

pharmacists evaluated patients prospectively to evaluate causal associations between the drug regimens and patient presentations. After completion of the prospective study, a research pharmacist and physician independently reviewed the charts of all ADE patients, abstracted data using an electronic form and applied 3 preventability algorithms. The main outcome was a probably or definitely preventable ADE defined as avoidable by adhering to best medical practice, appropriate monitoring, taking a history of prior ADEs, compliance with recommended therapy, and avoidance of errors. Reviewers discussed discordant ratings until reaching consensus. We used kappa scores to evaluate between rater agreement, and investigated risk factors for preventability using logistic regression. Sample size was based on enrolment into the parent studies. **Results:** We reviewed the charts of 670 patients diagnosed with 725 ADEs. We excluded 44 patients with incomplete assessments. The inter-rater agreement in categorizing ADEs as preventable was 0.51 (95%CI 0.42-0.59). We deemed 61% (95%CI 57-65%) of ADEs preventable. Of preventable events, 30% were due to non-adherence, 24% to adverse reactions, and 15% to an excessive dose, and 29% required hospital admission. Among preventable events, 8% were due to warfarin, 5% hydrochlorothiazide, 3% acetylsalicylic acid, and 3% insulin. On multivariate analysis, mental health diagnoses were associated with preventable ADEs (OR 2.1, 95% CI 1.3-3.3, $p = 0.002$). **Conclusion:** In this large multi-centre cohort, preventable events made up the majority of ADEs, and utilized substantial hospital resources. Strategies to reduce ED visits due to ADEs should target improving adherence behavior, and developing interventions for patients with mental health diagnoses and on high-risk medications.

Keywords: adverse drug events, patient safety, prevention

P062

SOS: Summer of Smoke—a mixed-methods, community-based study investigating the health effects of a prolonged, severe wildfire season on a subarctic population

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Introduction: Between June 15 and Aug 31st 2014, Canada's Northwest Territories (pop 44,000: Stats Can), a subarctic region which is over 2°C warmer than it was in the 1950's, experienced an unprecedented number of forest fires, with 385 fires and approximately 3.4 million hectares of forest affected. This resulted in one of Canada's most severe and prolonged urban smoke exposures for the capital city of Yellowknife and surrounding Aboriginal communities. Our objective was to obtain a big-picture sense of the health impact of the Summer of Smoke on the population of these communities through a mixture of quantitative and qualitative analysis. **Methods:** We analyzed PM_{2.5} levels, salbutamol dispensations, clinic and hospital cardiorespiratory variables, and in-depth video interviews with community members from Yellowknife, N'Dilo, Dettah and Kakisa. **Results:** 49% of days June15-Aug31 in 2014 had a PM_{2.5} over 30 mcg/m³, as compared to 3% in 2012 and 9% in 2013 and 2015. Max daily PM_{2.5} in 2014 was 320.4 mcg/m³. There was a 22% increase in outpatient salbutamol dispensations in 2014 compared to the average of 2012, 2013 and 2015. More cough, pneumonia and asthma were seen in clinics compared to 2012-2015 ($P < 0.001$). There was a 42% increase in respiratory ER visits in 2014 compared to 2012-13, but no change in cardiac variables. The respiratory effect was most pronounced in children 0-4 (114% increase in ER visits). Qualitative analysis demonstrates themes of fear, isolation, lack of physical activity, alteration of traditional summertime

activities for both aboriginal and non-aboriginal subjects, elements of resilience and expectation for future smoky summers in the context of a changing climate. **Conclusion:** Prolonged wildfire seasons have a profound effect on overall wellbeing. Responses to help minimize mental and physical impacts such as the creation of clean-air community shelters, recreation programming, initiatives to support community cohesion, and "go outside when it is not smoky" messaging require further study.

Keywords: wildfires, respiratory, mental health

P063

Perceptions and reflections of Ethiopian emergency medicine graduates regarding the Toronto Addis Ababa Academic Collaboration in Emergency Medicine (TAAAC-EM) Curriculum: a qualitative evaluation study

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Introduction: The first-ever EM postgraduate training program in Ethiopia was launched at Addis Ababa University in 2010. EM faculty from the University of Toronto were invited to design and implement an EM rotation-based curriculum with tri-annual teaching trips to support the overall AAU EM program. To date, three cohorts of EM specialists ($n = 15$) have graduated from the three-year program. After six years of implementation, we undertook a qualitative evaluation of the TAAAC-EM curriculum. **Methods:** Data collection took place in 2016 in Ethiopia via in-person graduate interviews ($n = 12$). Participants were interviewed by a trained research assistant who used a semi-structured interview guide. Standard interview, transcription and analysis protocols were utilized. Qualitative software (QSR-NVIVO 9) was used for thematic grouping and analysis. **Results:** Graduates of AAU's EM residency training program reported very positive experiences with the TAAAC-EM curriculum overall. All graduates acknowledged the positive impact of TAAAC-EM's emphasis on bedside teaching, a unique component of the TAAAC-EM model compared to traditional teaching methods at AAU. Graduates felt that TAAAC-EM teachers were effective in creating a novel culture of EM at AAU and in role-modeling ethical, evidence-based EM practice. When asked about specific areas for program improvement, the following themes emerged: 1) a desire to shift delivery of the didactic clinical epidemiology curriculum to the senior residency years (PGY2-3) to coincide with completion of a required residency research project; 2) a desire for increased simulation and procedural teaching sessions and 3) the need for more nuanced context specificity in the curriculum delivery to incorporate local guidelines and practice patterns. A lack of educational supports during non-TAAAC-EM visits was also identified as an area for further work. **Conclusion:** Interviewing graduates of AAU's EM residency training program proved important for determining areas of curriculum improvement for future trainees. It also provided critical input to TAAAC-EM strategic planning discussions as the partnership considers expanding its scope beyond Addis Ababa.

Keywords: emergency medicine education, postgraduate medical education, global health partnership

P064

Coastal family practice residency: simulation curriculum needs assessment survey

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Introduction/Innovation Concept: Medical simulation is becoming increasingly useful for healthcare education. Simulation-based crisis

resource management (CRM) has been shown to produce improvements in skill acquisition, communication and team behaviors. Simulation has become a key component of most Family Practice (FP) residency programs and many programs are moving towards developing formal simulation curriculums. The Coastal FP Residency is a relatively new and unique program with a large emphasis on rural medicine. Graduates have gone on to practice in remote areas with less access to supports for critically ill patients. Therefore, an effective simulation curriculum, focused on Emergency Medicine, is of great importance to this program.

Methods: To develop our curriculum, Kern's framework for medical education was selected given its prior success in similar endeavors. The first step of this approach involves a needs assessment, which we accomplished in the form of an online survey. The questionnaire included pre-defined topics pertaining to the training needs of FP Residents destined for Rural Practice with respect to technical skills, CRM skills, specific medical conditions and categories of medical conditions. Classification of answers included multiple choice, 5-point Likert scales as well as an option for free-text answers. The survey was distributed to pre-identified participants including stakeholders/educators within the Coastal FP residency program as well as simulation education leads for FP residencies throughout British Columbia (BC). Current residents, as well as program graduates were also asked to complete the survey. **Curriculum, Tool, or Material:** The results of this survey were used to develop formal goals and objectives which were in turn used to write or adapt 24 cases for the curriculum. Cases from categories (e.g. Pediatrics) rated as "Extremely Important" on the Likert scale were included proportionally more in the curriculum. The cases were also designed to assess/practice a higher proportion of CRM elements considered important and to address commonly identified difficulties in resuscitation. Cases were developed, where possible, using local or national guidelines and are currently in the stage of peer review (by a minimum of two peers). **Conclusion:** The curriculum will be implemented in July 2017 and we will transition towards the evaluation phase. Our goal is to develop and distribute formalized needs assessments to rural FP residencies across BC so that they may develop dynamic, formal curriculums of their own.

Keywords: innovations in emergency medicine education, simulation, curriculum development

P065

The history of emergency medicine in Ottawa

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Introduction/Innovation Concept: There is a paucity of peer-reviewed works investigating the History of Emergency Medicine (EM) in Canada, and none examining a single centre. This study analyzed the academic and clinical evolution of EM in the City of Ottawa from its origins to present. **Methods:** The study comprised primary and secondary historical research and an oral history methodology. A literature review was performed on the following databases: PubMed, Medline, EMBASE, JSTOR, Web of Science, Historical Abstracts; five medical history journals were also searched. Data were collected from City of Ottawa Archives, Archives of the Sisters of Charity of Ottawa, The Ottawa Hospital Libraries, University of Ottawa Libraries, RCPSC and CFPC Archives, Historical Society of Ottawa documents, Ottawa newspaper archives, and professional correspondences. The oral history component consisted of formal interviews with seven practicing and retired Emergency Physicians in Ottawa. Ethics approval was not required though consent was obtained from

respondents. **Curriculum, Tool, or Material:** The literature review yielded the following: PubMed: 218 results, 180 excluded for non-relevance, 3 papers included in analysis. Historical Abstracts: 1 result, overlap with PubMed. Other databases and medical history journals yielded no papers. Along with extensive archival data, these results were used to construct a detailed timeline of EM history in Ottawa and Canada more broadly. Residency training in EM in Ottawa was initiated in 1972 at the impetus of the Board of the Ottawa Civic Hospital. Two main themes recurred in the interviews: resistance from existing specialties to EM becoming a specialty, and early Emergency Rooms staffed by the least trained people treating the least differentiated patients. Early EM physicians were not viewed positively by other specialists. **Conclusion:** Pioneering EM physicians were forced to validate the specialty as distinct, rigorous, and credible. In Ottawa this was achieved by developing strong core academics and research. Nationally, this has been instrumental in establishing EM as a viable standalone academic specialty. Modern consult pushback may have evolved from existing specialists fighting against the creation of EM combined with their negative perception of EM physicians. These data could be incorporated into learning modules for EM residency academic programs, and the methods applied to other centres.

Keywords: innovations in emergency medicine education, history of emergency medicine, history of medicine

P066

Outcomes of non-operative versus operative management in pediatric acute uncomplicated appendicitis

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Introduction: The purpose of this study was to look at outcomes of pediatric patients with early, acute appendicitis who were treated with non-operative management (NOM) with antibiotics. Primary outcomes were subsequent appendectomy or Emergency Department (ED) visits. **Methods:** The method used for this study was a retrospective chart review of children under the age of 18, looking at outcomes of those who received non-operative management (NOM) for early acute appendicitis between April 2014-April 2015. The inclusion criteria included: (a) Age 0-17, (b) US or CT suggested acute uncomplicated appendicitis (c) Final diagnosis of appendicitis during April 2014-2015. Outcomes that were investigated were repeat ED visits and need for subsequent appendectomy. **Results:** Data extracted from the EMR found 209 charts with an ED diagnosis of appendicitis. Two charts (.9%) were excluded as they were duplicates. Sixty-seven patients (32%) were excluded after appendicitis was ruled out. One hundred and forty patients (67%) had a final diagnosis of appendicitis, 124 patients (88.6%) were taken directly to the operating room for appendectomy, 16 patients (11.4%) were treated with antibiotics instead of operative management. Three patients who received non-operative management had complex appendicitis, 13 had acute uncomplicated appendicitis. Six patients out of 13 (46%) were successfully treated with antibiotics with no repeat visits to the ED or Pediatric Surgery for appendectomy, 7 patients (54%) required appendectomy after initial treatment with antibiotics. Two patients who underwent appendectomy after initial NOM had no evidence of clinical appendicitis, one patient was taken to the OR based on parent preference and one patient had an episode of abdominal pain that prompted an interval appendectomy four weeks post the episode of abdominal pain. **Conclusion:** Treatment of acute uncomplicated appendicitis with NOM remains a management option in the pediatric population. Further studies and long term follow up are required to better identify appropriate patients for non-operative management versus operative management.

Keywords: appendicitis, non-operative management, antibiotics