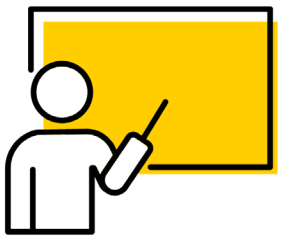
2026 Medical Education Day Poster Session

May 19, 2026

Educational Initiatives Poster Guide

UI Health Care and the Carver College of Medicine are pleased to present the inaugural UI Health Care Medical Education Day Poster Session, highlighting the creativity, scholarship, and ongoing work of our medical education community. This booklet showcases evolving innovations and research in undergraduate and graduate medical education developed by medical students, residents, fellows, faculty, and dedicated CCOM staff. The posters featured here reflect a shared commitment to advancing how we teach, learn, and train across the continuum of medical education and will be presented during Medical Education Day on May 19, 2026, with selected projects recognized for excellence and impact in UME and GME-focused categories.



Posters will be judged, and winners announced at 4:30 pm during the Awards/Cocktail hour of Medical Education Day. .

→ gme.medicine.uiowa.edu/gme-collaboratives/innovation-collaborative

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1. Residents' Perceptions of the Impact of Secure Chat Messaging on Patient Care and Wellbeing

Team Members: Kelly Wood, Katherine Gaul, James Bussey, Anubha Mittal, Anna Schmitz

Department: Pediatrics

Introduction: Secure text messaging systems (STMS) allow for fast, convenient, and bidirectional communication amongst team members. Few studies have looked at resident physicians' perceptions of STMS impact on patient care and wellbeing.

Objectives: Assess residents' perceptions of STMS volume and its impact on patient care and wellbeing.

Methods: Pediatric residents from a single academic institution were surveyed electronically. A survey was developed, and group members collaboratively reviewed and refined the survey, selecting final questions based on the study's objectives and group's consensus. Survey responses were formatted using a Likert scale (5-point) to assess participants' level of agreement. Participation was voluntary and anonymous. Residents were recruited at academic sessions and via email. A QR code was created to facilitate participation. The average time for survey completion was 3:29.

Results: Thirty-five residents responded for a response rate of 68.6%. Breakdown by year of training was 31.4% (11) PL1, 31.4% (11) PL2 and 34.3% (12) PL3. The majority reported STMS volume was emotionally draining (74.2%), disrupted patient focus (88.5%), and interrupted learning (85.7%). 65.7% did not feel protected times for education and sign-out were supported. The majority reported no effect on perceived patient safety and did not identify as having symptoms of burn out.

Conclusions: The majority of residents felt that STMS negatively impacted the ability to focus on patient care and learning due to frequent interruptions and disruptions. While the majority felt emotionally drained by the volume of messages, few reported symptoms of burnout and only one felt patient safety was compromised. Quality improvement projects to optimize STMS are needed to ensure protected learning and sign-out as well as for resident physicians' wellbeing.

2. The Critical Role of the Program Coordinator: Insights from Plastic and Reconstructive Surgery Programs

Team Members: Briana Horwath, Amy Huang, Cate Unruh, Daniel Issael Kakou, Kelly Ledbetter, Jarrod Keith

Department: General Surgery

Introduction: The role of the Program Coordinator (PC) for Accreditation Council for Graduate Medical Education (ACGME) programs has significantly evolved since 1999 when the six core competencies were introduced. The role currently encompasses all aspects of administration and program management. This project aims to develop an understanding of the experiences of GME Program Coordinators in plastic and reconstructive surgery (PRS) fellowships and residencies. Additionally, we seek to investigate the relationship between the resources available to Program Coordinators and the success of plastic surgery training programs.

Methods: A survey was distributed to 126 PRS Program Coordinators, collecting data on wellness, compensation, benefits, perceived institutional support, and program performance. Responses were categorized into four domains: PC Wellness, Compensation and Benefits, PC Support, and PC Resources and analyzed in relation to program performance metrics. Salary and home zip code data were evaluated using the MIT Living Wage Calculator.

Results: Forty-eight responses were received (response rate: 38%). Complete and partial surveys were considered, so the response number varies by question.

For the wellness category, the highlights were: the majority (59.5%) of program coordinators felt like their daily workload was reasonable. The majority (56.5%) of program coordinators often feel emotionally drained at work. Wellness scores tended to be lower in programs with more citations and Areas for Improvement (AFI) but most correlations were not statistically significant ($r = -0.2953$, $p = 0.0850$).

For the compensation and benefits category, the highlights were: Less than half (44.4%) of program coordinators feel appropriately compensated for their work. The majority (75.6%) of program coordinators reported working after- hours or during paid leave. Higher compensation and benefit scores were moderately associated with better wellness scores ($r = 0.3145$, $p = 0.0332$).

In the program coordinator resources category, 41% of program coordinators report considering leaving GME "frequently", "everyday" or "actively looking for a new job." Greater resource availability correlated with fewer AFIs ($r = -0.3728$, $p = 0.0231$).

In the program coordinator support category, most program coordinators (91.5%) agree or strongly agree they work in a supportive environment. Supportive environments were similarly linked to fewer AFIs ($r = -0.4667$, $p = 0.0035$; $r = -0.4284$, $p = 0.0091$) and lower citations ($r=0.428$, $p=0.0091$). Table 1 details the responses to the selected survey questions.

About 25% of program coordinator compensation is below the living wage for a double income household with two children (Table 2). All or nearly all program coordinator compensation was above the living wage for households with no children (Table 2).

Conclusion: A significant proportion of PRS Program Coordinators report challenges related to wellness, workload, and compensation. These factors contribute to high turnover intentions, which may negatively impact program stability and performance. Our data demonstrates that providing Program Coordinators with resources and a supportive environment is correlated with lower AFIs and citations. The resources available to PCs and support provided by Program Directors may affect individual program performance.

3. Indigenous Health in Residency Identifying Gaps in Equity-Focused Medical Education

Team Members: Sanyogita Chandra and Krista Johnson

Department: Internal Medicine

Introduction: Indigenous populations experience disproportionately high rates of chronic disease and reduced life expectancy. Disparities for this population are rooted in historical trauma and systemic racism. Although indigenous populations live throughout the United States, there is a lack of formal education on Indigenous health within Internal Medicine residency programs. Few studies have evaluated residents' knowledge regarding the unique health challenges facing Indigenous communities or whether they feel adequately prepared to care for these populations. This study aimed to assess Internal Medicine residents' self-reported knowledge of Indigenous health inequities and their perceptions of the adequacy of the related training regarding caring for Indigenous populations within the University of Iowa Health Care (UIHC) residency program.

Methods: Data was collected in the form of a survey distributed to Internal Medicine residents, including Medicine-Psychiatry and preliminary year residents at UIHC in June 2025. Survey responses were anonymous, although we did request the name of the residents' medical school for further research purposes. The survey was distributed electronically and included both quantitative and qualitative items. Residents were asked to rate their knowledge of health inequities affecting Indigenous populations, their comfort in providing care to Indigenous patients, and their perceptions of whether they had prior training in Indigenous health and if the residency program offered adequate training in Indigenous health. Responses were captured using Likert-scale items, and optional free-text fields were included to gather suggestions for curriculum improvement. Qualitative responses were reviewed and analyzed to identify common themes related to perceived gaps and opportunities for improvement.

Results: The survey was completed by 47 of 126 residents. 32% responded that they did receive formal education on Indigenous healthcare in medical school, with a majority of these residents attending medical schools in the Midwest. 93% of the residents expressed they did not feel confident in explaining historical and intergeneration impacts of colonization on Indigenous health. 77% did not feel that they are aware of the health disparities that affect Indigenous populations. 77% felt they are not confident in recognizing bias in healthcare delivery. 94% of residents indicated feeling confident that it is their responsibility as a physician to learn about Indigenous health issues. 87% of residents noted they have not received education or training during their residency training but 49% noted that they have interacted with Indigenous patients during residency. 84% of residents noted that lack of knowledge was a major barrier in providing care to these communities. Many residents felt that clinic rotations in Indigenous communities, hearing from guest speakers and case-based learning would be beneficial formats of teaching.

Conclusions: Despite a strong sense of responsibility to learn about Indigenous health, most Internal Medicine residents reported limited confidence and minimal formal training on the topic during residency. While nearly half had cared for Indigenous patients, 84% cited lack of knowledge as a major barrier to providing culturally safe care. These findings reveal a clear educational gap and emphasize the need for intentional integration of Indigenous health content into Internal Medicine curricula. Collaborating with Indigenous communities, educators, and health leaders will be essential to ensure content is contextually grounded, respectful, and actionable. Embedding this education into existing didactic, clinical, and community-based learning opportunities can help better prepare trainees to provide equitable care.

4. Introducing Artificial Intelligence Basics to Medical Trainees

Team Members: Amanda Chang, Pranav Puri, Milena A. Gebska

Department: Internal Medicine

Introduction: Artificial intelligence (AI) has been growing at an exponential rate and has been increasingly incorporated into healthcare decisions and delivery. Despite this, medical education often offers limited educational exposure to AI concepts and learners, and learners themselves have expressed interest in learning core AI competencies prior to graduation. Thus far, few medical institutions have implemented formal AI teaching into their curriculum. Our aim is to develop a formal AI educational session for medical students to improve their familiarity and confidence in understanding AI concepts.

Methods: At the University of Iowa, we developed a 1 hour educational session given to medical students on their Advanced Internal Medicine sub-internship. We distributed pre- and post-surveys regarding learners' confidence, exposure, and current use of AI. Statistical analysis was performed using Wilcoxon signed-rank test for paired Likert-scale responses.

Results: There were a total of 39 completed pre- and post- surveys. The majority (92.3%) of learners found the AI educational session to be helpful, and likewise, 92.3% of learners would recommend this session to others. Learners felt that the educational session was overall good quality with 92.3% giving a positive evaluation. There were statistically significant improvements in learners' satisfaction with AI coverage in the medical education curriculum ($p < 0.001$), basic AI knowledge ($p < 0.001$), and confidence in explaining AI tools to patients ($p < 0.001$).

Conclusion :In current medical education structures with limited AI exposure, a targeted medical education session regarding AI can help improve learners' AI knowledge, confidence in explaining AI, and satisfaction with AI exposure in medical curricula. Future educational sessions could incorporate more hands-on practice for utilizing AI tools effectively

5. Resident Education Session on Caring for the Uninsured Patient

Team Members: Calie Brownlee, Katherine Harris

Department: Internal Medicine

Introduction: Residents are responsible for caring for patients from diverse socioeconomic backgrounds; however, limited formal education is provided on the subject. Given this lack of educational exposure, it is unsurprising that on a pre-survey of residents completed in 2023, a majority of residents rated their ability to provide medical care to vulnerable populations as "below average". Common pitfalls were identified at the time of discharge: arranging follow-up care and affordable prescribing practices. This educational session sought to address these issues.

Methods: An initial needs assessment data was taken from a 2023 survey completed as part of a health equities distinction tract. A 1-hour teaching session was completed during a scheduled education conference, focused on discharge planning (i.e arranging follow up and prescribing home-going medications). Residents were asked to complete a combined pre-post survey rating perceived value in education on caring for patients without insurance, confidence in caring for this population, and confidence in certain aspects of the care of this population. A short matching exercise was included in the survey to test residents' recall of topics immediately after the session.

Results: Results indicate statistically significant improvement in all domains assessed, apart from perceived importance of assisting un/under-insured patients navigate the healthcare system (rated highly both before and after the session). The most significant improvement was seen in residents' confidence in caring for patients with healthcare related financial difficulties and knowledge of/ability to direct patients to nearby low cost/free medical care after discharge. On open response comments, many participants noted that provision of a list of available resources and information on the different models of care were particularly helpful. Areas for improvement were identified as inclusion of more practice cases and consideration of a social worker participating in the discussion.

Conclusions: A brief didactic session significantly improved residents' confidence and knowledge surrounding discharge planning for patients without adequate insurance coverage. Residents felt that this educational session was worthwhile, and many expressed interest in further education on similar topics. Future plans could include integration of basic public health topics and available local services into ongoing curriculum to reinforce and provide updated information- as the availability of most assistance discussed in the session is subject to change.

6. Comparing the benefits of Virtual Reality and Augmented Reality skills training for Orthopedic Surgery Residents

Team Members: Matthew Karam, Steven Long

Department: Orthopedic Surgery

Introduction -Despite rapid advances in simulation-based education, there remains a critical gap in understanding how different technological training modalities—specifically Virtual Reality (VR) and Augmented Reality (AR)—compare in their effectiveness for orthopedic surgical training. Traditional training methods are limited by cost, access, and variability, while emerging technologies offer scalable alternatives but with distinct strengths. VR provides immersive, fully simulated environments that may enhance procedural understanding and cognitive mapping, whereas AR-based simulators offer hands-on, haptically realistic experiences that may better develop technical dexterity. However, there is limited comparative data to guide how these modalities should be integrated into orthopedic curricula. This study aims to directly compare VR and AR training to determine their relative impact on technical skill acquisition, procedural understanding, and learner preference, thereby informing future curriculum development.

Methods - We designed a prospective, randomized controlled study involving orthopedic surgery residents who were assigned to either a VR-based training group or an AR-based training group. All participants first completed a baseline (pre-test) assessment using sawbones models and a C-arm to evaluate wire navigation skills, with performance measured by accuracy and efficiency. Participants then underwent a training period using their assigned modality. The VR group trained using immersive simulation modules, while the AR group utilized a hybrid reality wire navigation simulator that incorporated real instruments and haptic feedback. Training frequency and engagement were tracked, with minimum training thresholds required. Following training, participants returned for post-training sawbones assessments identical to the pre-test.

Results - Both VR- and AR-based simulation training improved procedural performance following training. For the intramedullary nail task, the VR group improved mean completion time from 484.7 to 302.3 seconds and fluoroscopic image count from 35.7 to 22.3 images. The AR group improved from 404.7 to 187.5 seconds and from 24.7 to 15 images, respectively, demonstrating greater overall gains in efficiency. More pronounced differences were observed during the DHS task. The VR group showed minimal improvement, with mean completion time changing from 281.7 to 327.7 seconds and image count from 26.7 to 32.3 images. In contrast, the AR group demonstrated substantial improvement, with mean completion time decreasing from 638.7 to 236 seconds and fluoroscopic image count decreasing from 51.7 to 18 images. Procedural errors in the AR group decreased from 7 during pre-testing to 0 during post-testing. Overall, both modalities improved procedural performance, but AR training demonstrated greater improvements in efficiency and error reduction, particularly during the more technically demanding DHS task.

Conclusion - Both VR- and AR-based simulation training were effective for improving orthopedic procedural skills. However, AR-based simulation demonstrated greater improvements in operative efficiency, fluoroscopy utilization, and procedural error reduction, particularly for complex wire-navigation tasks such as DHS placement. These findings suggest AR simulation may provide advantages for technical skill acquisition by combining real instrument handling and haptic feedback with enhanced spatial visualization. While VR may remain valuable for procedural familiarization and cognitive rehearsal, AR may better facilitate development of advanced fluoroscopic navigation and technical execution skills. The primary limitation of this study is the small sample size and baseline variability between groups. Nonetheless, the improvements observed in the AR cohort support further investigation with larger studies evaluating skill retention, operative transferability, and objective technical accuracy metrics.

7. Empowering Our Anesthesia Team: A Patient Safety Initiative

Team Members: Stephanie White, Clark Obr, Alex Novak, Katelyn Anderson, Maggie Mumm

Department: Anesthesia

The rapid increase in the use of glucagon-like peptide-1 receptor agonists (GLP-1 RAs) for the management of obesity and type 2 diabetes has introduced new perioperative considerations for anesthesia teams. These medications slow gastric emptying, increasing the likelihood of retained gastric contents despite standard fasting guidelines and thereby elevating aspiration risk during procedural sedation and general anesthesia. To address this emerging concern, the anesthesia department implemented a structured educational initiative focused on the use of gastric ultrasound to enhance provider awareness, standardize assessment techniques, and integrate ultrasound findings into perioperative clinical decision-making for patients using GLP-1 medications. Gastric ultrasound is an effective bedside tool for evaluating gastric volume and contents, supporting safer airway and anesthetic planning.

Through this initiative, over 209 clinical providers—more than 92% of the department—were trained in both the principles and hands-on application of gastric ultrasound (Figure 4), reflecting strong departmental engagement and commitment to patient safety.

The program goals were to increase awareness of delayed gastric emptying and aspiration risk associated with GLP-1 agents; provide hands-on ultrasound training using standardized patients to promote consistent skill acquisition; and standardize the incorporation of gastric ultrasound into perioperative decision-making for GLP-1 patients.

Trainers were prepared in June and July 2025, followed by one-hour workshops held from August through October 2025. Each workshop included a pre-survey, a 15-minute didactic session covering indications, acquisition technique, interpretation, and clinical application, and a hands-on scanning session using two standardized patients. One patient was appropriately NPO, while the other had recently consumed a full meal; the NPO patient also ingested a carbonated liquid. Participants completed ultrasound measurements and assessments, followed by a post-survey. Clinical gastric ultrasounds were performed from August through December 2025, with a six-month follow-up survey administered in March 2026.

This brief, low-cost educational intervention significantly improved provider knowledge, confidence, and technical skill, demonstrating a proactive, prevention-focused approach to managing aspiration risk in patients receiving GLP-1 medications.

8. Developing Rheumatology Specific Anki Electronic Flashcards for Teaching Preclinical Students United States Medical Licensing Examination Board Relevant Topics

Team Members: Madison Bellamy, Grant Stalker, Laura Nichols, Beth Scholz, Miriah Gillispie-Taylor, Jennifer Strouse, Sonam Kiwalkar

Department: Internal Medicine

Introduction/Purpose: Electronic flashcards (EF) have become a widely used study tool by medical students. One of the most well-known is the spaced repetition program Anki. There are many widely available online decks with thousands of cards that have been crowd sourced. Of the decks available, there is a lack of vetting by experts in the field of rheumatology to confirm the accuracy of the information. The aim of this project is to develop a free and accurate resource to aid medical students in learning relevant teaching points related to adult and pediatric rheumatology.

Methods: A collaborative group of four rheumatologists, one rheumatology fellow, one internal medicine resident, and one medical student was assembled. The decision was made to target United States Medical Licensing Examination (USMLE) Step content with the intention of developing an EF deck for undergraduate medical education. Using a backward design approach questions were developed based on USMLE content outlines. Learning objectives and subsequent testing points were created. These were reviewed by the rheumatologist and rheumatology fellow co-authors for accuracy. A pilot deck of Anki flashcards was created for crystalline arthritis. These were again reviewed. The approved deck is being distributed to medical students to provide quantitative and qualitative feedback.

Results: We identified 12 USMLE organ systems with rheumatology related content, 29 categories within these, 15 subcategories, and subsequent listed conditions were then identified. From these listed conditions, 15 topic condition groups were developed. Through the selection process, crystalline arthritis was selected for a pilot deck. Fifteen learning objectives pertaining to crystalline arthritis were created using Bloom's taxonomy followed by 50 testing points. After review and feedback by co-authors 55 questions were developed from the testing points. Ranking of the fifteen highest yield questions by team members narrowed this to the 15 most relevant questions. During the development of Anki cards to best fit this format 28 cards were created.

Conclusion: Using backward design to work from content outline topics to objectives to testing points was helpful in guiding the development of a comprehensive yet succinct deck of Anki EFs. Having diverse levels of training in the collaborative group was helpful given the student's and resident's experience using Anki cards. Students provided faculty development sessions regarding effective use of Anki EFs. Creation of a deck of EFs by experts in rheumatology was feasible. These cards are being piloted with medical students to obtain both qualitative and quantitative student feedback. Based on feedback from this pilot the goal is to have multi-center implementation of a standardized and broadly applicable deck. Additional future directions include developing a broader range of rheumatology relevant EF decks such as one focused towards internal medicine residents and rheumatology fellows.

9. Development of a Cadaveric Lab Program for the Urologic Visiting Professor: A Hands-On, Contemporary Approach to Resident Surgical Education

Team Members: Joanna Orzel, Charles Schlaepfer, Bradley Erickson

Department: Urology

Introduction/Purpose: The visiting professor (VP) remains a mainstay of resident education. Historically, VP visits involved live surgeries, but ethical concerns have eliminated this approach. For nine years, we have asked VPs to join a half-day anatomy lab tailored to their surgical expertise. We herein describe our approach to this surgical educational activity.

Methods: Three fresh-frozen cadavers are secured by our deeded-body program and prepared by the anatomy staff. We ask the VP to give a pre-lab lecture focusing on pertinent anatomy, surgical technique, and potential surgical pitfalls for one or two expertise-specific surgical procedures. Each cadaver is staffed by the VP or discipline-appropriate host faculty. Group assignments include two senior residents (lead surgeons), a chief resident (surgical assist/instructor), and a junior resident (responsible for anatomy).

Results: Seven VP anatomy labs have been conducted over a 9-year period. Each group performs at least one operation on virgin tissue, but all groups perform VP-specific case(s) with the VP. A routine post-lab survey revealed that 90% of residents reported surgical gains in the VP-specific procedures.

Conclusions/Lessons Learned: The VP cadaver lab is a cost-effective, ethical means for the VP to provide surgical instruction in a low-stress environment that allows for meaningful VP-resident interaction and high knowledge retention.

10. Stronger Together: A Multi-Modal Wellness Intervention to Improve Trainee Well-Being and Connectedness in Graduate Medical Education

Team Members: Aubriannah Larson, Patrick Vosters, Jennifer Strouse, John Wilde, Manish Suneja

Department: Internal Medicine

Background: Physician burnout affects more than half of practicing physicians and is especially prevalent among residents, who face intense clinical demands, emotional strain, and frequent exposure to patient death. Despite increasing awareness of trainee distress, many graduate medical education (GME) programs lack structured opportunities for reflection, emotional processing, and community building. Interventions incorporating reflective practice, creative expression, and social connection may help foster resilience and mitigate burnout.

Objective: To implement and evaluate a multimodal wellness initiative aimed at improving trainee well-being, enhancing peer connectedness, and reducing burnout among internal medicine residents and fellows.

Methods: Stronger Together is a longitudinal, resident-led wellness initiative developed by the Internal Medicine Humanities and Wellness Committee at the University of Iowa Hospitals and Clinics. The program includes three complementary components: (1) Death and Donuts, quarterly facilitated discussions on death, grief, and goals-of-care communication led by palliative care faculty and residents; (2) a creative writing workshop and internal medicine writing competition to promote reflection and emotional expression; and (3) an interdepartmental kickball tournament to encourage social connection and physical activity. Burnout and well-being were assessed using the Maslach Burnout Inventory–General Survey (MBI-GS). The survey was distributed to internal medicine trainees who had participated in Death and Donuts, with repeat assessment planned at one year. Participants also completed program evaluations assessing perceived impact on resident experience and burnout.

Results: Thirteen residents completed the baseline MBI-GS, demonstrating high levels of emotional exhaustion and depersonalization, along with moderate reductions in personal accomplishment—findings consistent with substantial burnout in this cohort. Preliminary post-intervention evaluations of Death and Donuts showed strong engagement and high perceived value. Participation was associated with improved overall resident experience (mean 4.55/5, SD 0.50), high likelihood of recommendation to peers (mean 4.73/5, SD 0.45), and perceived reductions in burnout (mean 4.09/5, SD 0.67). Qualitative feedback highlighted a desire for more frequent sessions. Evaluation of additional program components is ongoing.

Conclusions: A multimodal wellness initiative integrating reflective dialogue, creative expression, and peer engagement is feasible within a GME setting. Baseline data confirm a high burden of burnout among trainees, underscoring the need for targeted interventions. Early findings from the Death and Donuts component suggest strong engagement and perceived benefit, including reductions in burnout and improved resident experience. These results support the value of structured opportunities for reflection and community building in promoting trainee well-being. Ongoing longitudinal assessment will evaluate the sustained impact of the Stronger Together initiative and inform the development of scalable wellness interventions in graduate medical education.

11. Resident-Nurse ICU Shadowing Experience: An Interprofessional Education Initiative

Team Members: Grant Peterson, Tyler Schwiesow, Ali Hassan

Department: Internal Medicine – Des Moines

Introduction / Purpose: Effective nurse–physician communication is essential to patient safety, particularly in high-acuity critical care settings. However, resident physicians often learn interprofessional collaboration informally, which may limit understanding of nursing roles, workflows, and constraints. We developed a structured ICU nurse-shadowing experience for first-year internal medicine residents to address gaps in interdisciplinary understanding, communication, and trust within the critical care team.

Methods: First-year categorical internal medicine residents participated in a one-day (8-hour) ICU nurse-shadowing experience during their emergency medicine rotation. Residents were paired with an experienced ICU nurse and relieved of physician responsibilities to allow focused observation of nursing tasks, communication, and workflow. Residents did not perform nursing duties or provide medical orders. Anonymous pre- and post-experience surveys assessed perceptions of nursing roles, stressors, communication comfort, and trust using Likert-scale items (scores 1 through 7). Descriptive statistics were used to compare pre- and post-intervention responses. Institutional review board approval was obtained.

Results: Nine residents completed pre-experience surveys and five completed post-experience surveys. Mean scores improved across all domains. Understanding of the nurse's role within the ICU team increased from 4.9 to 6.0 (out of 7), knowledge of typical nursing tasks increased from 4.6 to 6.4, and familiarity with nursing stressors improved from 3.3 to 5.8. Comfort discussing patient care with ICU nurses increased from 4.9 to 6.2, while trust in ICU nursing staff remained high (6.1 to 6.2). Participants rated the experience as valuable (median 6/7), and all respondents recommended retention of the experience.

Conclusion / Lessons Learned: A structured ICU nurse-shadowing experience is a feasible and effective interprofessional educational intervention. The program improved resident understanding of nursing roles and workflows, enhanced communication comfort, and reinforced mutual trust. Integrating nurse-shadowing into residency curricula may strengthen interdisciplinary collaboration and improve patient care.

12. Developing a Scaphoid Pinning Simulator for Orthopedic Resident Training

Team Members: Joseph Buckwalter V, Steven Long, Seth Frerking, Ignacio Garcia Fleury, Matthew Karam

Department: Orthopedic Surgery

Introduction - Scaphoid fracture fixation remains a technically demanding procedure in orthopedic surgery, with successful outcomes highly dependent on precise central screw placement. Despite advances in surgical techniques, nonunion rates remain significant, often due to suboptimal implant positioning. Training residents to achieve accurate guidewire and screw placement is challenging given the scaphoid's complex anatomy, limited visualization, and reliance on fluoroscopic guidance. Current training methods are limited, often relying on simplified "naked bone" models that fail to replicate the procedural complexity, soft tissue constraints, and imaging interpretation required in the operating room. There is a clear need for a high-fidelity, simulation-based training tool that more accurately reflects real-world conditions and allows for deliberate practice. This project aims to develop and validate a scaphoid fracture pinning simulator that reproduces the critical technical and cognitive components of the procedure, with the goal of improving resident proficiency and surgical outcomes.

Methods - We developed a novel scaphoid fracture pinning simulator by adapting an existing camera-based orthopedic simulation platform. The system incorporates a custom-designed hand model with an anatomically accurate scaphoid containing a simulated fracture line, along with integrated artificial fluoroscopy that mimics intraoperative PA and lateral imaging. The simulator was iteratively designed through collaboration with orthopedic faculty and residents to ensure that key procedural steps were faithfully reproduced, including identifying the correct starting point, navigating guidewire placement, and achieving appropriate trajectory and depth. The model also incorporates soft tissue constraints and realistic positioning to enhance fidelity. At this stage, a functional prototype has been successfully developed, and we are preparing to begin formal testing. Initial evaluation will focus on establishing content validity through structured feedback from residents and faculty, assessing realism, educational value, and procedural accuracy. Subsequent phases will include comparative testing against traditional training methods in a mock operating room environment.

Results - Formal data collection is about to begin. Based on initial development and pilot feedback, we expect that the simulator successfully captures the critical elements required for scaphoid pinning, including realistic fluoroscopic interpretation, constrained access, and precise guidewire control. We anticipate that residents will report that the model provides a meaningful and practical training experience that closely approximates the challenges encountered in the operating room. Additionally, we expect that early feedback from both residents and faculty will support the simulator's content validity, particularly in terms of tactile realism, imaging fidelity, and procedural workflow. In subsequent testing phases, we expect that residents trained on the simulator will demonstrate improved accuracy of pin placement, greater efficiency with fluoroscopy, and enhanced procedural confidence compared to those trained using traditional models.

Conclusion - The development of this scaphoid pinning simulator represents an important step toward addressing a well-recognized gap in orthopedic surgical training. Early progress suggests that it is feasible to create a high-fidelity, scalable simulation tool that captures both the technical and cognitive demands of this procedure. We anticipate that this simulator will serve as a valuable adjunct to existing training methods, providing residents with a safe, repeatable environment to refine critical skills before entering the operating room. Feedback from upcoming testing will be essential in refining the model and confirming its educational value. Ultimately, this work has the potential to inform broader implementation across residency programs, improve technical skill acquisition, and contribute to better surgical outcomes by reducing complications associated with inaccurate scaphoid fixation.

13. Training Gaps, Perceptions, and Career Interest in Nephropathology among U.S. Anatomic Pathology Residents: A Nationwide Cross-Sectional Study and Call to Action

Team Members: Aranza Pinedo, Prerna Rastogi

Department: Pathology

Introduction: Residency training in nephropathology (medical kidney) varies widely among programs in the U.S. Despite the continued high demand for nephropathologists, resident interest in this field has steadily declined; the reasons underlying this trend are not characterized. This is the first nationwide study to systematically assess the availability and structure of nephropathology education and residents' perceptions of training adequacy and career interest in nephropathology, thereby identifying existing barriers and opportunities for improvement in AP-residency training.

Method: Cross-sectional, descriptive, quantitative and qualitative study. A 55-item questionnaire was pilot-tested by a multi-institutional panel and distributed to 142 ACGME-accredited programs. Analysis was performed using STATA.

Results: A total of 520 AP-residents representing 132 of 142 ACGME-accredited programs (92.95% program level representation) from all 42 states with accredited residencies participated. Most residents report minimal or no exposure to renal pathology during training. When available, education in nephropathology is typically concentrated in the later years of residency (PGY-3 and PGY-4), with only a small proportion of trainees gaining early exposure during PGY-1 or PGY-2. Most common format: elective rotation compared to mandatory training. Rotations don't warrant active learning in all cases; sometimes it consists of a handful of lectures spread over 3-4 years of residency. Residents report confidence in basic renal pathology skills, yet interpretative performance suggests otherwise. While there is clear interest in learning renal pathology, limited exposure and persistent misconceptions about the scope and practice of the field serve as significant barriers to pursuing fellowship training and careers in nephropathology.

Conclusion: Training in nephropathology is limited; many residents receive minimal or no exposure during their 3-4-year training. Even though there are pathologists in 88% of programs, most residents still report limited exposure highlighting a gap between availability and actual exposure/training. Residents (future surgical pathologists) should be able to recognize the most common non-neoplastic renal abnormalities affecting the glomerular, interstitial, tubular, and vascular compartments when evaluating medical kidney biopsies, assessing the background renal parenchyma in tumor nephrectomies, determining the adequacy of explanted kidneys for transplantation, assessing kidney disease in autopsy specimens, and similar contexts, on light microscopy with H&E. Such recognition guides appropriate workup with special stains (PAS, JMS, Masson trichrome) and ancillary studies (IF, EM), facilitating accurate diagnoses and ultimately improving patient care. Early exposure (during PGY-1 or PGY-2) is critical to both competency development and fostering career interest; delayed exposure (PGY-3 or PGY-4) may hinder engagement and limit pursuit of nephropathology fellowships. The declining interest in nephropathology reflects not only limited exposure but also misconceptions about its scope, workload, and career opportunities. Establishing standardized nephropathology education during residency training is essential to ensure core diagnostic competency, improve multidisciplinary collaboration, promote interest in the field, and sustain future workforce needs. Addressing this gap requires a shared commitment and collaborative effort among residency programs, nephropathologists, and trainees.

14. Pilot Trial of a Single Institution Intern Bootcamp: Assessment of the Impact on Self-Reported Clinical Skills and In-Service Examination Scores

Team Members: Tutku Tazegul, Tomas Paneque, Ryan Steinberg, Chad Tracy

Department: Urology

Introduction/Purpose: Urology interns often have limited urology exposure, leaving them underprepared for their specialty training years. Existing national training courses are effective but limited by cost, time, and accessibility. We developed a month-long local bootcamp to improve clinical preparedness and assessed intern performance on the American Urological Association In-Service Examination (ISE).

Methods: In October 2024 and 2025, 4-week “Intern Bootcamps” were held. Intern clinical load was decreased by 75% to accommodate education during the day. The curriculum included 20 didactic sessions led by 17 faculty. Sessions included lectures, Q&A, case-based learning, simulation, and hands-on models using a flipped-classroom approach. Pre- and post-session surveys assessed topic familiarity, quality, and instructor effectiveness. Pre- and post-ISE surveys assessed perceived preparedness. ISE scores were compared with 10-year institutional averages.

Results: All participants rated the bootcamp “very useful.” Sixty-four percent of responses “strongly agreed” sessions provided useful information; 71% rated overall value “very good.” Hands-on and simulation sessions were most favored. All participants supported continuing all sessions. Median ISE performance reached the 90-93rd percentile nationally, compared with a historical average of 53%.

Conclusions: A structured, department-level bootcamp improved intern preparedness and was associated with markedly higher ISE performance compared to historical averages. The program required limited faculty time and caused minimal clinical disruption. Local bootcamps may serve as practical, cost-effective supplements to national programs. Future work will assess long-term knowledge retention and adaptation of staged bootcamps across residency training.

15. Stopping the Blame

Team Members: Adam Kemp, Ethan Nethery, Ryan L. Steinberg, Chad Tracy, Gina Lockwood

Department: Urology

Introduction: The surgical morbidity and mortality conference (M&M) is considered a standard component of medical education and clinical practice, yet its implementation and goals vary. In recent years there have been criticisms of these conferences not being designed to improve care because of incomplete reporting of complications, lack of benchmarking and unclear presentations. Our goal was to assess the impact of implementing an easily replicable standardized presentation format directed towards emphasizing these aims and assess the perceived impact on the conference's stakeholders.

Methods: We adopted a standardized M&M conference presentation template utilized at our urology department's monthly conference. The goals of this template are to limit time spent on patient details not pertinent to the complication, to promote discussion of all possible root causes and especially systemic contributors to the complication and to focus discussion on lessons learned and opportunities for improvement. Utilizing a pre and post intervention survey we assessed both urology resident and staff satisfaction with the conference from an education, quality improvement/safety, and clinical practice standpoint. Student's t test was used to compare differences in pre- and post-implementation survey responses.

Results: Out of 30 eligible survey participants, a total of 20 (70%) completed the pre-intervention survey and 56% (17) completed the post intervention survey. Survey results revealed a statistically significant improvement in decreasing shame and blame post-implementation as well as M&M conference leading to changes in future practice nearing statistical significance post-intervention. There was improved alignment in perceived quality improvement goals of M&M conference.

Conclusions: An easily implemented standardized morbidity and mortality presentation format can lead to decreased perceived shame and blame associated with the conference as well as enhance the opportunities for practice related improvement.

16. Exploring the Implementation of Ambient AI Transcription in Family Medicine Clerkships

Team Members: Emily Welder, Aaron Kunz, Yinghui Xu, Jen Van Tiem, Elizabeth Cramer, Michael Maharry, Kelly Skelly

Department: Family Medicine

Introduction: Artificial intelligence (AI) adoption in medicine is rapidly expanding, including ambient AI (AAI), which converts clinician–patient conversations into documentation. Despite growing use among practicing physicians, little is known about student access to AAI or barriers to implementation during medical student clerkships.

Methods: We surveyed 180 family medicine clerkship directors (CDs) through the Council of Academic Family Medicine Educational Research Alliance (CERA) network regarding AAI availability, permissibility, and opinions on student use. Responses were analyzed using descriptive statistics and chi-square tests.

Results: Ninety-four CDs responded to AAI-related questions. Student AAI use was permitted for only 3% of core family medicine clerkships. CDs cited missing technology (38.3%) or institutional restrictions (42.5%) as barriers. Opinions on student use were divided: 42.6% opposed any use, 41.5% supported some use, and 16% were unsure. Among those who opposed use, major concerns included potential negative effects on clinical reasoning (82.5%) and communication skills (85%). Supporters of student use were significantly more likely to believe AI will improve training and become commonplace in students' careers than those who did not support student use of AAI ($p < .0001$).

Conclusions: Access to AAI for medical students during core family medicine clerkships is rare, and CDs express substantial concerns regarding its impact on clinical reasoning and communication skills. Given the expeditious integration of AI into clinical practice, medical educators must be prepared to teach with technology, proactively design curricula that assume AAI availability, and consider modalities beyond clinical documentation to assess student clinical reasoning.

17. Getting Under Your Skin: A Didactic Series to Improve Medical Trainee Ability and Confidence in Diagnosing Rheumatologic Skin Conditions Across Skin Tones

Team Members: Katrina Dovalovsky, Brittany Bettendorf

Department: Internal Medicine

Introduction: Internists and rheumatologists encounter many skin conditions and receive limited formal dermatology education. One barrier to comprehensive training is a paucity of images on darker skin tones in medical resources present at various levels of training. We developed a didactic series to improve the ability and confidence of internal medicine (IM) residents and rheumatology fellows to recognize common skin findings in rheumatology across all skin tones.

Method: Two one-hour didactic sessions were delivered to IM residents and rheumatology fellows during their regularly scheduled program conference times. Each lecture was accompanied by pre- and post-assessments which included knowledge-based questions along with Likert scales to assess confidence in identifying cutaneous findings in rheumatology and in evaluating skin conditions on darker skin tones. The learners were randomly split into two groups, and each group completed one of two unique assessments before each lecture then completed the alternative assessment after. Only learners present for at least one entire session were included in the study. Eighteen IM residents completed the first session and fourteen IM residents completed the second session. Two rheumatology fellows completed the first session and two rheumatology fellows completed the second session.

Results: Both IM residents and rheumatology fellows demonstrated improvement in medical knowledge and reported improved confidence following the didactic series. Of the 32 combined IM residents, 27 performed better in the knowledge-based portion of the assessment at the conclusion of the lectures. In the same cohort, 26 learners noted increased confidence in both their ability to identify cutaneous features of rheumatologic disease and to evaluate skin conditions on darker skin tones and 3 noted improved confidence in one of the two areas. Of the 4 rheumatology fellows, 3 performed better in the knowledge-based portion of the assessment at the conclusion of the lectures. In the same cohort, 3 learners noted increased confidence in both their ability to identify cutaneous features of rheumatologic disease and to evaluate skin conditions on darker skin tones.

Conclusion: Our dermatology didactic series improves diagnostic knowledge and confidence for IM residents and rheumatology fellows. Formal education about cutaneous findings on all skin tones is crucial in building a foundation of knowledge for trainees.

18. Reflections in Anesthesia

Team Members: Stephanie White, Dawn Dillman

Department: Anesthesia

The transition into clinical anesthesia training presents significant cognitive, emotional, and professional challenges for CA 1 residents. Early training is characterized by high cognitive load, rapidly evolving clinical responsibilities, and ongoing professional identity formation, often occurring in environments with limited structured opportunities for reflection. These challenges exist within a concerning national context. A study published May 14 in JAMA Network Open by the Accreditation Council for Graduate Medical Education (ACGME) reported that nearly 30% of resident and fellow deaths between 2015 and 2021 were due to suicide, surpassing deaths from cancer, accidents, or overdoses. This finding underscores the urgent need for intentional educational strategies that support both learning and resident well-being.

In response, reflective journaling was implemented for a cohort of 15 CA-1 anesthesia residents as a structured, low burden educational intervention. Each resident was provided with a physical journal and encouraged to reflect on clinical experiences, emotional responses, challenges, and learning processes during early training. In the week preceding their scheduled academic day, residents submitted one reflective entry electronically via Qualtrics. Entries were reviewed by two staff members to identify common themes and areas for discussion. A facilitated group debriefing was then conducted with the resident cohort to discuss shared experiences, normalize early training challenges, and reinforce reflective practice in a psychologically safe setting. Journaling and debriefing activities were formative and non-evaluative, emphasizing support rather than assessment.

Journaling has been shown to offer meaningful mental health benefits, including promoting emotional processing, self-awareness, and sense making of complex experiences. Many individuals who journal report finding the practice beneficial, although the ways it supports wellbeing and learning vary widely. This adaptability highlights journaling as a highly individualized and flexible tool that meets learners where they are. From a psychological and educational perspective, reflective journaling supports long term growth by encouraging emotional processing, and self-reflection. While this initiative involved a small and relatively homogenous cohort, the findings align with existing literature supporting journaling as a valuable tool for and mental health support.

Reflective journaling and facilitated debriefings revealed several recurring themes, including work–life balance, professional presence and perception in the perioperative environment, and the role of gratitude in reframing challenges. Additional topics included perioperative incivility, the impact of hierarchy on communication and psychological safety, and the transition to increased responsibility as residents progressed through training. Peer support and shared experience consistently emerged as essential components of resident wellbeing and professional development.

Importantly, this initiative represents a simple, scalable, and low-cost approach to supporting resident wellbeing. By requiring minimal time, no specialized resources, and limited faculty investment, reflective journaling paired with guided debriefing offers a practical strategy for programs seeking meaningful wellness support without adding significant burden to already demanding training environments.

19. Beyond the Basics: Preparing Emergency Medicine Residents for Effective Interpreter Use

Team Members: Zainab Tanveer, Carolina Gonzalez Bravo, Kaila Pomeranz, Daniel Miller, Nathaniel Shekem, Marina Del Rios

Department: Emergency Medicine

Introduction: Medical interpreters play an essential role in ensuring equitable healthcare for diverse communities across the US. Despite the established need for effective communication, formal training on interpreter use in the emergency department remains limited, contributing to miscommunication, diagnostic errors, and poor outcomes. We developed a linguistic competency primer and a simulation-based training session to address this educational gap.

Objective: To enhance learners' confidence in using medical interpreters and evaluate the impact of structured instruction through pre and post (PaP) intervention surveys.

Methods: We delivered two instructional sessions on interpreter use during weekly conference. In the first didactic session we introduced key concepts of linguistic competency including evidence supporting interpreter use, medical interpreter qualifications, legal considerations, interpretation of non-spoken languages, and best non-verbal practices (i.e. eye contact, position of interpreter). We followed this with a simulated patient encounter with an Arabic-speaking standardized patient presenting for "insomnia" who required the use of an interpreter to uncover the true diagnosis of depression and suicidal ideation. The learners had to navigate challenges of family involvement and cultural dynamics. Participants completed PaP session surveys assessing comfort and perceived competence with medical interpreter use.

Results: We observed measurable improvements in learner confidence and comfort when working with interpreters between PaP implementation responses. Improvement was noted particularly on best non-verbal practices for medical interpreter use.

Conclusion: The initiative effectively addressed an educational gap and was well received by learners. Future directions include multi-institutional expansion, inclusion of diverse languages and cases, integration across training years, and evaluation of downstream effects on patient outcomes.

20. Mapping Mismatches in Plastic Surgery Training Capacity, Workforce Supply, and Public Interest

Team Members: Sean Kim, Jerrod Keith

Department: Plastic Surgery

Background: Plastic and reconstructive surgery (PRS) training opportunities and workforce remain unevenly distributed across the United States. Several factors drive applicants, residents, and surgeons to cluster in certain regions, including the presence of home programs, limited residency positions, and the tendency for surgeons to remain where they trained. This leaves many states without local training pathways or an adequate workforce. Meanwhile, public interest in PRS is widespread and rising. This study integrates training capacity, workforce supply, and public interest to identify mismatches and highlight regions at risk of underservice.

Methods: State-level data were compiled for all 50 U.S. states and the District of Columbia. Training capacity was defined as integrated PRS residency PGY-1 and independent fellowship positions per graduating medical student, workforce supply as the number of board-certified plastic surgeons per million population, and public interest as Google Trends Relative Search Volume (RSV, 2020–2025) with the surgery filter applied to searches related to breast, body contouring, and facial procedures. All variables were normalized to a 0–100 scale to allow comparison across domains. Bar graphs created to visualize mismatches, and linear regression was calculated to assess associations between training capacity, workforce supply, and public interest. Data sources included publicly available residency program websites, the AAMC Student Data Report, the AAMC Physician Workforce Data Dashboard, the U.S. Census Bureau, and Google Trends.

Results: Mismatches were observed across states. Florida, Louisiana, and Arizona demonstrated high public interest with relatively low workforce and training capacity, functioning as plastic surgery deserts. New Mexico, Utah, and Massachusetts showed disproportionately high training relative to local demand, acting as exporters of trainees. The District of Columbia, Delaware, and Texas displayed high demand and workforces but limited training capacity, representing bottlenecks in the training pipeline. Regression analysis confirmed that training capacity was not significantly associated with workforce supply ($R^2 = 0.062$, $p = 0.079$) but showed a weak association with public interest ($R^2 = 0.076$, $p = 0.050$). In contrast, public interest and workforce supply were moderately correlated ($R^2 = 0.364$, $p < 0.001$).

Conclusion: Preliminary data suggests that PRS training capacity, workforce supply, and public interest are not geographically aligned. Plastic surgery workforce supply moderately reflects public interest, but training opportunities are not aligned with either workforce needs or demand. This misalignment creates three profiles: deserts where demand exceeds supply, exporters where training outpaces local need, and bottlenecks where demand and workforce exist but training lags. These findings highlight the need to consider public interest when establishing new PRS training programs to improve geographic equity in surgical care.

21. A Night on Call: Interactive E-Learning Modules Targeting the UME-to-GME Transition in Overnight Cross-Coverage Skills

Team Members: Grant Ozaki, Jennifer Strouse, Manish Suneja, M. Lee Sanders

Department: Internal Medicine

Introduction: The transition from undergraduate medical education (UME) to graduate medical education (GME) is a critical, vulnerable period in trainee development. The Alliance for Academic Internal Medicine (AAIM) has identified overnight cross-coverage and common call scenarios as high-priority capstone topics; however, standardized curricula addressing these competencies remain insufficient. At the University of Iowa, Individualized Learning Plan data from 53 incoming interns (2024) revealed self-reported preparedness gaps in shock management, acid-base disorders, and transfusion medicine. Clinical skills self-assessment (n=34) showed the lowest preparedness scores (scale of 1 to 5) in intensive care unit (ICU)-level management (mean 1.9/5), order writing (2.3/5), inpatient management (3/5), and recognition of patients requiring urgent care (2.8/5). These results underscore the need for structured, accessible curricula to prepare learners for independent overnight decision-making.

Methods: "A Night on Call" consists of interactive, case-based e-learning modules developed in Articulate Storyline 360. Two modules have been developed: Blood Pressure Issues, which includes five branching cases addressing undifferentiated shock, hypertensive emergencies, and overnight medication management; and Dyspnea & Hypoxemia, which features three branching cases with varying acuity levels. Each module simulates a realistic overnight call environment in which learners receive simultaneous pages, triage by acuity, review structured sign-outs, and make sequential bedside clinical decisions. The modules include embedded knowledge-check questions and pre- and post-module Likert-scale confidence surveys. The e-modules were piloted with medical students in the Transitions to Residency (TTR) course before planned deployment to incoming interns.

Results: Pre- and post-module confidence surveys (n=3), administered before resolving an in-module data capture issue, showed increased self-reported confidence across all assessed domains. Domains included triaging overnight blood pressure pages, distinguishing asymptomatic severe hypertension from hypertensive emergencies, prioritizing acute respiratory pages, and performing bedside shock assessments. Learners rated the modules highly for case realism, interactivity, and educational value. Free-text responses identified the triage framework and clinical decision-making structure as the most valuable components. Participants recommended future modules on delirium, arrhythmias, glucose management, acute abdominal pain, and rapid-response scenarios. Comprehensive data collection with a larger intern cohort is planned after the technical issue is resolved.

Conclusion: "A Night on Call" offers a scalable strategy to address AAIM-identified gaps in overnight cross-coverage preparedness during the UME-to-GME transition. Preliminary pilot data indicate that interactive, simulation-based e-learning modules can increase learners' confidence in high-acuity overnight scenarios. This modular, asynchronous design is adaptable to other programs and clinical topics, providing a reproducible model for transition-to-residency curricula.

22. A Night in the Life of a Urology Resident: The On Call Experience at a Tertiary Care Academic Hospital in a Rural State

Team Members: Reid Stubbee, Ryan Steinberg

Department: Urology

Introduction: Call coverage is a critical part of urologic training in preparation for independent practice. The manner in which residency programs structure such coverage varies significantly. In this study, we characterize the communication and work of a single on-call resident at an academic safety net hospital in a rural state.

Methods: All pages, consults and operative procedures completed by a single junior resident providing primary urologic coverage during after-hours time periods from July 2022 to March 2024 were retrospectively reviewed. Coverage provided was for an 800-bed academic tertiary care adult hospital with connected 190 bed children's hospital in a state without other academic centers. A night float system was utilized from Sunday through Thursday nights (1700-0700); weekend shifts included Friday night (1700-0600), 24 hour Saturday (0600-0600) and Sunday day (0600-0700). Descriptive statistics were generated.

Results: 2611 pages, 339 consults and admissions and 66 operations were performed across 84 night float, 17 Friday, 13 Saturday, and 16 Sunday shifts. The average time between pages on an overnight shift was 46 minutes +/- 61 minutes. The average maximum time between pages was 225 minutes +/- 98 minutes. Day of the week was not significantly associated with differences in paging volume. During night float, 1700-2000 were the busiest hours of the night (Figure 1a). 50% of pages were received each night by 2100 and 31% of total pages were received between 0000-0700 (Figure 1b). The majority of operative cases were cystoscopy with ureteral stent placement (55%) and only 10% of the surgical volume was from the pediatric service.

Conclusion: After hours urology call coverage at a rural academic safety net hospital is very busy with communications received at least once an hour with 1 of every 2 shifts requiring a procedure. Further study of on-call patterns and duties is necessary to optimize coverage patterns and mitigate resident fatigue and burnout.

23. Analysis of the Urology Resident Perspective of Transition From An Alphanumeric Paging System to a Secure Messaging Platform in a Tertiary Care Single Site Academic Center

Team Members: Reid Stubbee

Department: Urology

Introduction: Communication between physicians and hospital staff is a critical part delivering high quality care. The historic gold standard for hospital communication has been with alphanumeric paging despite significant technologic advances in communication systems. Two-way secure messaging platforms have been implemented as a replacement for alphanumeric paging but limited data exists in understanding which system is superior. This study aims to compare the qualitative and quantitative impact on urology residents with the transition from communication with alphanumeric paging to Epic Secure Chat.

Methods: A survey was sent out to all urology residents with duties as the primary point of contact for a service prior to the Secure Chat Implementation as well as 3- and 6-month post-implementation (n=9 PGY 1-3). Satisfaction with different parts of the communication system was assessed using Likert scores. The total volume of communications during call and night float shifts was compared before and after Secure Chat Implementation.

Results: The implementation of Epic Secure Chat led to a greater average number of communications received by the on-call urology resident and a smaller number of alphanumeric pages post-implementation. Secure Chat improved ability to contact and communicate with physician teams and ancillary staff. Satisfaction was decreased in areas related to the ability to easily triage message priority and receive communications while on overnight call and in the operating room.

Conclusions: Transition from alphanumeric paging in hospital communication systems to two-way secure messaging is increasing in prevalence. This study is the first to our knowledge to evaluate the implementation of this system and its impact on urology resident physicians.

24. Utilizing a Flipped Classroom and Case-Based Model to Teach Medical Students How to Place Orders in Preparation for Residency

Team Members: Karen Johns, Alec Hanson, Jennifer Strouse, Morton Machir

Department: Internal Medicine

Introduction: The Association of American Medical Colleges has 13 core entrustable professional activities (EPAs) that it expects medical students, regardless of specialty choice, to perform proficiently on the first day of residency. A survey of program directors showed that they did not feel residents were adequately prepared to write orders (EPA 4); specifically, that only 69% of residents were prepared for EPA 4 [1]. The University of Iowa Medical College offers a two-week curriculum for fourth-year medical students applying to internal medicine or pediatrics residency programs called Transition to Residency (TTR). TTR covers several topics, including other EPAs. A frequently requested workshop for TTR students was one on placing orders. This year, a new workshop was created to meet this need.

Methods: 33 fourth-year medical students participated in the TTR workshop on how to place orders. This workshop utilized a flipped classroom model. Before the session, students watched a seventeen-minute video illustrating how to place admission orders on a sample patient in the Epic playground. This video also highlighted various clinical decision-making resources and demonstrated how to reason through orders in the context of an acute problem. The workshop used case-based learning in which students placed admission orders for two sample patients within the Epic playground under the instruction and assistance of internal medicine residents. The students completed a pre-session survey before watching the video and a post-session survey after the workshop.

Results: 31 out of 33 students completed both the pre-session and post-session surveys. Students rated their confidence on a scale of 1-5 (1 being extremely unconfident and 5 being extremely confident) on how they felt placing admission orders in Epic. The mean confidence scores increased after the session, a statistically significant change (2.7 to 3.77, $p < 0.0001$). The surveys also had multiple-choice questions regarding the Admission order tab, medications, components of an admission order set, and clinical decision-making resources. Overall, the accuracy of the responses improved (86.1% to 87.9%), but the improvement was not statistically significant ($p=0.83$). The only question without improvement in accuracy regarded the release of admission orders for them to be active (79% to 73%, $p = 0.774$). Conversely, a question assessing clinical decision-making resources improved in accuracy and was statistically significant (27% to 55%, $p = 0.025$). Students thoroughly enjoyed the interactive nature of the session, the ability to practice placing orders in a slower-paced environment, and working through cases with the residents.

Conclusion: The workshop increased fourth-year medical students' confidence in placing orders (EPA 4). It was difficult to assess whether they gained logistical knowledge in Epic, as questions assessing this showed high pre-session accuracy. Additionally, there was no improvement in understanding that admission orders need to be released. Next steps include tailoring this workshop to students based on their confidence in entering orders and their preference for a pediatric case by breaking them into small groups. Students who have completed their sub-internship and are more confident in placing admission orders may benefit from practicing discharge orders or placing orders for a complicated ICU patient. Those interested in pediatrics can participate in a pediatric case. The latter can involve pediatric residents helping with the session. Overall, the workshop was very effective at building fourth-year medical students' confidence in placing orders and was well-received.

25. Cross-Cover Workshop: Small Group Mock Secure Messages for 4th year Medical Students

Team Members: Quinn Vatland, Jennifer Strouse, Matthew Soltys, Taylor Cox

Department: Internal Medicine

Introduction: For incoming internal medicine residents, cross-coverage and overnight calls are a key feature of night rotations. In the past, our transitions to residency course taught the cross-cover session as a large group case-based learning session. Student feedback was that it would be better if it was more interactive. Other sessions use simulation sessions which are more interactive but require multiple rooms, facilitators, and standardized patients. Transition to residency courses have effectively created cross-cover scenarios in large group formats, mock-simulations, and facilitated groups of eight to ten students.1-3 Our goal was to create an interactive cross-cover workshop for 4th-year medical students that improves confidence and knowledge.

Method: We designed five clinical scenarios with cross-cover themes based on a needs-assessment in our program: diarrhea, fever, altered mental status, pain, and sleep. Students were given mock “hand-offs”, then divided into small groups of five or six. At each station, the group received a secure message alert as an introduction to a scenario. Facilitators had ten minutes to discuss the case with students. Facilitators were given guides that highlighted key points and offered additional case information. To assess the session efficacy, students answered three questions regarding this session during their pre- and post-course surveys and tests. The surveys assessed session confidence with a five-point Likert scale question, and the tests assessed knowledge with two multiple-choice questions. The multiple-choice questions were developed by the session leader and focused on diarrhea and pain management. Results were analyzed using an unpaired t-test and Fischer tests. Students also provided written feedback on the post-test.

Results: Twenty-four students participated in the session and completed the pre-survey, while 23 of them completed the post-survey. Students had a 1.47 increase in confidence on handling cross-cover calls from pre- to post-survey (1.96 to 3.43, $p<0.0001$). Their competency answers to the two multiple-choice questions improved from 83% to 100% ($p=0.11$) for the pain management question and 29% to 49% ($p=0.23$) for the diarrhea question pre- to post-test. Free response survey answers were also positive.

Conclusion/Lessons Learned: Facilitator-led small groups are an effective, interactive format for a cross-cover workshop as evidenced by significantly improved pre- to post-survey confidence scores and positive student feedback. Although competency scores were not significant, they did show improvement pre- to post-test. This lack of significance is likely attributable to an overly complicated stem for the diarrhea question, high level of baseline knowledge for the pain question, and small sample size. If we revise question phrasing and better align question difficulty with students’ knowledge level, we may see significant improvement in competency scoring.

26. Built to Last: Sustaining a Peer-Led Distinction Track in Medical Education

Team Members: Jennifer Strouse, Ashley Pepple, M. Lee Sanders, Lisa Antes

Department: Internal Medicine

Introduction: Residents are central to the educational mission of academic medical centers, yet structured training in curriculum development, teaching, and medical education scholarship remains limited. Most existing medical education tracks rely on faculty-led models in which faculty serve as the primary drivers of teaching and curriculum design. To address this gap, we developed the Distinction in Medical Education (DIME) track in 2020, a longitudinal, peer-led program designed to progressively transitions responsibility for teaching, mentoring, and scholarly work from faculty to residents. This model intentionally transitions residents from learners to educators, creating a sustainable framework for developing future clinician-educators. We evaluated the effectiveness and sustainability of this peer-led medical education model.

Methods: The DIME track is a two-year longitudinal program for Internal Medicine residents grounded in Kern's Six-Step Approach to curriculum development. It is delivered through bimonthly flipped-classroom workshops focused on teaching skills, curriculum design, and educational scholarship. The defining feature of the program is its peer-led structure. In Year 1, residents participate as learners, while in Year 2 they transition into peer educators who facilitate workshops, mentor junior participants, and guide scholarly projects. Residents also teach medical students and support peer coaching in small-group settings. Faculty serve in a facilitative role, providing scaffolding and oversight while progressively shifting teaching responsibility to residents. To evaluate the peer-led model, we conducted a qualitative focus group with participating residents. Transcripts were analyzed independently by three reviewers using an editing-style approach. Data were coded and managed in NVivo (Version 8), with iterative consensus-building to identify and refine themes.

Results: Since 2020, 44 residents have participated across six cohorts, with steadily increasing interest. Residents have produced multiple medical education scholarly projects, many of which have been integrated into undergraduate and graduate medical education curricula. Key themes from the focus group highlighted the impact of the peer-led model. Residents consistently described peer teaching as creating a psychologically safe environment that encouraged engagement and open dialogue. Transitioning into peer educator roles was viewed as a major driver of teaching skill development, reflective practice, and professional identity formation as clinician-educators. Participants valued learning from peers who were close in training level, while also recognizing that faculty scaffolding was important for reinforcing accuracy and depth of content. Peer mentorship across cohorts was identified as essential for continuity, collaboration, and sustained engagement.

Conclusion: The DIME track demonstrates that a peer-led model of medical education can be sustained and scaled within a residency program. Central to its success is the structured transition of residents from learners to peer educators, which reinforces knowledge while building teaching competence and educational leadership. Peer teaching fosters psychological safety, engagement, and identity formation, while faculty oversight ensures academic rigor through targeted scaffolding. Over six years, the program has evolved into a sustainable peer-driven ecosystem that embeds residents as active educators within the residency curriculum. The growth in participation and scholarly output suggests that peer-led medical education models can meaningfully enhance engagement, teaching skill development, and academic productivity while maintaining educational quality. Now in its sixth year, the program continues to expand in participation and integration.

27. Outcomes from the First Two Years of a Distinction in Population Health Track for Internal Medicine Residents

Team Members: Manish Suneja, Krista Johnson, Desmond Barber, Jeydith Gutierrez

Department: Internal Medicine

Introduction: A 2022 needs assessment conducted within our internal medicine residency program identified a significant gap in resident preparedness to effectively address social determinants of health (SDH), health disparities, and the care of structurally vulnerable populations. Residents reported limited confidence in applying health equity principles in clinical settings and limited structured opportunities to engage in community-based and advocacy-focused learning. In response to these identified gaps, we developed a Distinction in Population Health track designed to provide longitudinal, structured, and mentored advanced training in health equity, advocacy, and population health.

Methods: In 2023, we launched a two-year elective Distinction in Population Health track for internal medicine residents. The curriculum was intentionally structured around five core domains: service, teaching, advocacy, scholarship, and mentored capstone projects. Participants engaged in monthly didactic and interactive sessions focused on SDH, structural competency, and health systems. Longitudinal experiential learning included clinical work in free clinics and addiction medicine clinics, community-based outreach, participation in advocacy initiatives at institutional and community levels, and peer teaching of health equity topics within residency conferences. Each participant was paired with faculty mentors to support individualized capstone scholarly projects aligned with population health priorities. Program evaluation incorporated quantitative participation tracking, completion of curricular requirements, and post-program evaluation surveys assessing perceived value, relevance, and educational impact.

Results: Over two cohorts, 21 residents enrolled in the track (8 in year one and 13 in year two). All seven graduating residents who had completed sufficient time in the program successfully fulfilled all track requirements. Resident engagement was robust across all domains, including sustained participation in longitudinal clinical experiences, delivery of structured health equity teaching sessions, involvement in institutional and community advocacy efforts, and completion of scholarly capstone projects. These projects addressed a range of population health topics and were disseminated through local and national presentations. Evaluation data were available from 16 of 19 eligible participants. Overall program value was rated highly, with a mean score of 4.4/5, and likelihood to recommend the track to peers was similarly high (4.4/5). Qualitative feedback highlighted increased confidence in addressing SDH, improved understanding of structural drivers of health inequities, and appreciation for protected time for advocacy and scholarship.

Conclusions and Lessons Learned: The Distinction in Population Health track was feasible to implement within a residency training environment and was associated with high resident satisfaction and sustained engagement in health equity work. The program contributed to increased resident involvement in advocacy, population health scholarship, and community-based clinical care. Key lessons learned include the critical importance of dedicated and expanded faculty mentorship capacity, the need for stronger and more sustained community partnerships to support longitudinal engagement, and the value of resident-led teaching in reinforcing learning. Future directions include more rigorous outcome assessment, including impacts on clinical practice behaviors, career trajectories, and community health outcomes, as well as further refinement of the curriculum to enhance scalability and sustainability.

28. Repetitive No More: Tailoring Quality Improvement Curriculum to Residency Training Level

Team Members: Carly Kuehn, Matthew Soltys, Adam Blaine, Ethan Kuperman

Department: Internal Medicine

ACGME requires residents receive education in quality improvement and participate in quality improvement (QI) projects. To achieve this, we developed a structured QI curriculum in 2015 consisting of three parts: a longitudinal resident-led project, protected resident time to work on projects and a two-year rotating quality improvement curriculum didactic experience of 5 hourlong didactic sessions per year. However, evaluation suggested need for improvement of this innovative curriculum as learners disliked repetition of didactics in the 2-year model and desired topics better synchronize with project flow. To better address our learners' needs, we divided residents into 3 cohorts based on academic rank, developing three sets of workshops given 4 times a year. This increased the number of topics delivered and aligned with adult learning theory. We also utilized gamification for a combined 5th didactic. As of 9/8/2025, 9/15 sessions have been delivered. Surveys after didactics have rated overall usefulness/relevance of these session at 4.55 on a 5-point Likert scale with anchors of 5 = Strongly Agree and 1 = Strongly Disagree (n=51). Overall satisfaction with the session has averaged a 4.69 with the anchors of 5 = Extremely Satisfied and 1= Strongly Dissatisfied. We are continuing to evaluate this new curriculum with post-session surveys and review of number of scholarly products each year. Challenges of this change included need to give three lectures simultaneously. This challenge offered an opportunity to engage junior faculty and interdepartmental relationships to assist with education of residents. Engaging all residents fully into a group project quality improvement project remains challenging and important work that requires continued evaluation.

29. Point-of-Care Ultrasound: Designing a workshop to build ultrasound confidence for academic hospitalists

Team Members: Quinn Vatland, Yana Zemkova

Department: Internal Medicine

Introduction: Point-of-care ultrasound (POCUS) is commonly used in critical care and emergency settings, and it is now becoming an important diagnostic tool for hospitalists.1 While some form of POCUS curriculum is being taught at majority of United States internal medicine programs (61% as of 2020),2 this training is variable. We wished to assess the use and confidence level of POCUS among University of Iowa Hospitals and Clinics (UIHC) hospitalists, then create a workshop to review POCUS skills with the goal of improving confidence.

Method: We created an interest survey to gauge hospitalist confidence using POCUS and interest in participating in a workshop. We then created a live skills workshop consisting of three stations to review common POCUS exams: the cardiac exam, pulmonary and deep venous exams, and abdominal exam. Each station had 2 residents pursuing advanced POCUS training. A standard ultrasound was used at the cardiac station, while handheld (Butterfly) ultrasounds were used at the other two. Confidence in obtaining images was assessed before and after using a Likert scale. Pre- and post- confidence tests were assessed using a paired T-test.

Results: Nine hospitalists completed the needs assessment. The majority (5) did not feel confident with POCUS, and most used POCUS yearly or less (6). All felt it was a valuable tool for their practice and were interested in a workshop. Ten hospitalists participated in the workshop, and although only six completed the pre- and post- survey, there was a statistically significant increase in confidence for cardiac and pulmonary POCUS exams ($p < 0.05$), and still an increase in confidence for abdominal exams ($p = 0.10$). Of the seven who completed the post-survey, all felt the workshop was helpful and six would participate again. Free-response feedback included beginner courses and more regular sessions.

Conclusion/Lessons Learned: POCUS is a skillset hospitalists are interested in learning, and workshops can build POCUS confidence. Our goal is to continue hosting POCUS workshops for the hospitalist group, focusing more on introductory ultrasound sessions with progression to more specific exams in order to address various skill levels.

30. Let's Play a Game: Game-based learning of EKGs for Rising Interns

Team Members: Mohad Awan, Yana Zemkova

Department: Internal Medicine

Introduction: Medical education for transition to residency is a continually evolving and important method to improve preparation for residency1. The topics covered in our course, ranges from managing a clinic inbox to performing a death exam to responding to codes. The course we sought to innovate was aimed at improving student confidence and ability to interpret EKGs, with an emphasis on those included in ACLS algorithms. Game-based learning (GBL) is a novel vehicle for delivery of medical education with a growing body of evidence to support positive outcomes2,3. There also exists game-based learning in cardiology, though this is aimed at patient education, primarily4.

Methods: This session was presented to medical students taking an introduction to internship course in March 2026 and evolved from prior iterations by incorporating game-based learning. Students were separated into 5 teams (of "7" each), provided an EKG both on screen and on paper for careful review. After a pre-determined time limit, answers were written on note sheets, and teams were asked to explain their reasoning for the correct answer. Explanations were provided to further clarify questions from the audience and some EKGs had supplementary information such as ACLS algorithms displayed afterward revealing the answer to the EKG in question. We devised a 5-point Likert scale to rate their confidence in interpretation of EKGs. The Likert scale was deployed in a pre-test and post-test around the session[ZYA2.1].

Results: The differences between pre-test and post-test scores for students were computed (n = 34). There was an increase in confidence between the post-test and pre-test of 1.353 points (95% confidence interval, 0.980-1.726; $P < 0.0001$).

Conclusion: In this study, we found that rising interns had an increase in confidence regarding interpretation of EKGs after undergoing an educational session that utilized GBL. This suggests GBL is an effective modality for improving confidence in EKG interpretation.

31. Collaboration in Education: Discussion of Hepatitis C with Community Health Workers

Team Members: Katrina Carolyn Soyangco, Martha Carvour

Department: Internal Medicine

Introduction: Community health workers (CHWs) are essential members of the public health workforce. They advocate for their communities by bridging gaps of access to care and promoting health through culturally tailored outreach and education. Hepatitis C is a curable condition that may go untreated without the proper education of both community members and their healthcare providers. In this study, we assessed the understanding and need for education of CHWs on the diagnosis, treatment, and prevention of hepatitis C.

Methods: A longitudinal curriculum for CHWs in a rural Iowa community provided educational sessions every two weeks on a variety of topics in health. In this project, the educational session was about hepatitis C. In collaboration with CHWs, a needs assessment was performed, noting what some questions and concerns community members had about hepatitis C. A presentation was created according to these needs and was given to CHWs at a follow-up session several months later. The educational session was given to seven CHWs. This presentation described the signs and symptoms, steps towards diagnosis, treatment, and prevention of hepatitis C. The presentation also addressed myths and stigma surrounding hepatitis C. During the presentation, CHWs walked through an example case and prompted discussion in how they would approach discussion of hepatitis C with their community members. At a subsequent educational session about Hepatitis A and B, CHWs discussed similarities and differences between hepatitis C and hepatitis A and B. A follow-up survey was provided to CHWs to reassess understanding.

Results: After the presentation involving seven CHWs, a majority of them were able to verbalize that hepatitis C can be transmitted through any blood exposure and is not only associated with certain activities such as sexual contact or injection drug use. Participants were also able to make distinctions in the ability to treat and vaccinate hepatitis A, B, and C. During a post-education survey, CHWs were asked how they would approach discussion of hepatitis C with a community member. One respondent recommended diagnosis of hepatitis C with a blood test. The other two respondents agreed with the prior statement. However, they had also responded that hepatitis C could only be transmitted through sexual contact, tattoos, piercings, or injection of drugs. These two respondents also agreed that hepatitis C could be treated with herbs and supplements.

Conclusions: Community health workers have fundamental roles in educating communities about health conditions. Longitudinal education sessions can allow CHWs and, in turn, communities to learn about how to approach different conditions such as hepatitis C. Having ongoing collaboration and discussion with CHWs can lead to reinforcement of knowledge that will be important for them to pass on to their communities.

32. Iowa Ophthalmology Laser Curriculum

Team Members: Paige Noble, Donovan Dahmer, Adetayo Oladele-Ajose, Oladipupo Anibire, Patrick Donegan, Erin Boese, Jaclyn Haugsdal, Pavlina Kemp

Department: Ophthalmology

Purpose: To provide a structured, simulation-based curriculum to ensure safe skill acquisition for beginning residents learning laser procedures in ophthalmology. By utilizing models to practice the laser procedures, the trainee can confidently learn effective techniques which minimizes the risk for patient harm.

Methods: Each cohort of residents will participate in four sessions throughout the course of their residency to learn four common office-based laser procedures routinely performed in the ophthalmology clinic. The four procedures are Yttrium-Aluminum-Garnet (YAG) laser capsulotomy, pan-retinal photocoagulation, selective laser trabeculoplasty, and laser peripheral iridotomy. Following an instructional lecture, the residents will proceed to practice the techniques discussed on a corresponding model eye on the current laser devices in the department. Residents will receive direct supervision and individualized feedback from a faculty member with expertise in the laser procedure being performed for that session. A pre-course and post-course assessment will be done to evaluate the level of competency in each learner before and after each session. A comfort-based survey will also be completed at the conclusion of each course to assess the degree of confidence in performing the procedure for each learner. An initial session with YAG capsulotomy was performed in the Fall of 2023. A laser curriculum event for all residents is scheduled to be held 5/15/2026 to learn all four techniques.

Results: Preliminary survey-based data, following a prior limited session, shows that a majority of trainees feel confident in performing a YAG capsulotomy and in providing the appropriate post-procedure treatment and follow up. In addition, all the trainees strongly agreed that they felt confident in identifying the indications for a YAG capsulotomy and in recognizing the energy usage appropriate for the procedure. Trainees felt these areas along with practice of technique were the most useful skills acquired from this simulation session. We anticipate that participants in the scheduled residency-wide laser curriculum event will gain similar confidence in their ability to perform all four laser procedures to be taught.

Conclusions: Beginning residents acquire procedural competence and confidence with the use of simulation for office-based laser procedures.

33. Assessing Challenges of Eldercare in Surgical Training and In Practice

Team Members: Gabrielle Gray, Erica Maduakolam, Braden Jensen, Rehan Zahid

Department: Plastic and Reconstructive Surgery

Introduction: The pursuit of a professional career in surgery requires diligence, intelligence, and resilience. Residents and practicing surgeons must commit a majority of their time to professional responsibilities, notably patient care. However, managing medical and specialized care for aging loved ones is a societally expected responsibility occurring gradually over one's lifetime, which often requires additional support. However, this can present a challenge in work-life integration.

Methods: A quantitative and qualitative survey was distributed to US surgery trainees and practicing surgeons, to better understand the challenges of work-life integration in eldercare responsibilities. Residents, fellows, and practicing surgeons in all surgical subspecialties were included. The modified 4-item Zarit Burden interview screening tool was used to quantify the level of burden for caregivers.

Results: After distribution of surveys, there were a total of 115 survey responses from US surgical trainees and practicing surgeons across several surgical subspecialties. Most respondents were ≥30 years of age (81%) with a near-even gender distribution. Thirty-one percent (n=36) of participants identified themselves as caregivers, with 47% providing daily or full-time care for an aging loved one. A large majority of caregivers (78%) reported care responsibilities lasting a duration for >6 months. Most caregivers reported physical fatigue (71%) and significant emotional distress (83%) as a direct result of their eldercare responsibilities ($p=.012$ and $p<.001$, respectively). Interestingly, on the 4-item Zarit Burden Interview, caregivers demonstrated clinically elevated burden (i.e., score ≥6) with mean 4-item Zarit Burden scores significantly exceeding the clinical threshold at 11.9 ± 3.4 ($p<.001$). Additionally, more than half of caregivers reported that their eldercare obligations negatively affected the amount of time they had to focus on self, and that they felt strained around their loved one. Clinical work hours interfered with care responsibilities for 73% caregivers ($p<0.014$), with many reporting having to abruptly leave or pause their work duties. Most caregivers felt that they had adequate support from colleagues (58%). However, a significant majority of caregivers (97%, $p<0.001$) reported lacking supportive resources or knowledge of available resources at an institutional level for eldercare responsibilities.

Conclusions: Managing eldercare duties is a necessary responsibility experienced by many surgeons, both in practice and in training. The burden of eldercare carries negative effects into work-life dynamics and places surgeon caregivers at risk for anxiety, depression, and other adverse health outcomes. Opportunities exist to provide better awareness and institutional support services for surgeons as they manage their clinical workload and care responsibilities in training and practice.

34. Crash Course in Critical Care: A Novel PICU Curriculum and its Impact on Resident Knowledge of Core ICU Topics

Team Members: Megan Oberbillig, Mitchell Luangrath, Shilpa Balikai, LeeAnne Flygt, Amy Stier, Kuan Xing

Department: Pediatric Critical Care

Introduction: The ACGME developed new program requirements for pediatric residencies that went into effect July 1, 2025. Many residencies adjusted their rotation structure to accommodate these changes, and for some this meant a decrease in ICU time for pediatric residents. As this was the case at our institution, we sought to optimize resident education in the PICU with the development and implementation of a new curriculum prioritizing American Board of Pediatrics core critical care topics. Our previous PICU curriculum consisted of lectures that were 30-60 minutes in length, administered over the lunch hour, without a set lecture schedule. Regular administration of lectures in this format was challenging in our PICU, therefore with the new curriculum, we aimed to develop brief lectures that could be consistently administered, as well as facilitate improved resident knowledge and comfort with ICU topics. We aimed to have lectures given at least 50% of days, Monday through Friday. To assess knowledge acquisition, a pre- and post-test was administered to residents before and after they underwent the new curriculum.

Methods: An anonymous, online survey was created and distributed to PICU fellows and faculty along with pediatric residents to evaluate satisfaction with the former PICU curriculum (academic year (AY) 2024-2025), consistency of administration, and resident comfort with ICU topics. For the new curriculum, we developed a series of 14 lectures covering core ICU topics to be given daily prior to morning rounds. Lectures were given on a 3-week cycle, matching the rotation length for pediatric residents during AY 2025-2026, and were taught by the fellow on service. A post-lecture survey permitted tracking of lecture administration. To evaluate knowledge acquisition, an anonymous pre-and post-assessment composed of 15 multiple-choice questions was developed and distributed to residents rotating through the PICU, along with a pre- and post-intervention survey to assess resident comfort with ICU topics. We will also send a follow up survey to PICU fellows and faculty regarding satisfaction with the new curriculum.

Results: Our initial survey was sent to 32 pediatric residents (former PL2 and PL3s) and 18 PICU fellows and faculty in AY 2024-2025, from which we received 19 and 8 responses, respectively. Residents indicated they received at most 1-2 lectures per week. Implementation of the new curriculum and data collection are underway and will continue through summer 2026. The pre-assessment was sent to 38 residents rotating through the PICU during AY 2025-2026, including categorical pediatrics and off-service residents. We received 23 responses for a response rate of 61%. The post-assessment as well as post-intervention survey are being sent to residents on a rolling basis after they complete their PICU rotation. With the assessment results, we will compare average scores of the pre- versus post-assessment. Lecture administration continues to be tracked, however, in 18 weeks of curriculum implementation, 61 lectures have been administered out of 84 potential lecture days, for a 72% adherence rate.

Conclusion: While we have yet to determine if the curriculum contributed to improved resident knowledge and comfort with core ICU topics, we have thus far met our goal of lectures being administered at least 50% of the time. The small sample size and implementation of the curriculum at a single institution limits our study's generalizability. Additionally, it will be important to determine the curriculum's impact on resident knowledge acquisition. However, demonstrating its feasibility has been a key first step. The brief lectures have allowed for more frequent opportunities to share core ICU topics with all residents rotating through our PICU. At a time when resident exposure in the PICU is more limited, cultivating innovative ways to prioritize resident education remains paramount.

35. Does training predict outcome? Expert Consensus Mapping of Family Medicine Competencies to Real-World Health Measures

Team Members: Kuan Xing, Yoon Soo Park, Lars Peterson, Garrett Kneese, Sarah Fleischer, Aerial Petty, Andrew Bazemore

Department: Family and Community Medicine

Introduction: While competency-based medical education (CBME) emphasizes outcomes, few studies have linked resident performance – Accreditation Council for Graduate Medical Education (ACGME) Milestones to subsequent patient outcomes. Establishing conceptual alignment between training competencies and measurable patient outcomes is a critical first step toward understanding whether residency training translates into improved care. The objective of this study is to generate expert consensus on the conceptual alignment between ACGME Family Medicine (FM) Milestones competencies and key patient outcomes.

Method: A modified Delphi process was conducted with 12 FM GME experts and leaders, who rated the relevance of 22 FM Milestones (version 1.0, Level 4) to 10 priority claims-based patient outcomes (e.g., diabetes, hypertension) on a 4-point scale in 2025. Expert ratings were analyzed using predefined inclusion criteria (mean ≥2.25 or ≥75% "important/mandatory"). Items with high variability (SD ≥1.2) and moderate averages (M ≥ 1.75) were reviewed qualitatively for inclusion.

Results: The expert group reached a consensus on 9 patient outcomes to be mapped to Family Medicine Milestones with sufficient rater consistency. On average, a single patient outcome was mapped to 2 ~ 13 Milestones competencies (M = 9.1, SD = 3.2); there was at least one competency from each of the 6 core domains mapped to a patient outcome. The most frequently mapped patient outcome was Diabetes (with 13 competencies) and the least frequently mapped patient outcome was Emergency Department (ED) Utilization and Avoidance (with 2 competencies).

Conclusion/Lesson learned: Expert consensus demonstrated strong conceptual linkages between FM Milestones and chronic disease/longitudinal care outcomes. This alignment offers a framework for subsequent empirical studies testing whether training assessments predict real-world health outcomes.

Implications: Linking Milestones to patient outcomes could help programs prioritize competencies that most influence care quality and inform the evolution of assessment systems connecting graduate medical education to population health improvement.

36. Development and Early Evaluation of a GME-Wide Financial Education and Wellness Initiative

Team Members: Shivaliben Patel, Andrea Weber, Jennifer Strouse

Department: Internal Medicine - Psychiatry

Introduction/Purpose: Medical professional graduates are often burdened with high levels of student loan debt that can range from $200,000 to $400,000. Despite these staggering rates, financial literacy is poor among physicians, and financial education is largely absent from medical education (Royce 2019). Residents and fellows, given their demanding schedules, often do not have the time, resources, or proper guidance on money management. This, combined with relatively low salaries, large amounts of debt, and balancing living expenses, can contribute to higher rates of physician burnout. This project aimed to assess financial literacy needs among trainees and develop a targeted financial wellness initiative to improve knowledge, confidence, and financial well-being.

Methods: A needs assessment survey was developed using The Validated Personal Finance Wellbeing Scale (PFW) as well as condensed MCQ based on validated questions from the Stanford Initiative for Financial Decision Making to evaluate baseline financial knowledge, confidence, and stress related to personal finances. This survey was distributed electronically to University of Iowa residents and fellows from October 2025 to January 2026. Additionally, two focus groups, containing a total of 10 training physicians each from two house council meetings were conducted to better understand the most effective way to engage trainees.

Based on identified gaps and needs, a pilot financial education session was developed focusing on high-yield topics relevant to trainees. Participants in the pilot session electronically completed brief pre- and post-session surveys assessing confidence in financial knowledge, perceived preparedness to make financial decisions, and financial stress. The session was delivered as a recorded lecture provided by the White Coat Investor group, and responses were collected using standardized Likert-scale measures and short-answer feedback.

Results: About 30 out of 900 UIHC trainees representing psychiatry, internal medicine, combined internal medicine psychiatry, family medicine-psychiatry, surgery, and emergency specialties completed the needs assessment survey. Results showed that 50% of trainees did not feel confident about managing personal finances and 36% felt stressed about their financial situation. The top three topics requested were investing and retirement, taxes, and contract negotiation. The preferred session format was large group lectures that are available online or could be accessed asynchronously.

37. Year 2 of Transitioning to Comfort Care: Utilizing a Simulated-Electronic Medical Record to Teach Complex Medical Decision Making to Fourth Year Medical Students

Team Members: Carlie Sorensen, Daniel Miller, Jennifer Strouse, Matthew Soltys

Department: Internal Medicine

Challenges in the transition from student to practitioner range from simple, such as entering orders into the electronic medical record, to very complex, such as caring for the actively dying patient. This project offers an interactive curriculum aimed at practicing these two tasks.

In year 1, a novel session was created with a simulated patient encounter using Epic Playground where fourth year medical students navigated a realistic patient chart during their Transition to Residency course. Session facilitators guided students through a case scenario involving a patient with metastatic cancer initially admitted for aggressive medical management with life-prolonging intent but later wishes to transition to a comfort-focused only care plan. Students were able to complete tasks such as selecting new medications, doses, schedules, and routes as well as discontinuing and modifying orders that were no longer beneficial. Embedded education on comfort care topics included pharmacologic management of end-of-life symptoms (e.g pain, nausea, dyspnea, delirium) as well as the importance of non-pharmacologic interventions and deprescribing or discontinuing orders not in line with comfort care (e.g. venipuncture, frequent vital sign checks) was intertwined throughout the session.

A pre- and post-session multiple choice question was utilized to assess recall regarding selecting the appropriate comfort intervention for a given patient scenario with a 23% improvement ($p= 0.015$) in year 1 and a 50% improvement ($p<0.001$) in year 2. A Likert scale question regarding confidence creating comfort-focused care plans was added in year 2. Initially, thirty-seven percent of students felt “extremely unconfident” with this task. Post-session surveys demonstrated a statistically significant improvement in confidence ($p<0.001$) with 78% of students feeling “somewhat confident” or “extremely confident” and zero students feeling “extremely unconfident”. This session was highly rated among participants because of its practical, hands-on learning, and was listed among sessions recommended to be continued in future Transition to Residency courses for both years.

The complexity of this topic did produce several challenges, including creating a curriculum that covered the broad scope of “comfort-focused care” in an efficient but thorough manner at an appropriate level for the learners. Time constraints also played a role as the session was only 20 minutes. To overcome these challenges, the teaching topics were created with input from palliative care and internal medicine staff to ensure the most relevant topics were addressed. In year 2, the bulk of the teaching points were discussed during an earlier overview didactic session as to allow for more time for placing orders and to emphasize the highest yield topics.

The use of simulated patients in Epic Playground can be applied to a variety of medical scenarios creating countless opportunities to not only teach students about clinical scenarios, care plans and medication dosages, but allows them a hands-on opportunity to work independently placing orders in the electronic medical record. Future directions for this project will expand to scenarios, including placing admission orders, reconciling home medications, and developing an initial care plan for common illnesses treated by internal medicine physicians.

38. Implementation of a Pain Mitigation Program for Cardiothoracic Surgical Trainees

Team Members: John Keech, Jody Gingerich

Department: Cardiothoracic Surgery

Introduction: Cardiothoracic surgery is physically demanding and frequently leads to musculoskeletal injury, chronic pain, and premature retirement. Up to 64% of surgeons report occupational injuries, with 30% requiring time away from work. Pain is often exacerbated by ergonomic challenges, particularly with minimally invasive and robotic techniques. Despite this, 90% of surgeons report inadequate institutional ergonomics support, and only 35% perceive cultural support for ergonomic interventions. In an internal University of Iowa survey, 100% of cardiothoracic surgery residents reported shoulder, neck, or upper back pain after index cases, with symptoms lasting hours to days, and 83% reporting pain beyond one week. These findings highlight the need for structured interventions. We propose a comprehensive program integrating ergonomics education, hands-on training, and access to massage therapy to reduce acute and long-term pain in trainees.

Methods: Cardiothoracic surgery residents and fellows will participate in a structured ergonomics and wellness program. Biannual ergonomics lectures led by the Physical Therapy Department will include faculty and trainees, focusing on head and neck range of motion, deep cervical flexor strengthening, scapular retraction, and targeted stretching (upper trapezius, levator scapulae, pectoralis), as well as thoracic and lumbar mobility using foam rollers. Laminated exercise guides will be displayed in resident areas and the wellness room, with all necessary equipment provided. A dedicated wellness room will be established within the department, designed as a technology-free, restorative environment featuring light and sound therapy, a massage chair, and relaxation-focused décor. The space will also include resistance bands, free weights, yoga mats, and massage rollers. Residents will receive orientation on massage chair use and select preferred settings. Use will be limited to 15–30 minutes per session, up to twice daily, in accordance with manufacturer guidelines. Residents will be encouraged to use the massage chair following index cardiac and thoracic cases. Outcomes will include pre- and post-intervention pain scores and work-related quality of life (WRQOL) assessments.

Results: WRQOL before implementation ranged from 59-95 (n=4)(scale of 1-110). These results place one resident in the low tertile, and 3 residents in the high tertile. Post implementation, WRQOL ranged from 68-108, with one resident reporting a decrease in their score (88 to 85). 3 residents showed increases in their scores (9, 13, and 16 points). Not all participants completed pre- and post- massage surveys; all pre-massage surveys indicated average pain scores ranging from 3.6-8. For the available pre- and post- surveys, reductions in average pain scores were seen across all body locations. For the most commonly reported painful areas (shoulder n=5, neck n=8, upper back n=7), the reduction in pain scores were 50%, 32% and 34% respectively.

Conclusions: This pilot ergonomics and wellness program demonstrates early effectiveness in reducing work-related pain and improving well-being among cardiothoracic surgery trainees. Implementation of structured ergonomics education, targeted exercises, and accessible wellness resources was associated with meaningful reductions in pain and improvements in work-related quality of life for most participants. Although limited by small sample size and incomplete survey participation, the consistent trend toward pain reduction across all reported body regions supports the value of a structured approach to surgeon wellness. This program addresses gaps in ergonomics support identified in prior studies. Institutional investment in surgeon ergonomics may represent a critical step toward mitigating occupational injury in cardiothoracic surgery.

39. Improving Overnight Call Clinical Reasoning Skills Using a Case-Based Curriculum

Team Members: Anika Mittal, Jennifer Strouse, M. Lee Sanders

Department: Internal Medicine

Introduction: Early trainees are often tasked with managing acute changes overnight with less supervision and fewer resources compared to daytime hours. While medical knowledge is emphasized throughout medical education, real-time clinical reasoning and prioritization are highly dependent on variability in prior clinical exposures. We developed a case-based interactive curriculum to assess and prepare students to manage overnight call clinical scenarios.

Method: Twenty-eight students (8 groups of 2-4 learners) participated in small group-based sessions with two inpatient cases (post-PCI complication and variceal rebleeding) as part of the Transition to Residency course. Learners responded to structured prompts regarding differential diagnosis, data collection, and management plans. Responses were scored using an a priori standardized rubric (0 = incorrect, 1 = partially correct, 2 = correct/key action correctly identified).

Results: Mean performance on Case 1 (post-PCI complication) was 5/6 points (83%), and 3.88/4 points (97%) on Case 2 (variceal rebleeding). Learners consistently generated appropriate differentials and identified key life-threatening diagnoses early in each case. They also demonstrated effective data collection skills by requesting additional patient clinical data including vitals and a focused physical exam as well as appropriate imaging, and escalation of care early in each case. However, performance varied in execution of critical initial management actions. For example, in Case 1, 7/8 groups appropriately requested diagnostic evaluation for bleeding complications, but only 3/8 groups initiated early fluid resuscitation. In contrast, 7/8 groups in Case 2 appropriately identified the need for airway protection and initiated resuscitation.

Conclusion: Learners performed better in a common acute presentation such as gastrointestinal rebleeding, compared to a less prototypical scenario like a post-procedural complication. While they demonstrated strong diagnostic reasoning, the variable execution of time sensitive management highlights a gap in the current curriculum. This case-based curriculum highlights an opportunity to improve training in translating clinical reasoning into prioritized management plans under time constraints.

40. Enhancing Agitation Management Skills in Medical Students: Leveraging Psychiatry Residents as Simulated Patients and Educators

Team Members: Brittnee Haynes, Yana Zemkova, Jennifer Strouse

Department: Internal Medicine

Introduction: Agitation management is a core skill for new interns, however training in verbal de-escalation and pharmacologic strategies is often limited in undergraduate medical education. We implemented a simulation-based curriculum during an Internal Medicine Transition to Residency (TTR) course to improve knowledge and confidence in agitation management among fourth-year medical students recently matched into internal medicine or a preliminary year.

Methods: We conducted a 1-hour session featuring four simulation scenarios for small groups of 3-4 students. Students were provided a one-page reference sheet for acute agitation management. Psychiatry residents acted as simulated patients and facilitated debriefing with educational materials provided. Pre- and post-session assessments included three multiple choice knowledge questions and two self-reported confidence ratings (5-point Likert scale). Knowledge questions analyzed with Fisher's exact test and confidence questions analyzed with Welch's t-test.

Results: Twenty-eight students participated. Median confidence improved from 2 to 4 for both verbal de-escalation and pharmacologic management (both $p < 0.0001$). Mean knowledge scores increased from 38.1% correct pre-session to 77.4% post-session. Performance improved significantly across all MCQ items, which evaluated topics of conservative delirium management (78.6% vs 100%, $p=0.0232$), antipsychotic use in alcohol intoxication (3.6% vs 35.7%, $p=0.0052$), and avoidance of benzodiazepines in hyperactive delirium (32.1% vs 96.4%, $p<0.0001$).

Conclusion: A brief simulation-based curriculum leveraging the knowledge and clinical experience of psychiatry residents as dual-role simulated patients and educators improved fourth-year medical students' confidence and knowledge in agitation management. This scalable, interdisciplinary model addresses training gaps in undergraduate medical education and can be integrated into TTR courses.

41. Identification of Ventricular Tachycardia on Telemetry, a Transition to Residency Course

Team Members: Anya Edwards, Joseph Phillips, Lisa Antes

Department: Internal Medicine

Introduction/Purpose: Indications, interrogation, and interpretation of telemetry is a routine clinical skill essential to inpatient care. At academic institutions, first-year residents are frequently tasked with managing telemetry orders and responding to abnormal rhythm alerts, yet there is no standardized training in telemetry interpretation or its indication for utilization. This gap contributes to telemetry overuse, misinterpretation, and inappropriate clinical responses. Automated telemetry systems, while helpful, frequently misclassify artifact as life-threatening arrhythmias such as ventricular tachycardia, creating unnecessary distress for untrained interns. Improper telemetry application and interpretation can lead to patient harm through delayed therapies, inappropriate medications, and unnecessary consultations. This educational initiative aims to provide incoming interns with structured training in telemetry interpretation and appropriate utilization.

Method: At the Carver College of Medicine, fourth-year medical students received a one-hour didactic lecture on telemetry indications and rhythm interpretation as part of a transition to residency course. The curriculum addressed American Heart Association guidelines for appropriate telemetry use (chest pain until acute coronary syndrome is excluded or 48 hours post-revascularization, QTc monitoring during high-risk medication administration, and active arrhythmia investigation). The lecture included interpretation of common telemetry scenarios: ventricular tachycardia, supraventricular tachycardia, aberrancy, and artifact. Pre- and post-intervention surveys assessed knowledge of appropriate telemetry ordering and ventricular tachycardia recognition.

Results: Pre- and post-lecture surveys demonstrated significant increases in resident confidence across both domains. Confidence in appropriately ordering telemetry in the inpatient setting increased by 79% (mean score 2.29 to 4.11 on a 5-point scale). Confidence in diagnosing ventricular tachycardia on telemetry increased by 47% (mean score 2.82 to 4.14).

Conclusion: The results demonstrate that a structured didactic curriculum effectively increased resident confidence in both appropriate telemetry ordering and ventricular tachycardia recognition. Learner evaluations were favorable, suggesting the content was well received. Notably, the ability to interrogate the telemetry machine is an underappreciated skill that strongly aids in clinical interpretation. While our curriculum provided a foundation for discriminating ventricular tachycardia from other arrhythmias and artifact, it did not include hands-on instruction in telemetry system operation. Future curricula incorporating hands-on telemetry system application and interrogation are warranted. This curriculum may serve as a pilot for broader telemetry education, with opportunities to incorporate it into clinical rotations such as sub-internships, where learners can apply these skills in real-time patient care settings. Additionally, the limited availability of appropriate telemetry strips remains a significant barrier to further curriculum development.

42. Introducing Longitudinal Care for Medical Students in a Transition to Residency Course through In-Basket Simulation

Team Members: Tyler Maggio, Lee Sanders, Jenny Strouse, Matt Soltys, Laura Nelson

Department: Internal Medicine

Undergraduate medical education aims to prepare students for residency and clinical practice, but evolving healthcare demands and assessment standards continue to shift expectations for this transition. The Association of American Medical Colleges outlined Core Entrustable Professional Activities (EPAs) to define competencies expected at residency entry, with subsequent expansions including specialty-specific guidance and transition-to-residency curricula. The Alliance for Academic Internal Medicine has further emphasized areas such as electronic health record (EHR) proficiency. While prior educational interventions have addressed inpatient documentation, order entry, and communication, outpatient continuity—particularly inbox management—remains underrepresented despite being a core responsibility early in residency. A needs assessment with clerkship and transition course faculty identified outpatient inbox management as a key educational gap. We developed an EHR-based simulation within the Epic playground environment to address this. Four simulated patients were created with relevant clinical data and paired with common inbox scenarios (e.g., lab results, medication side effects, transitions of care). Scenarios were duplicated to ensure individualized message delivery. Learners participated in a two-week transition-to-residency course (expanded in its third iteration to include internal medicine, pediatrics, and preliminary residents), beginning with an orientation to the EHR environment. Inbox messages were delivered daily, and learners submitted management responses via email due to system reset constraints. Response timing and rates were tracked. A formalized rubric was developed to standardize assessment of responses as correct, incomplete, or incorrect, with evaluation performed independently by four judges. Pre- and post-intervention surveys assessed learner confidence in outpatient inbox management, and a structured debriefing session was conducted. Across three years of implementation, 76 participants have completed the intervention. Aggregate data demonstrate relatively stable average response times, improving response rates over successive iterations, and a majority of evaluated responses categorized as correct or incomplete, with few incorrect. Learner confidence in managing outpatient care through the inbox environment improved following participation. Inbox management is a critical yet under-taught component of outpatient care. This simulation demonstrated that learners can effectively engage with realistic inbox scenarios and improve confidence in managing care between visits. The predominance of correct and partially correct responses suggests that lack of exposure, rather than knowledge deficits, may be the primary barrier. Strengths of this intervention include integration within the EHR, scalability using existing institutional resources, and applicability across specialties. Limitations include development time, reliance on static cases, and potential evaluator bias despite rubric standardization. This EHR-based simulation provides a practical and reproducible approach to addressing a recognized gap in transition-to-residency training and may be adaptable to broader undergraduate medical education contexts.

43. Gamification in Medical Education: Escape Room for Pediatric EKG Interpretation

Team Members: AJ Heaps, Rabia Khan

Department: Pediatric Cardiology

Introduction: Pediatricians are often expected to interpret electrocardiograms (EKGs) as part of their practice. However, there is a wide range of intra- and inter-rater reliability in non-cardiologist pediatric EKG interpretation [1]. This pilot study evaluated an escape-room–style educational activity designed to improve pediatric resident physicians' EKG interpretation skills and their confidence in understanding pediatric EKGs.

Method: Pediatric resident physicians at the University of Iowa participated in a pilot study during their academic half-day. Residents were randomized into one of four groups, each consisting of eight to nine members. After receiving instructions, each group was given 30 minutes to complete five unique EKG-based puzzles covering the following topics: wave identification, interval measurement, corrected QT calculation, heart block identification, and rhythm analysis. Learners were encouraged to use any available resources—including online references—to solve the puzzles. Optional hint sheets were available upon request. After completing all puzzles or reaching the time limit, participants were given an anonymous post-survey via QR code.

Results: All four teams completed the five puzzles within the allotted time, with an average completion time of 20 minutes 40 seconds (range: 17 minutes 40 seconds to 25 minutes). On the post-survey, 97% of pediatric resident physicians (N = 34) "Agree" or "Strongly Agree" that the activity was enjoyable and worth their time, and 100% "Agree" or "Strongly Agree" that it was educational. Regarding confidence in understanding EKGs, 47% reported an increase in confidence after the activity compared with their pre-activity confidence level.

Conclusion: Gamification in medical education, including escape-room–based learning, has been described in the literature as an engaging alternative instructional method [2]; however, no prior studies have examined its use in teaching pediatric EKG interpretation. This pilot study demonstrates promising results in improving pediatric resident physicians' confidence in understanding pediatric EKGs while providing an enjoyable and worthwhile learning environment. Future iterations of this activity may benefit from additional time for debriefing, puzzle discussion, and performance feedback.

44. A Resident-Led Point-of-Care Ultrasound Curriculum for Graduating Medical Students

Team Members: Trisha Slehria, Austin Mallory, Matthew Soltys, Jennifer Strouse, Matthew Soltys, Raul Villacreses

Department: Internal Medicine

Background: Point-of-care ultrasound (POCUS) is increasingly utilized as an extension of the bedside physical examination. Despite its growing importance in internal medicine training, formal instruction in ultrasound image acquisition and interpretation remains limited at the undergraduate medical education level. The University of Iowa Transition to Residency (TTR) course provides an opportunity to address critical skill gaps for graduating medical students entering residency. We implemented a hands-on POCUS session for fourth-year medical students as part of the TTR curriculum to improve foundational ultrasound knowledge, technical skills, and learner confidence prior to residency.

Methods: Graduating fourth-year medical students enrolled in the TTR course participated in a structured POCUS training session. The session consisted of a brief didactic review followed by small-group, hands-on instruction with standardized patients focusing on basic ultrasound image acquisition and interpretation. Teaching was conducted by internal medicine residents using a near-peer education model. Learners completed pre- and post-session surveys evaluating confidence in obtaining and interpreting basic ultrasound views using a 5-point Likert scale (1 = extremely unconfident, 5 = extremely confident), as well as a short knowledge assessment assessing fundamental POCUS concepts. Pre- and post-intervention scores will be compared to evaluate changes in knowledge and self-reported confidence.

Results: Results are pending at the time of abstract submission and will include comparisons of pre- and post-session knowledge assessment scores and self-reported confidence in ultrasound image acquisition and interpretation.

Discussion/Conclusion: This educational intervention aims to provide graduating medical students with foundational POCUS skills and increased confidence prior to the start of internal medicine residency. A brief, resident-led, hands-on POCUS session integrated into a Transition to Residency curriculum is a practical and effective approach to preparing learners for common intern-level clinical responsibilities.

45. Enabling a Stereoscopic Ophthalmic Surgery Curriculum with a Novel Recording System

Team Members: Grace Haugstad, Zachary Richards, Ryan Diel

Department: Ophthalmology

Purpose: Intraocular surgery requires precise manipulation across microns of depth. Early ophthalmic surgical training is limited by delayed development of 3D spatial awareness, as most surgical videos are recorded in 2D and lack depth information. Traditional video review removes stereopsis, forcing trainees to rely on undeveloped monocular cues. Existing 3D visualization systems are costly and not optimized for post hoc VR learning, limiting accessibility and adoption.

Methods: We designed a stereoscopic recording system using a microscope-mounted beamsplitter, dual high-definition camera sensors, and a Raspberry Pi–based processing unit. The system synchronously captures left and right optical channels into a single side-by-side video compatible with VR headsets.

Results: A working prototype has successfully recorded multiple surgical cases with immersive, depth-accurate playback in VR. We are expanding to additional operating rooms and collaborating on improved hardware design and usability.

Future Directions: We aim to develop a structured VR-based cataract surgery curriculum and a stereoscopic surgical atlas hosted on EyeRounds.org. Planned evaluation includes assessing effects on trainee depth perception, complication rates, and operative efficiency.

Conclusion: Low-cost stereoscopic surgical recording enables immersive training that preserves depth perception, with potential to significantly enhance early ophthalmic surgical education.

46. Beyond the Clinical Setting: Evaluating Humanities-Based Enrichment in Psychiatry Medical Education

Team Members: Melissa Ludgate, Daniel Bor, Aubrey Chan

Department: Psychiatry

Background: Medical clerkships aim to balance clinical experiences, LCME standards, and non-clinical learning. Activities outside the hospital setting are often included in clerkships, yet students' perspectives on these activities remain underexplored. This study examines medical students' experiences with structured enrichment activities during a psychiatry clerkship. Students were required to complete two enrichment activities out of six possible choices intended to showcase humanities in psychiatry.

Methods: Students were surveyed about the educational value of these activities. Survey results using a Likert scale, along with written reflections, were analyzed. Quantitative analysis, including using ANOVA aimed to uncover the difference between enrichment tasks. Qualitative analysis includes coding free text responses and grouping together like responses to uncover overarching themes. Thematic analysis of the reflections revealed four major themes: Perceived Value and Enduring Impact, Reframing Psychiatric Care Through Mutual Support, Redefining Extra Work, and Tension Between Value and Burden.

Results: Students found that the enrichment activities were enjoyable, educational, and perspective-changing. Observing mutual support groups allowed students to understand their patients beyond the traditional provider–patient hierarchy. The enjoyment of these activities highlighted the potential of experiential learning to extend beyond conventional educational objectives. However, students also expressed frustration when activities were time-intensive or perceived to be unfairly distributed/weighted.

Conclusions: Structured enrichment activities can deepen students' understanding of patient care and work to strengthen their skills in the "art" of medicine. Successful implementation requires balancing educational value with logistical factors to maximize engagement.

47. Teaching Ostomy Site Marking: A Multidisciplinary Course Boosts Resident Comfort and Skills

Team Members: Collin Montgomery, Jeremy Chang, Carine Dornbush, Kristina Guyton

Department: Surgery

Background: Preoperative site marking reduces stoma-related complications and improves health-related quality of life. While Wound, Ostomy, and Continence Nurses (WOCNs) often perform this task, surgeons and trainees should also be formally trained in site-marking principles. Given the current lack of consistent, multidisciplinary education in residency, we developed a single-session pilot course to teach general surgery residents the principles of site marking, appliance troubleshooting, and patient-centered communication.

Methods/Interventions: The intervention included a didactic presentation and hands-on demonstration led by a colorectal surgeon and WOCN. Standardized patient (SP) encounters were conducted before and after the session, with SPs evaluating resident performance and comfort. Residents (PGY 1–3) completed pre- and post-intervention self-assessments on a 1–5 Likert scale. SP and resident data were analyzed using Wilcoxon signed-rank tests.

Results/Outcomes: 21 residents completed the course; none had received prior formal education in site marking, and four had previously marked ostomy sites. Post-course assessments showed significant improvements in confidence related to ostomy marking ($W = 231.0$, $p < 0.01$), appliance troubleshooting ($W = 210.0$, $p < 0.01$), and recognition of anatomic considerations ($W = 28.0$, $p = 0.02$). No significant changes were noted in site marking accuracy relative to WOCN site marks ($W = 50.5$, $p = 0.12$), resident assessment of SP in multiple positions during marking ($W = 12.0$, $p = 0.23$), SP-assessed resident comfort ($W = 29.0$, $p = 0.45$), and SP confidence in resident response to scripted ostomy-related questions ($W = 24.5$, $p = 0.07$). When grouped by PGY level, improved confidence in site marking ($p < 0.01$ for all PGY levels) and troubleshooting ($p < 0.01$ for PGY1 and PGY2, $p = 0.04$ for PGY3) remained significant. All participants endorsed inclusion of the course in future training.

Conclusion/Discussion: Surgery residents remain underprepared for ostomy-related care, but a single multidisciplinary teaching session was well received and significantly improved confidence across all PGY levels. Although objective gains in technical accuracy and SP-rated performance did not reach statistical significance, trends toward improvement suggest value in continued integration and reinforcement. These findings support the inclusion of structured, multidisciplinary ostomy training within surgical residency curricula.

48. Evaluation of Artificial Intelligence-Based Clinical Tools Utilization in Urologic Residency

Team Members: Brent Yelton, Kenneth Nepple

Department: Urology

Introduction: Two different artificial intelligence-based clinical tools were recently installed at the University of Iowa. These include Nabla, an AI ambient scribe, and Evidently, a platform that synthesizes clinical data between the media tab, care everywhere, and within UIHC EPIC. Evidently also has additional clinical tools including “ask evidently” an AI open question prompt and AI synthesized note templates and clinical summaries. The goal of this project was to evaluate the baseline usage of these tools by Urology residents and determine if usage changed following an educational session focused on utilization methods. In addition, knowledge on application of AI tools in medicine was expanded through attending an AI in medicine academic conference. The lessons learned at the conference and through the Urology resident educational event were then applied to an educational event open to the all residents at the University of Iowa.

Methods: A pre survey that evaluated resident utilization and opinions on the current Artificial intelligence tools at UIHC was distributed to all Urology residents. Following distribution, an in-person session was held discussing the functionality of these tools along with tips for utilization within Urology residency. Six weeks following completion of this session, a post survey was distributed evaluating changes in utilization and opinions of the artificial intelligence-based tools at UIHC. Following completion of the Urology specific education event, the HIMSS AI in medicine conference was attended to learn about methods through which AI tools can be best implemented within hospital systems. he feedback obtained from the urology education session and knowledge from the AI education conference were then applied to an AI educational event open to all residents at the University of Iowa. Additionally, an AI “dictionary” was created to help residents understand the language commonly used within the artificial intelligence field.

Results: Eleven urology residents completed the pre survey. For Nabla, the most common reported benefits were increased efficiency with note writing followed by increased accuracy/comprehensiveness of notes. For Evidently, 9 residents reported using this tool in the inpatient setting with 6 residents reporting they used it daily or weekly. Residents reported they found evidently most useful when evaluating patient clinical information in the clinic setting and for inpatient consults. Nine residents reported using Evidently to review clinical information from outside hospitals. The greatest perceived reported benefits of using Evidently were increased chart review efficiency, ease of finding non UIHC patient record information, and increased note writing efficiency. Five residents completed the post survey. All five residents reported that since the educational session they had been using Evidently daily. Overall, 80% of residents reported increased use of the AI tools since the educational session with the other resident reporting similar utilization when compared to prior to the session. Following completion of the Urology AI educational session, I attended the HIMSS AI conference. Seminars on AI tool utilization and how to maximize implementation were used to format a GME educational event open to all residents.

Conclusions: Most Urology residents found benefits from the new AI tools at UIHC. Utilization of the Evidently tool increased following an educational session and use of Nabla was similar. This study demonstrates benefit from these AI tools and the potential benefit of structured educational sessions increasing utilization. Additionally, attendance at a global AI in medicine conference introduced other methods that may help increase utilization and implementation of these AI tools at the University of Iowa. These include sessions with individual departments to demonstrate the ability of the new AI tools along with learning other ways the AI tools can be adapted to specific specialties. Additionally, we helped address a common barrier of not understanding the “AI language” by creating an AI dictionary explaining the common terms residents commonly encounter.