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

M. Davis, MD, MSc, A. Schappert, MD, K. Van Aarsen, MSc, J. Loosley, S. McLeod, MSc, S. Cheskes, MD, Division of Emergency Medicine, Western University, London, ON

**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 a 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