

order to best represent the individual ACP response to their perceived deficits, a percentage of deficits identified and addressed was chosen. Respondents were not aware that their responses would be compared to the credits obtained for the year, to minimize bias in CME selection. **Results:** Of the 140 ACPs in the region, 42 (30%) completed the survey. From the 37-point list, the median number of perceived deficits identified was 7.00 (IQR 3.00-10.00). The median number of CME events that addressed perceived deficits was 2.00 (IQR 1.00-3.00). The median number of perceived deficits addressed by either paramedic-chosen or mandatory CME were identical at 1.00 (IQR 0.00-2.00). The percentage of perceived deficits identified and addressed via CME was 35.07% (range 0-100%). Paramedic-chosen CME covered 22.48% (range 0-100%) of perceived deficits, while mandatory CME covered 20.14% (range 0-100%) of perceived deficits. **Conclusion:** In the current system, only 35.07% of perceived deficits were addressed through mandatory and paramedic-chosen CME. Further information regarding barriers to paramedics obtaining CME that meets their perceived deficits needs to be elucidated.

Keywords: paramedic, prehospital, education

P029

A descriptive analysis of defibrillation vector change for prehospital refractory ventricular fibrillation

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Introduction: Patients in ventricular fibrillation (VF) who do not respond to standard Advanced Cardiac Life Support treatments are deemed to be in refractory VF (rVF). The ideal prehospital treatment for patients with rVF remains unknown. Double sequential external defibrillation (DSED) has been proposed as a viable option for patients in rVF. Although the mechanism by which DSED terminates rVF remains unknown, one theory is that the change in defibrillation vector that occurs may contribute. The objective of this study was to describe clinical outcomes for patients presenting in rVF during out-of-hospital cardiac arrest (OOHCA) for those who underwent vector change defibrillation, compared to those who received standard treatment. **Methods:** This was a retrospective chart review of adult (18 years) patients presenting in rVF during OOHCA over 15 months beginning in March 2016. Patients who underwent vector change defibrillation had a change in pad position (anterior-anterior to anterior-posterior) after 3 or more consecutive shocks. Termination of rVF was defined as the absence of VF after a vector change or standard shock during the next rhythm analysis. **Results:** There were 372 OOHCA, with 25 (6.7%) patients meeting our definition of rVF. Of these, 16 (64.0%) patients (median age 62 years, 81.3% male) had vector change after a median (IQR) of 3 (3.0-4.0) paramedic defibrillation attempts. Median (IQR) time to vector change defibrillation was 8.8 (7.1-11.1) minutes. Eight (50%) patients had termination of rVF after the first vector change shock, 6 (37.5%) had prehospital return of spontaneous circulation (ROSC) and 5 (31.3%) patients survived to hospital discharge. Of the 9 rVF patients who did not have vector change, median age was 63 years and 88.9% were male. The median (IQR) number of defibrillations within this group was 5 (4.5-7.0). No patients converted after the 4th defibrillation. Prehospital ROSC was achieved in 3 (33.3%) patients and 5 (55.5%) patients were transported while in rVF. Three patients (33.3%) survived to hospital discharge. **Conclusion:** This is preliminary evidence that vector change defibrillation in patients with rVF may result in VF termination. A randomized controlled trial is warranted to test whether or not vector change has a role in the termination of rVF. **Keywords:** ventricular fibrillation, prehospital, vector change

P030

Role of scribes in emergency care in the Saskatoon health region

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Introduction: Increasingly, hospitals are adopting electronic charting systems. Recent literature suggests that physicians are spending roughly 2:1 hours on charting as compared to actual patient care raising questions as to whether manual electronic charting is the best use of scarce physician resources. To counter these effects, some hospitals have introduced scribes into their departments. A medical scribe is a person, or paraprofessional, who specializes in charting physician-patient encounters in real time. In this pilot study, we assessed the impact of having a scribe on the mental and physical fatigue, patient and healthcare-team engagement, and overall work satisfaction of emergency physicians at an urban emergency department (St. Paul's Hospital, Saskatoon). **Methods:** Three research participants (emergency physicians) were recruited to the study. Each participant completed a typing test to determine typing skills. The student researcher then provided scribe services for each participant for two shifts. The scribe charted physician-patient interactions in real time and also completed order sets, wrote orders, imaging requisitions, and prescriptions. Physicians completed surveys after each shift with the scribe as well as after 2 shifts without a scribe (for a total of 12 shifts in the study, 6 with the intervention). Physicians were asked to rate their mental and physical fatigue, enjoyment of work, and impact on patient/team engagement on a 10-point Likert scale. Results from the questionnaires were analyzed to determine individual and group mean responses. Given the small sample size, no further statistical calculations were completed. **Results:** Typing test results (in words per minute) were as follows: Scribe 93, Physician A 64, Physician B 40, Physician C 25. In terms of both mental and physical fatigue post shift, all 3 participants recorded being less fatigued after working shifts with a scribe. Mean group scores were as follows: mental fatigue decreased by 33%, physical fatigue decreased by 23%. Physicians work enjoyment improved by 10%. Team and patient interaction did not seem impacted by the intervention. **Conclusion:** It appears that regardless of typing skills, all physician participants noted a measurable benefit from having a scribe on shift. This suggests that off-loading documentation to the scribe has a positive effect on mental and physical endurance. These results warrant further investigations.

Keywords: quality improvement and patient safety, scribes in emergency care

P031

An online video analysis study of out of hospital cardiac arrest: patterns in presentation and opportunities for machine learning

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Introduction: Cameras are a common in public spaces. London England is estimated to have 500,000 and Beijing China over 800,000. Smartphone penetration exceeds 60% of the population in 20 countries worldwide. Hundreds of sudden cardiac arrests are captured on video annually. This study searches publically available cardiac arrest videos with two objectives i) describe sudden cardiac arrest behaviour and ii) explore potential opportunities for machine learning. **Methods:** The search terms: "sudden death," "heart attack," "cardiac arrest" and "public death" were used. English sources included: Youtube.com, Dailymotion, vimeo.com, vidamax.com, LiveLeak.com and documentingreality.com. Whereas, iqiyi.com, youku.com, le.com, fun.tv,