

Introduction: The Canadian College of Family Medicine Emergency Medicine Program (CCFP-EM) program is a 1-year enhanced skills program available to family medicine graduates interested in emergency medicine. Strong mentorship relationships were thought to assist residents with navigating the challenges of this program. Over the past 4 years, the CCFP-EM program at one academic centre initiated a novel mentorship program that matches residents with staff physicians in three areas of mentorship: clinical, research, and personal. This study aimed to determine the program success and areas for improvement. **Methods:** We conducted a cross-sectional study through an online survey distributed to all CCFP-EM residents and staff mentors from July 2015 to June 2019. Surveys included questions on the degree of satisfaction with the mentorship program, perceptions on the mentor/mentee experience, and areas for improvement. We asked staff and residents to rate their level of satisfaction with each mentorship component. Descriptive statistics were used to analyze satisfaction levels. Open-ended responses were analyzed for common themes. **Results:** 51.3% (19/37) of residents and 63.6% (35/55) of staff participated. For clinical mentorship, 68.5% of residents and 96.0% of staff rated the program as satisfactory/outstanding. For research mentorship, 73.7% of residents and 76.5% of staff rated the program as satisfactory/outstanding. The personal mentorship program was rated satisfactory/outstanding by 72.2% of residents and 95.3% of staff. Analysis for common themes revealed that continuity of support, development of autonomy, and opportunity for direct teaching were the main areas valued by residents. However, scheduling, teaching time, and mentor-mentee compatibility were the main challenges for residents. For mentors, scheduling was a main barrier to clinical mentorship, time constraint and resident commitment were the barriers to research mentorship, and resident engagement was the main barrier to personal mentorship. When asked which component(s) of mentorship should be continued for future residents, "personal mentorship only" was the most popular choice for staff (37.1%), while "mentorship in all three areas" was the most popular choice for residents (47.4%). **Conclusion:** Mentorship is an important aspect of the CCFP-EM program valued by staff and residents alike. Utilizing resident and staff feedback will allow for continuous improvement to the mentorship program.

Keywords: feedback, mentorship, resident education

P064

Hot days make for long stays: the impact of extreme heat events on emergency department lengths of stay and volumes in two Canadian community hospitals

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Introduction: The average temperature in Canada has risen 1.7°C between 1948-2016, increasing the frequency, severity and duration of extreme heat events. These events can exacerbate underlying health conditions, bringing patients to emergency departments (EDs). There is limited data associating sustained heat events to Canadian ED volumes and performance. This retrospective analysis assessed the impact of humidex and temperature on ED volume and length of stay (LOS). **Methods:** LOS is an indicator of ED overcrowding and system performance. The authors compared median and maximum LOS (hours) and patient volumes in both ambulatory and stretcher ED sections of two community hospitals (NDH, VH) in Montreal, QC to humidex and temperature during the summers of 2016-2018. Data were analyzed with one-way ANOVA and post hoc

means analysis with Fisher LSD tests of a priori determined thresholds of mean three-day maximum humidex and temperature preceding ED presentation. **Results:** The mean maximum humidex and temperature values for the 2016-2018 summers in Montreal, QC were 30.4 and 26.1°C, respectively (n = 276 days). Elevated mean three-day maximum humidex was associated with increased ED volumes (F[3,88] = 4.2, p = 0.008) and median LOS (F[3,88] = 7.7, p = 0.0001) in the NDH. Mean three-day maximum humidex was associated with ED volumes (F[3,272] = 2.9, p = 0.03) but not with median and maximum LOS (p > 0.05) in the VH. Parallel comparisons with mean three-day maximum temperature similarly showed an association with increased ED volumes (F[3,88] = 5.0, p = 0.003) and increased duration of median LOS (F[3,88] = 3.5, p = 0.02) in the NDH. Mean three-day maximum temperature was associated with increased ED volumes (F[3,272] = 3.3, p = 0.02) but not with median and maximum LOS (p > 0.05) in the VH. **Conclusion:** Warming climates are associated with an increased number of ED presentations and longer median ED LOS. As heat events disproportionately impacted NDH, future investigations need to determine why these two hospitals were affected differently. This study provides local evidence that climate change can disrupt emergency services by increasing the demand for and delaying timely care. This is the first study that the authors are aware of that demonstrates these findings. Hospitals need to be climate ready. Heat waves often happen during times when summer bed closures and vacations already impact system capacity. EDs should dynamically adapt to meet community needs during periods of extreme heat.

Keywords: climate change, emergency department system capacity, extreme heat event

P065

Out-of-hospital cardiac arrest patients eligible for extracorporeal cardiopulmonary resuscitation in Regina emergency departments

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Introduction: Extracorporeal cardiopulmonary resuscitation (ECPR) is a rapidly evolving technology for clinical use in patients with refractory cardiac arrest. Out-of-hospital cardiac arrest (OHCA) is a common cause of unexpected death and has a low survival rate. There is increasing evidence that suggests better outcomes for (OHCA) patients, including improved neurological outcomes and survival rates, who are started on extracorporeal corporeal membrane oxygenation (ECMO) versus traditional resuscitation methods. **Methods:** We conducted a retrospective chart review of 200 out-of-hospital cardiac arrest patients presenting to Regina emergency departments from January 1, 2017 to March 31, 2019. Eligibility for ECPR was assessed using different clinical criteria from different ECPR programs (University of British Columbia, University of Michigan, and a hypothetical "Regina" criteria created for this study). Outcomes of the eligible patients were compared using descriptive statistics with SPSS version 22. **Results:** Between four different criteria, 15%, 9.5%, 7.5%, and 3.5% of patients were respectively eligible to receive ECPR. Of patients who met eligibility for all four criteria, 80% were male, the average age was 61 years old, the average Cerebral Performance score was 4.46, and 83% died in hospital. There was a low survival rate of eligible patients, with rates of 16%, 17%, 20%, and 28% in each group. The survival rate for all patients was 21% and the average CPC score was 4.35. **Conclusion:**

The significant percentage of patients were eligible for ECPR upon presentation to Regina Emergency Departments. Patients who were eligible had low survival rates and poor neurological outcomes, suggesting that ECPR could prove to be a valuable clinical tool that could improve patient outcomes in Saskatchewan. There were considerable differences in patient eligibility percentages based on different criterion. Differences in inclusion/exclusion criteria, modifying the expected annual number of ECPR eligible OHCA patients, could provide valuable information on required resources and planning for implementation of an ECPR program in a smaller centre, such as Regina.

Keywords: extracorporeal cardiopulmonary resuscitation, extracorporeal membrane oxygenation, out of hospital cardiac arrest

P066

A quality improvement project to improve access to automated external defibrillators in the Niagara region community

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Background: Over 35,000 Canadians lose their lives to cardiac arrest each year. CPR and automated external defibrillator (AED) use are modifiable factors. Survival rates drop by 7-10% each minute that defibrillation is delayed, and survival rates are less than 5% after 12 minutes of ventricular fibrillation which stresses the need for bystander AED use in out-of-hospital arrests. Niagara Region lacks a publicly accessible registry of AEDs. AED access is a major focus in King County, Washington which has higher survival rates and has all AEDs registered with Emergency Medical Services. **Aim Statement:** This project aims to log 100 or more AEDs within a year into a publicly accessible registry and to connect the registry information to medical trainees in the Niagara region and all employees of the Niagara Health System involved in patient care. **Measures & Design:** PulsePoint is an application used to register AEDs within the Niagara region. PulsePoint allows users to geotag AEDs while tracking data entries. Over 16 weeks, 4 PDSA cycles tested the effectiveness of logging methods for AEDs including opportunistic logging, daily emailed reminders, and contacting organizations with high likelihood of having an AED. Information about the project and registry was shared with residents and medical students in Niagara. A second phase of cycles involves relaying information to Niagara Health system employees and the medical community. A final cycle will target a broader group of local organizations with intermediate probability of having AEDs. Primary outcome measures include the numbers of regional AEDs logged and members reached by knowledge sharing cycles. **Evaluation/Results:** PulsePoint was found to be an effective, free, publicly accessible resource to log AEDs within the Niagara region. The initial round of 4 PDSA cycles added a total of 56 new AEDs within the region, which were logged into PulsePoint app and the Excel spreadsheet. Through the fourth PDSA cycle, 136 businesses were contacted and made aware of the project and the AED application. In addition, 138 health-related colleagues and medical students were contacted to raise awareness. PDSA cycles five through eight are currently ongoing or in the planning stages. **Discussion/Impact:** Raising awareness among emergency services and sharing information about the registry to local CPR training providers will be paramount. Creating awareness of PulsePoint and installing AEDs in locations that currently lack such devices could ultimately improve cardiac arrest survival rates within Niagara Region.

Keywords: quality improvement and patient safety

P067

Ondansetron and rehydration in pediatric gastroenteritis

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Introduction: Gastroenteritis (GE) is one of the most common causes of emergency room visits, especially in pediatrics. The Canadian Paediatric Society and Choosing Wisely have issued high-grade recommendations to physicians working in the Emergency Department. It suggests, trying oral ondansetron followed by oral rehydration before installing venous rehydration in children with GE with adequate hydration or mild to moderate dehydration. This quality of medical care evaluation aims to determine if these recommendations were being applied for children aged 6 months to 12 years, with adequate hydration status or mild to moderate dehydration, who presented to the Chicoutimi emergency room between November 2016 and November 2018. **Methods:** Practice conformity was assessed according to two explicit criteria: prescription of oral ondansetron and appropriate mean of rehydration. A data collection tool was created and files were reviewed by investigators after standardization. Several secondary outcomes were assessed, including, among others, duration of symptoms, the number of vomiting and diarrhea. The hydration status was measured according to the capillary refill, feeling of skin to the touch, condition of buccal mucosa, tears, heart rate and mental status. These variables were analyzed to understand their impact on practice conformity. We excluded cases in which there was infections needing antibiotics, hypoglycemia, hemodynamic instability, no vomiting in the last 24 hours, convulsions and history of diabetes. **Results:** A total of 270 patient files were analyzed, 181 of which were included. Oral ondansetron was tried in 49 % of children. Rehydration was adequate in 55% of cases. The hydration level was written in 18% of files and the hydration status noted by the emergency room physician overestimated the dehydration score in 16% of cases. When hydration status was well assessed, adequate rehydration was observed in 63% of cases, while ondansetron was attempted in only 44% of cases. **Conclusion:** Use of oral ondansetron and adequate mean of rehydration to treat children aged 6 months to 12 years with GE in Chicoutimi emergency department is suboptimal. The difficulty of adequate dehydration assessment may be one of the causes. Concerted dehydration assessment grid and a group prescription for the administration of ondansetron during the nurse triage may constitute potential solutions.

Keywords: gastro-enteritis, ondansetron, pediatrics

P068

Interrelationship between spatial abilities, anatomy knowledge and technical skills performance: a systematic review

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Introduction: Spatial ability has been defined as a skill in representing, transforming, generating and recalling symbolic, non-linguistic information. Two distinct human spatial abilities have been identified: visualization and orientation. A sex difference in spatial abilities favouring male has been documented. A pattern of negative effects with increasing age on spatial abilities has also been demonstrated. Spatial abilities have been correlated to anatomy knowledge assessment using practical examination, three-dimensional synthesis from two-dimensional views, drawing of views, and cross-sections in a systematic review. Spatial abilities have also been correlated to technical