

TWENTIETH ANNUAL

Institute for Medical Education

Education Research Day

Abstracts

Tuesday, April 27, 2023, 10 am – 4 pm



**Icahn
School of
Medicine at
Mount
Sinai**



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COMMITTEE MEMBERS:

Reena Karani, MD, MHPE, Committee Chair

Linda DeCherrie, MD

Carrie Ernst, MD

Robert Fallar, PhD

Daniel Katz, MD

Jared Kutzin, DNP, MS, MPH, RN FSSH

Leora Mogilner, MD

Georgina Osorio, MD, MPH

Chang Park, MD

Lauren Peccoralo, MD, MPH

Kamron Pourmand, MD

Elizabeth Singer, MD, MPH

Selection committee members did not participate in the discussion or voting on abstracts with which they had involvement or any other conflict of interest.

EDUCATION RESEARCH DAY 2023

Welcome to the Institute for Medical Education (IME) at the Icahn School of Medicine's twentieth 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:

- To highlight and disseminate the educational research and innovative curriculum development at Mount Sinai and its affiliate institutions.
- To provide a forum for educators to learn from each other and collaborate.
- To prepare 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 65 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 scholars 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



Icahn School
of Medicine at
Mount Sinai

**THIS YEAR, 65 ABSTRACTS
WERE SUBMITTED BY FACULTY,
STUDENTS, TRAINEES AND STAFF
ACROSS THE HEALTH SYSTEM.**

All abstracts were reviewed by
the 2023 ERD Selection Committee.
Of the 65 submissions, five abstracts have
been awarded Blue Ribbons as outstanding
examples of educational scholarship.

Please join us in congratulating the 2023 Blue Ribbon recipients:

ABSTRACT #25

GENDER SURGERY EDUCATION IN PLASTIC AND RECONSTRUCTIVE SURGERY PROGRAMS: CURRENT ACADEMIC LANDSCAPE AND PREDICTORS OF TRAINING.

Dillan Villavisanis, Arya Akhavan, Taylor Ibelli, Nikita Roy, Sara Kiani, Olachi Oleru, Nargiz Seyidova, Elan Horesh, and Peter Taub.

ABSTRACT #52

STAY IN BED: INCREASING UTILIZATION OF HOME SLEEP TESTS AT THE IMA CLINIC.

Stephen McCroskery, Jessica Farley, Julie Huang, Mitchell Gronowitz, Zachary Roberts, and Jing Wang.

ABSTRACT #50

A NOVEL SIMULATION BASED EDUCATIONAL CURRICULUM TO IMPROVE INTERNAL MEDICINE RESIDENT MANAGEMENT OF POST-CARDIAC SURGERY PATIENTS FOLLOWING CARDIAC ARREST.

Elizabeth Zipf, Susannah Kurtz, Priscilla Loanzon, Barbara Sierra, Harrinda Seepersaud, and James Salonia.

ABSTRACT #65

VIRTUAL REALITY AIRWAY TRAINING VERSUS INSTRUCTOR LED TRAINING: A RANDOMIZED CONTROL TRIAL.

Jared Kutzin

ABSTRACT #42

FEMALE MEDICAL STUDENTS' ATTITUDES TOWARD MENTORSHIP IN OPHTHALMOLOGY: AN OBSERVATIONAL STUDY.

Megan E. Paul, Helen Liu, Stephanie Ying, and Nisha Chadha.

Join Us

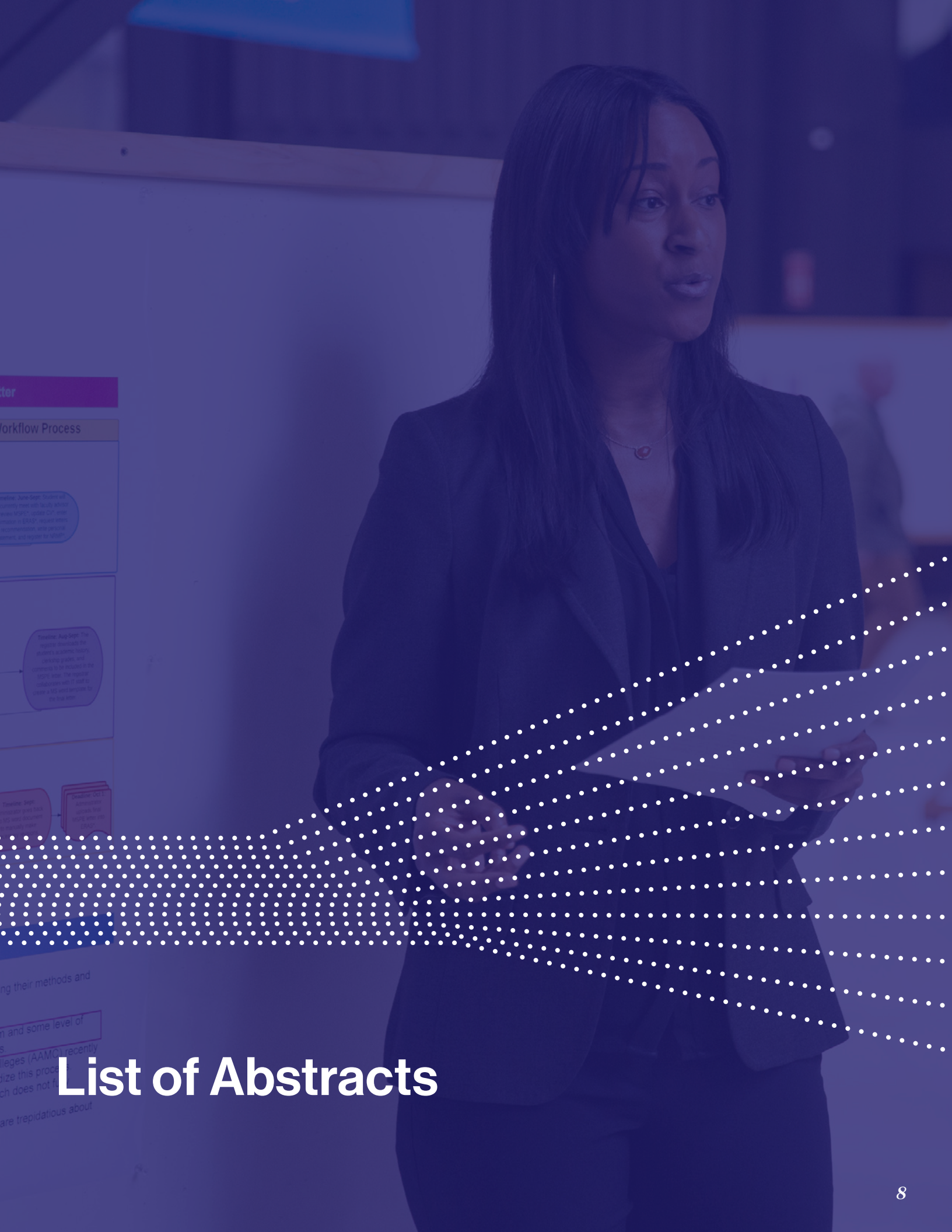
Thursday
May 28
5:00 pm

at Brookfield Place Plaza
(formerly World Financial Center)
for the
AHA Wall Street Run/Walk



Take a step toward a healthy heart.





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Workflow Process

Timeline: June-July Students will currently meet with faculty advisors to review their current CIP, create a new CIP, request status re-evaluation, set up personal advisors, and register for classes.

Timeline: August The registrar develops the student advising, advisor guides, and committees to be included in the CIP. The registrar collaborates with IT staff to create a list sent to each of the colleges.

Timeline: Sept The registrar provides data to the colleges for their advisors. **Timeline: Oct** Administrators review and update the CIP.

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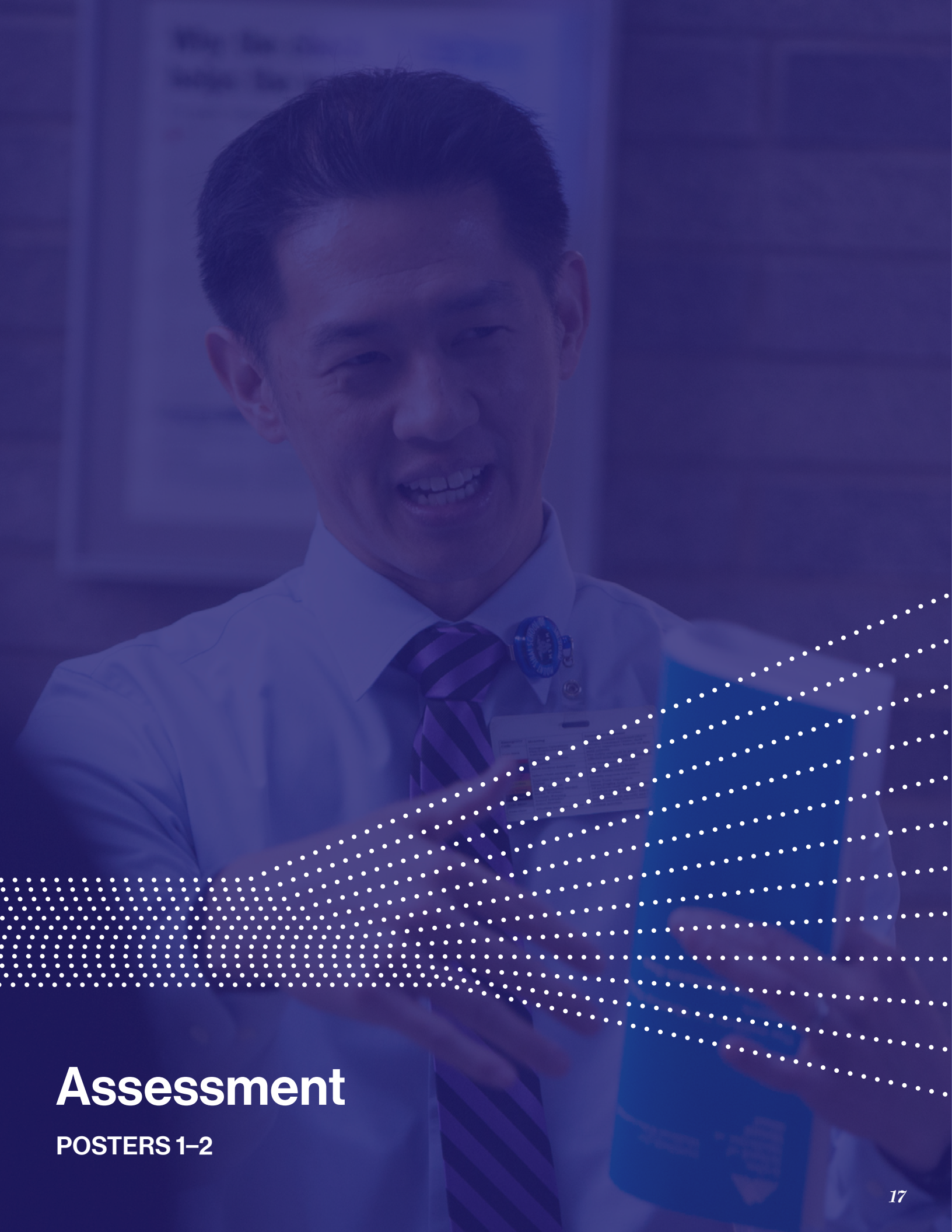
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Assessment

POSTERS 1-2

ABSTRACT #1

ATTITUDES AND PERSPECTIVES OF ADVANCED HOSPITAL -BASED PEDIATRIC TRAINEES TOWARDS POINT OF CARE ULTRASOUND

Maytal Firnberg

PURPOSE AND GOALS: This is a needs assessment evaluating the attitudes, barriers, and perspectives of advanced hospital-based pediatric trainees towards point-of-care ultrasound (POCUS).

METHODS: A mixed quantitative and qualitative survey was distributed to a convenience sample of advanced hospital-based pediatric trainees (pediatric emergency medicine fellows, pediatric hospitalist fellows, and pediatric ICU fellows) prior to the initiation of a POCUS educational curriculum in January 2023. The survey included questions regarding the type of trainee, prior exposure and comfort with POCUS, attitude towards POCUS, interest in various POCUS applications, barriers to POCUS training, and the preferred frequency of educational sessions. Likert's five-point scale was used to quantify respondents' attitude on statements regarding POCUS. The survey was administered through Qualtrics. Data was analyzed with descriptive statistics.

EVALUATION PLAN: This is a needs assessment prior to curriculum implementation. After curriculum implementation, further evaluation data may be obtained.

SUMMARY OF RESULTS: Advanced hospital based pediatric trainees see value in learning POCUS and perceive it as a useful skill to learn for their future careers. They currently do not feel they have much exposure in their training programs. Trainees were most interested in learning procedural guidance and lung applications. Multiple barriers were identified by the trainees for learning and using POCUS with uncertainty of how to review or share images being the most common. Further work is needed to evaluate the best ways to mitigate barriers and to develop a standardized POCUS curriculum across training programs in the pediatric hospital.

REFLECTIVE CRITIQUE: The needs assessment was reviewed both by internal Mt Sinai and external PEM POCUS experts who made suggestions with reframing questions and reviewing the data.

ABSTRACT #2

CONTINUING DEVELOPMENT OF STAR MEDICAL STUDENTS: ONGOING LEARNINGS WITH ADDITIONAL EXPERIENCE FROM THE STROKE, THROMBECTOMY, AND REVASCULARIZATION NEXUS COURSE

Emma Loebel, Daniella Sisniega, Desiree Markantone, Laura Stein

PURPOSE AND GOALS: Stroke is a leading cause of disability and death worldwide yet insufficient medical education on the condition exists. To address this educational gap, we developed an online elective course called Stroke, Thrombectomy, and Revascularization (STaR) for any medical trainee to gain exposure to the field of vascular neurology, learn the basics of stroke, and increase interest in neurology. We sought to assess the ongoing effectiveness of the course in its second year, after modification based on our first year experience.

METHODS: The first year of the course included eight one and a half hour sessions from March-April 2021. To try to appeal to a larger audience and increase retention rate, the second year of the course was condensed to five one and a half hour sessions from February-March 2022. The study team led each session over Zoom and incorporated a variety of teaching methods including visual slide content, interactive cases, and a stroke simulation.

EVALUATION PLAN: Identical 10-question pre-/post-tests were administered on the first and last day of the course in the first and second years to assess knowledge gain. Learner satisfaction was assessed by end-of-session surveys, administered after each class, and an exit survey on the final day of the course. All questionnaires were voluntary and anonymous and administered electronically via RedCap.

SUMMARY OF RESULTS: In 2022, responses totaled 11 for the pre-test, 5 for the post-test, 26 for end-of-session surveys, and 5 for the exit survey. The average pre-test and post-test score was 5.9/10 and 6.8/10 ($p=0.31$).

Across 5 lectures, participants rated the quality as either excellent ($n=20$, 77%) or very good ($n=6$, 23%). In free response regarding the most helpful aspects of the lectures, participants mostly commonly mentioned review of basic concepts, slide content and the interactive nature with incorporation of cases and question polls.

In the exit survey, all ($n=5$, 100%) indicated that the course helped build their understanding of stroke and stated they were likely to recommend the course to colleagues. Participants ranked six key learning modalities, and lecture presentations and interactive cases were both the most well-liked. Almost all indicated that the course increased their interest in neurology ($n=4$, 80%), with one person neutral.

REFLECTIVE CRITIQUE: In the second year of our elective stroke course, we condensed the material to encourage more participants and better retention. Similar to the first year, retention rate from pre-test to post-test was approximately 50% retention. Learner perceptions of lecture quality remained high in the condensed format but objective knowledge gain did not reach statistical significance with the small sample in year two. We continue to hone our teaching methods based on participant feedback and hope to expand the course to a larger audience.



Curriculum GME

POSTERS 3-29

ABSTRACT #3

ONCOLOGY CURRICULUM FOR INTERNAL MEDICINE RESIDENTS

Sophie Sohval, Rima Patel, Eileen Scigliano

PURPOSE AND GOALS: Internal medicine (IM) residents who rotate through inpatient oncology services are most often exposed to liquid malignancies. While familiarity with these cancers is certainly useful, these patients are often higher acuity and management can be difficult both intellectually and emotionally. Previous studies have shown that rotations through inpatient medical oncology services do not appear to increase resident interest in the field. Residents may therefore benefit from an inpatient curriculum that includes topics in solid oncology. The goal of this project is to create a case-based oncology curriculum for IM residents, with subjects rooted in solid oncology, with the prediction that it may spark more interest in the field and increase comfortability with the subject matter.

METHODS: On prior needs assessment, topics in which residents reported lack of comfort in management included several hematologic/oncologic emergencies, side effects of chemotherapies and immunotherapies, and how to work up a new concerning mass. Residents further demonstrated preference for case-based learning over traditional lecture models. Based on these concepts, a series of case-based lectures will be created, entitled: “Heme/Onc Emergencies”, “Neutropenic Fever Management”, “Workup of New Mass”, “Introduction to Immunotherapy”, “Introduction to Chemotherapy”, and “Language of Oncology”. Lectures will utilize a standardized design layout, contain 3 cases each, and will be approximately 30 minutes in duration.

Current hematology/oncology fellows will deliver these lectures to IM residents at Mount Sinai West (MSW), which has an inpatient oncology rotation, during the residents’ noon conference.

EVALUATION PLAN: Surveys will be given to residents before and after each lecture. These will include questions focusing on knowledge assessment, comfort level, and interest in the field of oncology. Pre- and post-survey results will be compared to assess whether lectures were effective in their educational objectives and their impact on resident interest in the field of oncology.

SUMMARY OF RESULTS: The curriculum is currently being designed and we plan to implement it at MSW in Spring 2023. We expect that inpatient exposure to content related to solid and outpatient oncology will increase interest in the field. We further expect that creating a case-based curriculum tailored to reported knowledge gaps will increase residents’ comfort levels with managing various oncologic issues.

REFLECTIVE CRITIQUE: This curriculum is based on a prior needs assessment highlighted topics in oncology that IM residents felt uncomfortable managing. Some limitations stem from the initial needs assessment survey, which only sampled a small number (n=35) of residents. Additionally, these lectures are designed to be shared and taught by different educators, and effectiveness may therefore vary by educator. Further, not all IM residents rotate through oncology floors at MSW, and the curriculum thus may not be as accessible to the entire residency.

ABSTRACT #4

CREATING A LEADERSHIP CURRICULUM FOR JUNIOR QI COACHES

Caitlyn Kuwata, Helen Fernandez

PURPOSE AND GOALS: Geriatricians are well-equipped to manage the complexities of caring for the growing population of older adults. However, there is an inadequate number of physicians trained in the special care needs of older adults. To help fill this critical workforce gap, geriatricians are often recruited to leadership positions by health systems seeking to meet the needs of older adults. The ACGME milestones for Geriatrics include the development of leadership skills such as competence in quality improvement and expertise in interprofessional and team-based communication. In the geriatrics and integrated geriatric/palliative medicine fellowship at Mount Sinai, the quality improvement (QI) curriculum offers an opportunity to master these competencies. Fellows who are in a 2-year fellowship program (geriatrics and integrated geriatrics/palliative medicine fellows) become Junior Coaches of QI projects in their 2nd year of fellowship. For some, this is one of their first formal “leadership” positions. The goal of this education project was to add a leadership component to the quality improvement curriculum to improve the fellows’ leadership training experience.

METHODS: A needs assessment survey was developed based on a review of published leadership curricula. To evaluate for content and face validity, the survey questions were reviewed and discussed with experts in QI and education. The results of the needs assessment guided the design of a one year curriculum with monthly small group lectures on various leadership topics. The goal of these lectures is to review and discuss how these leadership topics apply to the real-life leadership scenarios that the fellows encounter in their leadership activities as Junior QI coaches. After completion of this year-long curriculum, a post-intervention assessment will be conducted to determine the impact of this curriculum.

EVALUATION PLAN: The needs assessment survey was sent to all 2nd year fellows to assess their perceived knowledge and comfort regarding various leadership topics.

SUMMARY OF RESULTS: The survey response rate was 85% (6 of 7 fellows). The fellows felt most knowledgeable on the leadership topics of creating/sharing a vision and working with different communication styles. They felt the least knowledgeable on topics of managing conflict, and eliciting/receiving feedback. They felt the most comfortable using the following leadership skills: creating a space for others to feel heard, working with different communication styles, and designating and defining roles. They felt the least comfortable using the skills of receiving and giving feedback.

REFLECTIVE CRITIQUE: Graduates of geriatric fellowship training must be prepared for leadership positions in healthcare. In order to be proficient in these vital competencies, they must have opportunities to learn and practice these skills.

This project identified the specific leadership skill needs of our QI Junior Coaches and created an environment for them to synthesize the material through discussion and application as project leaders.

ABSTRACT #5

IMPROVING THE AMBULATORY CURRICULUM FOR GERIATRIC FELLOWS

Caitlyn Kuwata, Helen Fernandez

PURPOSE AND GOALS: Geriatricians expertly care for older adults using the 5Ms, i.e. the domains of mind, mobility, medications, multi-complexity, and matters most. To ensure geriatrics medicine fellows are competent in these domains, the Entrustable Professional Activities (EPAs) and ACGME Milestones in Geriatrics focus on individual skills that can be demonstrated in the inpatient and outpatient settings. Given the vulnerable nature of the older adult population and their desire to receive care in the community, their needs are best served in the outpatient setting. This project's goal is to improve the ambulatory curriculum of the Geriatrics Fellowship at Mount Sinai to produce graduates who can deliver high quality care in the ambulatory setting.

METHODS: A needs assessment survey gauged the geriatric fellows' self-efficacy with the ambulatory domains. The survey was created by synthesizing the literature, the Geriatric (EPAs) and the ACGME Milestones. The content and face validity of the questions were reviewed by experts in ambulatory geriatrics and education. To assess for clarity and understanding, the survey was evaluated by the chief fellows. Additional needs assessments will be elicited from semi-structured interviews of recent graduates of the fellowship.

EVALUATION PLAN: An electronic survey was sent to 21 geriatrics or integrated geriatrics/palliative medicine fellows. They ranked the top 3 clinical and administrative topics they felt most and least prepared to manage independently. Additional questions focused on barriers to practicing in the ambulatory setting and potential curricular interventions that could be implemented.

SUMMARY OF RESULTS: 52% fellows responded to the survey. 46% were planning to practice outpatient geriatrics upon graduation. The clinical topics that fellows felt most prepared to manage were: discussing clinical course of dementia, addressing caregiver distress, performing a comprehensive geriatric exam. The clinical topics that fellows felt least prepared to manage were: indications for durable medical equipment, recognizing elder abuse, diagnosing various dementias, hazardous driving, dizziness, managing behavior disturbance of dementia, evaluation/management of weight loss. Administratively, fellows felt least prepared to do billing, efficient documentation, and time management during clinic. Barriers reducing comfort level with outpatient practice were: paperwork management, balancing inpatient and outpatient duties, and lack of administrative support. Interventions identified as most helpful to implement were: the use of evidence-based guidelines in clinic, increased interdisciplinary team involvement, protected time to debrief with preceptors in clinic.

REFLECTIVE CRITIQUE: This project to improve the ambulatory curriculum for the geriatric fellowship revealed multiple ways the educational experience can be enhanced. There are areas for improving curricular content in both clinical and administrative knowledge. There are also external administrative factors that need to be addressed.

ABSTRACT #6

IMPACT OF PROTECTED EEG READING TIME ON RESIDENT EEG KNOWLEDGE

Bryan Green

PURPOSE AND GOALS: Neurology residents are often involved in the care of patients undergoing long-term EEG monitoring, but protected time for residents to practice reading EEGs and writing EEG reports is often limited. The Mount Sinai Hospital's adult neurology residency recently underwent a reform of its EEG curriculum to increase protected time for EEG reading while on a dedicated epilepsy monitoring unit (EMU) service block. In this study, we aimed to measure the impact of this protected time on residents' performance on an EEG quiz.

METHODS: We distributed a survey to adult neurology residents in postgraduate years (PGY) 2-4, of whom some had been exposed to the new EMU service block (EMU residents) and some had not (non-EMU residents). Residents were presented with 20 EEG samples (10-15 second epochs presented in longitudinal bipolar montage) and were asked whether the EEG showed normal activity (including benign variants/artifact). If they scored the EEG as normal, this became their final diagnosis. If they scored the EEG as abnormal, they were asked whether the EEG was ictal or on the ictal-interictal continuum (IIC). Responses were scored against an attending epileptologist's diagnosis (normal activity or benign variants, n=4; slowing, n=5; sporadic epileptiform discharges, n=1; IIC, n=4; ictal, n=6). For each sample, residents were asked whether they would want to call the EEG fellow/attending (which could suggest either uncertainty or urgency regarding the EEG findings). We calculated descriptive statistics and compared responses between EMU and non-EMU residents, as well as between PGY levels (no significance testing due to low sample size).

EVALUATION PLAN: Residents answers to the EEG knowledge survey were scored against an attending epileptologist's diagnosis.

SUMMARY OF RESULTS: Thirteen residents completed the survey (10 EMU [6 PGY2, 4 PGY4]; 3 non-EMU [2 PGY3, 1 PGY4]). Residents correctly recognized normal EEGs as normal with 55% accuracy, compared to 96% accuracy in identifying ictal/IIC EEGs as abnormal. EMU residents were less likely to call for slow EEGs (31% vs. 58%) and more likely to call for ictal EEGs (90% vs. 77%).

REFLECTIVE CRITIQUE: Residents with more protected EEG reading time, despite being mostly junior residents, displayed similar accuracy for identifying normal and ictal/IIC patterns to senior residents who did not have this protected time. Future prospective comparisons of resident EEG knowledge before and after EMU service time are underway.

ABSTRACT #7

FUNDAMENTALS OF ANESTHESIOLOGY: A MEDICAL STUDENT EDUCATION CURRICULUM

Sai Pentyala

PURPOSE AND GOALS: To create modules consisting of lectures, simulation sessions, interactive sessions with a simplified outline that can be implemented to teach fourth year medical students rotating within an Anesthesia department.

To refine the content of the modules based on feedback from medical students to optimize the level and depth of content targeted for this student population.

METHODS: A clinical rotation in Anesthesiology provides tremendous value to any medical student; the core physiological and pharmacological principles that underlie the practice of anesthesia are ubiquitous to all fields of medicine. Attendings, fellows and residents are tasked with the challenge of teaching fourth year medical students, while simultaneously performing their own clinical responsibilities. Although medical students are encouraged to attend resident lectures, these didactics are often beyond the scope of a medical student. At our mid-sized residency program, three Education Chairs are responsible for creating and organizing all resident lectures. Additionally, this year our department felt it important to involve residents in the evaluation and education of fourth year medical students. In the process of organizing away rotators' education material, a clear deficit in the fourth year medical student curricula became apparent with no standardized information regarding expectations of medical knowledge, clinical principles, and procedural techniques.

EVALUATION PLAN: We argue that a medical student-based anesthesia curriculum would provide a wealth of clinical and academic knowledge, regardless of the specialty the student chooses to pursue, leading to a more comprehensive medical student education. We designed eight modules consisting of core Anesthesiology principles. These modules are to be utilized by medical student coordinators (residents/fellows/attendings) to engage with medical students on core principles, particularly those that are not covered by existing medical student rotations and curricula. These modules can be incorporated as bedside teaching series, a table discussion of clinical scenarios, or even as simulation sessions.

SUMMARY OF RESULTS: We hope to regularly implement these education didactics and obtain feedback from medical students regarding their utility to further hone in on an optimum depth and breadth of anesthesia curricula for medical students.

REFLECTIVE CRITIQUE: To complete the second goal of this curriculum, we hope to obtain IRB approval to obtain feedback from the medical students that receive this modules to assess their effectiveness, titrate curricular content for this medical student population, and gauge whether their understanding of the field of Anesthesia is improved.

ABSTRACT #8

INSTITUTING AN EVIDENCE-BASED CURRICULUM ON THE EVALUATION OF COMMON GYNECOLOGICAL COMPLAINTS IN THE EMERGENCY DEPARTMENT

Xiteng Yan, Cheryl Dinglas, Robert Dean

PURPOSE AND GOALS: In a recent residency-wide survey, junior residents at Mount Sinai South Nassau reported a lack of readiness in evaluating gynecological consults and noted the lack of formal didactics to prepare them. A pilot education program was created to address these needs.

METHODS: First, we asked our institution's Health Information Services for the most common gynecological diagnoses in the emergency department. With that information, a series of ten education sessions was created. The topics included, but are not limited to, first trimester bleeding, acute pelvic pain (e.g., ovarian torsion, hemorrhagic cysts, pelvic inflammatory disease, etc.), and abnormal uterine bleeding in pre- and postmenopausal patients.

Participants include a faculty attending, a senior resident, and the junior residents. The sessions incorporate a "Flipped Classroom" model of active learning, with pre-reading assigned the week prior. A didactic review starts each session, which is then followed by a simulated case in which the senior resident acts as the patient and the junior residents act as the providers. The junior residents are required to interview, assess, and devise a management plan.

Continuous review of the topic is facilitated by use of JAMBOARD, a digital interactive whiteboard developed by Google in which participants can ask and answer questions as the case progresses. The purpose of the JAMBOARD is to create a safe space as the posts are anonymous. The posts are discussed as they appear, allowing for reinforcement of the material.

EVALUATION PLAN: Each session is followed by an anonymous survey, which asks whether the pre-reading, lecture, and simulated case were well-organized, informative, and clinically useful on a scale of 1 to 5, with 1 being "strongly disagree" and 5 being "strongly agree." Free text is available to detail what aspects of the session worked well and what could be improved. A survey regarding the efficacy of the curriculum in promoting competencies will be performed at the end of the academic year

SUMMARY OF RESULTS: A total of 6 sessions have occurred so far, and a total of 23 surveys have been collected. The average score as to whether the pre-reading, lecture, and case were informative and useful was 4.9/5. Praise include that the sessions were, "interactive and fun [...] helpful for practical day to day," that the "step-by-step approach in walking through a case together, [sic] helps with the thought process," and that the "Jam board [sic] allows you to explore ideas without fear of embarrassment."

REFLECTIVE CRITIQUE: The overall response has been positive and affirmed that these sessions allow residents to practice clinical reasoning in a safe space. More research should be performed to determine how the learners' experiences within the sessions transfer over to clinical settings.

ABSTRACT #9

MEDICAL STATISTICS FOR RESIDENT PHYSICIANS

Mantej Sehmbhi, Nadeem Bilani, Nirupama Krishnamurthi, Georgina Osorio

PURPOSE AND GOALS: Data analysis techniques, from basic statistical tests to advanced models, are essential tools for academic medicine. The interpretation of results from these analyses are also important for all clinicians in order to truly understand the evidence behind clinical decisions. We aimed to develop a medical statistics curriculum, which will augment the existing evidence-based medicine curriculum, to equip the physicians of the future with the skills to analyze and interpret data independently.

METHODS: The educational program will take the format of asynchronous learning. A curriculum covering data handling, cleaning, analysis and interpretation has been designed. Brief (5-10 minute) videos will be created to address the educational objectives for each curriculum domain. Each video will be complemented by an exercise worksheet allowing the learner to practice the techniques discussed in the videos. The educational program will be delivered in SPSS, SAS and R, allowing each learner to trial each of these three statistical languages/programs to determine which they are most comfortable using.

EVALUATION PLAN: A pre-intervention survey establishing learners' understanding of statistical tests and level of proficiency in using statistical languages/software to perform their own analysis will be distributed. Following delivery of the curriculum, a post-intervention survey taken at 6 months following delivery will be distributed. Responses from the pre- and post-intervention surveys will be compared. As the program becomes established, a pre- and post- intervention assessment may also be incorporated.

SUMMARY OF RESULTS: The program is still in development. Results from a needs assessment reflect the unmet needs for medical statistics/data science teaching during residency training. Of 38 residents who completed the needs assessment survey, 32% reported difficulties completing a research project because of an inability to complete data analysis. There was a range of abilities in performing basic statistical tests: on a scale of 1 (no ability) to 5 (mastery), 29% of respondents reported 1/5 and 2/5 ability, 21% reported 3/5 ability, and 18% reported 4/5 ability. Approximately 90% of respondents scored their ability to perform more complex analyses (e.g. generalized linear models and survival analysis) as 3 or less. Respondents were broadly split regarding which statistical software/languages they would prefer the program to be delivered in, with R, SPSS and SAS being popular requests.

REFLECTIVE CRITIQUE: The program will address a significant need for practical teaching in medical statistics and data science for resident physicians. The asynchronous format will allow time-pressured residents to complete the program at their own pace, within the constraints of busy clinical schedules. Measuring the impact of the program presents challenges, particularly given the long gap between the acquisition of independent analysis skills and 'hard' end- points, such as successful publication or presentation of work at conferences.

ABSTRACT #10

ASSESSING THE IMPACT OF QUALITY IMPROVEMENT CURRICULUMS ON PHYSICIAN KNOWLEDGE

Rebecca Masutani, Abhinav Menon, Stephanie Chow, William Hung, Christine Chang

PURPOSE AND GOALS: Quality improvement (QI) curriculums are an integral part of physician training, as it provides physicians the knowledge and skills needed to apply QI practices in real-life settings. We developed a project-based QI curriculum for Geriatric and Palliative Medicine fellows at an urban, academic institution. As part of this curriculum, first-year fellows received coaching and guidance from second-year fellows acting as junior coaches, and attending physicians acting as senior coaches. Individual QI teams consisting of first-year fellows, junior and senior coaches, were divided based on interests in different QI projects.

METHODS: Using the Quality Improvement Knowledge Application Tool (QIKAT) scoring rubric, we assessed the knowledge of first-year fellows, second-year fellows, and attending physicians before and after completing the QI curriculum using paired t-test analyses. The assessment is comprised of three cases in which QI aims, quality measures, and recommended changes are asked to be identified.

EVALUATION PLAN: Data was collected from 2020-2022. The QIKAT score was separated based on the Aim, Measure, and Change components, and amounted to a total score of 27 possible points.

SUMMARY OF RESULTS: Of the 33 first-year fellows, 54% did not receive formal QI training prior to undertaking the fellowship QI curriculum; however, 67% of fellows participated in a continuous improvement effort beforehand. After completion of the curriculum, first-year fellow aim, change, and total QIKAT scores were found to be significantly higher. Senior coaches' measure, change, and total QIKAT scores were significantly higher; however, second-year fellow pre- and post-scores were not statistically significant.

REFLECTIVE CRITIQUE: Exposure to QI education provides physicians the knowledge and tools to improve the healthcare system. Our findings suggest our model for QI education improves overall QI knowledge for first-year fellows and attending physicians. Ongoing efforts to improve QI knowledge for second-year fellows are needed.

ABSTRACT #11

MEDICAL EDUCATION IN THE POST-COVID ERA: ATTITUDES AND PERCEPTIONS OF VIRTUAL VS IN-PERSON EDUCATION IN INTERNAL MEDICINE RESIDENTS AND FACULTY

Ricardo Ortiz

PURPOSE AND GOALS: During the COVID-19 pandemic, graduate medical education underwent a paradigm shift due to the disruption of in-person didactics. Virtual tools and techniques provided an alternative to delivering medical education, which have their own advantages but also pose unique challenges. The purpose of this study is to describe perceptions and attitudes about in-person versus virtual medical education among Internal Medicine residents and faculty in a residency program.

METHODS: This was a cross-sectional study. Two different surveys, one for residents and one for faculty, adapted from Tsyrlunik et al were distributed to all internal medicine residents and faculty at Mount Sinai West/Morningside. A unique link was created for each subject and their responses were recorded using Microsoft FormsTM.

EVALUATION PLAN: This is an observational study with the aim to describe perceptions and attitudes of Internal Medicine residents and faculty, therefore, the evaluation plan was not deemed necessary.

SUMMARY OF RESULTS: Resident response rate was 30% and faculty response rate was (9%). Most of the participants in the resident group were PGY-1 (53%). At least 49% of the participants had prior experience with virtual didactics before starting residency. 46% were less likely to participate in virtual didactics. Both groups perceived virtual didactics as less conducive compared to in-person didactics (64% in both groups). 55% of residents reported less attention to virtual didactics. Engagement was perceived as lower by 56% of the faculty. Use of electronic devices for professional and non-professional activities was higher with virtual didactics (62% and 51% respectively) in the resident group. Engagement in unrelated professional activities was the most common activity reported by both groups (71.1% in the resident group and 76% in the faculty group). 40% of the faculty group would be more likely to volunteer to provide virtual lectures compared to in-person. 64% of residents felt that the change to virtual didactics had a positive impact on their quality of life. Both groups missed the social interactions related to in-person didactics (71% in the resident group and 76% in the faculty group).

REFLECTIVE CRITIQUE: The results show that virtual didactics as less conducive compared to in-person, making them more prone to distractions. The impact in the quality of education and retention of information are unknown. These results also pose the challenge of developing techniques that could improve attention and engagement in the virtual format. A limitation of this study is the small sample size, and a confounding factor is that the study population have their didactics structured in an academic half-day format, which may also play a role in resident's perceptions. Both limitations could be mitigated by conducting a similar study with residents and faculty from all the Internal Medicine programs at Mount Sinai, which have different didactics structure.

ABSTRACT #12

DEVELOPMENT OF A DEDICATED PROCEDURAL CURRICULUM FOR INTERNAL MEDICINE RESIDENTS

Sidra Salman, James Salonia

PURPOSE AND GOALS: Procedural proficiency is integral to internal medicine residency training, and greatly impacts patient care, correlating with the rate of hospital-acquired infections and patient outcomes. We postulate that the lack of dedicated procedural training causes a deficiency in comfortability and procedure certification rates amongst graduating cohorts. We developed a longitudinal procedure curriculum for internal medicine residents at the Mount Sinai Morning-West residency program, with the following objectives: familiarization with equipment, acquisition of required knowledge and procedural skills, and integration of skills through simulation and direct patient procedures.

METHODS: The initial step in the curriculum was the development of a website to serve as a foundation of procedural knowledge; a resource residents can utilize for continued education. It includes modules for each core procedure: nasogastric/orogastric tube placement, arterial puncture, sterile approach, ultrasound-guided peripheral IV, central and arterial line placement, paracentesis, thoracentesis, and lumbar puncture. Each module contains a checklist of equipment available at our hospital, and pertinent information including: indications, contraindications, complications, instructional steps, and videos. For integration and application of knowledge, residents are offered a 2 week elective for hands-on practice through simulation or direct patient procedures.

EVALUATION PLAN: A pre and post-survey assessment was utilized to assess for deficiencies in procedural training, and measure the change in comfortability, certification rates, and procedural knowledge before and after implementation of the curriculum.

SUMMARY OF RESULTS: Although the project is currently ongoing, 18 residents have completed the survey thus far: 72% PGY2s, 16% PGY1s, and 11% PGY3s. 89% of residents felt there was a deficiency in procedural training, primarily due to a lack of opportunities to perform them (72%), and lack of training and knowledge about the procedure (17%). The majority of residents felt comfortable with and were certified in naso/orogastric tube placement, arterial puncture, and ultrasound guided IV placement. Residents felt most uncomfortable performing, and were less frequently certified in: central line, arterial line, paracentesis, thoracentesis, and lumbar punctures. The surveys showed a significant deficiency in pertinent procedural knowledge, including: sterile approach, assessing safe procedure sites, and identifying important anatomy.

REFLECTIVE CRITIQUE: Among internal medicine residents, there is a significant deficiency in comfortability, certification rates, and knowledge base of core procedures, highlighting a need for dedicated procedural training. We have developed a longitudinal procedural curriculum which includes a website and procedural elective. As more residents complete the training program, we hope to measure the change in certification rates and assess which learning strategies provided were most effective in improving proficiency.

ABSTRACT #13

DEVELOPMENT OF A “BOOTCAMP” ORIENTATION PROGRAM FOR NEW NEUROLOGY RESIDENTS

Adam M. Karp, Kate Kerpen, Saritha Kosarussavadi, Leslie Higueta, Laura Stein, Michelle Fabian

PURPOSE AND GOALS: The start of training is a difficult period of transition for new residents. This is particularly true for Neurology residents who have completed a year of general medicine training with limited exposure to the specialty. Orientation programs have been successful in easing the transition to residency training. We developed a novel bootcamp orientation curriculum for incoming PGY2 neurology residents at Mount Sinai Hospital.

METHODS: We developed the bootcamp curriculum in response to feedback received from current residents of useful topics to cover as well as in discussion with program leadership. PGY2 residents were relieved of clinical duties for one day to allow full class participation. The program ran over one full didactic day led by the Neurology Chief Residents in rotating small groups of 2-3 PGY2s. Topics covered included the detailed neurologic exam, management of common neuro-emergencies (including acute stroke, seizure, status epilepticus, intracranial hemorrhage, and herniation), as well as icebreakers and team building exercises.

EVALUATION PLAN: Pre- and post- orientation surveys were completed to assess resident comfort with the neurologic exam, readiness to treat neuro-emergencies and begin training in Neurology, and the quality of the experience.

SUMMARY OF RESULTS: 10 learners participated in the program. 10 completed the pre-orientation survey and 8 completed the post-orientation survey. Learners rated their average comfort with the neurologic exam prior to orientation as 5.4 (on a likert scale of 0-10) and 7 out of 10 after orientation. Learners rated confidence in identifying acute stroke and running a stroke code was 1.7 prior and 5.25 out of 10 afterwards. Confidence initiating a stroke workup prior was 3.3 prior and 6.125 out of 10 afterwards. Confidence identifying patients with increased intracranial pressure (ICP) prior was 2 prior and 6.125 out of 10 afterwards. Confidence initiating ICP management was 2.7 prior and 5.75 out of 10 afterwards. Confidence identifying seizure/status epilepticus 2.8 prior and 6.25 out of 10 afterwards. Confidence initiating treatment for status epilepticus 2.8 prior and 7.25 out of 10 afterwards. Learners additionally rated the experience as high quality and incredibly helpful for starting PGY2 year. One learner attested that they “could not imagine starting PGY2 year without it”.

REFLECTIVE CRITIQUE: Early experience with our neurology residency “bootcamp” orientation curriculum suggests benefit in comfort with the neurologic exam, readiness to treat neuro-emergencies, and readiness to begin training in Neurology.

ABSTRACT #14

CLASSIFYING CO-WORKER COMPLAINTS THROUGHOUT MEDICAL TRAINING: PEERING INTO PROFESSIONALISM

Brianna Hill, Jennifer Jo, Brijen Shah, Michael Brodman

PURPOSE AND GOALS: Professional behavior is expected of medical students, residents and trainees within the Mount Sinai Health System and in July 2021 the Cup of Coffee program was launched at Mount Sinai through the Committee on Professionalism in Health Care. The program addresses unprofessional behavior with a peer delivered message. This study aims to better qualify the types of professionalism lapses being reported at Mount Sinai, describe any themes in the content of reports, and compare reports involving trainees to non trainees.

METHODS: Reports were made by hospital staff members through pre-existing hospital-wide patient safety and compliance infrastructure at Mount Sinai including the OB Code of Professionalism, SafetyNet, Compliance Hotline and Mistreatment Portal. These reports were externally reviewed by the Center for Patient and Professional Advocacy at Vanderbilt University Medical Center to determine if the reports were suitable for the Cup of Coffee Program at Mount Sinai. The selected reports were then shared with the committee at Mount Sinai and reviewed by researchers of this project. A data set was created using four codes and 13 domains.

EVALUATION PLAN: Reports were assigned a primary and secondary code and domain using a validated coding scheme. Researchers also clustered reports by narrative theme. Two researchers independently reviewed each report. When discrepancies in coding existed a third researcher would evaluate when discrepancies appeared. Reports involving trainees were compared to reports involving non trainees.

SUMMARY OF RESULTS: Professionalism in healthcare is a quality many residency programs and medical schools value, including Mount Sinai, and the current understanding of what encompasses professionalism includes respect and dignity. This study aims to qualify common themes across reports of unprofessionalism made through pre-existing reporting programs across Mount Sinai Health System. This project qualified the types of professionalism lapses being reported at Mount Sinai, described themes associated with reports and compared reports involving trainees to non trainees. By studying the data received as part of the Cup of Coffee Program the medical school and health system gain a better understanding of potential systematic, environmental and educational gaps leading to less professional behavior. With a better understanding of lapses in professionalism there is an opportunity to intervene in these areas to improve professionalism in the training and practice environment.

REFLECTIVE CRITIQUE: This study is limited to data from only one year and one academic center. Additionally the Cup of Coffee program at Mount Sinai was launched in July 2021 and knowledge of its existence may not have reached all departments and areas of the hospital equally. This may impact the distribution of reports across departments. Lastly, there is no investigation process associated with these reports and thus the events described in the reports reviewed reflect the perspective of one individual.

ABSTRACT #15

THE BEAT DON'T STOP: A CURRICULUM TO TEACH TELEMETRY INTERPRETATION AND ARRHYTHMIA MANAGEMENT

Sarah E. Nussbaum, Aarti Rao, Brian Hsia

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. We implemented a curriculum on the cardiology floors to teach an evidence-based approach to ordering and interpreting telemetry. 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.

METHODS: We created a series of educational videos that were sent to learners prior to the start of cardiology floors. The videos were created to target a PGY1, however students and senior residents were also able to participate. These videos taught how to review patient telemetry systematically by reviewing alarm events, monitoring patient trends, and differentiating signal from noise. They also covered an approach to rhythm interpretation and arrhythmia management, and 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. The videos were supplemented by an in-person, hands on session at the beginning of the cardiology block to reinforce skills and provide real-world experience in reviewing telemetry data.

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 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: The majority of learners reported that they had not received training in ordering and interpreting telemetry prior to this intervention. 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: While the goal of the curriculum was to invite learners to both view the videos and participate in the in-person hands-on section, many learners ultimately engaged in only the hands-on portion. This limits the amount of education that learners received, as the in-person component focused primarily on telemetry ordering and interpretation, and less on arrhythmia management. This reflects that learner motivation is key for gaining the full utility out of the intervention, as well as the importance of protected time for learners to engage in educational activities outside of regular clinical duties.

ABSTRACT #16

IMPROVING EDUCATION AND EXPERIENCE ON A GERIATRICS INPATIENT SERVICE: A CURRICULAR INTERVENTION

Laurel Hansen, Helen Fernandez, Omar Amir, Ciera Sears

PURPOSE AND GOALS: Due to the nationwide shortage of Geriatrics providers, we recognize that Internal Medicine (IM) physicians will be expected to care for America's aging population. It is therefore imperative that IM residents receive Geriatrics-specific education. At Mount Sinai's Morningside campus, we are currently implementing a structured learning experience with the goal of improving Geriatrics teaching for IM residents. Additionally, Geriatric Fellows have an opportunity to practice and enhance their teaching skills.

METHODS: To understand the educational needs of the trainees, a "Needs Assessment" survey based on Kern's model in curriculum is emailed to fellows and residents at the start of their rotation. Survey questions explore prior geriatrics exposure, comfort level with geriatrics topics, and suggestions for future topics. Based on early survey results, a "passport" of geriatric content was compiled with recommended teaching points and literature references. The curricular intervention includes two components. In the first, Geriatrics faculty offer 5-6 didactic sessions to residents, with topics based on ACGME Geriatrics competencies for Internal Medicine residencies. For the second intervention, fellows use the 'passport' to create and lead 2-4 presentations on core geriatric topics for residents during their rotation on the Geriatrics inpatient service.

EVALUATION PLAN: To evaluate the didactic series component, a post-presentation survey will be distributed electronically to all participating residents. This survey includes feedback on quality of presenter, amount and depth of information, relevance to practice, and any additional comments. Fellows receive an electronic post-rotation survey requesting feedback on their teaching sessions.

SUMMARY OF RESULTS: Since this curriculum was implemented, 5 geriatric fellows and 18 Medicine residents have rotated on the Geriatric inpatient service. We have received 8 Resident and 3 fellow responses to the Needs Assessment. 60% of resident responders indicated that they had not received geriatrics-specific training prior to their residency, thus confirming our belief in the necessity of this curriculum. 2/5 Fellows completed the post-rotation survey, with both indicating that they were able to teach a session at least 4 times over a 2-week rotation; both noted time constraints due to Residents' clinical obligations.

REFLECTIVE CRITIQUE: Our needs assessment revealed residents were interested in learning about Geriatrics content. However, certain topics requested by residents such as "End of life care" and "Pain management" are clinically advanced subjects that fellows may not feel confident presenting during earlier stages of their fellowship training. This observation confirms the importance of the faculty-led didactic series for residents. We will continue to collect feedback from residents and fellows in order to improve Geriatric education for IM residents, with a long-term plan for expanding implementation of this curriculum to other Mount Sinai sites.

ABSTRACT #17

A TARGETED NEEDS ASSESSMENT FOR DESIGNING A TELEMETRY CURRICULUM FOR INTERNAL MEDICINE RESIDENTS

Arpanjeet Kaur, Joseph Elias, Nebojsa Markovic, Roberto O. Jimenez, Michel Skaf, Robert Abed, Deepika Misra, Edgar Argulian, Kiran Mahmood, Jacqueline Tamis-Holland, Forough Hakimzada, Vasundhara Singh

PURPOSE AND GOALS: Telemetry monitoring is used to detect a wide range of arrhythmias in patients at high risk of cardiac events. Internal medicine (IM) residents should be able to interpret and interrogate telemetry to identify and characterize arrhythmias and differentiate these from artifacts. Misinterpretation can lead to adverse patient outcomes, increased hospitalization costs and inappropriate interventions. However, there are no widely accepted curricula for IM residents on inpatient telemetry. To address this gap in graduate medical education, we hope to design telemetry curriculum for IM residents. Following the Kern method of curriculum development, we performed a targeted needs assessment to guide our curriculum design.

METHODS: A web-based survey was sent to current IM residents at Mount Sinai Morningside/West. The survey collected data regarding residents': (1) Prior telemetry training (2) Preferred method of learning, (3) Preferred learning environment. Using a Likert-type scale ranging from 1 (no knowledge) to 5 (extremely knowledgeable), residents were also asked to rate their knowledge for: a) Indications of telemetry b) Reviewing telemetry alarms c) Navigation of telemetry-monitors ,d) Identifying true arrhythmias versus artifacts.

EVALUATION PLAN: From the data collected, we assessed residents' preferred medium of learning: self-paced videos vs. hands-on training vs. didactics and their preferred learning setting: inpatient rotation vs. academic half days vs. simulation training.

SUMMARY OF RESULTS: A total of 73 of 152 (48%) responses were recorded. 79.5% residents had no prior training in telemetry interpretation. Hands-on training alone or in combination with other options (i.e. didactics and/or self-paced videos) was the most popular choice, accounting for 84.9% of all the responses. Further analysis showed that 27.4% preferred hands-on training alone, 21.9% preferred hands-on training and didactics, and 19.1% preferred a combination of hands-on, didactics, and self-paced study. 72.6% of residents preferred the curriculum to be implemented during inpatient rotation alone or in combination with academic half days and/or simulation training (17.8% chose inpatient rotation only, 17.8% preferred inpatient rotation and simulation training, and 21.9% preferred inpatient rotation and academic half day). Analyzing residents' self-assessment of telemetry skills, 40.4% thought they had slight knowledge across the four mentioned categories of telemetry review. When stratified by training year, 50% of PGY-1s felt having slight knowledge, 43.4% of PGY2 rated having moderate knowledge and 56.8% of PGY3 assessed themselves as being very knowledgeable.

REFLECTIVE CRITIQUE: This study highlights the need for a structured telemetry curriculum for IM residents and provides data on residents' baseline knowledge and preferred learning technique. This information can guide educators to develop a standardized curriculum to enhance learning of IM residents on inpatient telemetry floors and to contribute to high-value patient care.

ABSTRACT #18

EVALUATING MEDICAL RESIDENT'S COMFORT AND KNOWLEDGE ON CARING FOR PATIENTS AT THE END OF THEIR LIFE (EOL).

Fionnuala Crowley, Neha Debnath, Sonal Gandhi, Yosef Joseph Rene Amel Riazat Kesh, Jennifer Fung

PURPOSE AND GOALS: Studies have highlighted that residents generally across a number of specialties are uncomfortable with end of life discussions. One study from a single institution found that 88.1% of 175 residents surveyed had no formal classroom training in conducting goals of care discussions despite having these conversations frequently (Schmit, 2016). This needs assessment aims to identify knowledge and skills deficits when caring for patients at the end of life.

METHODS: Surveys were distributed to residents at the Mount Sinai Morningside West internal medicine residency program. Surveys were emailed, distributed by text and also distributed to documentation rooms.

EVALUATION PLAN: Analysis of survey answers was descriptive and was done using SPSS.

SUMMARY OF RESULTS: 36 residents completed the needs assessment (response rate 30%). 17 (47.2%) were PGY-1s, 6 (16.7%) were PGY-2s, 13 (36.1%) were PGY-3. When asked how much classroom teaching they had received during residency on EOL discussions the responses were as follows: None (10, 27.8%), Very little (1-2 lectures) (21, 58.3%), Some (1-2 week course or lecture series) (4, 11.1%), A Lot (>3 weeks) (0, 0.0%), I don't know (1, 2.8%).

When asked how often they have had EOL discussions during residency 2 (5.7%) said none, 8 (22.9%) said 1-5 times, 7 (20.0%) said 6-10 times, 5 (14.3%) said 11-15 times, 3 (8.6%) said 16-25 times, 6 (17.1%) 26-50 times and 4 residents said greater than 50 times. Twenty residents (57%) responded that most of these conversations were unsupervised. 22.9% said they learned how to conduct these conversations through "trial and error", 25.7% from watching attendings conduct conversations, 31.4% from sitting in on family meetings. When asked about their comfort levels having these conversations there was a lot of variation: I feel very comfortable (8, 23.5%), I feel mostly comfortable (11, 32.4%), I am neither comfortable nor uncomfortable (7, 20.6%), I feel mostly uncomfortable (6, 17.6%), I feel very uncomfortable (1, 2.9%), I'm not sure (1, 2.9%). 4 (11.8%) of respondents felt lack of adequate supervision or training for end-of-life discussions negatively impacted patients care often while 17 (50%) said it sometimes did. Discomfort with patient/ families' reaction or emotions (17, 48.6%) was cited as the biggest barrier to being honest with families about the likely outcomes of CPR/trial of critical care. Teaching during rotations was the more preferred method of teaching delivery for this content (60%), followed by small group workshops (42.9%).

REFLECTIVE CRITIQUE: There needs to be additional teaching around conducting end of life discussions in the internal medicine curriculum. Over 50% of residents felt a lack of adequate supervision or training for end-of-life discussions negatively impacted patients care. In addition to knowledge and communication skills teaching residents would also benefit from teaching on managing emotional reaction to bad news and emotionally supporting patients and their families.

ABSTRACT #19

QUALITY IMPROVEMENT CURRICULUM FOR GERIATRIC AND PALLIATIVE CARE FELLOWS: A TRIPLE WIN FOR PATIENTS, LEARNERS, AND INSTITUTION

Christine Chang, Abhinav Menon, Rebecca Masutani, William Hung, Stephanie Chow,
Helen Fernandez, Brijen Shah

PURPOSE AND GOALS: The Accreditation Council for Graduate Medical Education (ACGME) mandates that programs teach quality improvement (QI)/patient safety (PS) concepts and skills, and requires participation in interprofessional QI initiatives that address disparities. Programs struggle to meet this mandate due to lack of time, faculty with QI expertise and departmental investment.

METHODS: A 9-month project-based departmental QI curriculum was developed. It employed a flipped classroom model using online modules to teach QI concepts and four 1-2 hour protected class time in small and large group sessions to reinforce application of QI concepts. QI roadmap with resources, accountability contracts, presentation templates were created to guide project workflow. 1st year fellows worked with faculty and fellow QI coaches on departmental prioritized team-based QI projects, which were presented to the department at midterm and end-of-year. Dissemination of QI project efforts to regional and national academic meetings were encouraged.

EVALUATION PLAN: Program evaluation consisted of a prospective pre-post survey that included demographics and 8-item questionnaire on comfort with QI concepts; 3 cases from the QI Knowledge Application Tool (QIKAT) and a 2 question open ended course evaluation. QI project outcomes and dissemination were measured.

SUMMARY OF RESULTS: 50 geriatric and palliative medicine fellows worked on 12 QI initiatives from 2020-2022. 88% fellows (44) completed both PRE and POST survey. Post curriculum, 1st year fellows (37) demonstrated improved comfort with utilizing all 5 QI concept/tools ($p < 0.05$) and improved QI knowledge (QIKAT PRE 19.1; POST 22, Paired t test $p < 0.03$). QI project AIMS and outcomes improved for all 12 teams. 58% (7) of QI teams submitted abstract proposals with 86% (6) acceptance for national and regional presentations. Course evaluations were positive.

REFLECTIVE CRITIQUE: Suboptimal patient metric and safety outcomes plague health systems due to medical errors, adverse events and suboptimal implementation of evidence-based prevention/treatments. A project-based QI curriculum that engages fellows in prioritized departmental QI initiatives is an effective method for teaching QI skills to fellows and a WIN for patients, learners and institution.

ABSTRACT #20

INFECTIOUS DISEASES FELLOWSHIP EDUCATION IN CARING FOR PEOPLE WHO USE DRUGS: A HEALTH SYSTEM-BASED NEEDS ASSESSMENT AND PILOT CURRICULUM

Shilpa Vasishta, Linda Wang, Giorgio Handman, David Perlman, Mikyung Lee

PURPOSE AND GOALS: The intersection of infections and substance use constitutes a high-priority area of practice development in the field of Infectious Diseases (ID). Given rising rates of injection-associated infections, and the unique role of ID physicians as direct clinical providers with potential to offer preventive health and harm reduction guidance, national professional societies have encouraged incorporation of integrated substance use care as a core competency in ID practice. Though some ID training programs have developed addiction medicine tracks or rotations for fellows with dedicated interest, implementation of general curriculum around substance use remains inconsistent. Here we present a needs assessment and pilot curriculum among Mount Sinai Health System (MSHS) adult ID fellowship programs.

METHODS: This project was developed using the Kern framework for curriculum development. Needs assessment was conducted through a survey of current fellows and past five years' graduates of the MSHS adult ID programs.

Curriculum was developed based on survey findings in conjunction with interdisciplinary input from the MSHS ID and addiction medicine divisions. A didactic session was delivered in December 2022 covering approaches to care for individuals with infections and substance use, including non-stigmatizing language, risk mitigation strategies during substance use, and community harm reduction resources. A toolkit for use during clinical encounters was distributed through the MSHS Inpatient App and as an Epic smartphrase. Further programming in spring 2023 will address medications for substance use disorders and care coordination for complex infections.

EVALUATION PLAN: Please see below.

SUMMARY OF RESULTS: Among current and former MSHS adult ID fellows (n=32, response rate 65%), 94% reported caring for people who use drugs as part of their ID clinical practice. A majority of respondents reported typically screening for blood borne viral infections and immunizing against vaccine-preventable infections (78% each), while a minority reported counseling on safe injection strategies (44%), prescribing HIV pre-exposure prophylaxis (34%), referring to community harm reduction resources (28%), and prescribing naloxone (13%). Regarding fellowship training, 15% recalled receiving formal curriculum on this topic, while 78% reported that formal curriculum would have been beneficial.

REFLECTIVE CRITIQUE: Based on input from current and former fellows, we have implemented a pilot curriculum addressing infections and substance use in the MSHS adult ID fellowship programs. The curriculum consists of didactics from members of the MSHS ID and addiction programs, and asynchronous reference materials for common clinical scenarios. A post-curriculum survey will be distributed to collect qualitative and quantitative data regarding perceptions of the curriculum and impacts on clinical knowledge, comfort, and self-reported practices. Findings will inform future educational initiatives within the MSHS ID fellowships and partnering programs.

ABSTRACT #21

INCREASING INSTITUTIONAL QI CAPACITY: TRAINING SECOND YEAR FELLOWS AS QUALITY IMPROVEMENT (QI) LEADERS

Abhinav Menon, Rebecca Masutani, William Hung, Christine Chang

PURPOSE AND GOALS: Quality improvement and patient safety (QI/PS) experiences are offered as a core educational curriculum for trainees in residency and fellowship programs. Institutions have creatively applied QI models tailored- to-fit their learners to make them more meaningful. The role of mentorship is essential to increase learner engagement and help expand QI knowledge.

METHODS: A QI curriculum for geriatric and palliative medicine fellows was introduced in 2013 and since adapted annually based on stakeholder input and iterative review, evolving into an interprofessional departmental collaboration. Due to high level of knowledge and comfort with QI concepts but variable engagement noted during the 1st year, in 2020 2nd year fellows were designated as “Junior QI coaches” and trained in leadership skills. This included the Train-the-Trainer Model to coach faculty to facilitate team projects during faculty-fellow “co-learning” QI curriculum. Over time, project engagement was enhanced through the maturation of a mentorship network.

EVALUATION PLAN: Evaluation consisted of prospective pre/post surveys including a 6-item questionnaire on comfort with QI concepts based on a Likert Scale (1= Very Uncomfortable, 5= Very Comfortable), 3 Quality Improvement Knowledge Application Tool (QIKAT) cases, and a 2-question open-ended course feedback for all participants.

SUMMARY OF RESULTS: 37 coaches (24 faculty + 13 2nd year fellows) mentored 37 1st year fellows on 12 QI initiatives from 2019-2022. Despite post-curriculum improvements in 1st year fellow (33) knowledge (QIKAT PRE 19.1, POST 22 Paired T-test $p < 0.03$) and comfort with using QI concepts (Paired T-test $p < 0.0001$), 2nd year fellows' (11) did not show significant increase in confidence as QI coaches (PRE 3.27, POST 3.63; Paired T-test $p = 0.37$).

REFLECTIVE CRITIQUE: Despite a strong performance of 1st year fellows mentored by junior QI coaches, 2nd year fellows did not feel comfortable leading QI initiatives. Incorporation of 1) Leadership bootcamp for 2nd year fellow coaches to adapt to new role, 2) Appointment of 2nd year fellow “QI champions” to mentor all projects while partnering with course facilitators, and 3) Allocating weekly “open-office hours” with QI course director for 1:1 fellow and faculty mentoring to the faculty development for QI coaches will be undertaken.

ABSTRACT #22

INCREASING INSTITUTIONAL QUALITY IMPROVEMENT CAPACITY: TRAINING FACULTY AND FELLOWS TO LEAD QI INITIATIVES

Christine Chang, Abhinav Menon, Rebecca Masutani, William Hung,
Stephanie Chow, Brijen Shah, Helen Fernandez

PURPOSE AND GOALS: Programs with limited faculty QI expertise struggle to meet ACGME mandate that learners participate in interprofessional quality improvement (QI)/patient safety (PS) initiatives. Our fellows participate in a 9- month project-based QI curriculum coached by volunteer faculty. Survey of faculty coaches revealed 43% never completed a formal QI curriculum, only 43% felt 'very comfortable' being a QI mentor, and 86% would welcome QI faculty development (FD). Feedback from 1st year fellows requested stronger faculty-facilitation. Our project aims to improve QI capacity by training faculty & fellows as QI coaches.

METHODS: All QI coaches participated in a web-based FD curriculum to learn QI principles, and the Train-the-Trainer Model on teaching & facilitating QI team projects for faculty-fellow "co-learning" QI curriculum. A mid-year "check-in" with faculty explored team project challenges.

EVALUATION PLAN: Faculty and fellows completed a prospective pre-post survey with demographics; 5-item questionnaire on comfort with QI concepts on a Likert Scale (5= Very Comfortable, 1= Very Uncomfortable); 3 cases from the Quality Improvement Knowledge Application Tool (QIKAT); and an open-ended course evaluation.

SUMMARY OF RESULTS: 52 coaches (39 faculty + 13 2nd year fellows) mentored 62 1st year fellows on 20 QI initiatives from 2019-2022. 60% were 1st time coaches (18 faculty + 13 fellows). 50% (19) of faculty coaches completed fellowship <5 years ago while 39.4% (15) completed fellowship > 10 years ago. 28% (11) of faculty coaches had no prior QI training.

100% (31) of 1st year QI coaches completed both pre- and post- surveys. Post curriculum, 1st year coaches demonstrated improved comfort in utilizing the 5 key QI concept/tools ($p < 0.01$), improved QI knowledge (PRE 23.6; POST 24.6 $p < 0.03$); and improved comfort coaching a QI team (PRE 3.2; POST 3.7, Paired t test $p = 0.09$).

1st year fellows (54) mentored by these QI coaches demonstrated improved comfort with utilizing all 5 QI concept/tools ($p < 0.0004$) and improved QI knowledge (QIKAT PRE 19.7, POST 22.7; Paired t-test $p < 0.003$).

REFLECTIVE CRITIQUE: Use of asynchronous web-based training with the Train-the-Trainer Model to coach faculty and 2nd year fellows on how to lead QI initiatives is an effective method to increase institutional QI capacity and meet ACGME QI mandates.

ABSTRACT #23

A DYNAMIC QUALITY IMPROVEMENT CURRICULUM FOR FELLOWSHIP TRAINING

Christine Chang, Abhinav Menon, Rebecca Masutani, William Hung, Stephanie Chow, Helen Fernandez, Brijen Shah, Helen Fernandez

PURPOSE AND GOALS: In 2013, a project-based Quality Improvement (QI)/Patient Safety (PS) curriculum was created for the Geriatric and Palliative Medicine fellowship at the Icahn School of Medicine. Fellows applied asynchronously- learned QI concepts to a departmental prioritized interprofessional, team-based QI project of their choice to improve patient care. Over 9 years, the curriculum has been continuously adapted in response to learner feedback, health system demands, and resource availability.

METHODS: At midterm and conclusion of each academic year, learners and their coaches provided 360-degree evaluations resulting in iterative QI changes for each subsequent year.

EVALUATION PLAN: 30 geriatric and palliative medicine fellows and 14 faculty coaches worked on 7 QI initiatives from 2021-2022. 41% (12) fellows and 58% (8) faculty completed an anonymous online midterm feedback (12/2021) and 83% (24) fellows and 93% (13) faculty completed end of year feedback (5/2022).

SUMMARY OF RESULTS: Based on feedback, strategies to address barriers implemented in the Year 10 fellows QI curriculum (2022-2023) included:

Structured QI project “Pitch Day” to improve project selection to address fellow interest and motivation

Revised Team accountability contracts to address equitable participation

1-hour QI Bootcamp for senior coaches

Monthly protected work time

Enhanced centralized digital space to improve Teamwork efficiency

Innovative “Tiered” coaching process to empower 2nd year fellows to optimize their “learning edge”

of QI skills to facilitate project delivery and “managing up and down” leadership skills inherent to this role

REFLECTIVE CRITIQUE: Use of a 360-degree feedback design and self-reflective process can promote adaptive incremental quality improvements as a “meta-Plan-Do-Study-Act” of the curriculum itself. It has identified actionable interventions to address curricular challenges for the adult learners in this cross-generational QI curriculum. Almost a decade of meaningful, continuous assessment has helped shape our QI/PS curriculum design with innovative instructional models and high-quality evaluation of learners. The flexibility of a “living” QI/PS curriculum that evolves in response to learner characteristics, iterative assessments, and availability of resources, suggests that it could be successfully replicated in other institutions.

ABSTRACT #24

ASSESSING THE EFFECTIVENESS OF A STANDARDIZED AND CONCISE END-OF-LIFE (EOL) CARE TOOLKIT FOR MEDICAL RESIDENTS IN A TEACHING HOSPITAL: A MIXED METHODS EXPLORATORY STUDY

Yu Shindo, Noelle Javier, Aveena Kochar

PURPOSE AND GOALS: With palliative care gaining traction as a vital specialty to help patients living with serious illnesses comes the need for further training of healthcare professionals. Frontline providers such as medical residents can benefit from end-of-life (EOL) care training in symptom management.

METHODS: There are three phases (over a period of 4 years) to this study, namely: administration of a needs assessment survey of baseline knowledge, attitudes, and practices on EOL non-pain symptom management; development and implementation of a standardized inpatient EOL symptom management toolkit.

EVALUATION PLAN: After implementing a standardized inpatient EOL symptom management toolkit, we compared pre- and post-assessment after the educational intervention.

SUMMARY OF RESULTS: The baseline survey had 66 participants. There were six non-pain symptoms that were elicited as important for further education and training. These were anorexia, nausea/vomiting, dyspnea, oral secretions, myoclonus, and delirium. Competency-based comfort and confidence levels were assessed using a Likert scale (1 to 5), with the highest number as the most comfortable. The residents were noted to be more comfortable with EOL communication than symptom management. Furthermore, residents who had had previous EOL care experiences with patients were more comfortable in symptom management. The educational intervention implemented at a later time revealed that there was an improvement in post-test scores for EOL symptom management.

REFLECTIVE CRITIQUE: This study highlights the needs and gaps in EOL symptom management training for medical residents. Implementing a standardized inpatient EOL symptom management toolkit might serve as a potential intervention to address the needs and narrow gaps in medical training. This can serve as a possible template for other institutions to integrate an EOL care curriculum in medical residency. Limitations of the study include small sample size, implementation during the COVID-19 pandemic, variable participant response rate, and interrupted timelines.

The following steps include ongoing resident training, long-term follow-up post-intervention, and institutional buy-in.

ABSTRACT #25

GENDER SURGERY EDUCATION IN PLASTIC AND RECONSTRUCTIVE SURGERY PROGRAMS: CURRENT ACADEMIC LANDSCAPE AND PREDICTORS OF TRAINING

Dillan Villavisanis, Arya Akhavan, Taylor Ibelli, Nikita Roy, Sara Kiani, Olachi Oleru, Nargiz Seyidova, Elan Horesh, Peter Taub

PURPOSE AND GOALS: The volume of gender affirmation surgery has increased steadily in recent years. Gender surgery as a subspecialty is an increasingly prevalent component of plastic and reconstructive surgery practice; however, the gender surgery education landscape has not been described in detail. The purpose of this study is to describe the current gender surgery training landscape and determine program-specific predictors of gender surgery training.

METHODS: Plastic and reconstructive training programs in the United States (US) and Canada were included in this retrospective study. Data collected from November 2021 to February 2022 included dedicated gender affirmation surgery rotations, presence of gender surgery fellowships, number of integrated residents, program-specific subspecialty rotation durations, and presence of a research year in the training program.

EVALUATION PLAN: Data were obtained from publicly available sources and program coordinators, residents, fellows, and faculty were contacted directly for additional data. Univariate and linear and logistic regression models were used to establish relationships between gender surgery rotation duration, presence of gender fellows, and program details.

SUMMARY OF RESULTS: Ninety-four plastic and reconstructive surgery residency programs in the United States and Canada were included in this study. Two (2.13%) residency programs had gender surgery rotations in (6 weeks and 12 weeks, each). The number of months residents rotated on gender surgery was significantly predicted by increased number of integrated residents ($\beta = 0.074$, $p = 0.041$), increased number of aesthetic surgery fellows ($\beta = 0.281$, $p = 0.012$), and increased number of months on craniofacial/pediatrics ($\beta = 0.024$, $p = 0.012$). Six (6.38%) residency programs had gender surgery fellows. The presence of gender surgery fellows was significantly predicted by a higher number of integrated plastic surgery residents ($\beta = 0.829$, $p = 0.049$) and the presence of a research year in the plastic surgery training program ($\beta = 2.351$, $p = 0.019$).

REFLECTIVE CRITIQUE: The volume of gender surgery is increasing in North America; however, formalized training for gender surgery in plastic surgery remains limited. The presence of gender surgery training is currently best predicted by factors associated with larger academic institutions, including increased number of integrated plastic surgery residents, research years, and fellows.

ABSTRACT #26

CREATION OF A MULTI-MODAL SIMULATION-BASED ECMO CURRICULUM FOR PULMONARY-CRITICAL CARE FELLOWS

Jonathan Taylor, Patrick Maher, Gary Oldenburg, Samuel Acquah

PURPOSE AND GOALS: Extracorporeal membrane oxygenation (ECMO) usage for refractory cardiac and respiratory failure is recognized as a key component of critical care training, however concerns surrounding inadequate fellowship preparation in ECMO care have been identified in the literature. ECMO patient management remains challenging, requiring familiarity with cardiopulmonary physiology, experience with complex circuits, and the ability to rapidly respond to complications. Clinician error has been recognized as a cause for ECMO complications, and both practitioner education and high-fidelity simulation have been recommended to improve patient care. To address training gaps and improve patient outcomes, a new curriculum for ECMO education was developed at this institution.

METHODS: Using Kern's model of curriculum development, a multi-modal ECMO curriculum was developed for Pulmonary-Critical Care Medicine (PCCM) fellows which included bedside clinical training, self-directed educational materials, pertinent high-yield literature publications, scholarly videos from professional societies, recorded lectures by international experts, in-person didactics, and repeated regular high-fidelity simulations. The Extracorporeal Life Support Organization (ELSO) core curricular requirements and learning objectives were used as a guide to ensure the curriculum was comprehensive.

EVALUATION PLAN: An interim-analysis survey was completed four months after the roll-out of the program to gauge reception to the new educational initiative. Five high-fidelity simulation sessions were completed by fellows prior to data collection. Using a five-point Likert scale (1= strongly disagree, 5= strongly agree), fellows self-reported perceptions of comfort in various aspects of ECMO management.

SUMMARY OF RESULTS: 12 fellows completed the interim analysis survey (67% of PCCM program participants). All respondents (n = 12) felt ECMO should be a part of PCCM fellowship training, with 58% of fellows reporting < 1 hour of total ECMO education prior to curriculum roll-out. 100% of fellows (n = 12) reported an improvement in knowledge of ECMO with the new curriculum, and similarly 100% of respondents felt that this new curriculum would help them care for patients in the future. Following the training, fellows self-reported high levels of confidence in various aspects of ECMO management, with mean Likert scores ranging from 3.9 – 4.6 for all assessed skills (table 1).

REFLECTIVE CRITIQUE: The educational gap in ECMO was successfully addressed by the development of a multi-modal curriculum involving a variety of learning methods and regular high-fidelity simulations. The curriculum was well received by fellows. Future research will focus on evaluating whether these benefits transfer to novel simulation scenarios, bedside patient care, and are maintained over time to further guide the refinement of the curriculum.

ABSTRACT #27

A LONGITUDINAL COMMUNITY ORIENTED PRIMARY CARE CURRICULUM FOR INTERNAL MEDICINE TRAINEES

Gabriela Bernal, Ga Hee Kim, Tamara Goldberg

PURPOSE AND GOALS: Despite the importance of clinical-community partnerships in preventive healthcare, few internal medicine (IM) programs have integrated this topic into their curriculum. Our project aimed to facilitate a longitudinal community-based experience for our Primary Care Track residents by embedding dedicated service-learning sessions within their ambulatory schedule. Since our residents rotate at an urban Federally Qualified Health Center (FQHC) for their outpatient continuity practice, we collaborated with on-site community liaisons to build relationships with local community-based organizations (CBO's).

METHODS: In July 2022, IM residency program leadership collaborated with FQHC site leadership to operationalize community-based opportunities for our residents. The outcome was a joint pilot initiative to incorporate one resident-led, CBO-based session during each two-week ambulatory block (6+ 2 schedule) between September 2022 and December 2022.

Each session included a PGY1, PGY2 and PGY3 resident and consisted of a 30 minute informational health topic review, followed by a 1 hour Q & A, and ending with real-time preventive service delivery (i.e. blood pressure checks, vaccine administration, etc.). Each resident team was assigned the topic 1-2 weeks in advance, and materials were reviewed by the Chief Resident and the Special Projects Coordinator.

EVALUATION PLAN: Pre-and post-intervention resident surveys were administered using a 5-point Likert agreement scale. Feedback from our CBO partners was also solicited.

SUMMARY OF RESULTS: Over the study period, 100% (n=12) of the Primary Care Track residents participated in 13 community events across 5 CBO's with an average number of 10 clients per session. Survey response rate pre- and post- intervention was 100% (n= 12). To date, residents reported an increased understanding of how partnerships between healthcare organizations and CBO's can address social needs (4.08 vs. 4.5). Additionally, residents felt more comfortable referring patients to local CBO's (3.5 vs 4.41). Analysis of written feedback included common resident themes such as self-reported improvement in communication skills, improved sense of trust from the community, and increased patient access to health information. Additionally, common themes among CBO feedback were increased access to accurate medical information for clients and safe, non-judgemental space to discuss health concerns.

REFLECTIVE CRITIQUE: Results of this novel pilot curriculum suggest that a longitudinal community-based experience for Primary Care Track residents at an urban FQHC led to improved understanding of clinical-community partnerships and level of comfort referring patients to CBOs. Furthermore, CBOs benefited from having a space where their clients can freely and openly discuss their health concerns. Future steps to optimize the curriculum include an emphasis on physician training in use of plain language to optimize effective communication with clients.

ABSTRACT #28

SEÑOR - SPANISH EDUCATION NOURISHING OUR RESIDENTS

Rachel E. Moss, Rachel Wilkinson, Leora Mogilner

PURPOSE AND GOALS: The COVID-19 pandemic has exacerbated many disparities in healthcare outcomes amongst Spanish-speaking patients at Mount Sinai Hospital. We serve a large Spanish-speaking population that relies on interpreters or Spanish-speaking care providers, and while many pediatric residents have some degree of Spanish language education, they lack the proficiency or comfort level to communicate in Spanish in the workplace. Hoping to improve Spanish proficiency among residents, and ultimately improve communication between residents and patients, we launched a Medical Spanish pilot course in 2020. This course not only increased participants' language skills, but also promoted resident wellness. Inspired by the success of the pilot, we proposed a larger initiative entitled SENOR: Spanish Education Nourishing Our Residents, which strives to provide a wider variety of practice opportunities and create a cohesive learning community as residents connect and support each other in their language development.

METHODS: In 2022, this program was awarded an ACGME Back2Bedside grant to expand our program. The program can now accommodate 30 students for 12 weekly virtual classes at the beginner, intermediate and advanced levels. The program also includes in-person conversation labs and we plan to launch a peer tutor mentorship program in order to accelerate language acquisition and foster a deeper sense of community among learners.

EVALUATION PLAN: We designed pre and post surveys to be administered before the course and upon completion. Questions assessed the program's effect on participants' sense of community and how they relate to Spanish-speaking patients. Participants also took a Spanish language proficiency test to determine the appropriate class level.

SUMMARY OF RESULTS: 23/25 participants completed our pre-class survey. 78% of respondents rated themselves as novice or intermediate Spanish speakers. We found that lack of Spanish fluency impacted provider comfort and rapport for a significant percentage of respondents: 30% report feeling uncomfortable providing care for patients whose primary language is Spanish, and 39% feel less connected to patients whose primary language is Spanish.

Seventeen percent report spending less time engaging with patients whose primary language is Spanish.

REFLECTIVE CRITIQUE: Our pre class survey demonstrates that a significant proportion of program participants feel less comfortable and connected with primarily Spanish speaking patients. At the conclusion of the 2022-2023 SENOR course, we will administer a post test that will again assess participants' self-assessment of their own Spanish level and their comfort communicating with Spanish-speaking patients, along with probing participants on how the Spanish course has impacted their ability to engage with patients and their own sense of well-being. Given that the majority of participants are novice or intermediate Spanish speakers, an important balancing measure will be maintaining high interpreter utilization.

ABSTRACT #29

WORKSHOPS TO TEACH INTERNAL MEDICINE RESIDENTS AND EVALUATE THEIR ABILITY TO TREAT GASTROINTESTINAL BLEEDING

Randy Leibowitz

PURPOSE AND GOALS: Gastrointestinal (GI) bleeding is one of the most common chief complaints internal medicine residents will encounter during inpatient training. However, a 2015 study found residents (42%) were more likely to identify stool as melena on a digital rectal exam when compared to GI fellows (12%). In turn, residents were more likely to identify a GI consult as emergent (13%) compared to fellows (4%).

The Accreditation Council for Graduate Medical Education (ACGME) outlines milestones for residents on a Dryfus rating scale ranging from novice to expert. Residents are expected to progress from being able to develop a differential diagnosis of GI bleeding, to eventually being able to properly evaluate patients with GI bleeding and develop accurate treatment options based on severity and prognosis.

METHODS: The GI bleeding workshops will be separated into two installments: lower GI and upper GI bleeding. The workshops will be performed with residents ranging from PGY-1 to PGY-3. Each installment will include a pre-survey and a post-survey one month after the workshop.

Both workshop lectures contain an evidence-based outline of the American College of Gastroenterology (ACG) Clinical Guidelines for the management of acute upper and lower GI bleeding. Within each section, data from the studies that influenced the guideline recommendations will be summarized and explained.

Each section will conclude with a peer-reviewed multiple choice question from the American College of Physicians Medical Education Division. At the end of each lecture an algorithmic diagram, either derived from or provided by the ACG Clinical Guidelines, will be administered.

EVALUATION PLAN: Prior to the workshop and one month after, residents will be administered an identical comprehensive survey to assess their knowledge and attitudes towards treating GI bleeds. PGY-1 surveys will be evaluated separately from PGY-2 and PGY-3 to account for differences in experience level.

SUMMARY OF RESULTS: Knowledge will be assessed by responses to the peer reviewed questions. Residents will also be assessed on their confidence in evaluating and treating GI bleeds, as well as measuring residents' progress against the ACGME milestones.

REFLECTIVE CRITIQUE: The aim of administering these two workshops is to assess the knowledge and attitudes of internal medicine residents in evaluating and treating GI bleeds, as well as assist them in advancing in the milestones set forth by the ACGME.



Curriculum UME

POSTERS 30-37

ABSTRACT #30

CLIMATE AND HEALTH EDUCATION: A CRITICAL REVIEW AT ONE MEDICAL SCHOOL

Lucy Greenwald, Olivia Blanchard, Colleen Hayden, Perry Sheffield

PURPOSE AND GOALS: As medical schools continue to improve and refine their undergraduate curricula, they are also redefining the roadmap for preparing future generations of physicians. Climate change is a critical topic to integrate into medical education. This period of change for undergraduate medical education coincides with a surge in interest and design efforts for climate and health curricula in health professional education, but this nascent field has yet to be solidly institutionalized. To continue to grow the number of medical students who achieve competency in the effects of climate change on individual health and the health of the planet during their training, we must examine what has worked to date and continue to shift our approach as curricular changes are implemented for feasibility and relevancy.

METHODS: In the present study, we assessed the “climate and health” content at one northeastern U.S. medical school that is undergoing an overhaul of their entire curriculum to explore strategies to deliver more robust climate health education in the context of the educational redesign.

EVALUATION PLAN: We conducted 1) a retrospective review of the now four-year-old initiative to investigate the sustainability of the original content, and 2) semi-structured interviews with lecturers, course directors, and medical education coordinators involved in implementation, and with faculty tasked with developing the upcoming curricular redesign.

SUMMARY OF RESULTS: Of the original implementation plan, the content was still present in nine of the 14 lectures. Themes determined from our conversations with involved faculty included the need for 1) a shared vision throughout the content arc, 2) further professional development for faculty, and 3) involvement of summative assessment for students and the content itself to ensure longevity. The interviews also highlighted the importance of developing climate-specific resources that fit within the school’s new curricular priorities.

REFLECTIVE CRITIQUE: While this critical review has a limited scope, it can serve as a case study in curriculum to inform other schools undergoing similar changes.

ABSTRACT #31

TRANSITION FROM TIERED TO COMPETENCY-BASED GRADING IN THE OBSTETRICS AND GYNECOLOGY CLERKSHIP

Cynthia Abraham

PURPOSE AND GOALS: Traditionally, undergraduate medical education grades have been based on a tiered system. However, tier-based grading lends itself to comparison of medical students to the peers they are rotating with during the clerkship and a potentially stressful learning environment. This is in contrast to graduate medical education in which learners are evaluated against a set of requisite competencies, when combined with knowledge, skills and attitudes, that would prepare a physician for independent practice. In light of this current paradigm, initiatives have been constructed to have undergraduate medical education to move towards a competency-based evaluation system. In July 2022, the Icahn School of Medicine at Mount Sinai (ISMMS) transitioned from a tiered grading scheme to a competency-based one. Hence, the purpose of this study was to assess Obstetrics and Gynecology core clerkship grades and National Board of Medical Examiners (NBME) Shelf Exam scores after transitioning from tiered to competency-based grading.

METHODS: NBME scores and grade distribution between the first three quarters of academic year (AY) 2021-22 and the first three of AY 2022-2023 were compared.

EVALUATION PLAN: Between July 2021 and July 2022, the Icahn School of Medicine at Mount Sinai (ISMMS) adhered to tiered grading; 60 percent received Honors, 30% High Pass, 10% Pass. In July 2022, ISMMS transitioned to competency-based grading. Criteria delineating a score of “Pass” versus “Honors” for each competency were created. In the tier-based grading scheme, the following items were used for determining the final grade for the clerkship: clinical evaluations, oral and written case presentations, completion of clinical skills assessment card, NBME Shelf Exam score and direct observations exam performance. In the competency-based scheme, six objectives were created. Criteria to delineate achieving a score of “Pass” versus “Honors” for each specific objective were created.

Students needed to meet criteria for Honors for four out of six of the objectives in order to ultimately receive a grade of Honors for the clerkship.

SUMMARY OF RESULTS: Number of students studied in AY 2021-2022 and AY 2022-2023 were 55 and 52, respectively. A significantly higher percentage of students received Honors in AY 2022-2023 than in AY 2021-2022 (96% versus 60%, $p < 0.01$). Mean NBME scores were significantly higher for those receiving Honors in AY 2021-2022 than in AY 2022-2023 ($p < 0.05$); scores for AY 2021-2022 and AY 2022-2023 were 78.9, 95% CI 76.3, 80.9 and 75.1, 95% CI 73.3, 76.9, respectively. Mean NBME scores for all students were not significantly different between the two academic cohorts (77.0 versus 74.9, $p = 0.11$).

REFLECTIVE CRITIQUE: These findings support a model that compares learner performance to predefined measures as opposed to peer performance. Data collection is ongoing. Future directions include assessing student satisfaction ratings for the two schemes.

ABSTRACT #32

DEVELOPMENT AND EVALUATION OF A NOVEL HYBRID OPHTHALMOLOGY ELECTIVE COURSE FOR PRECLINICAL MEDICAL STUDENTS

Jason J. Jo, Amina Avril, Jessica H. Tran, Claire Ufongene, Nisha Chadha

PURPOSE AND GOALS: In the last few decades, ophthalmology education in the undergraduate medical education curriculum has declined (Shah 2014, Moxon 2020). Extracurricular experiences can be a strategy to increase exposure to ophthalmology. We developed and piloted a novel hybrid (virtual and in-person) ophthalmology elective course for preclinical medical students to address this educational need.

METHODS: In Fall of 2022, first- and second-year students from the Icahn School of Medicine at Mount Sinai were invited to enroll in the “Introduction to Medical and Surgical Ophthalmology” (IMSO) Nexus Learning elective course. The course included 8 didactic sessions, with 6 conducted virtually and 2 in-person. Each virtual session focused on a subspecialty of ophthalmology and consisted of a case review utilizing cases on 20/20 SIM (2020sim.com), followed by an interactive discussion with departmental faculty on their experience practicing in that particular subspecialty. In-person sessions focused on skills transfer and consisted of a slit lamp and external eye examination tutorial as well as a microsurgical lab.

EVALUATION PLAN: Participants were invited to take an anonymous pre-test and survey assessing knowledge and interest in the field, respectively. A post-test and survey evaluating similar metrics was administered at the conclusion of the course. Pre- and post-test and survey score differences were analyzed using the Wilcoxon signed-rank test. 5- point Likert scale questions were converted to mean score and standard deviation (SD).

SUMMARY OF RESULTS: Of 20 participants, 14 (70.0%) completed both pre- and post-course tests and surveys. 10 (71.4%) were first-year and 4 (28.6%) were second-year medical students. Respondents on average attended 6.54 of 8 sessions (SD = 1.33). Participant scores on knowledge questions increased from 79.0% to 93.7% from pre- to post- test ($p = 0.003$). Eleven of the 14 surveyed participants (78.6%) found the skills sessions to be the most useful part of this course. On a 5-point Likert scale, interest in ophthalmology following the course was 3.67 (SD = 0.94). 6 students (42.9%) reported increased interest citing reasons related to “diverse subspecialty and career possibilities”, “surgical procedures”, and “more knowledge and understanding” of ophthalmology and physical exam techniques. In contrast, 3 students (21.4%) reported decreased interest, citing reasons related to the field being “too specialized”. When asked about other specialties they were considering following the course, students most often mentioned otolaryngology (28.6%), anesthesiology (28.6%), and internal medicine (14.3%).

REFLECTIVE CRITIQUE: In our pilot of IMSO, participants demonstrated increased knowledge with ophthalmic conditions and found the skill sessions most useful. Many participants reported an increased interest in ophthalmology following the course. Further studies should explore the longitudinal impact of such an elective course on ophthalmology interest.

ABSTRACT #33

NALOXONE CURRICULUM FOR PALLIATIVE MEDICINE FELLOWS

Caitlyn Kuwata, Laura Gelfman

PURPOSE AND GOALS: Naloxone is a vital tool in the harm reduction movement to address opioid overdose. Per the 2022 CDC Guidelines for Prescribing Opioids, ambulatory patients at increased risk for opioid overdose should receive a co-prescription of naloxone with an opioid prescription. In palliative medicine, community dwelling patients with serious illness are often prescribed opioids for cancer related pain. While the Hospice and Palliative Medicine ACGME milestones include competencies about opioid risks and adverse effects, there are no specific guidelines regarding use of naloxone in this population. Furthermore, there is variability in palliative care providers' comfort level for naloxone prescribing. The purpose of this educational project was to create and assess a curriculum focused on naloxone prescribing in the palliative care population.

METHODS: All 1st year palliative medicine/2nd year integrated palliative-geriatric fellows received an interactive lecture on naloxone prescribing for patients with serious illness; fellows used role-playing during the session to practice naloxone education for patients.

EVALUATION PLAN: To evaluate the prescribing patterns of the fellows, an audit of outpatient palliative charts was conducted to identify the percentage who received a naloxone co-prescription with an opioid. Anonymous pre- and post- intervention surveys of the fellows assessed attitudes towards naloxone use and prescribing practices.

SUMMARY OF RESULTS: Of the 64 charts reviewed, 23 (35%) patients seen at the palliative care clinic received a co- prescription of naloxone and an opioid. Twelve fellows completed the pre-intervention survey, in which 4 (33%) palliative medicine/integrated fellows previously received training on naloxone. While most fellows (75%) agreed they had both good knowledge and confidence in prescribing naloxone to patients, fewer reported they felt knowledgeable (25%) and confident (50%) with prescribing naloxone to patients with serious illness. The majority of fellows did not agree naloxone use would lead to negative outcomes like effecting patient-provider relationship, increased risky behavior, or unintended consequences. Five (42%) completed the post-intervention survey. 100% of respondents agreed or strongly agreed they are knowledgeable in their ability to prescribe naloxone to patients with serious illness.

REFLECTIVE CRITIQUE: Naloxone can be a life-saving medication in the event of opioid overdose. Given palliative care patients are often prescribed opioids for management of cancer related pain, it is imperative that naloxone co- prescribing be routinely considered for this population. This project provided initial education for palliative medicine and integrated palliative/geriatric fellows on this important topic. The small post-intervention response limits the ability to draw conclusions regarding the intervention's ability to impact attitudes about prescribing naloxone. Future chart audits will determine the effectiveness of this curriculum in increasing naloxone co-prescribing in clinic.

ABSTRACT #34

CLIMATE CHANGE AND MEDICAL EDUCATION: UNDERSTANDING NATIONWIDE CURRICULAR EFFORTS

Olivia Blanchard, Lucy Greenwald, Perry Sheffield

PURPOSE AND GOALS: Despite increased awareness of the public and global health ramifications of climate change, there is a lack of curriculum discussing climate change within medical education. In response, calls have gone out from organizations such as the American Medical Association and the National Academy of Sciences for physicians and medical students to develop a knowledge of climate change's medical relevance.

Where greater societal awareness and improved scientific understanding have begun to grab the attention of members of the medical education community, there is the precedent, the desire, and the need to incorporate climate change-related health (CCRH) into medical education.

METHODS: We conducted a literature review to identify existing curricular efforts, potential interviewee candidates, and professional societies that could be leveraged to support CCRH curriculum development. We hosted semi-structured interviews (n=9) with faculty members at different institutions across the country who have been involved with climate change education.

EVALUATION PLAN: After conducting the interviews, we familiarized ourselves with the transcribed notes, and coded them thematically to identify key ideas within each conversation. We pursued a qualitative approach to identify a set of consistent challenges in CCRH implementation and begin an inter-institutional conversation on how we can support our colleagues and peers in expanding climate change-related health education.

SUMMARY OF RESULTS: From our series of interviews with faculty members around the country involved in medical education efforts, we developed a stronger understanding of some of the key challenges in teaching medical students about the global health crisis that is climate change: Obtaining Institutional Resources, Formalizing Initiative Leadership, and Empowering Faculty Involvement. We also began to appreciate the creative strategies that programs across the country have employed to tackle these challenges. Working with interested students, developing funded faculty positions, and creatively integrating curricular materials are just a few of the approaches that have helped CCRH initiatives to succeed.

A better identification of the challenges and drivers for success in curricular efforts can provide a roadmap to more efficient implementation of CCRH topics within medical education.

REFLECTIVE CRITIQUE: A limitation of this study is that these interviews comprise only a small sample of institutions engaging in CCRH curriculum development; further, within the institutions represented by these conversations, there was a geographic majority of institutions on the East Coast. This limitation touches upon one of the most commonly discussed challenges within the greater discussion of formal CCRH initiative leadership, that of siloing of efforts amongst and within medical schools nationally.

These interviews represent only the very beginning of what must be a much larger inter-institutional conversation dedicated to climate change in medical education.

ABSTRACT #35

EMPATHY AMONG INTERNAL MEDICINE RESIDENTS, ASSESSMENT AND IMPROVEMENT

Erick Kawegere

PURPOSE AND GOALS: Merriam Webster defines empathy as the action of understanding, being aware of, being sensitive to, and vicariously experiencing the feelings, thoughts, and experience of another of either the past or present without having the feelings, thoughts, and experience fully communicated in an objectively explicitly manner [1]

In medicine, this is such a powerful tool physicians can use to enhance communication with their patients. Clinical empathy is crucial in building physician-patient relationship, and there is evidence from the health-related research literature to support the positive association of clinical empathy with improved therapeutic outcomes in a wide range of clinical settings [2]

Since clinical empathy is crucial in establishing interpersonal relationships, both among physicians and patients, then during training, it is also crucial to ensure residents are trained to maintain clinical empathy, additionally, this should be assessed periodically. Unfortunately, there is evidence of decline in empathy during training [3], additionally, one study showed that the cumulative mean empathy score in a community based Internal Medicine Residency program was high in the beginning of training, but decrease by the end --of training [4]

This project aims to first assess the level of empathy in our Internal Medicine Residents, this will be followed by empathy training and reassessment.

METHODS: The assessment of empathy in Internal Medicine residents will be done using CARE Patient Feedback Measure. This will be followed by formulating ways to improve empathy during residency training, in accordance with GME's requirement for interpersonal skills and communication. Short training sessions on neurobiology and physiology of empathy will be conducted to residents (all PGY levels), post empathy training, patients will assess residents using the same tool, CARE questionnaire, leading to pre and post CARE scores.

July 1st, 2023- Patients filling CARE questionnaire Sept- Questionnaire analysis.

Oct- December 2023- Residents training on neurobiology and physiology of empathy.

January 2024- Patients filling CARE questionnaire, results compared to the July 2023 CARE results.

EVALUATION PLAN: Comparison of pre and post CARE questionnaire scores.

SUMMARY OF RESULTS: The project is still in process.

REFLECTIVE CRITIQUE: Ongoing project; in planning phase.

ABSTRACT #36

IMPLEMENTATION OF A MOBILE-OPTIMIZED, SIMULATION-BASED NEPHROLOGY TEACHING TOOL FOR UNDERGRADUATE MEDICAL EDUCATION & ASSESSMENT OF KNOWLEDGE RETENTION

Margaret DeOliveira, Tonia Kim, David C. Thomas, Matt A. Sparks, Samira S. Farouk

PURPOSE AND GOALS: Perceived high complexity of nephrology and teaching quality have been identified as contributing factors to potential nephrology applicants choosing specialties other than nephrology. To simplify nephrology concepts and improve teaching, we implemented a mobile-optimized, simulation-based teaching tool for undergraduate medical education. We hypothesized that implementation of this tool would increase knowledge retention and impact attitudes towards nephrology.

METHODS: NephSIM is a free, open access, medical education teaching tool that uses interactive cases with iterative feedback to teach nephrology. NephSIM was implemented into a 2nd year medical school nephrology course using a pre-post test design with nonequivalent parallel groups. 2nd year medical students (MS2) were taught in small group sessions with standard cases in 2021(Control, n = 135) and then with NephSIM cases (n = 139) in 2022.

EVALUATION PLAN: A survey was administered via email to MS3 during their clinical rotations that included 5 nephrology cases, and questions addressing attitudes towards nephrology and future career plans. Knowledge acquisition was assessed by comparing MS2 nephrology course final grades.

SUMMARY OF RESULTS: Mean final course scores for the MS2 nephrology course were 91% (SD 5%, Control) and 90% (SD 4%, NephSIM). The survey response rate for the control and NephSIM groups were 16% (28/135) and 15% (21/139), respectively. Correct responses to nephrology cases were compared using Fisher's exact test: Case 1: 88% (Control) vs 65% (NephSIM) (p = 0.08); Case 2: 88% vs 95% (p = 0.13); Case 3: 56% vs 68% (p = 1); Case 4: 62% vs 76% (p = 0.75); Case 5: 17% vs 26% (p = 1). At the time of survey completion, 71% (Control) and 76% (NephSIM) of respondents had completed their internal medicine clerkship.

29% (Control) vs 10% (NephSIM) expressed interest in internal medicine (IM), 25% vs 14% in surgery, and 19% vs 9.5% were unsure. 89% of control group respondents found nephrology somewhat/very difficult compared with 100% in the NephSIM group (p = 0.25). 7% (2/28) of control respondents reported they were "somewhat interested" in a nephrology career compared to 14% (3/21) in the NephSIM group (p = 0.64). No respondent in either group answered that they were "very interested" in nephrology career. 54% of control group respondents reported no interest in a future nephrology elective compared with 52% in the NephSIM group (p = 1).

REFLECTIVE CRITIQUE: Though this study is limited by selection bias and small sample size, implementation of a mobile- optimized simulation-based nephrology teaching tool may be associated with increased knowledge retention. The majority of students found nephrology pathophysiology somewhat/very difficult. No respondent in either group expressed a strong interest in a nephrology career, though the majority of this cohort also did not express interest in IM.

ABSTRACT #37

MEDICAL AND GRADUATE STUDENT PERCEPTIONS OF DEMENTIA FOLLOWING AN ELECTIVE COURSE WITH A VIRTUAL ART PROGRAM FOR PEOPLE WITH DEMENTIA (PWD) AND CAREGIVERS

Mahalya Gogerly-Moragoda, Emily Xu, Carolyn Halpin-Healy, Helen Fernandez

PURPOSE AND GOALS: As of 2022, approximately ten percent of older adults live with Alzheimer's dementia, yet a shortage of dementia care specialists results in insufficient care for PWD and their families. This shortage is in part due to limited educational opportunities for medical students to learn about the experience of PWD and how to best care for them and their families. Clinicians-in-training who are able to develop early positive attitudes towards PWD are more likely to choose related careers. The purpose of our study was to examine changes in student perceptions of dementia following a virtual elective course with a virtual museum-based art program. By exploring creative ways of caring for PWD, clinicians-in-training can learn to develop an appreciation for the human behind the dementia diagnosis, and may influence career decisions.

METHODS: Preclinical medical and graduate students enrolled in a virtual elective humanities course consisting of 3 didactic sessions and 1 virtual museum-based art program with PWD and their caregivers during the 2021-2022 academic year.

EVALUATION PLAN: The Dementia Attitudes Scale (DAS) was administered pre- and post-course to evaluate student attitudinal shifts in knowledge and comfort with dementia, along with a qualitative survey.

SUMMARY OF RESULTS: Seven students attended the introductory lecture, with four attending a virtual museum-based art program and completing the course. There was no significant difference ($p = 0.13$) in DAS scores before and after completion of the course (pre-course mean = 111.3 [SD 8.85] vs post-course mean = 127.8 [SD 10.5]). Qualitative analysis revealed several themes relating to the impact of the programming on perspectives of dementia, including increased confidence and desire to work with PWD.

REFLECTIVE CRITIQUE: While earlier research supports increased knowledge and comfort following in-person experiences, our virtual intervention yielded no significant differences in knowledge and comfort with PWD among students who participated in the virtual museum-based art program. This suggests a need for more research on the impact of virtual programming on perspectives of dementia when interacting with PWD in non-clinical settings.



Global Health

POSTERS 38-39

ABSTRACT #38

EVALUATION OF TELE-SIMULATION AS AN EDUCATIONAL TOOL IN NEONATAL RESUSCITATION COURSES FOR MIDWIVES IN PERU

Mehrin Islam, Rachel Whitney, Czer A. Lim

PURPOSE AND GOALS: Conduct a pilot study to evaluate the feasibility of incorporating live, interactive telesimulation cases to an existing online module-based neonatal resuscitation course and evaluate midwives' knowledge and attitudes related to neonatal resuscitation.

METHODS: Beginning in July 2022, midwife students from Peruvian College of Midwives were offered a new neonatal resuscitation curriculum. Participants completed an existing online module-based training followed by four telesimulation cases that demonstrated the main actions taken during successful neonatal resuscitation. The telesimulation cases were first conducted through real-time Zoom sessions led by US-based certified neonatal resuscitation instructors to three midwife trainers, who then went on to conduct sessions of 3-4 learners each. Each case involved a pre-brief, a demonstration, case scenarios with alternating roles, live feedback, and debrief. Learner-based outcome measures included scores on a validated knowledge assessment of NRP principles, surveys of self-efficacy with NRP practice, and evaluation of course components. Knowledge and self-efficacy measures were collected prior to and immediately after course completion via Redcap™.

EVALUATION PLAN: Analysis will be conducted using repeated-measures ANOVA to compare pre and post-simulation scores per learner, and again against a control group from the previous learning group that used only the online learning course without telesimulation. Monthly meetings were conducted with the trainers regarding the progress of the course and challenges faced.

SUMMARY OF RESULTS: To date, six learners have completed the course and surveys. There have been significant barriers to completing the study, which is ongoing. Using a two-tailed alpha level of 0.05 and 80% power, 16 participants will need to be included to detect a 20% difference in scores.

REFLECTIVE CRITIQUE: We anticipate that the addition of tele-simulation with debriefing will be associated with increased performance on a validated knowledge assessment of NRP principles and in learners' reported self-efficacy. However, there are several barriers to the execution of tele-simulation as an education intervention in resource-poor settings.

More studies are needed to examine overcoming these barriers.

ABSTRACT #39

ASSESSING THE IMPACT OF A VIRTUAL PLATFORM TO PROVIDE GLOBAL EQUITABLE ONCOLOGY EDUCATION TO HEALTHCARE PROFESSIONALS

Yan Leyfman, Shubhadarshini Pawar, Alexandra Van de Kieft, Gayathri Menon, Muskan Joshi, William Wilkerson, Maduri Balasubramanian, Sean Jackewicz, Audun Utengen,, Steve Wilson, Chandler Park

PURPOSE AND GOALS: In 2022, a Pew Research Study showed that social media use has increased to 72% amongst U.S. adults and has become an integral tool for the dissemination of healthcare information. However, it is also outlet for the proliferation of misinformation, presenting a widespread challenge and creating a burden to both individual and public health globally, especially in resource-limited regions which are plagued by extensive healthcare outcome disparities. To address this, MedNews Week, a free, virtual educational platform streamed on several mainstream social media platforms, was developed to provide global health education through weekly oncology programming. The leading show, Keynote Conference, features live virtual presentations from oncology's premier global leaders discussing the latest developments in the field before a mainstream worldwide audience. The aim of this study was to assess the global reach and impact of this cost-free, virtual medical education platform.

METHODS: From January-September 2022, MedNews Week hosted 30 global leaders in oncology (h-index = 60). Viewership, impressions, and social media outreach data were collected from the accounts of MedNews Week and its respective members. In collaboration with Symplur, data was analyzed to measure the program's global reach, and a mixed-methods approach was employed to assess engagement. To reach healthcare professionals, MedNews Week partnered with VuMedi, a global video education platform for doctors, which provided data including viewership, global reach, page views, and unique visits.

EVALUATION PLAN: Data from Symplur and VuMedi was aggregated, descriptive analysis was performed, and a mixed- methods approach was employed to assess engagement.

SUMMARY OF RESULTS: During this nine-month period, MedNews Week programming extended across 54 countries with over 11.9K tweets, 5.7K retweets, and 41 million Twitter impressions. A network analysis of MedNews Week's main accounts demonstrated that cross-community engagement was enhanced by the usage of hashtags, which successfully expanded global audience viewership. A steady increase in the number of Keynote Conference attendees was observed, with viewership per month increasing from 2,989 (January 2022) to 24,110 (September 2022).

REFLECTIVE CRITIQUE: MedNews Week's continued growth in viewership and global reach amongst both healthcare professionals and the mainstream as a virtual and cost-free platform demonstrates its emergence as a viable outlet to combat medical misinformation, especially in lower socioeconomic regions. While previous studies have identified internet access and cost as barriers to high-quality medical information, MedNews Week has experienced steady growth and reachability especially within these limited areas. The platform's ability to showcase global leaders to mainstream and healthcare professional audiences at no cost offers a practical approach to combat educational inequity. Thus, such a platform has demonstrated great potential to positively impact oncology education globally.



Patient Safety

POSTERS 40-41

ABSTRACT #40

EVALUATING A COVID-19 SAFETY PROTOCOL FOR WILDERNESS MEDICINE EDUCATION

Adam Hill, Kaitlyn Votta, Ryan Lebuhn

PURPOSE AND GOALS: In response to the COVID-19 pandemic, educational institutions created safety protocols for in-person activities, yet guidance on wilderness medicine (WM) education is lacking. While protocols have shown variable impact in COVID-19 mitigation within summer camps and day camps, none have specifically evaluated WM-based endeavors. We describe a safety protocol implemented for a WM elective to limit the transmission of COVID-19.

METHODS: Based on guidelines from the Centers for Disease Control and Prevention, the American Camp Association, and institutional guidelines, we implemented a COVID-19 safety protocol among instructors, residents, and medical students participating in a WM course over three 5-7 day in-person, outdoor-based sessions from 2020-2022. The protocol included 1) pre-course and daily symptom screening, 2) single-person or “social bubble” tenting, 3) masks in enclosed areas, 4) hand hygiene, 5) mandatory vaccination (2021 and 2022 cohort), and 6) isolation or departure should a participant exhibit symptoms.

EVALUATION PLAN: Course participants completed a pre-course symptom screen, and symptoms were monitored daily during the course and for 14 days after. Post-course participant symptoms triggered a testing protocol. Positive cases were recorded and evaluated to determine rate of transmission within the course. Daily COVID-19 case counts for New York City during the 14 days prior to the course were obtained to ascertain background infection rates. Our primary outcome of interest was COVID-19 transmission rate amongst the study population.

SUMMARY OF RESULTS: A total of 42 people participated in the course during the study period. Average daily population case rates for 2020, 2021, and 2022 were 2, 16, and 18 per 100,000, respectively. There were no documented or suspected cases of COVID-19 transmission during the 3 evaluated cohorts. Two participants reported symptoms prior to the course, one with nasal congestion that resolved 1 week before departure and one with self-resolved gastrointestinal symptoms the day before departure. No symptoms were reported during or after the course by participants.

REFLECTIVE CRITIQUE: While the case transmission rate in our study population was zero, it is hard to draw any definitive conclusions as to the impact of the study protocol. The low rate of transmission in our population may have been due to small sample size, COVID-19 prevalence rates, vaccination rates, and other confounding factors. While two participants had pre-course symptoms, resolution at the time of the course makes transmission unlikely, although neither participant was tested on course arrival. We acknowledge that more frequent testing may have a role in future iterations of the protocol and improvements in quality and availability of rapid tests make this more feasible. Despite these limitations, our data suggests that with adherence to a rigorous protocol, in-person WM education is safe and COVID-19 transmission rates low.

ABSTRACT #41

RISK REDUCTION RESIDENCY CURRICULUM

Puja Singh MD, Allison Sauler MD, Elyse Lavine MD, Christopher Richardson MD, Catrina Cropano MD
Puja Singh, Allison Sauler, Elyse Lavine, Christopher Richardson, Catrina Cropano

PURPOSE AND GOALS: Patient safety and risk assessments are quickly gaining escalating interest in the healthcare arena globally, notably in emergency medicine (EM). Plagued by resource and staffing restraints compounded by high volume and acuity, the emergency department demands critical attentiveness to clinical care, patient safety, and documentation. Thus, EM training should directly address these key elements yet, there are very few EM training programs including this within their curriculum. While some programs offer administration, operations, and EMS electives, designated training in risk management and patient safety are often excluded. A fundamental understanding of these topics is imperative to offer safe, patient-centered, and cost-effective care. We propose a risk reduction series curriculum for EM residents in a 3 year ACGME training program.

METHODS: Conduct small group sessions led by an interdisciplinary panel of clinical physicians, risk experts, and litigation experts. Each session covers an organ system-based case reviewing the overall clinical care and litigious components. We then assess clinical and litigious knowledge gained from each session with a pre and post risk series survey.

EVALUATION PLAN: Residents will perform pre and post surveys after each risk series. They will additionally participate in an overall optional survey 2-3 times throughout the education year for feedback and residency education impact based on ACGME critical competencies.

SUMMARY OF RESULTS: The risk reduction series is highly regarded by residents. Of those who completed an interim risk series survey thus far, 92% feel that these sessions are helpful and useful in their learning. 93% look forward to these sessions as part of regularly scheduled residency conference. 100% feel that these sessions offer a novel and unique perspective to their education. 92% implement the topics discussed into their practice. Hearing the lawyer's perspective during the litigation of each trial was unique and highly valued by residents.

REFLECTIVE CRITIQUE: A fundamental understanding of patient safety, adverse events, and risk assessment is imperative in providing high-quality, efficient, and patient-centered emergency care. Despite this, not many residency curriculums include these topics. We have created a risk series curriculum that has benefited and supplemented residents' learning using an interdisciplinary team to improve patient safety and education in quality care. These sessions provide an innovative method to review patient cases, analyze risk, and learn from previous cases that have gone to litigation. Moreover, residents learn to reflect on management recommendations, improve documentation, and help build practice patterns.



Professional Development

POSTERS 42-45

ABSTRACT #42

FEMALE MEDICAL STUDENT ATTITUDES TOWARDS MENTORSHIP IN OPHTHALMOLOGY: AN OBSERVATIONAL STUDY

Megan E. Paul, Helen Liu, Stephanie Ying, Nisha Chadha

PURPOSE AND GOALS: Despite increasing matriculation of women into United States (US) medical schools, female representation in surgical fields remains unequal. Ophthalmology is not immune to these gender disparities, with females comprising only 35-45% of trainees and 26.1% of AAO membership. This study seeks to explore female medical students' (MS) attitudes towards mentorship in ophthalmology to inform future recruitment and mentorship interventions in the field.

METHODS: An email was sent to US MS recruiting female-identifying students to participate in a 30-minute focus group (FG) utilizing the Association of American Medical Colleges (AAMC) listserv and individual US Ophthalmology Interest Groups (OIGs) listservs in 2022. Participants were randomly assigned to FGs of 5-7 students facilitated by MS study investigators. FGs centered around understanding MS mentorship preferences and experiences that have influenced their interest in ophthalmology. Sessions were transcribed, stripped of identifiers, and analyzed for common themes. Finally, an optional post-interview survey was sent to participants to elicit feedback and learn about the impact of the session on their interest in ophthalmology.

EVALUATION PLAN: We plan to use qualitative methods to analyze key themes and discussion points emerging from the FGs. For the optional post-survey, summary statistics will be used for preliminary data analysis. Quantitative data including Likert scale questions will be assessed using ANOVA and Student's T Tests, whereas categorical data will be analyzed using Chi-squared testing.

SUMMARY OF RESULTS: To date, this study has been conducted with 5 FGs including 24 medical students. To date, 3 key themes have been identified as follows: 1. While participants specifically sought female mentors, they were limited in comparison to males. 2. Participants felt male mentors were more often in positions of power and could thus provide more career support. 3. Participants felt that near-peer mentorship from senior medical students was valuable. In the optional post-survey, 23 of 24 (95.8%) students participated, with 69.6% noting that having a female mentor was important to them, though 61.2% of participants felt that there was a disparity in female ophthalmology mentors at their institution. Several noted that the FGs validated their experience that identifying female mentors can be challenging.

REFLECTIVE CRITIQUE: Female MS sought female mentors but felt that there was a disparity of those in positions of power compared to male mentors. Mentorship programs for female students and faculty could assist with recruiting a more diverse group of future ophthalmologists. Limitations of this work include possible selection bias, limited sample size, and the qualitative nature of the study. Future work should focus on exploring how medical students' perceptions of female mentorship differ from those of academic leadership and interventions to increase diversity of ophthalmology mentorship.

ABSTRACT #43

INCREASING INTERVIEW PREPAREDNESS FOR FELLOWSHIP INTERVIEWS: A MOCK INTERVIEW PROGRAM.

Fionnuala Crowley, Rebecca Pietro, Ga Hee Kim, Patrick Tobin-schnittger, Yasmin Herrera, Gabriela Bernal, Georgina Osorio, Vasundhara Singh, John Andrilli

PURPOSE AND GOALS: Previous studies demonstrate that mock interviews increase medical students' and healthcare professionals' confidence and improve match rates, but little research has been conducted among medical residents. Despite this, few formalized programs targeting interviewing skills exist. We aimed to increase trainees' confidence from Mount Sinai Morningside/West Internal Medicine Residency Program entering subspecialty fellowship interviews and prepare them via a mock interview program.

METHODS: Sample questions and online interview preparation material was disseminated to applicants prior to the mock interview session. Sessions were organized by specialty and held via Zoom. Furthermore, prior to the interview session, applicants emailed their application to their scheduled interviewer and interviewers were given a list of questions and a standardized feedback rubric for zoom interviews. Applicants completed two twenty minute interviews with two interviewers/panels. Interviewers were then provided 10 minutes of feedback.

EVALUATION PLAN: A needs assessment was disseminated among fellowship applicants with focused questions identifying their preferred format for mock interviews. Post mock interviews surveys were collected from interviewers and interviewees.

SUMMARY OF RESULTS: 30 residents signed up to take part out of 34 residents applying for fellowship (88%), 27 residents (79.4%) completed the mock interviews. 20 residents (66%) filled out the pre- interviews needs assessment. 100% indicated they would like interview skills training and 100% were interested in taking part in mock interviews.

55% said they wanted physicians from their chosen specialty to interview them, 45% said any physician. A panel of three interviewers was most popular preference(45%), followed by 2 interviewer panel (30%) and single interviewer interviews (25%). 20 minute interview with ten minutes feedback was the most popular format (80%). 15 residents (55%) filled out the post mock interview survey. 100% of residents felt the interview preparation material provided was sufficient, 93% felt the interview length was just right. 100% found the experience helpful and should be organized every year. Suggested improvements included interviewers providing written feedback and having the interviews later in the evening to facilitate more faculty involvement. 21 interviewers (15 attendings, 6 fellows) completed the post interview survey (56% response rate). 81% felt interview length was just right, 14.3% too long, 4.8% too short. 100% said we should organize mock interviews every year, 100% said they would take part in the future. Most common feedback suggestion was to reduce length of interview and feedback.

REFLECTIVE CRITIQUE: Residents found mock interviews to be helpful preparation for fellowship interviews. Interviewers and interviewees both felt it was an activity that should be repeated every year. We found some discrepancies between what interviewers and interviewees perceived to be the ideal length of interview and feedback sessions.

ABSTRACT #44

COMMUNICATION SKILLS TRAINING CURRICULUM NEEDS ASSESSMENT FOR INTERNAL MEDICINE RESIDENT

Sonal Gandhi, Yosef Joseph Rene Amel Riazat Kesh, Fionnuala Crowley, Vasundhara Singh, Noelle Javier

PURPOSE AND GOALS: ACGME recognizes interpersonal and communication skills as one of the six core competencies for internal medicine residency training. Studies have shown increased patient, family, and clinician satisfaction and better healthcare outcomes with effective communication. Despite compelling evidence suggesting the utility of a formal curriculum, it is often a hidden curriculum, acquired by observation and self-study. This project's aim is to determine the perceived need for a formal curriculum by internal medicine residents and how to effectively address it.

METHODS: We created an anonymous survey for all internal medicine residents at various levels and assessed the following domains: prior training in communication skills for patients with serious illnesses, the frequency of difficult conversations, the level of perceived confidence in delivering serious news and complex goals of care discussion, and the importance of having a formal communication skills training.

EVALUATION PLAN: The results of needs assessment survey as outlined below will guide our didactics and training sessions.

SUMMARY OF RESULTS: There were 52 completed responses. The breakdown of responses are as follows: 48% PGY1; 25% PGY2; and 27% PGY3. Only a third (31%) of respondents reported any history of formal instruction in communication skills. The overwhelming majority (96%) reported having to deliver serious news and have complex goals of care and end-of-life discussions with patients at least once (the most common response being >10 times).

Most respondents (62% and 73% respectively) reported having a confidence of 3/5 or lower (on a Likert scale with 5 as most confidence) in having both types of discussions. 93% of respondents agreed that communication skills training is essential. The most popular areas of further communication training included establishing goals of care and discussing grim or uncertain prognoses.

REFLECTIVE CRITIQUE: Our results demonstrate a clear unmet need for a formalized curriculum on difficult end-of-life conversations including prognostication. The next steps in the project will be recruiting and training volunteer communication champions and designing a series of case-based small-group teaching and simulation sessions for residents during academic half-days with a pre-test and post-test assessment.

ABSTRACT #45

DIVERSITY OF LEADERSHIP AND ITS INFLUENCE ON DIVERSITY OF INTEGRATED PLASTIC SURGERY RESIDENCY COHORTS: A STUDY IN THE VIRTUAL ERA

David R. Benaroch, Olachi Oleru, Hannah Dietz, Nargiz Seyidova, Alice Yao

PURPOSE AND GOALS: Many programs have enhanced their online presence to address the challenge of transitioning to online residency interviews, but it limits both programs and applicants to a virtual snapshot when determining “fit”. An important influence of “fit” is the ability to racially, ethnically, and/or culturally identify with the program. The aims of this study are (1) to better understand the online information that residency programs are making available to prospective applicants and to (2) characterize racial diversity of integrated plastic surgery programs and investigate its influence on the corresponding residency cohorts.

METHODS: A cross-sectional study of U.S. integrated plastic surgery residency programs was performed in August 2022. Data on race were collected for residency program directors and resident cohorts. Relationships between these groups were analyzed.

EVALUATION PLAN: Individual profile pictures of residents and program directors were visually analyzed independently by two authors. The Fitzpatrick scale was used as a guide with input from visually observable phenotypes including hair texture and color, eye color, and facial features. Each image was categorized as “White” or “non-White”.

Additionally, five race categories were used: Asian, Black/African American, Central Asian, Hispanic, and Caucasian. Of note, the Asian cohort was separated into Central Asian/Indian and East Asian. Any discrepancies were evaluated blindly and independently by a third author. Data tables were compared to publicly available self-reported race and ethnicity data from the AAMC.

SUMMARY OF RESULTS: Racial data were collected on 82 program directors and their corresponding residency cohorts, a total of 1,174 individuals. This data closely matched the AAMC data on race/ethnicity in plastic surgery programs. By race, the smallest percentage of resident groups are Black/African Americans (3.39%) and Hispanic (4.17%). Though not statistically significant, more residents of a given race are in programs with a director of the same race.

REFLECTIVE CRITIQUE: There are several limitations in this study. The use of skin tone and other phenotypic attributes to classify race has been previously studied and validated. However, a person's race does not always correlate to their ethnicity. Race includes phenotypic characteristics while ethnicity encompasses social factors such as language, culture, and ancestry, and may not always include phenotypic traits. Furthermore, data was obtained from program websites and social media, with the potential to be outdated or inaccurate. However, the authors expect most programs to maintain accurate and up to date information with the increasing use of virtual platforms for applicants and patients. In addition, the authors thought it valuable to design this study based on the vantage point of potential applicants and what is available to them, as determining potential program fit may largely depend on the quality of publicly available informational materials.

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RESULTS

DISCUSSION

Quality Improvement

POSTERS 46-53

ABSTRACT #46

IMPROVING POSTPARTUM DIABETES SCREENING THROUGH PATIENT EDUCATION

Emily S. Markovic, Tirtza Spiegel Strauss, sophia Scarpelli Shchur, Lois Brustman

PURPOSE AND GOALS: To improve rates of postpartum diabetes screening in patients with recent pregnancy complicated by gestational diabetes

METHODS: All patients in our institution's Diabetes in Pregnancy Program are counseled on postpartum screening at initial and final visits if delivery is anticipated. Patients with GDM that delivered in May 2022 were identified and contacted by phone to encourage postpartum screening.

EVALUATION PLAN: OGTT results were reviewed 1 month later.

SUMMARY OF RESULTS: 31 patients were identified with pregnancies complicated by GDM that delivered in May 2022. 25 patients were able to be reached by phone. Only 1 patient had undergone postpartum diabetes screening prior to the intervention. After the intervention, 3 additional patients had an OGTT performed. 50% of those with an OGTT performed postpartum (2 of 4) exhibited evidence of glucose intolerance. 27 patients (87%) did not have an OGTT performed despite the interventions performed.

REFLECTIVE CRITIQUE: This project attempted to determine if individualized counseling postpartum would improve rates of compliance with postpartum diabetes recommendations. While still a low rate of follow up, this intervention did improve follow up rate from 7% to 13% and may indicate that patients are amenable to screening if counseled postpartum.

ABSTRACT #47

EVOLVING ATTITUDES TOWARDS SELF-CARE AND A WELLNESS CURRICULUM IN A PULMONARY AND CRITICAL CARE MEDICINE FELLOWSHIP TRAINING PROGRAM PRE AND POST-COVID-19 PANDEMIC

Rachel Potter, Sakshi Dua

PURPOSE AND GOALS: The COVID-19 pandemic has been disruptive to Pulmonary and Critical Care Medicine (PCCM) fellows training, including their wellness curriculum (WC). A WC was in place pre-pandemic and was interrupted for 1.5 years. We investigated shifts in attitudes towards self-care and continued interest in a WC in the post-pandemic era amongst our trainees. The COVID-19 pandemic has been disruptive to Pulmonary and Critical Care Medicine (PCCM) fellows training, including their wellness curriculum (WC). A WC was in place pre-pandemic and was interrupted for 1.5 years. We investigated shifts in attitudes towards self-care and continued interest in a WC in the post-pandemic era amongst our trainees.

METHODS: We administered anonymous surveys at a single institution PCCM fellowship program with 18 clinical fellows at the start of the academic year in 2019 (n= 16) and 2022 (n=15).

EVALUATION PLAN: We administered anonymous surveys at a single institution PCCM fellowship program with 18 clinical fellows at the start of the academic year in 2019 (n= 16) and 2022 (n=15).

SUMMARY OF RESULTS: 50% of the 2019 cohort rated self-care as “extremely important” compared to 33% of the 2022 cohort; however, when asked if their views on self-care changed due to the pandemic, 60% of 2022 fellows noted they value self-care more now than before the pandemic. 69% of 2019 fellows engaged in self-care at least a few times/week compared with 53% of 2022 fellows.

When asked about types of coping skills, both groups rated high on talking to someone (88% in 2019 vs. 79% in 2022). However, the 2022 cohort engages in more passive behaviors including sleeping (44% in 2019 vs. 79% in 2022) and watching TV (25% in 2019 vs. 79% in 2022), whereas 2019 fellows rated higher on mindfulness/meditation practices (63% in 2019 vs. 7% in 2022). When asked if a wellness curriculum was needed, 75% of 2019 fellows agreed, whereas only 47% of 2022 fellows felt this way. 27% of 2019 fellows noted they were “extremely likely” to attend a facilitated session compared to 0% of 2022 fellows. The 2022 cohort reported their most anticipated beneficial wellness activity as follows: 60% chose a social activity with co-fellows, 33% selected a free hour, 0% opted for a facilitated wellness session.

REFLECTIVE CRITIQUE: Over the period of 2019 to 2022, our fellows’ views on self-care shifted dramatically. More fellows in the 2019 cohort reported self-care as “extremely important” compared to the class of 2022; however 2022 fellows acknowledge that they view self-care as “more important” after the pandemic. The 2022 fellows engage in more passive coping skills, such as sleeping and watching TV, over a facilitated wellness session or mindfulness. The 2022 fellows also prioritized social interactions with peers, which may reflect isolation experienced during the pandemic.

Fellows in 2019 noted self-care and participation in a formalized WC as more important than the 2022 cohort, who prefer social interactions, sleeping, watching TV, and exercise.

ABSTRACT #48

EDUCATING STAFF AND PATIENTS IN A PRIMARY CARE GERIATRIC CLINIC TO INCREASE MEDICARE CHRONIC CARE MANAGEMENT ENROLLMENT

Alicia Yang, Rebecca Masutani, Christine Chang, Veronica Rivera

PURPOSE AND GOALS: In 2015, the Centers for Medicare & Medicaid Services instituted Chronic Care Management (CCM) billing codes to allow providers to receive reimbursement for non-face-to-face care provided to Medicare beneficiaries with multiple chronic conditions. In order to receive reimbursement, providers need to enroll patients in this program by obtaining verbal or written consent. In July 2021, we identified low rates of Medicare CCM enrollment in our clinic. Our goal was to educate staff and patients within a primary care geriatric clinic to increase CCM enrollment.

METHODS: In October 2021, we identified perceived staff barriers to CCM enrollment using semi-structured online and print surveys. 37.0% (n=10) of clinic staff expressed a lack of understanding regarding the CCM enrollment process. Based on these results, we initiated a multimodal intervention that consisted of educational huddles held over Zoom and the creation of CCM reference guides for staff. Huddles provided staff with a brief overview of CCM, shared enrollment statistics within the practice, and introduced a new streamlined workflow for enrolling patients in CCM. Clinic staff included physicians, nurse practitioners, nurses, medical assistants, front desk representatives, and social workers. We also developed a written consent form educating patients about CCM.

EVALUATION PLAN: We tallied the number of verbal and written consents obtained from CCM-enrolled patients on a monthly basis. We plan to disseminate a post-intervention survey to gauge staff perspectives regarding barriers to CCM enrollment.

SUMMARY OF RESULTS: In May 2022, only 35.4% (n=1,048) of CCM-eligible patients within the practice were enrolled in CCM. Since the intervention, 137 patients were newly enrolled into CCM from June to October 2022.

REFLECTIVE CRITIQUE: Implementation of a multimodal educational intervention at a primary care geriatric clinic increased the number of patients who were enrolled in Medicare CCM. The results of this project may inform future initiatives to increase CCM enrollment and broaden clinic staff understanding of CCM.

ABSTRACT #49

IMPLEMENTING AN EDUCATIONAL ORIENTATION CURRICULUM FOR THE MEDICAL GENETICS RESIDENCY PROGRAM

Sivan Lewis, Cassie Mintz

PURPOSE AND GOALS: Medical Genetics residency is a 2-year program whose trainees are either in a combined Pediatrics/Genetics or Medicine/Genetics track or have completed at least 2 years of Pediatrics, Ob-Gyn or Medicine residency. This diversity may lead to differences in genetics knowledge. Previously, no lectures were included in orientation, and a Medical Genetics course would take place mid-year. Genetics is a rapidly evolving field and trainees are expected to counsel families and educate team members on complex testing. Therefore, providing them with core concepts in orientation is essential for optimal patient care. Our goal was to assess residents' confidence in basic skills and improve orientation accordingly.

METHODS: We reviewed the Medical Genetics course curriculum to generate topics all trainees should be familiar with. A survey assessing confidence in related patient care activities was sent to trainees and graduates to account for prior orientation formats. Results were used to create an educational curriculum in consultation with program leadership.

Senior residents and genetic counselors taught the new curriculum in the 2022 orientation. Surveys were sent to evaluate improvement at least 2 months after beginning clinical work.

EVALUATION PLAN: Surveys were emailed to fellows and alumni. Questions included trainee background, materials available at orientation, and confidence in performing genetics-specific patient care activities during the first 2 months of training on a scale of 1 (=Very Uncomfortable) to 5 (= Very Comfortable).

SUMMARY OF RESULTS: Surveys were completed by 5 trainees and 5 graduates; 20% categorical-Ob/Gyn, 20% categorical-Peds, 30% combined Genetics/Peds, 10% combined Genetics/IM, 20% unanswered. Over 80% received an orientation handbook and chief resident overview. No educational content was reported aside from pedigree workshop in 30%. The following clinical skills had $\geq 60\%$ of respondents rating a confidence level of 1-2: performing a dysmorphology exam, ordering cytogenetic tests, ordering molecular tests and interpreting biochemical test results. After the new curriculum was given in July 2022, a repeat survey was completed by 3 incoming trainees. All responders reported a confidence level of 2-3 in dysmorphology exam, 3 in ordering cytogenetic tests and 3 in ordering molecular tests. Interpreting biochemical test results showed variation between 1-3.

REFLECTIVE CRITIQUE: The orientation curriculum successfully addressed and improved residents' reported confidence in areas of deficiency noted on the initial survey. Due to the small size of our program, we have limited data, however, we plan to continue to assess the success of our orientation and consider implementing further improvements, for example, to improve confidence in interpreting biochemical tests. It is worth noting that the planned dysmorphology lecture could not be added to orientation due to timing and was addressed via a longitudinal lecture series so the improvement in confidence is related to that educational experience.

ABSTRACT #50

A NOVEL SIMULATION BASED EDUCATIONAL CURRICULUM TO IMPROVE INTERNAL MEDICINE RESIDENT MANAGEMENT OF POST-CARDIAC SURGERY PATIENTS FOLLOWING CARDIAC ARREST

Elizabeth Zipf, Susannah Kurtz, Priscilla Loanzon, Barbara Sierra, Harrindra Seepersaud, James Salonia

PURPOSE AND GOALS: The incidence of cardiac arrest following adult cardiac surgery is 0.7 - 8%, and the survival rate remains remarkably high (79%). This impressive survival rate has been partly attributed to a high incidence of reversible causes of cardiac arrests in this population. The Society of Thoracic Surgery (STS) expert consensus has published a protocol to address these reversible causes, which deviates from the American Heart Association's ACLS algorithm. Although the protocol has become the standard of care for managing cardiac arrests in post-cardiac surgery patients, it is not traditionally included in internal medicine (IM) residency training. Mount Sinai Morningside is a center for cardiac surgery where IM residents are first responders to in-hospital cardiac arrests and may resuscitate post-cardiac surgery patients. The goal of this project was to evaluate and improve residents' knowledge and comfort in managing cardiac arrest in this specific patient population.

METHODS: A high-fidelity simulation case was developed to address the resuscitation of patients who arrest after cardiac surgery based on the STS protocol. Pre and post-simulation surveys were developed to evaluate residents' knowledge and comfort in managing this population. The surveys and simulation case were approved by the Center for Advanced Medical Simulation team.

EVALUATION PLAN: The case was integrated into PGY2 and PGY3 IM resident ACLS Simulation Sessions from 7/2022 - 9/2022. A chi-squared test was utilized to analyze improvement in residents comfort level in resuscitating post-cardiac surgery patients and ability to identify a difference in resuscitation of this population. A paired sample t-test and Mann-Whitney U test were utilized to analyze differences in knowledge between pre and post-simulation surveys.

SUMMARY OF RESULTS: A total of 75 IM residents participated in the simulation. 88% of residents reported they never received training in resuscitating a post-cardiac surgery patient and 4% felt comfortable resuscitating this population. Compared to the pre-simulation survey, there was a 29% improvement in recognizing differences in cardiac resuscitation between post-cardiac surgery patients and standard ACLS ($p < 0.001$); a 63% improvement in comfort resuscitating this population ($p < 0.001$); and a significant improvement in knowledge of the protocol (pre-simulation mean 2.27 [1.1], median [1,3]; post-simulation mean 3.8[1], median 4[3,4], $p < 0.001$).

REFLECTIVE CRITIQUE: This simulation training session resulted in a statistically significant improvement in residents' ability to recognize differences in managing a post-cardiac surgery cardiac arrest, comfort level in resuscitating this population, and knowledge regarding the STS protocol. It is important to note that this training was provided to senior residents who are often the code team leaders; however, PGY1 residents may often be the first responders to in-hospital cardiac arrests. Future work may include this training for PGY1 residents after they have received sufficient ACLS training.

ABSTRACT #51

FACTORS ASSOCIATED WITH UNPLANNED EXTUBATION IN THE INTENSIVE CARE UNIT - A QI PROJECT

Yasmin Herrera, Venus Sharma, Sara Luby, Susannah Kurtz, Adam Rothman, Raymond E. Jean, James Salonia, Joseph Mathew

PURPOSE AND GOALS: Unplanned Extubation (UE) in the Intensive Care Unit (ICU) is an indicator of quality of care and is associated with increased length of hospital stay. The proposed national benchmark is less than one UE per 100 ventilator days. With this quality improvement (QI) project we aim to analyze factors leading to UE and implement strategies to reduce the rate of unplanned extubations while promoting a culture of safety.

METHODS: We performed a retrospective analysis of all UE in the combined medical-surgical ICU and the Neuroscience ICU at Mount Sinai West from January 1st, 2020 to September 30th, 2022. These events were identified from the institutional electronic adverse event reporting software (Datix SafetyNet©).

EVALUATION PLAN: Our first intervention was to implement a post-event multidisciplinary safety huddle to improve documentation around UE. A huddle form was created to collect information such as: time of the event, reason for intubation, comorbidities, nurse-to-patient ratio, sedation, presence of physical restraints, Richmond Agitation- Sedation Scale (RASS) score and vital signs preceding the event, endotracheal tube (ETT) position at the lip line, plan for Spontaneous Breathing Trial (SBT) within the next 24 hours, need for reintubation within 24 hours, and completion of the safety huddle. We introduced the post-event huddle to the ICU staff, including residents, nurses, respiratory therapists, critical care fellows, and attending physicians.

SUMMARY OF RESULTS: Between January 2020 and September 2022, we identified 55 UE, representing an incidence of 0.43 UE per 100 ventilated days. Based on chart review, the majority of UE events occurred in the absence of sedative titration (67%) and in presence of physical restraints (76%).

After huddle implementation in March 2022 and up until September 30th, 2022, 14 UE were reported in the ICUs. This represents 0.59 UE per 100 ventilated days. The huddle was completed in 13 cases representing 81% compliance with huddle. Approximately half of the patients had a documented RASS of 0 or above, 1 hour prior to UE. Additionally, 50% of patients were considered appropriate candidates for SBT within 12 hours of the event. Five (31%) of the patients needed re-intubation within 24 hours. Four patients had been identified as high-risk before the event, based on age, gender and past medical history.

REFLECTIVE CRITIQUE: A multidisciplinary team-based approach focused on staff education and huddles can lead to early identification of patients at high risk for UE and create a culture of safety around UE. Many factors contribute to UE in the ICU including risk factors such as a history of polysubstance abuse, male sex, planned SBT and a positive RASS score. Despite a slight increase in rate of UE during the intervention period, the reintubation rates were low and the majority of the UEs were planned for SBT. Further research and resources are needed to identify modifiable risk factors and interventions to decrease the rate of UE.

ABSTRACT #52

STAY IN BED: INCREASING UTILIZATION OF HOME SLEEP TESTS AT THE IMA CLINIC

Stephen McCroskery, Jessica Farley, Julie Huang, Mitchell Gronowitz, Zachary Roberts, Jing Wang

PURPOSE AND GOALS: Obstructive sleep apnea (OSA) is a prevalent and underdiagnosed condition associated with significant morbidity and mortality. While in-lab polysomnography remains the gold standard diagnostic method, home sleep apnea testing (HSAT) has many advantages including lower cost, increased comfort, and greater accessibility, providing an avenue for quicker diagnosis and treatment of OSA. Our goal was to increase the number of HSATs ordered from the IMA Resident Clinic by 20% over six months.

METHODS: We interviewed residents at the IMA Clinic to better understand the HSAT ordering process from the initial patient encounter to receiving the sleep study results. Based on these conversations, we identified key issues such as lack of knowledge regarding insurance coverage, confusion about HSAT contraindications, and ambiguity regarding who coordinates the delivery and interpretation of each study. We addressed these issues by making appropriate changes to the IMA app -- an online repository of clinical manuals for IMA residents -- disseminating an instructional video to residents and giving a lecture to IMA Attendings. Additionally, we sent a monthly email to the IMA Firm with the fewest HSAT orders, reiterating the benefits of HSATs and summarizing the ordering process.

EVALUATION PLAN: The number of HSAT orders from the IMA Clinic each month were tallied.

SUMMARY OF RESULTS: The changes to the IMA App were updated on June 31, 2022 marking the start date of our interventions. The preceding four months were used for baseline analysis. The average number of HSATs ordered during the preceding four months was 17.25 tests/month. Over the next 5 months, from July through November, there were an average of 31 tests/month, representing a 79.7% increase. Therefore, editing the IMA App and providing education to residents and attendings effectively increased HSAT orders, although parsing the relative effectiveness of each intervention is not possible as they occurred within a short time span.

REFLECTIVE CRITIQUE: While interviews with IMA residents gave our team an in-depth understanding of the barriers to HSAT ordering, it did not allow for quantitative measures of resident knowledge before and after interventions.

Monitoring the number of HSAT orders from the IMA clinic was an effective proxy for resident knowledge. Soliciting resident attitudes could shed-light on the relative effectiveness of the interventions which could be useful for education-based quality improvement projects going forward.

Further, while we successfully increased the number of HSAT orders at the IMA clinic, more data analysis is required to determine whether our overall goal of decreasing time from suspected OSA to diagnosis and treatment was achieved. Barriers that remain include ensuring delivery and completion of HSATs along with timely connection to sleep medicine for treatment after diagnosis. We have a secondary analysis that is ongoing to identify these potential issues, which could be avenues for future QI interventions.

ABSTRACT #53

ASSESSMENT OF POST-PROCEDURAL COMPLICATIONS IN THE INPATIENT SETTING: IMPLEMENTATION OF A STANDARDIZED COMPREHENSIVE DOCUMENTATION TOOL

Kristine Lou Gargaritano, Irina Zaretsky, Shantheri Shenoy

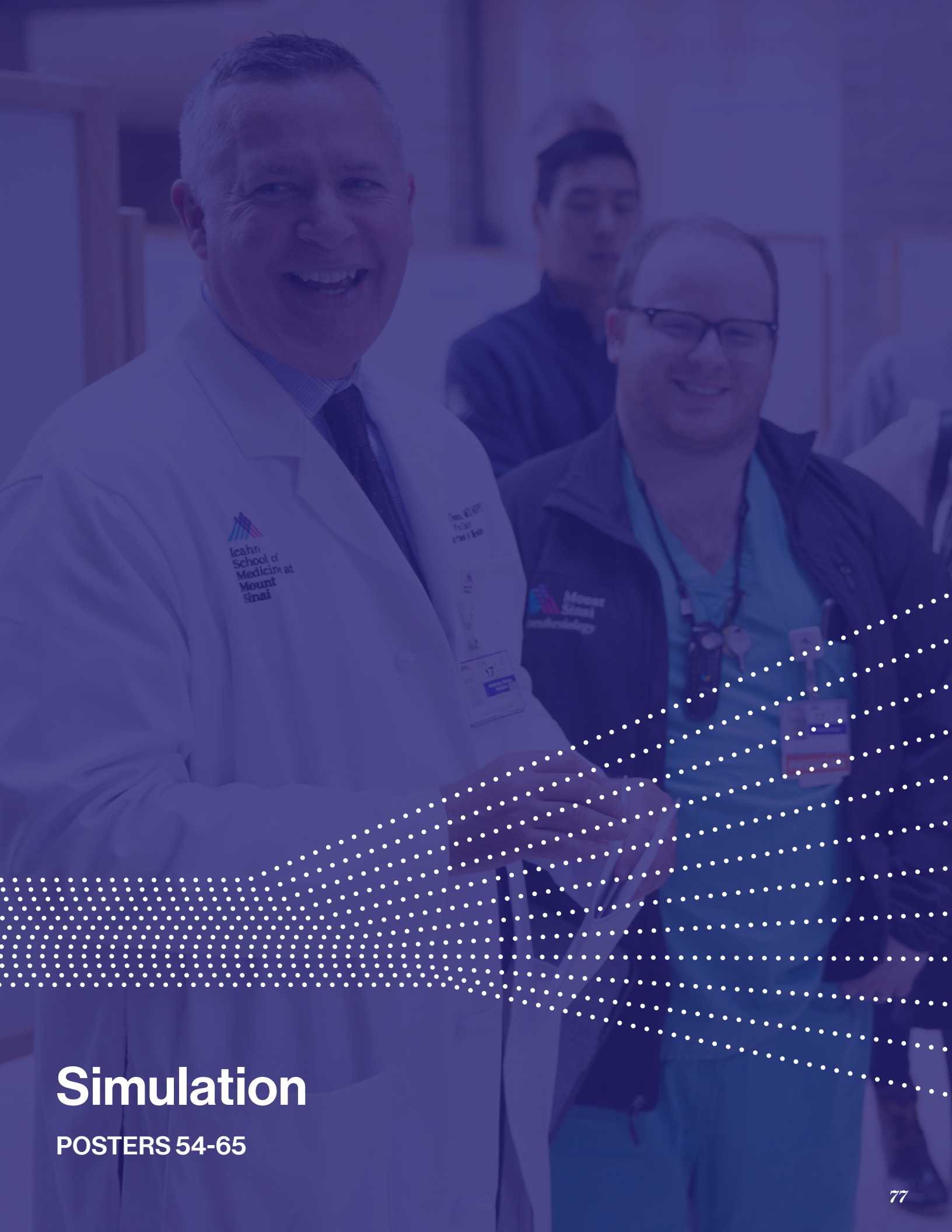
PURPOSE AND GOALS: Bedside procedures such as paracentesis, lumbar puncture, and thoracentesis are commonly performed on the general medicine wards by house staff, advanced practice providers, and attending physicians. While such procedures are considered safe and cost effective, lack of prompt detection of serious complications can have life threatening implications. We aim to promote patient safety in the post procedural period by performing timely and comprehensive assessment of patients through a standardized approach. Our goal is to improve provider compliance with evaluation of patients at 4 to 6 hours post procedures. We plan to analyze the post procedure complication detection rate and the effects of medical interventions implemented on patient outcomes.

METHODS: Our team designed a standardized template note within our electronic medical record (EMR) system to guide comprehensive post procedure patient assessments. The template is available to all providers within the department of medicine. The template prompts providers to document the following: time of assessment, procedure- related symptoms, a detailed physical examination, relevant labs and imaging, any post-procedural complications, a follow-up plan, and confirmation of the plan of care communication with nursing staff as well as the patient or the patient's health care proxy. Educational sessions are currently being conducted within the department of medicine to promote provider awareness and compliance with the utilization of our template.

EVALUATION PLAN: Patient charts will be reviewed following educational interventions to assess for compliance with the post procedure template completion. We will perform additional didactics if needed depending on our results. We will then assess the types of complications identified and assess the impact of early detection on patient outcomes.

SUMMARY OF RESULTS: Data collection will begin after the completion of educational interventions.

REFLECTIVE CRITIQUE: We hypothesize that systematic post-procedure patient evaluations will allow for early detection of complications, prompt intervention, and improvement in patient safety and outcomes.



Simulation

POSTERS 54-65

ABSTRACT #54

VENTILATOR TROUBLESHOOTING: A SIMULATION-BASED APPROACH TO HIGH PEAK PRESSURE ALARMS FOR CRITICAL CARE FELLOWS

Erin K. Eschbach, Jared Kutzin

PURPOSE AND GOALS: Mount Sinai Critical Care fellowships lack a dedicated curriculum on ventilator management.

Much of fellows' learning comes from discussion at the bedside of critically ill patients. Literature from outside institutions suggests that simulation-based curriculums can improve fellows' knowledge and comfort level with the mechanical ventilator. We sought to develop a simulation curriculum to educate critical care fellows on high-yield scenarios where proper ventilator management can improve patient outcomes.

METHODS: Two prompts were used with the SimMan3G simulator and an ASL5000 "breathing simulator." The SimMan was intubated and attached to a Medtronic Puritan Bennett 840 Ventilator. Case 1 was a 70-year-old who presented with hypoxemic respiratory failure and was intubated prior to being sent to the ICU. Learners were asked to assess the patient given desaturation and high-pressure alarms. The participants diagnosed Acute Respiratory Distress Syndrome (ARDS) and made necessary changes to the ventilator and patient in order to improve oxygenation. The second case was a 23-year-old with severe asthma requiring intubation. High peak pressure alarms led learners to diagnose hemodynamically significant dynamic hyperinflation due to status asthmaticus. If not adjusted for expeditiously, the patient developed a tension pneumothorax requiring intervention. The objectives of these scenarios were to recognize three common causes of high peak-pressure alarms, implement recruitment maneuvers to improve hypoxemia and compliance in a patient with ARDS, and to manage critical dynamic hyperinflation in a patient with obstructive lung disease. After each scenario, a debrief was conducted using the PEARLS Healthcare Debriefing Tool.

EVALUATION PLAN: Learners were asked to do a pre-scenario and post-scenario survey. The instructor, equipment, learning environment, and content of the session were all evaluated. A five-point Likert scale was used to assess graded responses and open-ended questions were utilized to obtain qualitative data. The debrief session was utilized to determine if all educational objectives were met.

SUMMARY OF RESULTS: All four educational objectives were met in these sessions. 100% of survey responders indicated that the material learned in these sessions would be helpful to them in their practice and would help to improve patient outcomes. Separate comments indicated an appreciation for learning more about ventilator physiology and respiratory mechanics as a whole. Learners learned teamwork skills such as closed-loop communication.

REFLECTIVE CRITIQUE: A simulation-based ventilator curriculum is a feasible and successful way to educate learners on diagnosing and managing common etiologies of ventilator alarms. These scenarios allow learners to practice their skills on real ventilators and patients that mimic critically ill patients with high risk for respiratory decompensation in a safe environment. Given the positive feedback received, additional ventilator scenarios will be implemented.

ABSTRACT #55

RAPID CYCLE DELIBERATE PRACTICE VS TRADITIONAL CASE-BASED SIMULATION FOR TEACHING EMERGENCY MEDICINE PHYSICIANS COMPLICATED OBSTETRIC DELIVERIES

Eleanor R. Aluise, Jared Kutzin, Christopher Strother

PURPOSE AND GOALS: High-risk obstetric deliveries in the Emergency Department (shoulder dystocia and breech deliveries) are a rare but high-stakes occurrence that all Emergency Providers must be prepared for. These complications pose threats of both morbidity and mortality to mother and infant. Given the rarity of these clinical presentations, simulation education is a potentially powerful tool in teaching and maintaining these skills. Classically, simulation education is case-based. In recent years, Rapid Cycle Deliberate Practice (RCDP) has been popularized as an alternative simulation method for learning procedural skills. Some studies have shown improved learning with this technique, while others have not. There have been no studies to date that can compare the effectiveness of these two strategies in teaching EM providers management of high-risk obstetric deliveries.

METHODS: This is a prospective multi-site cohort study comparing educational outcomes of the RCDP group to those of the case-based group. Educational outcomes include objective knowledge of managing shoulder dystocia and breech delivery as well as self-assessed confidence levels.

Eighteen participants took part in the study. Groups were comprised of similar members (EM faculty, residents, and PAs) using a between-subjects experimental design, based on clinical site. The RCDP group (N=10) used a birthing manikin task trainer while the case-based group (N=8) used high-fidelity manikin and standard scenario-debriefing training. Pre- and post- multiple-choice knowledge assessments were obtained from participants. Within-group data was analyzed using Wilcoxon sign-rank test, and between-group analysis was completed using Analysis of Covariance (ANCOVA).

EVALUATION PLAN: Evaluation of the simulation curriculum includes the post-intervention knowledge assessment to assess learning outcomes and confidence levels. Additionally it includes fields for participant feedback about the curriculum to assess their perceived utility and opportunities for feedback for future iterations.

SUMMARY OF RESULTS: In both groups, knowledge and confidence significantly increased after intervention ($p < 0.05$). However, after adjusting for pre-intervention scores, the case-based group experienced a significant larger jump in knowledge level than the RCDP group ($p = 0.045$). There was no difference in the post-intervention confidence score between the two groups ($p = 0.35$).

REFLECTIVE CRITIQUE: This was a fun project to implement as participants were largely invested and engaged in the material. We didn't get nearly as many participants as we had hoped, partly due to some recruitment errors. Some sessions were completed on-shift, which meant learners' focus was divided between the simulation and patients.

While the classic case seems to be better for pure knowledge acquisition in this study, RCDP was still effective. It is encouraging to see that both methods are effective, and educators may select whichever works better with schedule, space, and material limitations.

ABSTRACT #56

COLPOSCOPY AND LOOP ELECTROSURGICAL EXCISION PROCEDURE: A SIMULATION MODULE

Cynthia Abraham, Renita Kim, Ceyda Oner, Adjoa Bucknor

PURPOSE AND GOALS: The objective was to assess the effect of a colposcopy and loop electrosurgical excision procedure (LEEP) simulation module on learner comfort in performance of these procedures.

METHODS: We performed this simulation module in the outpatient ambulatory gynecology center at Mount Sinai Hospital. Learners reviewed guidelines on indications and steps in performance of colposcopy and LEEP prior to participation. All learners were residents in obstetrics and gynecology.

EVALUATION PLAN: Learners completed questionnaires before and after the simulation that inquired how comfortable they were in performing the following tasks: (1) positioning and focusing the colposcope, (2) identifying abnormal areas for biopsy during colposcopy, (3) collecting cervical biopsies and performing endocervical curettage, (4) assuring hemostasis after performance of colposcopy, (5) understanding indications for LEEP, (6) steps in preparing for LEEP procedure, (7) collecting the LEEP specimen, (8) assuring hemostasis after performance of LEEP. Comfort level was measured on a Likert scale from 1-5; 1 indicating very uncomfortable, 3 indicating neutral and 5 indicating very comfortable. Comfort levels before and after the simulation module were compared using student's T-test. P value of less than 0.05 was considered significant. Questionnaires also inquired on level of agreement with the following statements: "I feel prepared to perform colposcopies independently" and "I feel prepared to perform LEEPs independently." Agreement level was also measured on a Likert scale from 1-5; 1 indicating strongly disagree, 3 indicating neutral and 5 indicating strongly agree. The following demographic data were also obtained: (1) year in residency and (2) number of colposcopies and LEEPs performed prior to simulation module.

SUMMARY OF RESULTS: Modules were held in November 2021 and May 2022. Total of 34 residents participated. Mean comfort scores significantly increased from 3.1 to 4.3 ($p < 0.001$) before and after the module for all steps. There was an increase in level of agreement with statements on being able to independently perform colposcopy (2.2 to 3.5, $p < 0.01$) and LEEP (2.9 to 3.6, $p = 0.06$).

REFLECTIVE CRITIQUE: Although learner confidence in the ability to perform LEEP increased after participation in the simulation sessions, this difference was not as significant as that relating to learner confidence in the ability to perform colposcopy independently. We anticipate that learners were less likely to be confident in performing LEEP given the greater number of steps needed to perform a LEEP successfully than to perform colposcopy. These findings did not vary across post-graduate year level. Our findings attest to the importance of improving learner comfort prior to performing these procedures in the clinical setting and assuring adequate time and explanations are provided at the time of training sessions.

ABSTRACT #57

EXPLORATION OF DECISION-MAKING PROCESS AND COGNITIVE BIASES AMONG INTERNAL MEDICINE RESIDENTS: AN INNOVATIVE SIMULATION CURRICULUM

Edith T. Robin, Susannah Kurtz, Priscilla Loanzon, Barbara Sierra, Harrindra Seepersaud, James Salonia

PURPOSE AND GOALS: Our study aims to increase learners' awareness of their own clinical decision-making process and cognitive biases, as well as provide de-biasing tools and develop metacognition skills. Utilizing high-fidelity simulation, we explore the effect of theoretical background and awareness, on cognitive biases and decision-making processes in medicine.

METHODS: We developed an educational session for Internal Medicine Residents (PGY1-3, n=99), comprised of a theoretical part and a high-fidelity simulation-based case. Our learners were randomly assigned to two groups. Both received the same educational experience and materials. Group 1 received the theoretical background before the simulation case, allowing us to use our simulation case to assess the effect of the theoretical session. The simulation scenario was a case of an undifferentiated shock, designed so that specific common cognitive biases were easier to identify and discuss. Our theoretical session focused on Kahneman's Dual Process Theory. We discussed weighting and prioritization of data, cognitive biases, debiasing tools and concluded with a theoretical clinical case to practice and implement these new concepts.

EVALUATION PLAN: We used 3 assessment instruments. First, pre-test and post-test questionnaires – assessing learners' ability to recognize cognitive biases as a source of medical errors. Second, a team performance checklist, divided into medical and cognitive aspects, completed by the debriefer in real-time, during the simulation case. Third, was the Post-case Cognitive Time Out (PCTO) – a brief pause before the debrief for an individual worksheet, allowing the learners to reflect on their decision-making process and practice metacognition. We also used it to “probe” elements in their thinking process and potential biases before these are influenced by the group discussion.

SUMMARY OF RESULTS: We found a significant increase in the post-test compared to the pre-test scores. The team performance checklist showed no significant difference between the groups. A trend was noted toward improved cognitive scores among Group 1. Specifically in using explicit uncertainty, avoiding search satisfying bias, and performing diagnostic time out. The PCTO showed that learners from group 1 were 2.7 times less likely to demonstrate the cognitive bias of base rate neglect. There was no significant difference in the learners' situational awareness and data weighing.

REFLECTIVE CRITIQUE: Our study suggests that theoretical background on clinical decision-making processes may be an effective educational intervention to increase awareness of the cognitive aspect of medical errors and potentially decrease cognitive biases through metacognition and debiasing techniques. In our experience, simulation is an effective tool to facilitate discussion and increase awareness of these processes. We propose the PCTO as a potential tool to assist learners to reflect and practice metacognition, and educators to evaluate, provide feedback, and study cognitive processes in medicine.

ABSTRACT #58

EVALUATING THE EFFECTIVENESS OF VIRTUAL DIDACTIC SESSIONS VS SMALL GROUP SIMULATION-BASED SESSIONS FOR MASTERING RIGHT VENTRICULAR (RV) FUNCTION ASSESSMENT WITHIN A POINT-OF-CARE ULTRASOUND CURRICULUM (POCUS).

Kruti D. Gandhi, Errol C. Moras, Yoni Balboul, Arpanjeet Kaur, Adam Rothman

PURPOSE AND GOALS: POCUS is an invaluable tool for rapidly assessing patients in a variety of bedside clinical situations. The aim of the study is to determine whether a virtually delivered didactic POCUS session can be as effective as a small-group in-person simulation center-based session for improving learner competency in assessing RV function.

METHODS: The virtual didactic sessions were 2 hour-long zoom sessions for interns and residents and included pretest and posttest questionnaires. The in-person simulation sessions occurred twice weekly over eight weeks consisting of pretest and posttest surveys, a didactic lecture, case-based simulation scenario, and a debrief discussion. The survey questions consisted of cardiac US clips evaluated by 3 POCUS experts.

EVALUATION PLAN: Effect size as the percent of correct responses was calculated. Data was analyzed using SPSS with a level of statistical significance as $p \leq 0.05$.

SUMMARY OF RESULTS: For the small group simulation sessions, 40 interns and 45 residents were included. 40% of interns and 68.9% of residents correctly identified the RV pre-lecture, improving to 95% and 95.6% respectively, afterward. 57.5% of interns and 91.1% of residents correctly identified etiology of shock pre-lecture, improving to 85% and 97.8% respectively afterward. 62.5% of interns and 75.6% of residents correctly described normal RV characteristics pre-lecture, improving to 77.5% and 82.2% respectively, afterward. 17.5% of interns and 48.9% of residents answered all 3 questions correctly in the pretest, improving to 62.5% and 78% respectively, afterward.

These trends were statistically significant. The majority of interns pre-session reported no RV assessment knowledge(55.6%), and by the end of the session, 61.1% reported some knowledge. The majority of residents reported some familiarity with RV assessment pre-session(56.1%), and by the end of the session, 51.2% reported good knowledge.

For the virtual sessions, 11 interns and 30 residents were included. 54.5% of interns and 60% of residents correctly sized the RV pre-lecture, improving to 90.9% and 93.3% respectively, afterward. 18.2% of interns and 63.3% of residents correctly described RV function pre-lecture, improving to 63.6% and 80% respectively afterward. 36.4% of interns and 40% of residents accurately described McConnell's sign pre-lecture, improving to 90.9% and 90% respectively, afterward. 9.1% of interns and 25% of residents answered all three questions correctly pre-lecture, improving to 63.6% and 71.9% respectively afterwards. These trends were not statistically significant.

REFLECTIVE CRITIQUE: This study showed similar trends with impressive and comparable results in the assessment of RV function among interns and residents in both styles of training sessions. This highlights the potential for virtual didactic sessions to at least partially replace and obviate the need for small-group in-person sessions for basic POCUS training and comprehension. Future studies are needed to see the continued effectiveness of these methods longitudinally.

ABSTRACT #59

DIFFICULT CONVERSATIONS AND EFFECTIVE COMMUNICATION TRAINING FOR INTERNAL MEDICINE RESIDENTS: AN INNOVATIVE APPROACH THROUGH SIMULATION

Ariela Hazan, Jeeyune Bahk, Ariel Gordon, Neha Debnath, Priscilla Loanzon, James Salonia, Susannah Kurtz

PURPOSE AND GOALS: Given the lack of formal training surrounding delivering bad news and having difficult conversations, we initiated a multi-faceted simulation session to address this gap. This approach included both an introduction session and a novel simulation session, conducted in a simulation lab. The goal would be to increase resident comfort with common terms/phrases surrounding difficult conversations (such as NURSE statements and using the SPIKES framework). By using the simulation lab, we created real-life scenarios where residents may conduct these conversations in a controlled and standardized environment that maintains psychological safety, while receiving constructive feedback.

METHODS: A few days prior to the simulation session, an email with informative graphics about the SPIKES protocol and NURSE statements, as well as a video link portraying a simulated doctor-patient conversation utilizing the SPIKES protocol. Upon arrival to the SIM session, learners were asked to complete a pre-session survey and then received the SIM session introduction, including a review of the SPIKES protocol, NURSE statements and medical history of a simulated patient. Prior to entering the simulation, each learner was assigned a role within the SPIKES protocol for which they were responsible for handling during the session. They participated in a pre-interview huddle with a member of the Chaplaincy who acted as the mentor and expert. During the session, a Simulation Faculty facilitator completed an actionable items checklist. After the simulation concluded, a debrief and feedback session was held with the learners, Faculty and Chaplain. Learners were then asked to complete a post-session survey.

EVALUATION PLAN: We plan to use pre-session and post-session surveys to evaluate a change in subjective comfort and objective knowledge on the SPIKES protocol and NURSE statements. We also hope to disseminate a follow-up survey 3-6 months from initiation of this SIM lab to assess retention and retrospective applicability.

SUMMARY OF RESULTS: Simulation sessions started in January, 2023, data is still being collected. Preliminary results will be available by March 2023.

REFLECTIVE CRITIQUE: Though a simulated session is not as accurate as a real-life encounter, we hope that it will be a suitable introduction to using the SPIKES framework and a safe environment in which to practice these difficult conversations. We hope to increase comfort with and knowledge of these tools, and measure those with survey data, understanding the limitation of responses given the multiple-choice format. Limitations to our study include difficulty in standardization of sessions given varied facilitators, learner buy-in during a SIM session, ability to suspend disbelief in a simulated session, and applicability to real-life scenarios.

ABSTRACT #60

ABDOMINAL POINT-OF-CARE ULTRASOUND: A MULTIMODAL APPROACH

Suraj Shah, James Salonia, Adam Rothman

PURPOSE AND GOALS: Point-of-care ultrasound (POCUS) is an increasingly prevalent modality in the assessment of acutely ill patients. Few Internal Medicine programs have integrated POCUS into the core curricula, with most education being self-directed. This often leads to a wide discrepancy in competency and confidence level amongst residents. We therefore hypothesize that the incorporation of a multimodal approach to teaching abdominal POCUS will increase comfort, confidence, and knowledge in diagnostic image interpretation and acquisition, as well as in performing therapeutic interventions such as paracentesis.

METHODS: Internal Medicine residents were exposed to three different modalities of education: 30-minute interactive lecture, 30-minute hands-on training with task trainers, and a 45-minute high-fidelity simulation case with debriefing. The lectures were primarily focused on ultrasound image acquisition and interpretation to diagnose common pathologies. The task trainer utilized a Zone 1 skills checklist to increase proficiency and confidence in performing paracentesis. The high-fidelity simulation case summated primary objectives of demonstrating proper technique in abdominal ultrasound, as well as identifying ascites to diagnose and subsequently manage a patient.

EVALUATION PLAN: A pretest and posttest survey were given to measure confidence, comfortability, and knowledge in image interpretation/identification and therapeutic intervention (i.e., paracentesis). All questionnaires were administered immediately before and after training. Data was collected from March to April 2022, and analysis of variance (ANOVA) was performed across each PGY (postgraduate year) level.

SUMMARY OF RESULTS: Of the 108 participants included in the study, 95 completed the training modalities and surveys: PGY1 35 (36.8%), PGY2 30 (31.5%), and PGY3 30 (31.5%). Of all participants included, 36.8% had completed an ultrasound elective, rotation, or course in the past, the majority being PGY3. When compared to the pretest across all PGY levels, there was no statistically significant improvement in the participant's knowledge after the post-lecture evaluation (P-values 0.535, 0.573, 1.000). There was, however, a statistically significant improvement across all PGY levels when analyzing confidence and comfortability with image interpretation and therapeutic intervention (P-value < 0.05).

REFLECTIVE CRITIQUE: This study evaluated the effectiveness of a novel multimodal POCUS curriculum, and showed a statistically significant increase in confidence and comfortability with ultrasound. A blend of interactive didactics, hands-on task training, and high-fidelity simulation can be an effective approach to teaching POCUS. Several limitations are recognized in this study, such as a single center study, its translation directly to clinical care, and assessing retention over a lengthened period.

ABSTRACT #61

SIMULATION CASE ON ABDOMINAL SEPSIS- APPLICATION OF 3 ESSENTIAL CLINICAL CONCEPTS – SEPSIS PROTOCOL, COGNITIVE BIASES, AND ULTRASOUND (POCUS)

Venus Sharma, James Salonia

PURPOSE AND GOALS:

Overall learner goals:

Recognize the need to initiate the sepsis protocol. Avoid cognitive biases using debiasing techniques. Use ultrasound at a patient's bedside (POCUS) for diagnostic or therapeutic purposes together with a traditional medical examination.

METHODS: We educated the residents by developing case based simulation.

EVALUATION PLAN:

What should the learners gain in terms of knowledge and skill from this case?

Use action verbs and utilize Bloom's Taxonomy as a conceptual guide

Demonstrate immediate evaluation and management of sepsis.

Use POCUS for diagnostic and therapeutic purposes together with medical examination, history, and laboratory studies

Maintain a broad differential diagnosis based on the patient's clinical presentation.

Perform at least three simple debiasing techniques – slow down, discuss aloud, consult ('diagnostic timeout), "actively seek alternative hypotheses/diagnoses ("rule of 3)," and seek disconfirming evidence to avoid confirmation bias and premature closure (for example, ask to questions/look for data to disprove own hypothesis, and avoid pseudo- diagnostics).

Integrate Team STEPPS throughout the case.

SUMMARY OF RESULTS: Improved evaluation and management of sepsis.

REFLECTIVE CRITIQUE: Overview of learning objectives in general terms Broaden differential diagnoses. Perform appropriate diagnostic and therapeutic regimen. Integrate TeamSTEPPS.

ABSTRACT #62

A NOVEL SIMULATION-BASED APPROACH TO IMPROVE INTERNAL MEDICINE RESIDENTS' CONFIDENCE AND KNOWLEDGE IN PERFORMING BEDSIDE CARDIAC POCUS

Arpanjeet Kaur, Arshdeep Dhaliwal, Yoni Balboul, Barbara Karagiannis, Harrindra Seepersaud, Priscilla Loanzon, Susannah Kurtz, James Salonia, Adam Rothman

PURPOSE AND GOALS: Cardiac point-of-care ultrasound (POCUS) can complement traditional bedside physical examination and serve as an efficient and cost effective diagnostic tool. However, lack of dedicated training remains a major barrier to POCUS use as most internal medicine (IM) residency programs lack a standardized POCUS curriculum. We therefore developed a novel cardiac-focused POCUS curriculum for IM residents, integrating simulation-based hands-on learning with didactics to increase trainee knowledge and confidence in using bedside cardiac POCUS.

METHODS: This was a prospective study assessing Internal Medicine residents' knowledge and confidence of basic cardiac ultrasound knowledge using a pre and post-test design in the Center for Advanced Medical Simulation. All participants completed a pre-test questionnaire, followed by a didactic session, simulation case presentation, debrief, and a post-test questionnaire. There was a total of 98 participants, of which 83 residents (PGY1 n=38; PGY2 n=23; PGY3 n=22) completed both the pre and post-test questionnaires used for analysis. The questionnaires evaluated both overall confidence level (7 questions using a four point Likert scale) and knowledge (21 questions) and specifically assessed learners' abilities to obtain basic cardiac POCUS views, analyze left and right ventricular function, and identify the presence and size of pericardial effusions. After completing the pre-test questionnaires, learners received a 20-minute didactic session covering these topics, followed by a case-based simulation session testing learner's ability to utilize POCUS knowledge within a clinical context. This was then followed by a learner-centered debriefing session and a post-test questionnaire.

EVALUATION PLAN: For each PGY level, pre-test and post-test scores for every participant were calculated using SPSS, and a paired t-test analysis was completed to compare the mean difference in confidence levels and knowledge amongst the PGY levels.

SUMMARY OF RESULTS: 83 residents (PGY1 n=38; PGY2 n=23; PGY3 n=22) completed both pre-and post-test questionnaires. The mean increase in knowledge score was 28% for PGY-1s ($p<0.01$), 20% for PGY-2s ($p<0.01$) and 16% for PGY-3s ($p<0.01$). For confidence assessment, there was statistically significant increase of 1.29 points, 0.79 points and 0.44 points on post-test surveys for PGY-1s, 2s and 3s, respectively.

REFLECTIVE CRITIQUE: Our curriculum significantly improved trainees' knowledge and confidence in POCUS image acquisition and interpretation, indicating that a multifaceted approach utilizing simulation-based training and traditional didactics is effective for POCUS training.

ABSTRACT #63

DEVELOPING A NOVEL FRAMEWORK FOR CREATION OF A LARGE SCALE TRAUMA SIMULATION

Alexander Meshel, Laura Iavicoli, Barbara Dilos, George Agriantonis, Stuart Kessler, Phillip Fairweather, Devorah Nazarian, Daniel Lugassy, Suzanne Bentley

PURPOSE AND GOALS: A “red” trauma, the highest level of trauma designation at NYC H+H/Elmhurst Hospital, results in the formation of a known, yet ad hoc, multidisciplinary team coming together to deliver coordinated care to the trauma victim. Trauma is a major cause of death and leading a trauma team can be chaotic. Our purpose was to create an in situ trauma simulation in order to identify performance gaps, practice communication across disciplines and roles, and identify latent safety threats (LSTs). We sought to utilize a stepwise approach to create a large scale, in situ, full red trauma that would involve physicians from more than 6 specialties, nursing, registration, transport, and blood bank.

METHODS: We endeavored to create a framework for designing a large scale simulation. With each step in building out the simulation, individual objectives were created. We did not proceed to a more complex simulation until objectives were adequately met. Before starting, we developed a framework of complexity based on expert clinician judgment.

We were flexible in adapting our simulations to include other departments and trauma team members based on previous simulations. Simulation length and debriefings were tailored to each level of complexity.

EVALUATION PLAN: Clear objectives were created prior to each stage based on the participants and level of complexity desired at that respective stage. Debriefings followed simulations, LSTs were identified and recorded, and participants completed a post-simulation survey. We utilized a debriefing database to record type of comment (reaction, analysis etc.) and identified LSTs. A system was created to ensure the loop was closed regarding identified LSTs or other debriefing points discussed.

SUMMARY OF RESULTS: 45 trauma simulations were conducted at NYC H+H/Elmhurst over the course of 24 months. Eight levels of simulation were created with increasing level of difficulty/complexity. Participants met a variety of objectives with each stage of simulation. Numerous LSTs were identified. Different approaches to the trauma management were tried. 64 participants completed the most advanced, highest-complexity simulations. 100% agreed or strongly agreed that this was an effective clinical teaching tool and more than 95% strongly agreed or agreed this would impact their future clinical practice, improve teamwork, and improve communication.

REFLECTIVE CRITIQUE: This was a novel approach in creating a large-scale, in situ simulation. We believe that although there is increased time commitment to create multiple simulations, this method allows for a more thorough assessment of the system to analyze each step more robustly with concrete objectives. It is nearly impossible to debrief everything within a red trauma simulation; however, by breaking down the simulation into “simpler” parts that increase in complexity with subsequent stages, each objective is able to more clearly be explored. We plan to utilize this framework for future large scale simulations conducted at NYC H+H/Elmhurst.

ABSTRACT #64

NON-INVASIVE VENTILATION AND HIGH FLOW OXYGEN DELIVERY MANAGEMENT: CASE SIMULATION FOR MEDICINE RESIDENTS

Jeeyune Bahk, Matthew Alexander, Susannah Kurtz, James Salonia

PURPOSE AND GOALS: Utilization of non-invasive ventilation (NIV) and high flow oxygen delivery system (HFNC) on patients with respiratory failure has substantially increased overtime. The COVID-19 pandemic highlighted the importance of physicians managing patients with respiratory failure and the need for radical education in this area. Given the lack of formal education within the residency on this topic, a novel, simulation-based educational curriculum was designed to address the educational gap. Goals were to enhance understanding of the utility of and physiology behind NIV/HFNC, and to aid equipment familiarization. We aim to empower residents with independence and autonomy when managing patients with respiratory failure, which will lead to prompt patient care and escalation, reduced exhaustion of respiratory therapists, and potential positive impact on the hospital system.

METHODS: The curriculum will consist initially of a didactic component focusing on basic approach of managing a patient with respiratory failure, physiology behind different oxygen modalities, and indications and contraindications of NIV/HFNC. The learner group will then be divided into two. One half of the group will undergo a hands-on session, where various NIV/HFNC machines brought in by respiratory therapists will be available for equipment familiarization. Simultaneously, the other half of the group will undergo a simulation component of the curriculum at the Center for Advanced Medical Simulation, which will incorporate a high-fidelity simulation case to train the learners in the clinical application of oxygen delivery systems. After the simulation, a short debrief and feedback session will be held. The two groups will then switch, providing opportunities for all learners to experience both sessions.

EVALUATION PLAN: Both groups will be asked to fill out a pre-session survey and post-session survey, which evaluate a change in subjective comfort and objective knowledge on NIV/HFNC management. Graphics consisting of key learning points will be sent out to learners after the sessions for consolidation and for a reference in real-life scenarios. After 3 months, a short post-session survey will be sent out to evaluate long-term retention and applicability.

SUMMARY OF RESULTS: Simulation sessions will be conducted in February to April 2023, with preliminary results expected to be available immediately after.

REFLECTIVE CRITIQUE: The curriculum is designed to include three different components, in hope to maximize learning opportunities. Pre- and post-session surveys were carefully written to evaluate effectiveness of the sessions.

Limitations to the study include difficulty in standardization of sessions with different facilitators, applicability to real-life scenarios, and generation of possible discomfort/anxiety in learners.

ABSTRACT #65

VIRTUAL REALITY AIRWAY TRAINING VERSUS INSTRUCTOR LED TRAINING: A RANDOMIZED CONTROL TRIAL

Jared Kutzin

PURPOSE AND GOALS: We undertook this study to investigate the utility of a VR airway training module as compared to training by an Emergency Medicine core faculty member. A second purpose of this study was to investigate whether the virtual reality environment was a comfortable, user friendly environment for participants to learn in.

METHODS: A prospective, randomized controlled trial was designed to assess the within group and between group differences between virtual reality education and instructor led training.

EVALUATION PLAN: EM interns each completed an assessment which required them to setup a simulated clinical room for an intubation. Each resident was individually assessed and were prompted with a standardized opening script instructing them to setup the room to the best of their ability while verbalizing each piece of equipment they were using. A checklist was used to assess the ability of the interns to successfully setup the room for intubation. Following the initial assessment, participants were randomized to receive 40 minutes of faculty lead instruction or 40 minutes of VR training.

SUMMARY OF RESULTS: Both groups reported an average score of 2.5 out of 5 in terms of comfort with setting up for an intubation and 2.875 with performing an intubation. The majority of participants 15/17 had performed 4 or less intubations at the time of this study.

The mean score for the VR group on the pre-assessment was 5.25 out of 18 while the instructor lead group pre- assessment mean was 8.6 out of 18. The post-assessment mean for the VR group was 12.5 out of 18 (69%) while the instructor lead group mean was 14.4 out of 18 (77%).

A paired-samples t-test was used to determine if there was a statistically significant mean difference between time and time 2 within the groups. The results indicated that both the VR group and the instructor lead group significantly improved from time 1 to time 2, based upon the number of items scored correctly on the simulation assessment.

Assessing the effect of the different educational modalities on post-intervention scores on intubation setup procedures while controlling for pre-intervention ability, there was no statistically significant difference in post-intervention scores of items setup correctly between the groups, $F(1, 17) = 0.461$, $p = .508$, partial $\eta^2 = .032$.

REFLECTIVE CRITIQUE: We found that for education that consisted of identifying equipment and organizing it in a step- wise manner in preparation for a clinical procedure, the virtual world was equivalent to a faculty member lead session. This is important since the findings from this study may inform emergency medicine faculty as to which educational programs, they should be focusing their efforts on. Faculty engagement with residents is highly valued, but it is likely that the focus of the interactions should be on the nuances of the procedure and troubleshooting the process not in the basic knowledge acquisition differentiating equipment or setting up equipment in preparation of a procedure.



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Reena Karani, MD, MHPE
Director
Institute for Medical Education

IME CONTACT INFORMATION:

E-mail: InstituteMedEd@mssm.edu
Website: icahn.mssm.edu/IME
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BILIRUBIN AS A PREDICTOR FOR PERFORATED APPENDICITIS

Alverson J. Agresti MD, Jeffrey J. Ambrey MD, Cora M. Jensen MD, PhD
Division of General Surgery, Department of Surgery, Johns Hopkins School of Medicine at Mount Sinai

INTRODUCTION

Acute appendicitis (AA) is the most common surgical abdominal emergency. The incidence of AA is 10-15% in the general population, with a peak incidence in the second decade of life. The pathogenesis of AA is unclear, but it is thought to be related to obstruction of the appendix, leading to bacterial overgrowth and inflammation. The clinical presentation is nonspecific, with abdominal pain, nausea, and vomiting. The diagnosis is often made based on clinical findings and laboratory tests. The gold standard for diagnosis is laparoscopic appendectomy. However, the morbidity and mortality associated with AA are high, particularly in the elderly and immunocompromised. The use of bilirubin as a predictor for perforated appendicitis (PA) is a novel approach. This study aims to evaluate the utility of bilirubin as a predictor for PA in patients with AA.

METHODS

The Johns Hopkins School of Medicine National Cancer Institute (NCI) Cancer Therapy Evaluation Program (CTEP) Appendicitis Study Group conducted a retrospective analysis of 1,000 patients with AA who were treated at Mount Sinai from 2000 to 2010. The study included patients who had a preoperative bilirubin level measured and a subsequent diagnosis of PA. The primary endpoint was the sensitivity and specificity of bilirubin as a predictor for PA. Secondary endpoints included the impact of bilirubin on the rate of perforation and the need for laparotomy.

RESULTS

Parameter	Value
Total number of patients	1,000
Number of patients with PA	150
Number of patients without PA	850
Mean bilirubin level (mg/dL)	1.2
Mean bilirubin level in PA patients (mg/dL)	1.8
Mean bilirubin level in non-PA patients (mg/dL)	1.0
Sensitivity of bilirubin as a predictor for PA	85%
Specificity of bilirubin as a predictor for PA	75%
Area under the curve (AUC)	0.82

Figure 1: AUC for bilirubin as a predictor for PA. The AUC is 0.82, indicating a high predictive value for bilirubin as a predictor for PA.

CONCLUSIONS

This study suggests that bilirubin is a useful predictor for PA in patients with AA. The high sensitivity and specificity of bilirubin as a predictor for PA suggest that it may be a useful tool for identifying patients at high risk for PA. Further studies are needed to confirm these findings and to evaluate the impact of bilirubin on the rate of perforation and the need for laparotomy.

ACKNOWLEDGMENTS

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PHARMACOLOGICAL SCIENCES

Leveraging mechanistic insights from molecular dynamics simulations to discover new drugs

MARTA FILIZOLA, PHD

INTRODUCTION

Molecular dynamics (MD) simulations provide a powerful tool for studying the structure and dynamics of biomolecules at the atomic level. MD simulations can be used to study the interactions between a drug molecule and its target, providing insights into the mechanism of action and the binding site. This study aims to leverage mechanistic insights from MD simulations to discover new drugs. We will present our findings on the use of MD simulations to identify potential drug targets and to optimize drug molecules.

METHODS

We used MD simulations to study the interactions between a drug molecule and its target. The target was a protein, and the drug molecule was a small molecule. We performed a series of MD simulations, varying the drug molecule and the target protein. We analyzed the results of the simulations to identify potential drug targets and to optimize drug molecules.

RESULTS

Our results show that MD simulations can be used to identify potential drug targets and to optimize drug molecules. We identified several potential drug targets and optimized drug molecules that showed high binding affinity and specificity. These findings suggest that MD simulations are a valuable tool for drug discovery.

CONCLUSIONS

This study demonstrates the utility of MD simulations in drug discovery. We have shown that MD simulations can be used to identify potential drug targets and to optimize drug molecules. These findings suggest that MD simulations are a valuable tool for drug discovery.

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Icahn
School of
Medicine at
**Mount
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*Institute for
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