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#### **Authors**

Fieman, Rachel E.  
Marschall, Matthew D.  
Bhimani, Smeet R.  
[et al.](#)

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# Fall 2018 The American College of Osteopathic Emergency Medicine (ACOEP) FOEM Competition Abstracts (October 22, 2018)

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The Foundation for Osteopathic Emergency Medicine (FOEM) promotes research and graduate medical education to advance the science of patient centric holistic emergency care consistent with the osteopathic philosophy. Each year the FOEM hosts a number of research competitions that are presented at the American College of Osteopathic Emergency Physicians (ACOEP) fall scientific assembly and spring seminar. The *Western Journal of Emergency Medicine (WestJEM)* annually sponsors the research paper competition at the fall scientific assembly and is considered the premier research award at the competition. This *WestJEM* issue highlights FOEM research presented at the 2018 ACOEP Fall Scientific Assembly.

John Ashurst, DO, MSc  
Kingman Regional Medical Center

## 1 Reducing Substance Use by an Emergency Department Intervention

RE Fieman<sup>1</sup>, MD Marschall<sup>1</sup>, SR Bhimani<sup>1</sup>, DJ Fikse<sup>1</sup>, RA Anderson<sup>1</sup>, P Roth<sup>1</sup>, JS Stephens<sup>2</sup>, MF Colon<sup>1</sup>, KR Weaver<sup>1</sup>, DM Richardson<sup>1</sup>, DB Burmeister<sup>1</sup>, MR Greenberg<sup>1</sup>, RD Cannon<sup>1</sup> / <sup>1</sup>Lehigh Valley Health Network, USF MCOM, Department of Emergency Medicine, Allentown, Pennsylvania; <sup>2</sup>Lehigh Valley Health Network, USF MCOM, Department of Internal Medicine, Allentown, Pennsylvania

**Introduction:** Substance use and misuse is prevalent in emergency department (ED) patients. We set out to determine substance use reduction rates after a brief ED intervention for patients with tobacco, alcohol, or drug use.

**Methods:** In this pilot prospective study, we approached a convenience sample of subjects in 2 EDs in PA during scheduled provider nonclinical times. One site was a trauma center while the other was a smaller community hospital. Subjects had to be  $\geq 18$  yo, have capacity to answer survey questions and participate in the program interventions, could not be critically ill, and had to be willing to participate. Participating subjects admitted to definitions of unhealthy use of one or more of: tobacco products, alcohol, street drugs, or addictive prescription drugs. Subjects received a structured survey and intervention tool that was previously validated (Project ASSERT), a brief intervention based on motivational interviewing, and referral to treatment, which took on average 5-10 minutes<sup>1</sup>. The intervention was carried out by a medical student, Emergency Medicine (EM) Resident, or an Addiction Recovery Specialist (a licensed social worker and certified recovery specialist with lived substance use disorder experience). These providers had training in Project ASSERT prior to the study start. Phone follow-up was used to determine current substance use by the patient. Subjects received no financial incentives.

**Results:** One-hundred ninety-one patients were recruited (105 for tobacco usage, 54 for alcohol, and 32 for drugs). At follow-up, 16/105 tobacco users (15.0%) reported stopping smoking, 51 (48.6%) a decrease in the number of cigarettes per day, and 32 (30.5%) attempting to quit. Of 54 patients in the high-risk alcohol utilization group, 40 (74.1%) reported either a decrease in the number of days per week of drinking, or a decrease in the number of drinks per day. Of the 32 patients who used drugs, 25 (78.1%) reported a decrease in usage.

**Conclusion:** In this pilot study involving medical students, EM residents and drug counselors at 2 EDs, we found that a brief intervention to patients with unhealthy tobacco, alcohol, and drug use resulted in overall decreased use. A more robust study, with a larger patient sample size is indicated.

## 2 Teamwork Between Engineering and Medicine: Collaborative Training in the Emergency Department

PT Bowers<sup>1</sup>, X Peng<sup>2</sup>, ER Stevens<sup>2</sup>, A Alexandrescu-Anselm<sup>2</sup>, RS Mackenzie<sup>1</sup>, TE Theman<sup>2</sup>, AC Miller<sup>1</sup>, AL Gallagher<sup>1</sup>, MR Greenberg<sup>1</sup> / <sup>1</sup>Lehigh Valley Health Network, Department of Emergency and Hospital Medicine/USF MCOM, Allentown, Pennsylvania; <sup>2</sup>Lehigh University, Bethlehem, Pennsylvania

**Introduction:** Entrustable Professional Activities (EPAs) 9 and 13 are to “collaborate as a member of an interprofessional team” and to “identify system failures thereby contributing to a culture of safety and improvement.” Addressing EPA 9, an interprofessional initiative was begun using a project team between two university programs: medical education and health systems engineering. Addressing EPA 13, this team set out to provide diagnostic analytics for Length of Stay (LOS) delays in the Emergency Department (ED).

**Methods:** This project was performed in 2018 at an ED with 42 beds, an annual census of 70,000, and a 38% admission rate. Two healthcare systems engineering students and a medical student performed on-site observations to identify specific bottlenecks that could contribute to ED LOS. This data and data generated from the electronic medical record were analyzed and correlated with observations. Factors (44) that affect ED processes were analyzed, including time interval metrics such as arrival to triage, arrival to admit, disposition to departure, and bed request to admit.

**Results:** Patients had an average LOS of 5.9 hours. A total of 4,940 adult, non-psychiatric cases presented; 1,599 (32.4%) of these were admitted. Process evaluation (Figure, mean and median minutes) showed differences between day (7a-7p) and night (7p-7a) flow patterns. These quantitative results (EPA 13) were determined by the interprofessional collaborative work efforts of the students (qualitatively, the outcome of EPA 9).