

complicated culture rate had increased significantly from 35% to 72%. **Discussion/Impact:** In the ED, ordering of cultures for patients being discharged, regardless of type, is commonly associated with concern of result follow up, which may take up to 72 hours. This discrepancy system was implemented to ensure that all urine cultures ordered had appropriate follow up, thus supporting physicians in ordering cultures when indicated. The significant improvement in culture rate from 35% to 72% is balanced by one single culture of all 9 simple UTIs (11%). In PDSA cycle 2, we hope to increase rates to 90% by improving current challenges with the system.

Keywords: complicated urinary tract infection, quality improvement and patient safety, urine culture

P010

An examination of sample size selection in medical record reviews in emergency medicine journals

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Introduction: Medical record review (MRR) studies are commonly used in Emergency Medicine (EM) research. It is not always clear how sample size calculations are reported, or the methods by which they were derived. This scoping review sought to examine reporting and justification of MRR sample sizes from the EM literature. **Methods:** Using Web of Science, we identified the top ten journals, based on impact factor rating in 2018, within the field of Emergency Medicine. Journals were excluded if they were not in English or did not include sufficient articles for analysis. Within each of these ten selected journals, we searched for chart reviews and related terms: "medical record", "outpatient record", "inpatient record", "clinical record", and "nursing note". From this search subset, five articles were randomly selected from each journal. Data about sample size and sample size selection were extracted and analyzed by two reviewers independently for each article. **Results:** Of the 50 articles randomly selected, 48 articles were retrospective MRRs and two articles were prospective MRRs. 78% (39 articles) chose sample size based on availability, 14% (seven articles) chose sample size based on power calculations, 4% (two articles) chose sample size based on a previous study's methodology, and 4% (two articles) did not give details on sample size selection. **Conclusion:** While some emergency medicine MRRs based sample size selection on power or previous studies, the vast majority are based on availability with study-specific exclusion/inclusion criteria. This may indicate they are using a smaller sample size than necessary to be sufficiently powered to assess their end goal. More work is required to determine the effect of this on outcomes and interpretability of results, as well as which method is most accurate and efficient.

Keywords: medical record review, sample size calculation, sample size decision making

P011

A learning module for better medical record review research.

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Innovation Concept: The objective of this research study was to create a flipped classroom, interactive, experiential learning module on how to do a medical record review study. It is designed for medical students, residents, physicians, and researchers to have a remote, online, but interactive experience that expands on textbook concepts. The "flipped classroom" means that learners will guide their own

education. This learning module will include a pre-test, interactive video module, and a post-test. These components will ensure each learner reaches previously set learning goals and not only solidify the learning of learners but validate the educational method, proving its value. **Methods:** A review of the literature indicates that medical record review is a valuable method of research in emergency medicine however researchers may encounter methodological difficulties, and sometimes medical record reviews are performed in a suboptimal manner due to these difficulties. We are creating a learning module that builds off of the chapter in the Royal College Research Guide and elaborates on various elements, including sample size calculation. Previous work indicates that a flipped classroom approach in medicine to learning has been well developed and is backed by evidence as well as learner preference to guide their own learning. **Curriculum, Tool, or Material:** The learning module was initiated from the Royal College Research Guide chapter on how to conduct medical record review research. The module is a white board drawing style video that combines elements of explanation and elaboration of the chapter information and a step by step, learner-interactive example of a medical record research project creation. **Conclusion:** Medical record review research is accessible to many researchers due to the availability of data. This innovation would help ensure that with this availability, good research is being conducted. Future steps will involve testing and validating this learning module using the pre and post-tests, and expanding to create other, similar modules for other Royal College Research Guide chapters.

Keywords: flipped classroom, innovations in EM education, medical record review

P012

Does physician burnout differ between urban and rural emergency medicine physicians? A comparison using the Maslach Burnout Inventory tool

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Introduction: Previous literature suggests that emergency medicine physicians experience high levels of work-related burnout. However, these results are drawn primarily from physicians working in large urban emergency departments. The aim of this study was to compare physician wellness between emergency medicine physicians working in urban versus rural settings. **Methods:** Emergency medicine physicians were recruited to complete a wellness survey from both urban and rural emergency medicine departments in Southwestern Ontario. The primary outcome measure of interest was physician burnout as measured by the Maslach Burnout Inventory-Human Services Survey (MBI-HSS). This survey tool measures physician burnout in the three domains of emotional exhaustion, depersonalization, and personal accomplishment. Descriptive statistics, paired t-tests and Mann-Whitney U tests were used to analyze parametric and non-parametric burnout domain data respectively. **Results:** Surveys were completed by 67/99 (68%) and 22/66 (33%) of urban and rural emergency medicine physicians, respectively. An emotional exhaustion score ≥ 27 OR a depersonalization sub-score ≥ 10 was considered the threshold for burnout and was found in 71.4% (40/56) of urban physicians surveyed and 85.7% (18/21) ($P = 0.20$) of rural physicians. No statistically significant difference in mean emotional exhaustion, depersonalization, or personal accomplishment was noted between groups. **Conclusion:** High levels of burnout were noted amongst both urban and rural emergency medicine physicians. No statistically

significant differences were noted between groups when compared on the Maslach Burnout Inventory survey tool. Despite many factors differentiating urban from rural practice, rural emergency doctors suffer similar rates of burnout. Thematic qualitative interviews exploring specific burnout factors may offer further insight into the drivers of physician burnout.

Keywords: burnout

P013

Emergency medicine in dental practice: shaping an educational curriculum

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Introduction: There is increasing public demand for dentists and their professional regulators to mitigate medical risk to patients in private dental clinics – especially those that offer procedural sedation. Recent high-profile adverse events reported in the media suggest an urgent need to address this issue. However, there is a paucity of knowledge in the literature regarding how best to do so. We aim to explore opportunities for multidisciplinary emergency medical training of dentists, and to offer an informed perspective to assist with the preliminary development of a structured educational program. **Methods:** We employ Gioia Methodology, an established standard for inductive qualitative research and thematic analysis. Interviewees were recruited via email and selected to ensure a broad and knowledgeable perspective. We conducted individual semi-structured 1-hour interviews of 6 dentists, 4 medical anesthesiologists, 3 emergency physicians, and 1 oral and maxillofacial surgeon. Several interviewees had leadership roles in Canadian dental regulatory agencies and educational institutions. Data from these interviews was contemporaneously analyzed and organized into “first-order concepts”, “second-order themes” and “aggregate dimensions.” **Results:** Our findings demonstrated 12 first-order concepts. Dentists require “leadership from professional regulators”, and “accreditation by recognized training institutions” to “ensure competence in initial emergency medical care of patients”. “Customized training programs” led by “multidisciplinary instructors” – including emergency physicians – should ensure “pre-operative medical risk assessment”, “appropriate intra-operative patient monitoring”, and “the ability to recognize common medical emergencies”. Emergency medical skills training should focus upon “teamwork within the office”, “early activation of EMS”, “ABC skills”, and the administration of “emergency medications”. **Conclusion:** Dentists require a very broad skillset to safely manage patients in their practice, especially when procedural sedation is required. Our aggregate dimensions provide an overview of our recommendations: we suggest that dentists must work with their regulators and educators to “build upon an existing culture of patient safety” by fostering “competence in the prevention, recognition and initial management of medical emergencies” in the dental practice setting.

Keywords: dental practice, education, emergency care

P014

Incidental findings in trauma whole-body CT scans: a systematic review

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Introduction: Whole-body computed tomography scans (WBCT) are a mainstay in the work-up of polytrauma or multiple trauma patients in the emergency department. While incredibly useful for

identifying traumatic injuries, WBCTs also reveal incidental findings in patients, some of which require further diagnostic testing and subsequent treatment. Although the presence of incidental findings in WBCTs have been well documented, there has been no systematic review conducted to organize and interpret findings, determine IF prevalence, and document strategies for best management. **Methods:** A systematic review was conducted using MEDLINE, PUBMED, and EMBASE. Specific journals and reference lists were hand-mined, and Google Scholar was used to find any additional papers. Data synthesis was performed to gather information on patient demographics, prevalence and type of incidental findings (IFs), and follow-up management was collected. All documents were independently assessed by the two reviewers for inclusion and any disagreements were resolved by consensus. **Results:** 1231 study results were identified, 59 abstracts, and 12 included in final review. A mean of 53.9% of patients had at least one IF identified, 31.5% had major findings, and 68.5% had minor findings. A mean of 2.7 IFs per patient was reported for articles that included number of total IFs. The mean age of patients included in the studies were 44 years old with IFs more common in older patients and men with more IFs than women. IFs were most commonly found in the abdominal/pelvic region followed by kidneys. Frequency of follow-up documentation was poor. The most common reported mechanisms of injury for patients included in the study were MVA and road traffic accidents (60.0%) followed by falls from >3m (23.2%). **Conclusion:** Although there is good documentation on the mechanism of injury, patient demographics, and type of IF, follow-up for IFs following acute trauma admission lacks documentation and follow-up and is an identified issue in patient management. There is great need for systematic protocols to address management of IFs in polytrauma patients.

Keywords: incidental findings, polytrauma, whole-body computed tomography

P015

Efficacy of the Brain Injury Guidelines for complicated mild traumatic brain injuries

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Introduction: The Brain Injury Guidelines (BIG) stratifies complicated mild traumatic brain injury (mTBI) patients into 3 groups to guide hospitalization, neurosurgical consultation and repeat head-CT. BIG-1 patients could be managed safely without neurosurgical consultation or transfer. Systematic transfer to neurotrauma centers provide few benefits to this subgroup leading to overtriage. Similarly, unnecessary clinical and radiological follow-ups utilize significant health-care resources. Objective: to validate the safety and efficacy of the BIG for complicated mTBIs. **Methods:** We performed a multicenter historical cohort study in 3 level-1 trauma centers in Quebec. Patients ≥ 16 years old assessed in the Emergency Department (ED) with complicated mTBI between 2014 and 2017 were included. Patients with penetrating trauma, cerebral aneurysm or tumor were excluded. Clinical, demographic and radiological data, BIG variables, TBI-related death and neurosurgical intervention were collected using a standardized form. A second reviewer assessed all ambiguous files. Descriptive statistics, over- and under-triage were calculated. **Results:** A total of 342 patients’ records were assessed. Mean age was $63 \pm 20,7$ and 236 (69 %) were male. Thirty-five