CRITIQUE: Our intervention of provider education and EHR-personalization tools were effective in improving NAFLD screening rates in our pediatric population. Currently, our laboratory reference ranges for ALT reflect adult norms, and do not flag values that are abnormal for our pediatric patients. Given this current state, it is possible that we are not appropriately identifying all abnormal ALT values in our population. These results reveal the potential impact of PDSA (plan-do-study-act) cycle changes, which in our study included educational interventions, and systems-based improvement, most notably within the EHR.

NAFLD disproportionately impacts Hispanic/Latinx youth, so after engaging staff, future interventions should focus on providing culturally competent support to our families, while leveraging our community-based connections to engage with our patient population more effectively. For the next phase of our quality improvement project, we hope to update our laboratory ALT values to reflect pediatric normal values, and increase appropriate diagnosis of NAFLD in our population. Additionally, we hope to develop culturally diverse patient education materials to support our families to adopt healthy lifestyle changes.
QUALITY IMPROVEMENT INITIATIVE ON EFFICIENT UTILIZATION OF STOOL OVA AND PARASITE EXAMINATION

AUTHORS: Shabari M. Shenoy, Randy Leibowitz, Shanique Wilson, Frank Nelson, Matthew Scott

PURPOSE AND GOALS: Stool ova and parasite (O&P) examination is a routinely ordered test in patients hospitalized with diarrhea. The microscopic exam is labor intensive and has been replaced by alternative tests.

Identification of risk factors has helped develop best practice guidelines establishing criteria for conducting stool O&P examination. The Infectious Diseases Society of America (IDSA) recommends O&P examination of stool specimens in patients with diarrhea lasting greater than 7 days, especially if they are immunocompromised. In the in-patient setting, these tests should be conducted within the first 3 days of admission.

The purpose of our project was to determine whether short educational sessions could be effective in changing provider behavior regarding the ordering of stool studies for patients hospitalized with diarrhea. The goal of decreasing the use of unnecessary O&P testing would have important implications for resource utilization and value in hospital medicine.

METHODS: We queried our institution’s electronic medical record (EMR) system for stool O&P exam ordered on patients admitted with diarrhea over a one year period. Using a Plan-Do-Study-Act (PDSA) model, a retrospective chart review was performed on 20% of the charts; duration of diarrhea, risk factors such as immunocompromised status, history of living or recent travel to endemic areas where parasitic infections are prevalent and whether a polymerase chain reaction test was ordered before stool ova and parasite test was ordered were identified.

EVALUATION PLAN: Interventions consisted of education sessions for residency house staff, physician assistants and attending physicians in internal medicine and emergency medicine departments. These education sessions presented the data and guidelines for appropriate O&P testing in the hospital setting. Following the intervention period, the EMR was again queried for the number of tests ordered.

SUMMARY OF RESULTS: A total of 444 tests were ordered over the pre-intervention time period; 89 charts (20%) were reviewed. The average duration of diarrhea was less than 7 days in 52 patients (58.4%). Risk factors were present in 38 patients (42%), out of which only 4 patients (4.5%) had lived or travelled to endemic areas. Only 2 patients (2.2%) had GI PCR ordered prior to a stool O&P examination. Two months into the interventional period, the number of tests ordered at our institution had dropped significantly, with only 4 tests ordered. This value indicates a 94.6% decrease in O&P tests ordered. We will continue to monitor ordering practices for several months to determine whether these results are sustained over time.

REFLECTIVE CRITIQUE: Judicious use of stool ova and parasite examination reduces cost and labor utilization to the health care system without compromising on provision of high value care to patients. Simple educational interventions are beneficial in changing provider ordering practices in this setting, and can be used to promote high value, cost effective care.
RESIDENT EDUCATION FOR IMPROVED QUALITY AND CONFIDENCE IN INPATIENT HYPERGLYCEMIA MANAGEMENT

AUTHORS: Maxwell E. Horowitz, Keerthana Haridas, Sananda Moctezuma, Rahul Agarwal

PURPOSE AND GOALS: We developed an educational curriculum to improve the quality and confidence in inpatient hyperglycemia management of internal medicine residents. We aimed to assess the self-reported level of this confidence before and after dissemination of the educational curriculum via online questionnaires. We aimed to improve the ability to recognize when endocrinology consultation should be obtained. We intend for our curriculum to translate to improved quality of inpatient glycemic control and reduced frequency of endocrinology consultation for hyperglycemia.

METHODS: The first phase of the curriculum consisted of an online pre-intervention questionnaire, examining the self-reported level of confidence and knowledge of hyperglycemia management in non-critically ill patients. The second consisted of a 50-minute lecture providing background on prevalence and risk of inpatient hyperglycemia, standard guidelines for management, appropriate insulin regimen initiation and adjustment, and practice questions. The third consisted of a post-intervention questionnaire which, in addition to reassessing overall confidence, examined change in confidence level and the ability to recognize situations appropriate for consultation.

EVALUATION PLAN: In the context of convenience sampling, residents were eligible to participate in the second questionnaire independent of their participation in the first or in the educational intervention. We assessed confidence on a four-level scale (not comfortable, somewhat comfortable, comfortable, and very comfortable) pre- and post-intervention. For those who attended the intervention, we assessed change in that confidence. Lastly, we assessed appropriate consultation practice by providing clinical scenarios which would typically require an endocrinology evaluation.

SUMMARY OF RESULTS: There were 57 pre-intervention respondents and 54 post-intervention respondents. 26 of the post-intervention respondents completed the initial questionnaire and 22 attended the lecture. In comparing post- to pre-intervention confidence, there was an overall increase in percentage of “comfortable” responses (26% to 52%) with a subsequent decrease in “somewhat comfortable” responses (65% to 37%). There was a higher percentage of “comfortable” responses in those who attended the lecture (59% vs. 47%). 21 of the 22 respondents who attended the lecture felt “more confident” in their ability to treat inpatient hyperglycemia. Those who attended the lecture were more likely to identify situations appropriate for endocrinology consultation.

REFLECTIVE CRITIQUE: The objective of this intervention was to identify and bridge the gap in practical knowledge and confidence level across all training levels. In a small sample size of residents, data revealed higher confidence in inpatient hyperglycemia management and ability to recognize the necessity of endocrinology consults. Future research will focus on analyzing concrete data in a target unit to assess translation of the intervention to improved quality of inpatient glycemic control.
ABSTRACT #41

ASSESSMENT OF THE KNOWLEDGE, ATTITUDES, AND BEHAVIORS OF INTERNAL MEDICINE RESIDENTS TOWARDS STOOL-BASED COLORECTAL SCREENING

AUTHORS: Dewan Giri, Rui Jiang, Gres Karim, Alaina Mandrapilias, Carolina Villarroel, Sera Satoi

PURPOSE AND GOALS: Colorectal Cancer (CRC) is the 2nd most common cause of cancer mortality in the USA and screening has decreased the mortality of CRC. In our urban resident-led primary care clinic, the screening rate is at 61%, short of the Healthy People 2030 target of 74.4%. While many factors contribute to this low screening rate, we have data showing that our internal medicine residents on average order fewer stool-based tests and more “Refer to Gastroenterology” orders than attendings at the same practice. We hypothesize that residents may not have the most up to date knowledge concerning CRC recommendations and the effectiveness of stool-based tests. The objective of our study is to assess resident knowledge, attitudes, and behaviors toward CRC screening. We hope to develop educational interventions based on survey results.

METHODS: An anonymous 6-question internet-based survey assessing knowledge, attitudes, and behavior was sent to internal medicine residents at Mount Sinai Beth Israel between 11/1/2021 through 1/21/2022. Residents are divided into 4 cohorts, each rotating through ambulatory blocks every 2 months. We will develop a 10-minute CRC screening update to be presented during ambulatory education half day over a period of 2 months from 2/1/2022 to 4/1/2022.

EVALUATION PLAN: After each education session, residents will be asked to complete the 6-question survey again to see if there is a shift in knowledge, attitudes, and behaviors. To track the global impact of this educational intervention, we will also track the number of stool-based test orders vs. GI referral from residents as compared to pre-intervention.

SUMMARY OF RESULTS: For the initial assessment, 31 of 50 (62%) residents completed the survey. 20 of the 31 responses correctly identified 45 as the starting age of CRC Screening for average risk patients. When asked about preferred modality of CRC screening, 21/31 (67%) choose colonoscopy as their first choice, followed by FIT-DNA 12/31 (38%). Only 11/31(35%) and 14/31 (45%) of respondents thought FIT and FIT-DNA respectively are more than 75 % sensitive and specific for detection of early CRC. As our survey has shown, there are significant gaps in knowledge among internal Medicine residents, regarding Colon Cancer screening guidelines.

REFLECTIVE CRITIQUE: This educational intervention is targeted to one internal medicine residency as a part of our QI initiative to increase our CRC screening rates, especially through maximizing stool-based test utilization. Improving knowledge is only the first step to behavior change. However, the methodology utilized can be easily adapted at other resident-based clinics to help improve CRC screening rates.
ABSTRACT #42

A HYPERTENSION EDUCATIONAL MODEL FOR CLINIC STAFF AND PATIENTS IN A PRIMARY GERIATRICS CLINIC

AUTHORS: Farah Adamali, Mike Gorenchtein, Rebecca Masutani, Mikail Kamal, Nitzy Munoz Casablanca, Nisha Rughwani

PURPOSE AND GOALS: Hypertension (HTN) is an independent risk factor for cardiovascular disease and mortality, yet challenging to control in geriatric patients. As per our healthcare system's Primary Care Institute (PCI), led by ACP and AAFP guidelines, the HTN management goal is achieving a blood pressure (BP) of <140/90 in ≥75% of patients. Our objectives were to enhance clinic staff awareness and improve patient education on HTN management by developing a dedicated HTN model.

METHODS: We designed a fellow-driven protocol to accurately identify, evaluate and treat patients with poorly controlled HTN. This involved educating clinic staff, including licensed practical nurses (LPNs) and registered nurses (RNs), to streamline the process of reporting and documenting an elevated BP, providing timely alerts to clinic providers about elevated BP readings, scheduling dedicated HTN clinic visits, and facilitating remote BP home monitoring. We created a standardized template visit note to systematically address key components of HTN management (patient barriers, medication changes, home BP monitoring, and lifestyle modifications) and provided guidance to clinic providers on how to use these template notes. We incorporated patient education into clinic visits by providing handouts to patients at the end of their visits on correct home BP measurement and lifestyle modifications. We provided training to LPNs and RNs on how to systematically explain these handouts patients.

EVALUATION PLAN: Measures were determined based on data obtained from dedicated HTN visits, with plans to improve the care model via successive PDSA cycles over the next 6 months. For baseline measures, we selected the pre-visit BP and number of anti-HTN medications. For process measures, we chose to focus on the number of patients with scheduled dedicated HTN visits, number of patients with completed dedicated HTN visits, and the number of patients who receive HTN educational material. Our outcome measures include post-visit BP changes, barriers effecting HTN control, and clinician-guided interventions. Our balance measures include number of completed dedicated HTN visits and medications changes.

SUMMARY OF RESULTS: In our patient cohort, mean (+/- SD) age was 80.4 +/- 3.5 years, 80.6% were women, 41.9% identified as White, 16.1% Hispanic, 22.6% African-American, and 19.4% as other. Most patients were already on anti-HTN medications. Our team has contacted the primary care providers of all 31 patients to schedule dedicated HTN visits. From the dedicated HTN visit notes, we are currently collecting data from outcome and balance measures to assess the effectiveness of the HTN model and its impact on the clinic staff workload.

REFLECTIVE CRITIQUE: Many challenges of HTN control in the elderly are due to patient, system-wide and clinic design factors. An interdisciplinary team-based approach incorporating clinic staff training and patient education may help improve BP control.
ABSTRACT #43

MEDICAL STUDENT-RUN INPATIENT NALOXONE TRAINING AND DISTRIBUTION AT MOUNT SINAI HOSPITAL

AUTHORS: Calla K. Khilnani, Nathaniel Saffran, Zerubabbel Asfaw, Remington Schneider, Linda Wang, Michael Herscher

PURPOSE AND GOALS: Opioid overdose deaths in New York and nationwide have increased to record levels in recent years. Meanwhile, access to naloxone, an opioid receptor antagonist that can reverse overdoses, remains limited and may have decreased further during the COVID-19 pandemic. Naloxone distribution in conjunction with overdose response training can reduce deaths, but this approach is underutilized. Inpatient hospitalizations are an opportunity to identify at-risk patients, educate them about naloxone, and distribute the medication. Here, we demonstrate the feasibility of a medical student-led inpatient naloxone training and distribution quality improvement initiative at the Mount Sinai Hospital. Our goal is to increase access to naloxone among patients at risk of opioid overdose.

METHODS: Naloxone candidates were identified by an algorithm that flags patient medical records based on ICD codes, medications, diagnoses, and key terms. Candidates were reviewed by students to identify those likely to benefit from training. Hospital staff, including physicians, nurses, and social workers, also directly referred patients via an Epic consult order created for this purpose. Students asked each patient’s attending physician for approval to provide training before discharge. If granted permission, the primary team ordered the naloxone, while the student obtained patient consent and provided training on overdose response and naloxone administration. The student then delivered the naloxone from the pharmacy to the patient and placed a note in the patient’s chart.

EVALUATION PLAN: Data was collected using a secure spreadsheet recording whether permission was granted, the training was performed, and naloxone was distributed, as well as other variables. Candidates who were not trained before discharge were added to a list of patients eligible for remote training.

SUMMARY OF RESULTS: From April 15 to December 17, 2021, 88 candidates were identified. Of these, 47 (53%) were trained, and 45 were given a naloxone kit (2 already had one and declined another). The remaining 41 (46.5%) were not trained for various reasons: 8 declined training, 10 were denied by the attending, 3 were under isolation, and 20 were not trained for other reasons, including a delay in care team response or discharge before training.

REFLECTIVE CRITIQUE: Limited student availability during weekends, breaks, and COVID-19 quarantines and delayed responses from primary teams were major challenges that reduced the number of trainings performed. Also, hospital regulations limiting the presence of medications (including naloxone) in patient rooms required us to train patients at the time of discharge, which was logistically challenging. We have three goals to address in the next phase of the initiative. First, we will increase program awareness among hospital staff. We will also expand the screening algorithm to include more naloxone candidates, such as patients who take opioids for chronic pain management. Finally, we will expand the training to include family and caregivers.
ABSTRACT #44

VIRTUAL FUTURE? AN EVALUATION AND TRAINING OF MEDICAL STUDENT IN TELEHEALTH

AUTHORS: Justin Tang, Susmita Chennareddy, Jonathan Goldstein, Emily Spiera, Erica Glaser, Nickolas Dreher, Emily Xu, Nicole Zatorski, Grenye O’Malley, Madeleine Rouviere, George Mellgard, Harish Jasti, David Thomas, Yasmin Meah

PURPOSE AND GOALS: East Harlem Health Outreach Partnership (EHHOP) is a student-run free clinic at the Icahn School of Medicine that provides longitudinal primary care to more than 300 underserved patients. During the COVID-19 pandemic, EHHOP’s care model transitioned from in-person to telehealth. Due to the rapid nature of this transition, this project had three primary goals: 1) To understand the general attitude and comfort of student clinicians with telehealth, 2) To design a training program to virtually evaluate and improve patients’ residential microclimate and diabetes medication management, and 3) To assess the impact of the program on student telehealth management.

METHODS: A 50-item survey was administered to 27 EHHOP student clinicians to assess attitudes towards telehealth. A training driven by survey results and patient feedback was developed around three domains: medication set-up, glucometer/insulin use, and food availability. The interactive simulated training was implemented for 33 incoming student clinicians. A 21-question Likert scale-based pre- and post-survey was administered to trained clinicians.

EVALUATION PLAN: Chi-squared tests were used to assess significant changes in the proportion of students who “agreed” or “strongly agreed” to each item in the pre- and post-implementation survey.

SUMMARY OF RESULTS: 81.4% of students agreed that patients would benefit from integration of telehealth into their care. However, 77.7% agreed that telehealth at EHHOP had room for improvement. 37.0% reported receiving no telehealth training, while 59.2% agreed that telehealth could help them understand their patients’ social environments. After the intervention, there were significant increases in students’ self-rated ability to assess a patient’s social determinants of health ($X^2=4.15, p=0.04$), the availability and quality of food ($X^2=7.80, p<0.01; X^2=9.53, p<0.01$), the availability of appliances ($X^2=7.99, p<0.01$), the storage and management of medication ($X^2=13.1,p<0.01; X^2=6.88,p<0.01$), the risk of accidentally taking incorrect medications ($X^2=5.59,p=0.02$), proper inhaler/injectable usage ($X^2=10.3,p<0.01$), disposal of sharps ($X^2=6.88, p<0.01$), and safety of home environments ($X^2=7.97,p<0.01$).

REFLECTIVE CRITIQUE: Integrated telehealth training guidelines are necessary for improving student skills in telehealth-based healthcare delivery, and it provides a unique opportunity to understand the residential microclimate of patients and the critical role of socioeconomic factors and housing on patient clinical outcomes. This intervention showed statistically significant improvements in the confidence of student clinicians to use telehealth to assess the residential microclimate and to manage diabetes in the primary care setting. As we expand this survey, we will evaluate how the training impacts patient clinical outcomes.
Abstract #45

Investigating Level of Student Engagement and Barriers to Anti-Racist Work at ISMMS

Authors: Francesca M. Silvestri, Jennifer Dias, Emily Xu, Paloma Orozco Scott, Kevin Weiss, Leona Hess

Purpose and Goals: In 2021, the American Association of Medical Colleges released its annual report on “Creating Action to Eliminate Racism in Medical Education” calling for urgency and institutional commitment to address systemic racism. Historically, these efforts have been led by individuals self-identifying as underrepresented in medicine (URM). In 2018, the Icahn School of Medicine at Mount Sinai (ISMMS) launched the Racism Bias Initiative (RBI), a change management strategy to address racism and bias in the learning environment. The purpose of this study is to assess level of student engagement and identify barriers to increase student participation in anti-racism work at the ISMMS.

Methods: We surveyed medical and graduate students with 8 multiple-choice questions related to engagement in anti-racist initiatives, preparedness, and anti-racism in practice. This survey was conducted as part of the annual ISMMS Student Council Comprehensive Survey in April 2021.

Evaluation Plan: Frequency tabulations and proportion estimates were calculated. The results were stratified by program, class year, and self-reported race/ethnicity. The final data was presented to the RBI guiding coalition, a powerful group of change leaders of faculty, staff, leadership, and students across the ISMMS, who oversee change projects.

Summary of Results: A total of 230 students completed the survey. The top reasons for disengagement in RBI were school or workload (37.9%), extracurricular or other academic activities (18.4%), and prioritization of family time (17.0%). 41.3% of students felt the same level of engagement in anti-racist work relative to their classmates, yet they felt somewhat unprepared by the curriculum and professional training to practice anti-racism work (45.7%). 53.0% of students felt comfortable engaging in conversations about race and anti-racism work with people within and outside of their racial identity. 28.7% of students felt comfortable drawing the instructor’s attention to educational material with missing elements of race and racism. When stratified by race/ethnicity, most who identified as Asian (31.5%), Hispanic/Latinx (32.0%), or Black/African American (38.5%) felt comfortable notifying their instructors, but most of their white counterparts did not (32.4%). All other responses yielded similar findings when stratified by program, class year, and self-reported race/ethnicity.

Reflective Critique: Student engagement in anti-racism work is critical in cultivating a community that is anti-racist in practice, but time is a scarce resource during medical and graduate school. These findings show key gaps to student engagement and burden carried by URM students in this space. This study helped to inform change target initiatives for the 2022 calendar year, which aim to build formal communication mechanisms and mental model shifts related to behavior. Further investigation of strategies is needed to define student change roles and increase participation in transformational change efforts, particularly among non-minority students.
ABSTRACT #46

A "TIME IN" TO FACILITATE DISCUSSION AND REDUCE BIAS IN MEDICAL SCHOOL ADMISSIONS

AUTHORS: Valerie Parkas, Jessica Maysonet, Jacqueline Chudow, Leona Hess, Talia Swartz

PURPOSE AND GOALS: Bias is implicit in decision-making which impacts the selection of candidates by medical school admissions committees. When biases are expressed during discussions, many are not comfortable interrupting a discussion to report or correct it.

METHODS: The MD/MD-PhD admissions committees at the Icahn School of Medicine at Mount Sinai in NY in the Fall 2020 introduced a “Time-In” to learning to facilitate discussion of bias during meetings. When an expression of bias is perceived, a “Time In” is initiated to open a candid discussion. Committee members were surveyed pre-season and post-season regarding perceptions of bias and comfort discussing bias in the committee.

EVALUATION PLAN: A survey was administered pre-season and post-season to determine the demographics and perceptions of committee members of bias and their own attitudes towards interrupting bias. Survey responses were scored on a Likert scale 1-5 (1= strongly disagree and 5 = strongly agree) to the survey questions and post-season. A Mann-Whitney U test was used to compare Likert score averages between indicated groups pre- and post-season.

SUMMARY OF RESULTS: One hundred seventeen individuals responded to the pre-season and post-season survey. Pre-season, the following groups felt less comfortable discussing bias publicly: respondents who were underrepresented in science and medicine (URiSM) (identifying as Black or African American and Hispanic, Latino, or of Spanish Origin) relative to non-URiSM respondents, students relative to faculty, and respondents under age 40 relative to above age 40; by post-season, the gaps closed between these groups. There was a significant reduction in the perception of bias in the admissions process, 3.10 pre-season compared to 2.55 post-season (***, p<0.001).

REFLECTIVE CRITIQUE: This simple intervention for creating space for discussion and normalizing the interruption of bias can reduce the perception of bias, empower participants to discuss bias publicly, and reduce gaps between groups. Future directions will focus on committee members publicly addressing bias and feeling comfortable educating others on expressions of bias.

It is important to note several weaknesses of this study. This was a small pilot at a single institution with small numbers of subgroups. Notably, the numbers of committee members who are URiSM are small, and therefore the numbers may not be powered appropriately to detect a significant difference. Representation of participants who are URiSM is critical to expanding the committee’s perspective. Greater representation can serve to empower members with minoritized identities and improve the ability to consider diverse perspectives.

The recognition and interruption of bias is one step, but our observations indicated that individuals are lacking education in tools to respond. The education of the committee through faculty development training, resources, and continuous education is critical to this process and is the focus of future directions for our program.
ABSTRACT #47

EFFICACY OF ED SCREENING TESTS FOR CHILDREN ADMITTED TO AN INPATIENT PSYCHIATRIC UNIT FOR ACUTE MENTAL HEALTH EMERGENCIES

AUTHORS: William Bonadio, Eric Legome, Carly Rosen, David Lam, Connor Welsh

PURPOSE AND GOALS: To determine the efficacy and cost of performing a standard battery of ED screening tests used to identify an occult medical issue prior to psychiatric inpatient admission of children with acute mental health emergencies.

METHODS: We reviewed consecutive pediatric ED cases of children with acute mental health emergencies requiring inpatient admission to a psychiatric unit during a 4-year period. A standing protocol endorsed that all patients receive performance of a medical history and physical examination; if negative for an otherwise acute medical issue, and psychiatric evaluation deemed inpatient care was indicated, a standard battery of [up to] 9 pre-admission screening medical tests was performed, including: complete blood count [CBC], basic metabolic panel [BMP], thyroid stimulating hormone [TSH], rapid plasma reagent [RPR], hepatic function panel; urinalysis [U/A], urine qualitative toxicology panel [U-tox], urine pregnancy test [UPT for menstruating females]; and 12-lead EKG.

EVALUATION PLAN: Consecutive cases of pediatric patients admitted to an inpatient psychiatric unit for an acute psychiatric problem were analyzed. Our institutional protocol called for performance of a battery of medical screening tests be performed, after the patient was medically cleared per physical assessment by a pediatric ER attending physician. We aimed to evaluate the utility of this protocol in identifying occult medical problems impacting patient care and disposition during the hospitalization.

SUMMARY OF RESULTS: A total of 582 consecutive cases with an acute psychiatric condition were evaluated in the pediatric ED. Four patients were admitted to the medicine unit [all were intentional toxic ingestions identified by history]; the other 578 consecutive cases were admitted to the inpatient psychiatric ward, comprising the study group. There were 4,248 screening medical tests performed, with only 2.6% classified as abnormal, and 0.3% prompting a change in management [further lab testing]; no abnormality was associated with in-hospital subspecialist consultation or change in disposition. The total cost for performing these tests was $623,796; the calculated average cost per patient was $1,078.

REFLECTIVE CRITIQUE: This study definitively shows little utility and marked expenditure in health care costs in performing a battery of screening medical tests for pediatric patients requiring inpatient admission for an acute psychiatric problem.
ABSTRACT #48

UTILIZING SIMULATION TO IMPROVE GOALS OF CARE DISCUSSIONS FOR EMERGENCY MEDICINE RESIDENTS

AUTHORS: Wei Li

PURPOSE AND GOALS: The emergency physician is the first provider to assess patients who are critically ill with poor prognoses. Emergency medicine physicians are uniquely positioned to impact the quality of the final stages of a patient’s life. Often in the ED, patient acuity can be seen as a reason to forgo addressing this very important aspect of their care in favor of stabilizing the patient. This can lead to extensive care for a patient who may never have functional outcomes that they would have deemed acceptable. Unfortunately, EM physicians don’t often receive formalized training on initiating Goals of Care discussions with the patient and their family. Initiating these discussions in the emergency department can go a long way in altering the care of the patient for the better. Creating an effective method of teaching this vital skill to residents in training can potentially have broader applications in adopting such a strategy as part of a program curriculum and improving patient experience and safety outcomes in such a vulnerable population.

METHODS: This project will use simulation with structured debriefing to train residents in performing goals of care (GOC) discussions with patients and their family members. We will recruit residents (PGY-1-PGY-3) from a single emergency medicine program in an urban setting. The residents will complete a pre-intervention survey about their comfort level performing GOC discussions, self-perceived experience in doing so, as well as content questions regarding GOC discussions. Following this survey, they will go through an online case simulation in which they are required to perform a GOC discussion. Following this simulation, they will undergo a structured debriefing session providing formalized training on conducting a patient centered GOC discussion. This will be followed by a post intervention survey assessing the same metrics in terms of their comfort in doing so. Another survey at 3 months post intervention will also be completed as the final data point to evaluate long term retention. Residents that did not participate in the intervention will also be encouraged to complete the survey at 3 months as a control.

EVALUATION PLAN: See above

SUMMARY OF RESULTS: We are still in the data collection stage of this project

REFLECTIVE CRITIQUE: We are still in the data collection stage of this project
**ABSTRACT #49**

**IMPACT OF HIGH-FIDELITY SIMULATION ON RESIDENT PERFORMANCE IN REGIONAL ANESTHESIA: A RANDOMIZED CONTROLLED TRIAL**

**AUTHORS:** Allen Ninh, Garrett Burnett, Nihir Patel, Christina Jeng, Chang Park

**PURPOSE AND GOALS:** Regional anesthesia training is highly variable among anesthesiology residency programs in the United States. The opportunities to perform peripheral nerve blocks vary across institutions. The ACGME requires a minimum of forty peripheral nerve blocks during anesthesiology residency training, which is commonly considered insufficient for true proficiency in regional anesthesia, as many residents do not feel confident performing regional anesthesia upon entering independent practice.

**METHODS:** Following IRB exemption, anesthesiologists from the Mount Sinai Hospital designed a high-fidelity comprehensive simulation involving upper-extremity peripheral nerve blocks. The simulated clinical scenarios incorporated pre- and post-procedural considerations, anatomy, ultrasound scanning, and block needle placement. An Objective Structured Clinical Examination (OSCE) was created to assess the effectiveness of the simulation session. The OSCE (33 total pts) consisted of five parts: 1) informed consent (6 pts), 2) setup and patient positioning (6 pts), 3) ultrasound scanning (9 pts), 4) needle placement in a task trainer (5 pts), and 5) post-procedural assessment (7 pts).

**EVALUATION PLAN:** Residents on their regional anesthesia rotations between 10/2019 and 2/2021 were randomized into a simulation group or control group. The simulation group received simulation training during their clinical rotation, whereas the control group did not. Both groups underwent baseline and post-rotation OSCE assessments. The primary outcome measured was the composite OSCE score. Pre- and post-rotation demographic and survey data were collected. Independent t-tests and chi-square tests were performed to evaluate for differences between the two groups.

**SUMMARY OF RESULTS:** Sixty-four resident physicians were enrolled in the study. Seven participants were excluded due to temporary stoppage during the COVID-19 pandemic. Twenty-five subjects in each group were included in the final analysis. Baseline pre-rotation OSCE performance did not significantly differ between the simulation and control groups (17.0 ± 4.6 vs. 17.7 ± 3.8 respectively, p=0.53). Post-rotation OSCE scores were significantly higher in the simulation group as compared to the control group (24.2 ± 3.1 vs. 19.4 ± 3.7 respectively, p=<0.01). Self-reported comfort levels did not differ significantly pre-rotation between the simulation and control group (4.1 ± 2.5 vs. 3.9 ± 1.8 respectively, p = .74). Post-rotation, subjects in the simulation group had significantly higher self-reported comfort levels than subjects in the control group (7.1 ± 1.7 vs. 5.9 ± 1.8 respectively, p = 0.02).

**REFLECTIVE CRITIQUE:** We introduced a focused yet comprehensive educational session that combines high-fidelity simulation with deliberate practice in order to enhance regional anesthesia education for residents. Our results demonstrate that simulation in regional anesthesia can have a significant positive impact on proficiency as measured by an OSCE and increased individual practitioner comfort level.
ABSTRACT #50

USING VIRTUAL ESCAPE ROOMS TO ENGAGE LEARNERS ON ZOOM

AUTHORS: Jared Kutzin, Christopher Strother

PURPOSE AND GOALS: The purpose was to create an engaging virtual game that produced opportunities for participants to work together collaboratively to solve puzzles and learn important clinical content or content about the organization. The goal was to engage our new hires in a fun, interactive experience that had important information about Mount Sinai embedded in it.

METHODS: We created a virtual escape game using Storyline 3 by Articulate. The online game took about 40 hours to create and subsequent versions were updated in about 4 hours. Using the software development tool we created an immersive game that teams of 6-8 participants competed in. This was used for faculty orientation and subsequently at national conferences hosted by IHI, SAEM, and IMSH. Following the game participants completed a survey regarding the curriculum.

EVALUATION PLAN: Following their participation, attendees completed a survey inquiring about their use of teamwork and communication tools as well as engagement. The survey was an online survey presented via QR code following the experience.

SUMMARY OF RESULTS: Results revealed that participants found the experience engaging (level 2) and they had to work together to successfully "escape the room". Specific results included average scores of 5.2/6 for engagement, 5.6/6 for needing to use teamwork, and 5/6 for needing to use communication tools in the virtual environment. All the team successfully escaped the room and the fastest team took 21 minutes (teams were allotted 25 minutes total).

REFLECTIVE CRITIQUE: We found that by utilizing an immersive gamified experience participants on Zoom were more engaged and had to work collaboratively. Instead of passively obtaining information the gamified experience immersed them in a challenge and they had to solve puzzles that gave them insight into their department or institution. We found that using the shell initially created allowed us to modify the game for a variety of audiences with minimal effort.
ABSTRACT #51

USING IN SITU SIMULATION TO IMPROVE STROKE MANAGEMENT AND METRICS IN THE EMERGENCY DEPARTMENT.

AUTHORS: Jonathan DeAssis, Wei Li, Catrina Cropano, Daniel Satnick, Joshua Mchugh, Heidi Baer

PURPOSE AND GOALS: The purpose of this study is to demonstrate the effectiveness of in situ simulations in improving patient important outcomes in regards to stroke management.

The secondary purpose is to improve the management of stroke patients in the emergency department (ED) studied.

METHODS: Twice daily for 2 weeks an actor played by an emergency physician will enter the ED either by walk-in, or simulated ambulance arrival displaying symptoms of a stroke. The ED team will be expected to act accordingly as if this patient were real and proceed to care for them from triage through neurology consult just as they would any other patient. The individual patient cases were written beforehand and learned by the physician actor so they can provide appropriate history and physical exam findings. The ED team will be observed by simulation trained ED faculty, ED administration, and Neurology administration throughout the encounter. At the conclusion of the patient encounter (after neurology consult for final disposition) a formal debrief will be held with all participating ED team members and all observers. This debrief will focus on emphasizing the preferred algorithm for triaging and initially managing stroke patients in this ED and educate staff on science behind timing of stroke management.

EVALUATION PLAN: We plan to compare the stroke metrics in this emergency department 3 months post intervention (will be complete by February) to the metrics 3 months prior to the intervention. Relevant metrics include time from triage to physician evaluation, time from triage to CT scan, time from CT scan to read, and time from triage to thrombolytic administration when indicated.

SUMMARY OF RESULTS: Data is still being collected, will be completed at the end of January and then will begin data analysis.

REFLECTIVE CRITIQUE: By the nature of studies like this it is very difficult to account for any confounding variables that may contribute to improved outcomes.
ABSTRACT 52

IMPROVING PEDIATRIC READINESS IN A COMMUNITY EMERGENCY DEPARTMENT THROUGH SIMULATION

AUTHORS: Jesse Humm, Dr. Czer Anthoney Lim, Dr. Erik Blutinger, Jared Kutzin

PURPOSE AND GOALS: The annual volume of pediatric patients seen in an emergency department is directly correlated with that center’s pediatric readiness. In low volume pediatric centers, simulation can be a means of preparing caregivers for the rare scenario of a critically ill pediatric patient. Our study’s aim was to raise the pediatric comfort and knowledge base of a community emergency department through simulations.

METHODS: We conducted simulations both in situ and at the simulation center, featuring the cases of a neonatal resuscitation and a child with hypoglycemic status epilepticus. In addition, we introduced tele-simulations as a scalable model for pediatric readiness training, in which content experts and participants joined via an online platform.

EVALUATION PLAN: Our hypothesis was that these simulations would increase the pediatric comfort and knowledge base for the participating nurses, physician assistants, and attending physicians over a 6 month period, as measured through a pre and post survey.

SUMMARY OF RESULTS: So far in our data acquisition, we have found the average comfort rating for treating critically ill pediatric patients to be 2.3 out of 5. All 17 participants expressed interest in further pediatric readiness simulations and programs, specifically on the topics of cardiac emergencies and EKGs, airway management, seizures, and pediatric trauma.

REFLECTIVE CRITIQUE: Our next steps include completing data acquisition and analysis, as well as expanding the study to other community emergency departments. With further data and ongoing studies, we hope to demonstrate the effectiveness of an ongoing curriculum of simulations covering critically ill children in low pediatric volume emergency departments.
ABSTRACT #53

IMPACT OF VIRTUAL-REALITY-GUIDED MINDFULNESS ON FOCUS PRIOR TO HIGH-FIDELITY SIMULATION DEBRIEF

AUTHORS: Brett Weingart, Garrett Burnett, Stephanie Hojsak, Daniel Katz

PURPOSE AND GOALS: High-fidelity simulation (HFS) is commonly used to train anesthesiology residents in how to perform in high-stress situations. Previous studies have shown physiologic stress responses during HFS may enhance performance during subsequent high-intensity scenarios, however this level of stress may hinder focus and knowledge retention during a post-HFS debrief session. Currently, the optimal mindset to maximize learning during the debrief is unknown and the ideal modality to create this mindset after a stress-inducing session has not been determined. This study aims to examine changes in focus and anxiety in anesthesia PGY-2 residents immediately after a guided meditation session, either with or without virtual reality (VR) supplementation, previously used in mindfulness exercises. We hypothesized that meditating with VR would lead to a more successful meditation and a larger increase in focus and decrease in anxiety than meditating without VR.

METHODS: 26 anesthesiology PGY-2 residents completed twice-weekly HFS sessions. Immediately after the HFS session and before a standardized debrief, they completed a 5-minute mindfulness exercise guided by the Muse EEG headband. Half of the residents wore a VR headset and meditated in a virtual forest environment, while the other half meditated with their eyes closed. Immediately before and after meditating, they completed a brief anxiety and focus questionnaire, then participated in a standardized debrief on the HFS session. Changes in focus and anxiety after meditating (self-reported) were compared between the two groups, as well as composite EEG scores between the two groups.

EVALUATION PLAN: We plan to first compare the baseline anxiety scores between the two experimental groups to establish that there are no pre-existing differences prior to the study. Then, we will analyze the changes in focus and anxiety before vs. after meditation in each group and for each session. Then we will analyze the differences between the two experimental groups’ changes in focus and anxiety to measure the primary outcome. Secondarily, we plan to analyze differences in quality of meditation with vs. without VR supplementation using data from the Muse EEG headband.

SUMMARY OF RESULTS: Analysis showed no significant differences between two groups regarding baseline anxiety levels or composite EEG scores prior to investigation. There were no significant differences between the groups’ increase in focus (VR group 4.8, Control 8.1, p=0.62) and reduction in anxiety (VR group -16.4, Control -21.1, p=0.39) after meditating. However, significantly, regardless of VR supplementation, meditation reduced anxiety levels by about 19% (p < 0.0001). Focus levels did not change after meditation.

REFLECTIVE CRITIQUE: The addition of VR had no effect on the quality of meditation or on changing the resident’s mental state. Meditation led to reduced anxiety levels across all groups, suggesting that meditation of any form is useful before HFS debrief in reducing stress, but the addition of VR may be unnecessary.
ABSTRACT #54

AN EMBEDDED LEADERSHIP THREAT SIMULATION: A NOVEL CARDIAC ARREST TEAM LEADER TRAINING

AUTHORS: Alexander Meshel, Sam Robinson, Daniel Lugassy, Jessica Lichter, Julie Kanevsky, Suzanne Bentley

PURPOSE AND GOALS: This novel educational simulation goes beyond routine team practice to bolster leadership training through the navigation of a series of previously identified, embedded leadership threats. This simulation focuses on leadership and communication for the cardiac arrest team leader rather than the medical steps of cardiac arrest management. Knowledge and clinical experience alone do not necessarily translate to effective leadership. This simulation offers an opportunity for deliberate practice for team leaders.

METHODS: From 74 in situ cardiac arrests simulations performed hospital-wide, 7 of the most frequent and highest yield leadership threats and deficiencies were identified (e.g. team leader not identifying themselves or assigning roles, not staying hands-off, and being pulled into procedures). Internal medicine resident team leaders of the multidisciplinary hospital cardiac arrest team completed this simulation. A single participant and 2-3 simulation facilitators in scripted participant roles encounter a series of leadership threats. The simulation has multiple pauses for the participant to reflect, debrief, and repeat allowing participants to practice new leadership skills.

EVALUATION PLAN: Participants completed a pre-survey and post-survey. The pre-survey assessed their perceived state of prior training, confidence, and experience leading a cardiac arrest. The post-survey focused on evaluating how this simulation will impact their clinical practice in a variety of domains. Participants were evaluated using a checklist modified from the validated Team Performance Observation Tool.

SUMMARY OF RESULTS: Eight NYC H+H/Elmhurst Internal Medicine residents, 4 PGY-2s and 4 PGY-3s, participated in this individual 1 hour simulation and debriefing. Only 1 participant agreed that they had previous leadership training. The observation tool identified numerous deficiencies. Only 2 residents identified themselves as the leader and 0 residents stayed hands off. 100% of participants agreed or strongly agreed that this simulation would impact their clinical practice and that they would want more simulations like this one in the future. Qualitative comments included “excellent resource! I think this training will positively impact the way codes are run at Elmhurst. Let’s do more!” and “effective in making us consider things outside the ACLS algorithm.”

REFLECTIVE CRITIQUE: This novel leadership-focused cardiac arrest management simulation was consistent with the needs assessment in that many participants were likely to struggle with the variety of embedded threats they may face while running a cardiac arrest. Participants were able to practice their leadership and communication skills in a low stakes simulation. Using a pause-debrief-reflect-repeat method of simulation allowed the team leader to develop new ways to practice and enhance their leadership techniques. In the future, this simulation will involve more residents, both in Internal Medicine and Emergency Medicine, to allow participants to hone their leadership skills.
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