**Keywords:** ultrasound, simulation, echocardiography

**P026**

**Pilot-testing an adverse drug event documentation form prior to its implementation in an electronic health record**

A. Chruscicki, PhD, K. Badke, BScPharm, D. Peddie, BEng, S. Small, BA, E. Balka, MA, PhD, C.M. Hohl, MDCM, MHSc; Queen's University, Vancouver, BC

**Introduction:** Adverse drug events (ADEs), harmful and unintended consequences of medications, account for 1.7M emergency department (ED) visits in Canada each year. Up to 30% are due to unintentional re-prescribing of culprit drugs, partly due to lack of accessible, succinct, and comprehensible ADE information at the time of prescribing. Through a systematic review and workshops with physicians and pharmacists, we designed new ADE documentation fields. Our objective was to pilot-test the fields to anticipate and address problems prior to their integration into an electronic medical record (EMR). **Methods:** We seek to introduce structured ADE documentation into an EMR and PharmaNet, BC's medication-dispensing database, to generate patient-level alerts when attempts to re-prescribe culprit drugs are made. We conducted this qualitative study in the EDs and on the wards of two BC hospitals. The ADE fields collect information about the culprit drug, its effect on the patient, treatment and outcome. We recruited a convenience sample of pharmacists, and distributed paper forms with the ADE fields to them before data collection shifts. We recorded how pharmacists evaluated patients for ADEs and completed the forms. We collected completed forms, and conducted semi-structured interviews for feedback. We analyzed data for common themes using inductive reasoning and constant comparison methods. **Results:** We observed 6 pharmacists documenting 24 ADEs. The field design was perceived as simple, clear, with sufficient detail to capture ADE information. Users identified fields to be omitted (*e.g.,* excess details of culprit drug), modified (*e.g.,* reporting options), or needing clarification (*e.g.,* treatment details). Users were uncertain about what to report when the differential diagnosis included an ADE, but diagnostic uncertainty remained. Thus, ADE fields should enable communication about suspected events and potential alternative diagnoses. Pharmacists required follow-up in some cases to complete their determination (e.g., *C. difficile toxin assay),* emphasizing the need to be able to modify an ADE report. **Conclusion:** Paper-based pilot testing uncovered barriers to ADE documentation, and allowed us to plan for modifications and required linkages between electronic systems. In order to be functional, electronic ADE documentation must be dynamic, representing a departure from previous reporting platforms.

**Keywords:** patient safety, adverse drug events, electronic medical records

**P027**

**Emergency medical services (EMS) assist-requiring hypoglycemia in Southwest Ontario**

M. Peddle, MD, S. Liu, MD, MSc, H. Reid, BSc, M. Columbus, PhD, J. Mahon, MD, MSc, A. Dukelow, CHE, MD, T. Spaic, MD, MSc; London Health Sciences Centre, London, ON

**Introduction:** Hypoglycemia is a common treatment consequence in diabetes mellitus (DM) and the second most common cause of Emergency Department (ED) visits for adverse drug events. Prior studies have examined the rates of ED visits and inpatient hospitalizations for hypoglycemia. These represent only a small proportion of severe hypoglycemic events, as many do not present to hospital. To date, there have been no Canadian population-based studies examining the rates of EMS assist-requiring hypoglycemia in DM patients in the pre-hospital setting. The objective of this study was to determine the prevalence and describe the EMS assist-requiring hypoglycemia in DM patients in Southwestern Ontario. **Methods:** A population-based retrospective cohort study was conducted on all EMS calls for diabetic emergency from 2008-2014 in Southwestern Ontario, Canada. Data was extracted from the electronic ambulance call records for 11 EMS services in the region. **Results:** There were 9,265 EMS calls for a diabetic emergency (mean age 59 $\pm$ 20 years, 57% male, 82% DM). For 223 calls (2.4%) patients were younger than 19 years of age. The mean blood glucose level on presentation was 2.49 $\pm$ 1.02 mmol/L and 2,116 (24%) call subjects had initial GCS score less than 9. Treatment (intravenous glucose or IM glucagon) was given in 7,126 (77%) calls. There were 3,884 (51 %) hypoglycemia episodes with documented insulin use and 1,436 (19 %) documented oral hypoglycemia agents use. Between 2008 and 2014, rates of calls increased by 7.4% ($p < 0.0001$). Prevalence of hypoglycemia calls during the study period was estimated at 189 per 10,000 diabetes patients per year. In 2,297 (24.8%) instances, the patient refused transport to the ED. **Conclusion:** The rates of EMS assist-requiring hypoglycemia are almost double the rates of hospitalization/ED visits for acute DM complications in our region. Many life threatening episodes of hypoglycemia may go unreported and subsequently not followed by the patient's primary health care provider. Further assessment and proper education following those episodes may help decrease the rate of severe hypoglycemia.

**Keywords:** hypoglycemia, emergency medical services (EMS)

**P028**

**Implementation of an emergency department outpatient deep venous thrombosis treatment guideline: a quality improvement initiative**

L. Costello, MD, M. McGowan, MHK, V. Dounaevskai, MD, A.H. Cheng, MD, MBA; University of Toronto, Toronto, ON

**Introduction:** Deep venous thrombosis (DVT) is a common diagnosis in the Emergency Department (ED). Despite evidence that Rivaroxaban is non-inferior to the low molecular weight heparin (LMWH) bridge to Warfarin approach for anticoagulation, there is still variability in physician practice. A collaborative ED-Hematology quality improvement initiative, that included a treatment guideline and increased access to a thrombosis clinic, was introduced to guide anticoagulation. **Methods:** A retrospective chart review of ED patients with DVT one-year pre (April 1, 2013-March 31, 2014) and one-year post (April 1, 2014-March 31, 2015) implementation of an outpatient DVT treatment guideline was conducted. Primary outcomes were percentage of patients discharged from the ED on Rivaroxaban or LMWH/Warfarin. Secondary outcomes included mean ED length of stay (ED LOS), mean number of return ED visits per patient and percentage of thrombosis clinic referrals. Balance measures included percentage of return ED visits with pulmonary embolism (PE) within one month and percentage of return ED visits with bleeding (major bleeding or clinically relevant non-major bleeding) due to anticoagulation use. Clinical and administrative data was extracted with 15% independently reviewed for inter-rater reliability. **Results:** 95 patients met inclusion criteria (52 patients pre and 43 post guideline implementation). The prescribing of Rivaroxaban increased from 9.6% (5/52) to 62.7% (27/43). Mean ED LOS for the Rivaroxaban group was 7.5 hours (95% CI, 5.8-9.2) versus 10.0 hours in the Warfarin group (95% CI, 8.5-11.4) [$p = 0.04$]. The mean return ED visits for the Rivaroxaban group was 0.2 (95% CI, 0-0.3) versus 3.9 in the Warfarin group (95% CI, 3.2-4.6) [$p < 0.001$]. The thrombosis clinic referrals increased from 29.5% (13/44) to 86.0% (37/43). There was one PE



https://doi.org/10.1017/cem.2016.203 Published online by Cambridge University Press