

EMS Perspectives of Community Paramedicine in Rural Kansas: A Cross-Sectional Survey

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Introduction. Community Paramedicine (CP) is an evolving model of care designed to improve access to healthcare, particularly in rural communities where disparities are pronounced. However, the perspectives of Kansas Emergency Medical Services (EMS) professionals regarding CP have not been previously studied. Authors of this study aimed to inform CP implementation in Kansas.

Methods. A cross-sectional survey was administered to EMS professionals in rural Kansas communities with clinical sites affiliated with the Summer Training Option in Rural Medicine (STORM), including EMS and fire departments across 19 communities. The survey included Likert-scale and open-ended questions assessing EMS professionals' understanding and perceptions of CP.

Results. The study yielded 59 completed surveys and 9 incomplete surveys. Across all certification levels, respondents reported the highest confidence in assessment skills and the lowest confidence in referral activities. Paramedics and Advanced EMTs reported at least moderate confidence across more skill areas than EMTs. Reported concerns that may discourage CP certification included training and certification requirements, limited interest, funding and staffing constraints, perceived mismatch with the EMS mission, workload and age, liability, compensation, patient education, and organizational culture and morale. Most respondents (86%) believed that implementing CP would at least moderately improve healthcare access in their communities.

Conclusions. EMS professionals reported confidence in many skills relevant to CP, suggesting that a CP scope of practice may align with existing EMS competencies, potentially minimizing the need for substantial additional training. Targeted education in prevention, public health, and referral skills may strengthen CP programs. Ensuring fair compensation, accessible training opportunities, and financial support for CP program development will be critical to successful implementation.

Anesthetic Modulation of Cancer Cell Biology: Convergent Roles of Lipid Rafts and Voltage-Gated Sodium Channels (A Narrative Review)

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Introduction. Anesthetic agents traditionally are recognized for reversibly suppressing neuronal excitability through ion channel modulation and membrane interactions. Emerging evidence suggests these agents also may influence cancer cell biology. Malignant cells exhibit increased cholesterol-rich lipid rafts and aberrant expression of voltage-gated sodium (NaV) channels, particularly neonatal splice variants, which together promote oncogenic signaling, invasion, metabolic reprogramming, and metastasis. Because anesthetics directly interact with both lipid membranes and NaV channels, they may modulate cancer-specific vulnerabilities.

Methods. Authors conducted a narrative using PubMed to identify experimental and clinical studies evaluating the effects of local, volatile, and intravenous anesthetics on lipid raft organization, NaV function, and cancer biology. Key search terms included “anesthetics,” “lipid rafts,” “voltage-gated sodium channels,” and “cancer.” Relevant mechanistic and preclinical data were synthesized.

Results. Preclinical evidence demonstrates that local anesthetics inhibit NaV activity, reduce persistent sodium influx, impair cytoskeletal remodeling, suppress extracellular acidification, and decrease cancer cell migration and invasion. They also induce mitochondrial dysfunction, apoptosis, autophagy, and immunogenic cell death. In contrast, volatile anesthetics often activate PI3K/Akt/mTOR and hypoxia-inducible factor pathways while suppressing anti-tumor immunity. Intravenous agents such as propofol exhibit context-dependent effects, with studies demonstrating both anti-proliferative and pro-migratory outcomes.

Conclusions. Anesthetics exert convergent effects on membrane lipid organization and NaV signaling, two interconnected regulators of malignant behavior. Local anesthetics demonstrate the most consistent anti-tumor profile, whereas volatile agents may promote survival signaling under certain conditions. Although clinical data remain largely neutral, these mechanistic insights provide a biologically grounded framework for interpreting perioperative oncologic outcomes and for designing anesthetic strategies that minimize tumor-promoting effects.

Understanding Practice Intentions and Barriers Following Pediatric Mental Health ECHO Participation

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Introduction. A national shortage of mental health professionals has shifted much of youth mental and behavioral health care to primary care professionals (PCPs), who often feel underprepared, especially in Kansas, where most counties are designated mental health shortage areas. Project ECHO provides continuing medical education (CME) to strengthen PCPs' ability to manage pediatric mental health conditions.

Methods. Authors administered a 10-item survey immediately after ECHO sessions from April 2020 to October 2024. A cross-sectional analysis of 512 CME surveys was conducted, and descriptive statistics were used to summarize responses across eight mental health topics.

Results. Respondents included physicians (n = 346), APRNs (n = 114), nurses (n = 81), PAs (n = 18), and other professionals (n = 157). Survey counts varied by topic: ADHD (n = 92), Anxiety (n = 65), Autism (n = 28), Depression (n = 59), ID/DD (n = 56), Sleep (n = 86), Suicide (n = 41), and Trauma (n = 85). Across topics, 50-71% of PCPs strongly agreed they learned information that could improve patient outcomes. Many respondents (45-70%) reported no barriers to applying new strategies. When barriers were identified, lack of knowledge was the most common (19-30%), except in suicide sessions, where "other" barriers were cited most frequently (17%).

Conclusions. Findings indicate that knowledge gaps remain the primary barrier to implementing pediatric mental health care, underscoring the value of programs such as KSKidsMAP ECHO in improving provider confidence and practice uptake. Participants also reported gaining information they could share with colleagues, suggesting a broader team-level impact.

Assessing Obstetrician-Gynecologists' Knowledge, Practices, and Attitudes toward Waste Management in Healthcare: A Survey Study

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Introduction. Healthcare industry is a major contributor to global carbon emissions. In the United States, a substantial portion is linked to solid waste, with a single hospital bed generating 29 pounds of waste per day, approximately 30% of which is attributable to the operating room. Much of this waste results from improper disposal of items requiring specific processing. Authors of this study assessed obstetrician-gynecologists' knowledge, practices, and perceptions regarding proper waste management.

Methods. Authors conducted a cross-sectional survey among practicing obstetrician-gynecologists listed with the Kansas Board of Healing Arts or affiliated with the University of Kansas School of Medicine. Clinically inactive physicians were excluded. Survey questions addressed demographics, knowledge of appropriate surgical waste disposal, waste management practices, and perceptions regarding waste management. IRB approval was obtained. Categorical variables were reported as frequencies and percentages.

Results. Of 46 respondents, most agreed they understood the environmental impact of medical waste (81.1%, 30/37), and 86.5% (32/37) expressed concern about their personal contributions to the climate crisis. Proper waste disposal was considered important by physicians (96.9%, 31/32) and, in respondents' view, by their patients (89.2%, 33/37). Regarding their primary surgical facility, 25.6% (11/43) reported being unaware of the facility's waste management plan, and 34.9% (15/43) reported their facility did not recycle. All respondents incorrectly identified items that should be placed in red biohazard waste bags for chemotherapy patients.

Conclusions. While most physicians are concerned about the environmental impact of their medical practice, education and institutional resources related to waste management do not appear to match that concern. These findings highlight a significant opportunity to improve waste management education and practices within healthcare facilities.

Assessing Resident Knowledge Regarding Menopause, Treatment, and Patient Care
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Introduction. Current literature demonstrates significant deficiencies in menopause education among Department of Obstetrics and Gynecology (OB-GYN) residents, with limited formal curricula reported across residency programs. Reported gaps in resident knowledge and comfort with menopause management pose a concern for the growing aging population in the United States. The aim of this project was to assess resident knowledge of menopause, treatment options, and patient care.

Methods. This cross-sectional, survey-based study involved OB-GYN residents affiliated with The University of Kansas School of Medicine-Wichita, Wichita, Kansas. The survey included questions assessing knowledge and comfort related to menopause topics. The primary outcome was resident knowledge regarding menopause. This study was conducted at a community-based OB-GYN residency program and was designed to be reproducible across residency programs.

Results. Of 20 residents, 14 responses were received and analyzed (70% response rate). Most respondents reported fewer than 5 hours of exposure to menopause education (56.3%, n = 9). Of five knowledge questions, two had fewer than 25% correct responses. Most residents reported being only somewhat comfortable and needing additional experience explaining the etiology and physiology of menopause symptoms (56.3%, n = 9). When asked whether the program prepares them to confidently treat menopausal patients after graduation, the largest proportion neither agreed nor disagreed (43.8%, n = 7).

Conclusions. Residents demonstrated limited knowledge of menopause and low comfort with menopause management. Although this study was limited to a single program, the findings are consistent with current literature. Increased exposure to menopausal patients and topics, along with standardized menopause curricula, may improve resident knowledge and comfort in menopause management.

Assessing Volunteer Preceptor Attitudes Regarding Continuity of OB-GYN Clerkship Clinical Experiences

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Introduction. Learners in inpatient learning environments with frequent transitions can result in decreased valuation of relationship-building and can contribute to lack of ownership in patient care. Faculty involved with longitudinal clerkships have stronger relationships with students and improved job satisfaction. This project aimed to assess preceptors' attitudes before and after reformatting the structure of the clinical component of the Obstetrics & Gynecology rotation to have continuity of students in private clinics.

Methods. This project utilized cross-sectional surveys administered to a convenience sample of volunteer faculty affiliated with The University of Kansas School of Medicine-Wichita, Wichita, Kansas Department of Obstetrics and Gynecology. Survey questions included demographics, attitudes regarding student integration into clinical settings and continuity of educational interactions. The survey was administered before standardizing the clerkship (pre-survey) and 6 months after implementation (post-survey).

Results. Fifteen pre-surveys and six post-surveys were completed. Compared to 40% (n = 6) in the pre-survey, 50% of post-survey respondents (n = 3) agreed with the statement that having the same student in clinic would decrease their clinic efficiency. More respondents disagreed that having the same student in clinic required a large time commitment, 83.3% (n = 5) post-survey compared to 46.7% (n = 7) pre-survey. All respondents agreed having the same student during the entirety of a clerkship allowed the faculty member to better integrate them into the care team.

Conclusions. Continuity of medical students in clinic may subjectively reduce clinic workflow efficiency, however students were better integrated into the care team and clinical activities, and preceptors reported that it did not require a large time commitment.

Perspectives and Attitudes of Department of Obstetrics and Gynecology Sub-Internship Rotation Participants at a Single Academic Site: A Survey Study

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Introduction. Since COVID-19, limited research has examined the residency application and sub-internship process from the perspective of medical students. Understanding these perspectives may benefit both residency programs and applicants. This study aimed to assess attitudes and perceptions related to clinical sub-internship experiences in the Department of Obstetrics and Gynecology.

Methods. This cross-sectional, web-based survey was administered to fourth-year medical students completing an Obstetrics and Gynecology sub-internship at a single teaching institution during one academic year. Survey themes included demographics, career goals, perspectives on sub-internships, and views on the residency application process.

Results. We received 11 completed surveys (64.7% response rate). All participants were 25-30 years old. Most participants were female (81.8%, n = 9), White (81.8%, n = 9), and allopathic applicants (72.7%, n = 8). The most commonly identified priority in selecting a residency program was program culture (45.5%, n = 5). Respondents reported that the most important goals of a sub-internship were exposure to residency culture to assess fit (36.4%, n = 4) and functioning as an acting intern for audition purposes (36.4%, n = 4). Situational awareness (90.9%, n = 10) and integrating well with residents and hospital staff (90.9%, n = 10) were considered the most important traits of a successful sub-intern. Participants identified the personal statement as the most important element of their residency application (72.7%, n = 8). Many also expressed a preference for in-person interview activities (54.5%, n = 6).

Conclusions. Medical student sub-interns highly valued program culture and used sub-internships to assess program fit. This study is limited by its small sample size.

Tocilizumab: From Bench to Bedside - A Comprehensive Review

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Introduction. Interleukin-6 (IL-6) is a key mediator of inflammation and cancer biology. Tocilizumab, an IL-6 receptor blocker, is used to treat autoimmune diseases and has become essential in managing cytokine release syndrome (CRS) associated with CAR-T cell therapy and bispecific antibodies. However, global access to tocilizumab, as well as the cost and uptake of its biosimilars, remains uneven. This review summarizes evidence across three major areas: clinical uses and safety, oncologic and CRS-related applications, and global access and biosimilars.

Methods. Using a PRISMA-ScR approach, we mapped published studies, clinical data, and economic reports. We included evidence on tocilizumab's approved and emerging indications; its role in CRS related to immunotherapies; and access, pricing, and biosimilar availability across regions.

Results. Tocilizumab continues to demonstrate reliable anti-inflammatory effects in rheumatoid arthritis, giant cell arteritis, and COVID-19, with a consistent safety profile that includes infections, cytopenias, and elevated liver enzymes or lipid levels. In oncology, it is the standard treatment for moderate to severe CRS associated with CAR-T therapy and is increasingly used with bispecific antibodies. Early or prophylactic use may reduce hospitalization without compromising anticancer efficacy. Preclinical and early clinical data also suggest IL-6 blockade may improve responses to immunotherapy, although this remains exploratory. Global access varies widely: FDA- and EMA-approved biosimilars have lowered costs in high-income regions, while affordability and availability remain major barriers in low- and middle-income countries.

Conclusions. Tocilizumab now spans autoimmune care, supportive oncology, and early investigational cancer applications. Improving biosimilar access, clarifying CRS management strategies, and expanding high-quality oncologic trials are important next steps.

Progression of human osteosarcoma with altered ANT1/SLC25a4 expression

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Introduction. Osteosarcoma (OS) is the most prevalent primary bone malignancy in children and adolescents. Bioinformatics analyses have identified ANT1 (encoded by SLC25A4) as part of a gene cluster implicated in the development and progression of osteosarcoma. Authors of this study investigated the expression of ANT1/SLC25A4 in clinical specimens and established OS cell lines to evaluate its potential as a prognostic biomarker and its mechanistic role in OS pathogenesis.

Methods. Immunohistochemical (IHC) analysis of ANT1 expression was performed on 63 archived human OS tissue sections (IRB-exempt). To assess functional impact, commercial MG-63 and HOS osteosarcoma cell lines were genetically modified to achieve SLC25A4 overexpression or knockdown. Cellular behavior was evaluated using proliferation, scratch wound-healing, and transwell invasion assays. In vitro numerical data were analyzed using one-way ANOVA with the LSD method for post hoc multiple comparisons. Correlations with clinical prognostic indicators were assessed using bivariate correlation analysis (SPSS v.22).

Results. IHC staining revealed that most clinical OS specimens (48/63) exhibited significantly diminished ANT1 expression compared with normal periosteal tissue. In vitro, SLC25A4 knockdown significantly accelerated cell proliferation. Conversely, SLC25A4 overexpression significantly inhibited cell migration and invasion ($p < 0.05$) compared with controls.

Conclusions. Our findings demonstrate that ANT1/SLC25A4 frequently is downregulated in clinical OS, and that its restoration suppresses aggressive cellular phenotypes in vitro. These results suggest that SLC25A4 may function as a tumor suppressor in osteosarcoma. Further research is needed to correlate SLC25A4 expression with patient survival and to define the underlying molecular pathways.

Complementary Medicine in Oncology: A Dual-Perspective Examination of Patient Use and Clinician Attitudes

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Introduction. Use of complementary and alternative medicine (CAM) among cancer patients has increased, yet limited research has examined how patient behaviors, clinician perspectives, and communication patterns intersect within the same clinical environment. This scoping review examines the prevalence and types of CAM used by cancer patients, evaluates oncologists' knowledge and attitudes toward CAM, and identifies communication factors shaping disclosure and clinical decision-making in conventional oncology care.

Methods. Following PRISMA-ScR guidelines, this review included peer-reviewed studies assessing CAM use among adult cancer patients, clinician perspectives, or patient-physician communication. Eligible studies included surveys, observational studies, systematic reviews, and clinical reports.

Results. Included studies demonstrated that approximately 40% of cancer patients reported using CAM, with common modalities including herbal products, nutraceuticals, probiotics, and mind-body therapies. Non-disclosure rates varied considerably, with many patients refraining from discussing CAM use because of concerns about negative provider reactions or limited consultation time. On the clinician side, key barriers included limited formal training in CAM and uncertainty regarding the quality of supporting evidence. Evidence also demonstrated communication gaps and discordance between patient motivations and clinician concerns related to treatment safety and herb-drug interactions.

Conclusions. CAM use remains prevalent in oncology and is shaped by patient beliefs, cultural factors, and clinical communication. Variability in study methods and definitions limits cross-study comparisons. Enhancing clinician education, fostering open communication, and conducting institutional assessments may improve the safe and informed integration of CAM into oncology practice.

Resident Pediatricians' Reflections on Mental Health Care in Kansas: Findings from a Focus Group

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Introduction. Kansas faces a critical pediatric mental health (MH) workforce shortage, leaving many children without timely access to specialty care. As a result, pediatric primary care physicians (PCPs) are increasingly responsible for MH care despite limited training, time, and system support. Understanding PCP perspectives is essential to developing interventions that expand pediatric MH capacity.

Methods. A qualitative focus group was conducted at the Kansas Chapter of the American Academy of Pediatrics' 2025 Progress in Pediatrics Conference in Wichita, Kansas. Practicing physicians participated in guided discussions exploring experiences with pediatric MH, confidence, barriers, and recommendations. Sessions were recorded, transcribed, and analyzed using thematic analysis informed by grounded theory, with independent coding and consensus-based theme development.

Results. Nine resident physicians participated. They described growing awareness and acceptance of pediatric MH needs. Helpful supports included co-located MH professionals, electronic health record prompts, required training, and programs such as KAAP and KSKidsMAP. Persistent barriers included limited time, referral challenges, poor continuity, and limited knowledge of community resources. Parents were viewed as essential partners, though they sometimes hindered care because of stigma or communication difficulties. Residents felt confident managing anxiety and depression but preferred referral for more complex conditions. Participants emphasized the need for streamlined referrals, expanded training, and stronger collaborative care models.

Conclusions. Findings highlight ongoing system- and knowledge-related barriers and reinforce the need for programs that support PCPs in addressing pediatric MH gaps in Kansas.

Vitamins and Cancer Risk: A Comprehensive Review of Epidemiologic and Clinical Evidence

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Introduction. Vitamin supplementation nearly is universal among patients with cancer, yet the scientific landscape is far more complex. Across decades of research, vitamins have demonstrated profound biological effects ranging from immune activation and ferroptosis modulation to paradoxical tumor promotion. **Objective:** This scoping review maps the breadth of compelling and controversial evidence surrounding vitamins A, D, E, K, C, and the B-complex in cancer prevention, treatment response, and toxicity.

Methods. Guided by PRISMA-ScR domains, we synthesized mechanistic studies, epidemiologic cohorts, randomized trials, and therapeutic investigations addressing vitamins in the oncology context. Eligibility focused on sources examining cancer risk, progression, treatment interactions, or toxicity.

Results. Several vitamins exhibit striking anticancer mechanisms: vitamin K2 triggers autophagy-driven leukemia cell death; pharmacologic vitamin C selectively kills KRAS- and BRAF-mutated colorectal cancer cells; niacin reshapes the tumor immune microenvironment; and vitamin D enhances microbiome-dependent antitumor immunity. Yet the review also identifies potential harms, including beta-carotene increasing lung cancer risk in smokers, vitamin E raising prostate cancer risk, and antioxidant supplementation potentially weakening the oxidative mechanisms essential for chemotherapy and radiotherapy efficacy. Dose-response patterns frequently are U-shaped, with both deficiency and excess linked to greater risk. High-dose intravenous vitamin C, vitamin D repletion during immunotherapy, and vitamin-targeted nanoparticles emerge as promising but unproven therapeutic strategies.

Conclusions. Across vitamins, benefits appear highly context-dependent. Routine supplementation is unsupported, while targeted correction of true deficiencies remains essential. This rapidly evolving field demands individualized decision-making and rigorously designed trials to define when vitamins act as allies, and when they become adversaries, in cancer care.

Sonographer Perspectives on Placental Volume Measurement and Ultrasound Education: A Survey Study

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Introduction. Placental evaluation during obstetric ultrasound commonly includes assessment of placental location, umbilical cord insertion, and relationship to the internal cervical os. However, placental volume measurement is not routinely incorporated into standard ultrasound protocols despite potential clinical applications. Authors of this study aimed to assess sonographer familiarity with, utilization of, and perceptions regarding placental volume measurement in clinical practice.

Methods. A cross-sectional, web-based survey was administered to practicing sonographers. Items assessed demographics, practice characteristics, familiarity with placental volume measurement, and involvement in education. Primary outcome was familiarity with and routine use of placental volume measurement. Secondary outcomes included institutional protocols and teaching involvement.

Results: Fifteen sonographers completed the survey. Most worked in hospital settings (66.7%, n = 10), and all were White (100%, n = 15). The majority performed 6-10 scans daily (73.3%, n = 11), and 40.0% (n = 6) had >20 years of experience. Placental volume measurement was not required in any laboratory (100%, n = 15). Most respondents reported limited familiarity, with 66.7% (n = 10) indicating they do not routinely perform it. Standard protocols most commonly included placental location (100%, n = 15), relationship to the internal os (72.7%, n = 8), and cord insertion (63.6%, n = 7). Most reported teaching sonography students (78.6%, n = 11).

Conclusions. Placental volume measurement rarely is incorporated into routine obstetric ultrasound practice, and sonographers report limited familiarity with the technique. Study limitations include small sample size and convenience sampling. Increased education and standardized protocols may improve adoption of advanced placental imaging methods.

Understanding Outcomes and Barriers to Community Naloxone Distribution Programs: A Cross-Sectional Survey of Naloxone Recipients in Kansas

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Introduction. Opioid poisoning remains a major public health challenge in the United States. Intranasal naloxone has expanded community capacity to respond to opioid poisoning events; however, outcomes from distribution programs remain incompletely understood. Authors of this study examined naloxone's impact on poisoning events in Kansas, informed by recipients' perceptions and experiences.

Methods. A cross-sectional, electronic survey was conducted in partnership with DCCCA, a nonprofit organization. Eligible participants included individuals and organizational representatives who (1) obtained a free naloxone kit from DCCCA Inc. between November 2021 and April 2025 and provided an email address, or (2) accessed a naloxone vending machine in Wichita, Kansas, between May and June 2025. The survey assessed experiences with opioid poisoning reversals, post-reversal care, confidence, training, barriers to carrying naloxone, and harm reduction perceptions.

Results. Of 767 respondents, 56.8% were individuals, 23.8% were organizational representatives, and 13.4% were both. Overall, 32.1% reported witnessing an opioid poisoning, and 14.8% reported administering naloxone at least once. Nearly all reported administrations resulted in survival. After reversal, 73.3% of recipients sought medical care; perceived lack of necessity (70.0%) was the most common reason for declining care. Emergency preparedness (58.9%) was the most common reason for obtaining naloxone. Forgetfulness (27.0%) was the most frequently reported barrier to carrying naloxone. Among organizational representatives, 63.5% reported offering naloxone training, while 28.5% distributed naloxone kits.

Conclusions. Naloxone distribution programs may support opioid overdose harm reduction by equipping laypersons to respond to poisoning events. However, barriers remain, particularly related to post-reversal medical care and consistent naloxone carriage.

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Artificial Intelligence Templating for Total Knee Arthroplasty: Using Standard Preoperative Knee Radiographs

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Introduction. This study investigated the accuracy and learning capabilities of an artificial intelligence (AI) templating algorithm that converts two-dimensional (2D) knee radiographs to three-dimensional (3D) bone models to facilitate preoperative planning in total knee arthroplasty (TKA).

Methods. 108 consecutive patients who underwent primary TKA by a single surgeon during a seven-month period were identified retrospectively. De-identified preoperative anteroposterior and lateral radiographs were uploaded to a novel AI algorithm (PeekMed, Braga, Portugal). The accuracy of the AI algorithm was evaluated by comparing implanted tibial and femoral sizes to the AI-predicted implant sizes. Novel machine learning with improved accuracy over time was evaluated by comparing the percentage of implanted components that were within one size (± 1) of the predicted size between the initial 50 patients, and last 51 patients.

Results. The AI algorithm accurately predicted the exact femoral and tibial implant sizes in 40% and 41.5% of cases, respectively. When allowing for (± 1) size difference, the accuracy of the predicted femoral and tibial sizes improved to 90% and 87%, respectively. The AI algorithm significantly increased in accuracy over time for the tibial component (80% vs 94%, $p = 0.0342$) and trended towards significantly improved accuracy for the femoral component (87% vs 94%, $p = 0.1719$).

Conclusions. 2D radiographs converted to 3D models by this AI-based algorithm demonstrated high levels of accuracy when predicted TKA implant sizes were compared with the component sizes actually implanted during Department of Surgery. Moreover, prediction accuracy improved over time suggesting the algorithm may be a valuable preoperative planning tool for TKA.

Heterotopic Ossification Following Total Elbow Arthroplasty in Geriatric Distal Humerus Fractures: A Retrospective Cohort Study

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Introduction. The purposes of this study were to determine (1) whether delay to total elbow arthroplasty (TEA) after traumatic distal humerus fracture affects heterotopic ossification (HO) formation and (2) whether HO is associated with postoperative elbow range of motion (ROM).

Methods. This retrospective cohort study included patients with distal humerus fractures who underwent TEA at a single institution by a single orthopaedic surgeon from 2017 to 2021. All procedures were performed using a triceps fascial tongue approach. Patients did not receive HO prophylaxis and followed a standardized postoperative rehabilitation protocol. Demographic and clinical data were extracted from medical records and entered into an electronic database. Postoperative radiographs were reviewed for evidence of periarticular HO. HO volume was estimated using three-dimensional linear measurements derived from orthogonal radiographic views. Pearson bivariate correlation analyses were performed to assess associations between HO volume, time to surgery, and patient characteristics.

Results. Sixteen female patients were included, with a mean age of 78.9 (± 9.8) years. Median time to surgery was 14.5 days (IQR, 11-27.5). There was no significant correlation between delay to surgery and HO volume, which averaged 5.5 (± 4.5) cm³. Among five of fifteen patients with a postoperative total elbow arc of motion $<100^\circ$, the mean time to surgery was 17.6 days and mean HO volume was 9.2 cm³.

Conclusion. Delay to TEA was not associated with HO volume in geriatric patients treated for distal humerus fractures. However, increased HO volume was associated with reduced postoperative elbow ROM.

Pediatric Residents' Intubation Competency Through Simulation-Based Training: A Quality Improvement Initiative

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Introduction. Intubation is a critical skill in pediatric emergency medicine, yet many residents report limited procedural exposure. Simulation-based training provides a safe and structured environment to address this gap. Authors of this ongoing quality improvement (QI) initiative aimed to enhance pediatric residents' intubation skills through simulation-based assessment in partnership with the Department of Anesthesiology.

Methods. A total of 24 residents participated (Pediatrics = 17; Med-Peds = 5). Stage 1 of the QI initiative consisted of a didactic seminar led by anesthesiology residents, followed by a skills workshop with four stations: bag-mask ventilation (BMV), oropharyngeal/nasopharyngeal airway placement, laryngeal mask airway insertion, and endotracheal intubation. Outcomes included pre- and post-intervention multiple-choice examinations (MCQs), self-reported confidence surveys, and objective skills assessments evaluated by anesthesiology faculty. Primary outcomes were changes in knowledge, confidence, and intubation competency scores.

Results. Mean pre-MCQ scores were 11.75 (± 3.2) out of 20, increasing to 16.4 (± 2.8) post-intervention ($p < 0.001$). Skills assessment identified lower performance in LEMON assessment, head positioning, and BMV technique. Self-reported confidence in airway management increased from 3.6 (± 2.1) to 7.2 (± 1.5) ($p < 0.001$). Confidence in BMV improved from 5.7 (± 2.3) to 8.5 (± 1.7) ($p < 0.01$), and confidence in intubation increased from 3.5 (± 1.9) to 7.0 (± 1.4) ($p < 0.001$).

Conclusions. Stage 1 of this QI initiative improved both knowledge and self-reported confidence in pediatric airway management among residents. These findings suggest that simulation-based training may enhance short-term competency in pediatric intubation skills. Long-term skill retention will be evaluated in Stage 2 using a delayed post-intervention MCQ following a high-fidelity simulation session.

Gender and Burnout in Health Care Delivery - It's Complicated Cross-Sectional Study

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Introduction. Multiple studies have demonstrated that women have a higher individual risk of reporting workplace burnout. In a prior analysis examining religion and burnout, we observed that a higher proportion of women within a healthcare organization was associated with lower aggregate burnout prevalence. Authors of the present study examined the association between gender composition and burnout among health care staff.

Methods. We conducted a cross-sectional study using data from the 2021-2024 English National Health Service Staff Survey and followed STROBE guidelines for observational reporting. Random forest regression was used to identify key predictors of burnout. Mediation analyses were then performed to evaluate indirect pathways through which organizational gender composition may be associated with burnout.

Results. The analysis included 942 organizational reports comprising 2,681,573 survey responses. In unadjusted analyses, a higher proportion of female staff was associated with lower reported burnout at the organizational level. However, after adjustment for workplace stressors and resources, this association reversed, with higher female representation associated with increased burnout. Mediation analyses suggested that higher proportions of female staff were associated with more favorable workplace characteristics, including increased perceived membership and autonomy, as well as reduced harassment and discrimination.

Conclusions. Consistent with prior literature, adjusted analyses support an association between female gender and higher individual-level burnout. However, at the organizational level, unadjusted analyses demonstrated an inverse association, which reversed after adjustment for workplace factors. Mediation findings suggest that gender composition may influence burnout through improvements in workplace culture, particularly increased sense of membership. If replicated, these findings warrant further investigation into mechanisms by which organizational composition shapes burnout and how these pathways may be leveraged for intervention.

A Retrospective Cross-Sectional Study Investigating the Effect of Albumin Administration on the BDG (1,3- β -D-glucan) Serum Assay

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Introduction. The β -D-glucan (BDG) serum assay is a screening tool used in the diagnosis and management of invasive fungal infections (IFI). False-positive results have been reported, including in patients who have recently received intravenous albumin prior to testing. Author of this study examined the association between timing of albumin administration and BDG assay results.

Methods. We conducted a retrospective cross-sectional study of 4,599 electronic health records at The University of Kansas Health System (TUKHS). Patients were eligible if they were ≥ 18 years of age and had a BDG serum assay performed between 2010 and 2020. Demographic data, comorbidities, albumin administration, and IFI status were extracted and recorded in REDCap, a HIPAA-compliant database. The final analytic cohort included 2,061 patients. Logistic regression was used to assess the association between time from albumin administration to BDG testing and false-positive results. Statistical analyses were performed using R version 4.5.2.

Results. A total of 255 patients received albumin within two weeks prior to BDG testing, of whom 109 (42.7%) had a positive BDG result. Among these positive results, 83 were classified as false positives (false-positive rate: 76.1%). Logistic regression demonstrated the highest odds of a false-positive result when albumin was administered 6-8 days prior to testing (OR 1.22; 95% CI 0.51-2.91).

Conclusions. Albumin administration within days preceding BDG testing may be associated with an increased risk of false-positive results, potentially leading to unnecessary diagnostic evaluation and treatment.

Comparative Analysis of Reported Adverse Events with Nirsevimab and Palivizumab: A FAERS Observational Study

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Introduction. Respiratory syncytial virus (RSV) is a leading cause of hospitalization among infants worldwide. Passive immunization remains central to prevention. Palivizumab has been used for over two decades, whereas nirsevimab, approved in 2023, provides extended protection with a single dose. However, comparative post-marketing safety data between these agents remain limited. Authors compared post-marketing adverse event profiles of nirsevimab and palivizumab using the U.S. Food and Drug Administration Adverse Event Reporting System (FAERS).

Methods. FAERS reports from July 2023 to March 2025 were analyzed. Reports were included if patients were ≤ 2 years of age and either nirsevimab or palivizumab was listed as the primary suspect drug. Duplicate and incomplete records were excluded. Adverse events were classified using Medical Dictionary for Regulatory Activities (MedDRA) System Organ Class (SOC) categories. Group comparisons were performed using chi-square or Fisher's exact tests as appropriate. Logistic regression was used to identify SOCs disproportionately associated with each drug.

Results. A total of 2,021 reports met inclusion criteria (nirsevimab = 641; palivizumab = 1,380). Hospitalization was reported in 50% of nirsevimab cases and 70% of palivizumab cases, while deaths were reported in 5.9% and 9.8% of cases, respectively. Logistic regression identified three SOCs reported more frequently with nirsevimab: injury, poisoning, and procedural complications (OR 11.9, $p < 0.0001$), nervous system disorders (OR 2.9, $p = 0.029$), and skin and subcutaneous tissue disorders (OR 4.5, $p = 0.002$). No SOCs were reported more frequently with palivizumab.

Conclusions. Nirsevimab and palivizumab demonstrated broadly comparable post-marketing safety profiles. Higher reporting of administration-related adverse events for nirsevimab likely reflects its recent introduction and reporting patterns rather than inherent differences in safety.

When Inflammation Mimics Malignancy: Recognizing VEXAS Syndrome in Oncology Practice

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Introduction. VEXAS syndrome is a recently identified clonal hematoinflammatory disorder caused by acquired somatic mutations in the *UBAI* gene in hematopoietic stem and progenitor cells. Its discovery established a paradigm linking clonal hematopoiesis with systemic inflammation and progressive bone marrow dysfunction. Patients commonly present with persistent cytopenias and multisystem inflammatory manifestations that overlap with myelodysplastic syndromes, other clonal hematologic disorders, and complications encountered in oncology practice. As a result, affected individuals often are evaluated within hematology and oncology pathways, where findings may initially be attributed to malignancy, paraneoplastic inflammation, or treatment-related toxicity, contributing to delayed diagnosis.

Methods. We conducted a narrative synthesis of published clinical studies, cohort analyses, and molecular investigations describing the pathogenesis, hematologic manifestations, and diagnostic features of VEXAS syndrome, with emphasis on findings relevant to hematology and oncology practice.

Results. VEXAS syndrome predominantly affects men older than 50 years and is defined by somatic *UBAI* mutations that drive myeloid inflammation and bone marrow dysfunction. Hematologic manifestations include persistent macrocytic anemia, thrombocytopenia, and other cytopenias, frequently occurring in association with clonal hematologic disorders such as myelodysplastic syndromes and plasma cell dyscrasias. Bone marrow examination characteristically demonstrates cytoplasmic vacuolization of myeloid and erythroid precursor cells. Patients also may develop systemic inflammatory manifestations involving the skin, lungs, cartilage, joints, and vasculature, with recurrent fever and venous thromboembolism commonly reported.

Conclusions. VEXAS syndrome represents a clonal hematoinflammatory disorder at the intersection of hematology, oncology, and immunology. Recognition of unexplained cytopenias accompanied by systemic inflammation should prompt consideration of *UBAI* testing to facilitate earlier diagnosis and multidisciplinary management.

Preparing Sedgwick County Physicians to Treat Addiction: A Mixed-Methods Study

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Introduction. Substance use disorders (SUDs) remain a major public health challenge in the United States, yet many affected individuals do not receive treatment. Physicians play a critical role in identifying and addressing SUD through screening, brief intervention, referral, and treatment; however, barriers such as limited training, stigma, and lack of awareness of treatment resources may limit physician engagement. The purpose of this study was to examine physician practices related to screening, brief intervention, referral, and treatment of SUD in Sedgwick County, Kansas, and to identify barriers and facilitators to providing care.

Methods. We conducted a mixed-methods study using structured qualitative interviews and an electronic survey. Twenty-six attending physicians, residents, and medical students participated in interviews. In addition, an electronic survey distributed to physicians, residents, and medical students in Sedgwick County received 253 responses (17% response rate). Quantitative data were analyzed using descriptive statistics, and qualitative responses were coded to identify common themes.

Results. Respondents most commonly reported screening for substance use (49%), referring patients to treatment (47%), and providing brief interventions (38%), whereas only 17% reported directly treating SUD. Frequently reported barriers included limited knowledge of local treatment resources, patient resistance or lack of follow-through, and time constraints during clinical encounters.

Conclusions. Nearly half of respondents reported screening and referring patients with suspected SUD, but fewer reported comfort or engagement in direct treatment. Expanding physician training, improving awareness of local treatment resources, and implementing system-level supports may increase physician participation in SUD care and improve access to treatment.

Comparing Genetic Testing Completion among Breast Cancer Patients When Ordered by a Surgeon Versus a Genetic Specialist

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Introduction. Genetic testing is critical in the management of breast cancer, guiding surgical decision-making, informing therapy selection, and identifying at-risk relatives. Despite its clinical importance, completion of genetic testing remains suboptimal. This study evaluated whether completion of genetic testing differed when testing was offered directly by a breast surgeon in clinic compared with the traditional referral to an external genetic specialist.

Methods. This retrospective cohort study included women aged 18 to 89 years diagnosed with breast cancer who presented to a breast surgeon in Wichita, Kansas, between 2017 and 2023. Patients seen in 2020-2021 were excluded due to COVID-19-related disruptions. From 2017-2019, patients were referred to a genetic specialist, whereas from 2022-2023, testing was offered directly by the surgeon in clinic. The primary outcome was completion of genetic testing.

Results. Among 732 eligible patients, 62% (n = 454) completed genetic testing. Patients who completed testing were younger (mean age 61 vs. 70 years, p <0.001) and more likely to report a family history of cancer (69.4% vs. 43.8%, p <0.001). Among those tested, 4.9% had a pathogenic mutation, most commonly in *BRCA2*, *ATM*, or *CHEK2*. Patient characteristics, including age and family history, did not differ between provider groups. Genetic testing completion was higher when testing was offered in clinic by the surgeon (72.6%) than through referral-based testing (55.2%; p <0.001).

Conclusions. Offering genetic testing directly within the breast surgeon's clinic was associated with significantly higher completion rates compared with referral-based testing. Integrating genetic testing into surgical consultations may reduce logistical barriers and enable earlier use of genetic information in treatment planning.

A Cross-Sectional Study on Geographic Alignment of Student-Run Free Clinics with Medically Underserved and Underinsured Areas in the United States

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Introduction. Student-Run Free Clinics (SRFCs) have a dual mission of providing students with direct patient care experience while delivering no-cost services to patients. These clinics often serve as safety nets for individuals who might otherwise face barriers to care. By analyzing clinic locations in relation to Health Professional Shortage Areas (HPSAs), Medically Underserved Areas (MUAs), and county-level uninsured rates, we evaluated whether SRFCs are located in objectively defined areas of need.

Methods. We conducted a preliminary cross-sectional analysis using public datasets. Clinics were included if they appeared on the Society of Student-Run Free Clinics master list, were located in the United States, and provided specialty and/or primary medical care. Statistical analyses were performed using R software and included a one-sample t-test. Statistical significance was defined as $p < 0.05$.

Results. We analyzed 194 clinics across 31 states and 91 distinct counties. Complete data were available for all clinics. Of the included clinics, 65.5% were located in primary care HPSAs and 58.5% were located in MUAs. Overall, 79% of clinics were located in either a primary care HPSA or an MUA. Counties with SRFCs had a significantly higher mean uninsured rate than counties without SRFCs ($p = 0.002$).

Conclusions. These preliminary findings suggest that SRFCs are disproportionately located in underserved areas and may be helping address unmet healthcare needs. However, results should be interpreted with caution. Future analyses will account for clustering and random effects associated with clinics nested within counties and states.

**Intimate Partner Violence in Sedgwick County (SGC) Pre- and Post-COVID-19 Pandemic:
A retrospective longitudinal analysis of Wichita Family Crisis Center services**

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Introduction. Reports during the COVID-19 pandemic suggested a surge in domestic violence cases. It is important to examine whether patterns changed following the pandemic. Authors of this study evaluated whether Sedgwick County (SGC) experienced similar trends by comparing intimate partner violence (IPV)-related service utilization before, during, and after the pandemic.

Methods. Participants included IPV victims who accessed services through Wichita Family Crisis Center from January 1, 2018, to May 31, 2025. There were no exclusion criteria. Data were analyzed across three periods: pre-COVID (Period 1: 3/1/18 - 2/28/20), COVID (Period 2: 2/29/20 - 5/31/23), and post-COVID (Period 3: 6/1/23 - 5/30/25). Chi-square testing was used for statistical analysis.

Results. A total of 11,341 clients were included, with a 31% decrease from Period 1 to Period 2 and a 19% increase from Period 2 to Period 3. A total of 100,356 services were analyzed; services decreased during COVID and increased post-COVID to levels exceeding pre-pandemic levels ($p < 0.001$). During COVID, the proportion of hotline calls related to children younger than 17 years doubled, then declined post-COVID ($p < 0.0001$). Upward trends also were observed in safety planning services during and after COVID, along with an increase in sex trafficking-related services post-COVID ($p < 0.0001$).

Conclusions. In SGC, IPV-related calls and services decreased during the pandemic and increased steadily in the post-COVID period. These patterns may reflect reduced access to care or changes in service availability during the pandemic, rather than a true reduction in IPV prevalence or service needs.

Improving Hypertension Control through a Standardized Workflow at the University of Kansas SOM-Wichita Department of Internal Medicine Clinic

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Introduction. Uncontrolled hypertension remains a leading cause of preventable cardiovascular morbidity and mortality. Despite frequent clinic visits, timely follow-up for elevated blood pressure (BP) is often inconsistent, delaying medication adjustments. At the University of Kansas School of Medicine Center for Health Care (CHC) Internal Medicine Clinic, BP rechecks were often delayed for months after medication changes, contributing to suboptimal control. To address this gap, we implemented a standardized two-week BP recheck workflow supported by provider education, nursing engagement, and home BP monitoring. The aim was to improve timely BP rechecks and achieve a clinic-wide BP control rate at or above the 75th national percentile.

Methods. This quality improvement initiative was implemented from August 2023 to March 2024, with outcomes tracked longitudinally. A standardized hypertension follow-up and medication titration workflow, modeled after Kaiser Northern California guidelines, was introduced. Clinicians documented BP targets and follow-up plans. Patients with repeated BP >130/80 mmHg were offered self-measured BP (SMBP) monitoring, using shared decision-making to determine home or nursing follow-up. Participants received education, BP logs, and instructions, and BP readings were documented in REDCap[®] or the patient portal. Educational sessions reinforced workflow consistency and care coordination.

Results. Same-visit and two-week BP rechecks showed modest improvement (14% and 4%, respectively), but hypertension control improved substantially, increasing from 66% in 2023 to 76% by October 2025, exceeding the national average of 62%. Improvements correlated with ongoing staff education and reinforcement of the standardized workflow.

Conclusions. A standardized, team-based workflow incorporating home BP monitoring and a structured treatment algorithm improved BP control, demonstrating a scalable model for chronic disease management.