

UNIVERSITY OF SASKATCHEWAN

2018 EMERGENCY MEDICINE

RESEARCH DAY

AGENDAS AND ABSTRACTS

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RESEARCH DAY AGENDA

GRAND ROUNDS LECTURE-DR. ANDREW TRAVERS	10:00-11:00
RESEARCH PRESENTATIONS (PART 1)	
a. EMERGENCY MEDICAL SERVICES	11:00-11:45
EMERGENCY MEDICINE TEACHING AWARDS	11:45-12:00
LUNCH	12:00-12:45
RESEARCH PRESENTATIONS (PART 2)	
a. CLINICAL MEDICINE	12:45-1:30
b. EDUCATION	1:30-2:15
BREAK	2:15-2:30
RESEARCH PRESENTATIONS (PART 3)	
a. QUALITY IMPROVEMENT	2:30-4:00
RESEARCH AWARDS	4:00-4:30
PRESENTED BY DRs. TRAVERS, RAMSDEN, DAVIS & LAWRENCE	

EMERGENCY MEDICAL SERVICES

Impact of Pit-Crew CPR on Survival Following Out-Of-Hospital Cardiac Arrest in Saskatoon.

Netherton S, Leach A, Hillier T, Woods R

University of Saskatchewan College of Medicine, 5D40 Health Sciences Building Box 19, 107 Wiggins Road Saskatoon SK S7N 5E5

INTRODUCTION: Since 1980, survival rates after out-of-hospital cardiac arrest (OHCA) have averaged only 7.6% despite new technologies, medications, and automated external defibrillators (AEDs). Pit-crew CPR focuses on minimizing interruptions in compressions and reducing the peri-shock pause. It has shown improvements in survival in other jurisdictions. We aim to identify if pit-crew CPR increases survival rates after an OHCA in Saskatoon.

METHODS: Saskatoon first responders were trained in pit-crew CPR and implemented its use by January 1, 2015. Our study is a pragmatic pre- and post-treatment retrospective chart review that examined all OHCAs in the MD Ambulance catchment area between January 1, 2011 and December 31, 2014 (pre-treatment) and January 1, 2015 and December 2017 (post-treatment). The primary outcome, survival to discharge (STD), was compared using the chi-squared test and secondary outcomes, survival to admission (STA) and return of spontaneous circulation (ROSC), and subgroup analysis was examined in collaboration with the Clinical Support Research Unit (CRSU).

RESULTS: 2017 data has been gathered and is currently being analyzed. Prior to 2017, 448 patients in the pre-treatment cohort and 263 in the post treatment cohort met inclusion criteria for the study. Average age was similar at 63 and 63.8 years between cohorts, respectively. STD improved to 13.2% from 10.0% ($p=0.20$), whereas, STA was 34.1%, up from 31.0 ($p=0.39$), and ROSC was relatively unchanged at 43.2% from 42.9% ($p=0.95$).

CONCLUSIONS: The pre-treatment cohort STD was above the national average. Preliminary post pit-crew CPR data demonstrated an increase in STD, equivalent to about 5 more lives saved per year, but did not meet statistical significance. This was due to a small sample size. We were not able to detect differences in secondary outcomes. We hope this study can add to the ongoing analysis of effectiveness in continuous compression CPR.

Accuracy of EMS at Calling Pre-Hospital MI/STEMI Alerts

MacDonald K, Zahorski L, Humber L, Erwin K, Heerspink B

University of Saskatchewan, Regina General Hospital Emergency Department, 1440 14th Ave, Regina, SK

INTRODUCTION: EMS personnel are trained to call an “MI alert” if certain criteria are meant on ECG for an ST-segment myocardial infarction (STEMI); while this can improve time to critical treatment, and provide the hospital time to set up, it may also cause increased false alerts, and waste. We aimed to determine the correct activation of the MI alert system, and characteristics of these false activations.

METHODS: Reviewing all ‘MI alerts’ from 2017, and from Jan 1 – Mar 18 2018, in Regina, Saskatchewan (an urban center (population 236,481)), we conducted a retrospective chart review on 97 charts looking at cardiovascular risk factors, as well as the final angiographic cardiologist diagnosis of the patient.

RESULTS: The correct diagnosis was made in 73% (95% CI = 64.0% – 81.8%) of cases. Logistic regression analysis showed only two predictors of false activations: older age of the patient (75 yO v 64 yO ($p = .004$; OR = .95; 95%CI = 0.92 - 0.98)), and previous CAD/MI (No history of CAD/MI in 43% v 87% ($p < .001$; OR = .12; 95%CI = 0.04 - 0.36)). Qualitatively, a large number of activations were found to be due to old ECG changes, likely due to previous MI/CAD, followed by patients in extremis who were made palliative.

CONCLUSIONS: The correct diagnosis of an MI alert by Regina EMS was approximately 73%, slightly lower than other jurisdictions, with the only predictors of false activation being older age, and previous MI/CAD. Qualitatively, a large number of false activations were identified to be old ECG change. Similarly, many patients presented as an MI alert but, given their medical comorbidities and age, were palliated instead of treated.

Prehospital Ultrasound Use Among Canadian Air Ambulance Providers-A Survey.

Sedlakova A, Olszynski P, Davis P, Froh J

University of Saskatchewan, Saskatoon, Saskatchewan

INTRODUCTION: Evidence suggests that prehospital point of care ultrasound (POCUS) may improve outcomes, particularly in certain patient populations. It serves as an aid in physical examination, triage, diagnosis, and patient disposition. The rate of adoption of POCUS on air ambulances throughout Canada is unknown. The objective of this study was to describe current ultrasound use among Canadian air ambulance providers.

METHODS: This is a cross-sectional observational study. A survey was emailed to directors of government-funded air ambulance bases in Canada. Data was analyzed using descriptive statistics.

RESULTS: Of 17 air ambulance directors approached, we received 15 responses (88.2%). These responses accounted for 41 of 46 individual bases. Prehospital air ambulance POCUS is currently used in British Columbia, Alberta, Saskatchewan, and Manitoba. New Brunswick,

Nova Scotia, Prince Edward Island, and Yukon are planning to introduce it within the next year. Air ambulances in Ontario, Quebec, and Newfoundland are not utilizing POCUS and are not planning to introduce it. BC is the only province currently using POCUS on fixed-wing aircraft. Scans are obtained on <25% of missions, most frequently at sending hospital and in flight. Applications quoted most useful were assessment of pneumothorax, free abdominal fluid, and cardiac standstill. The most common barrier to POCUS use was cost of training and maintenance of competence. All directors currently utilizing prehospital POCUS believe that it is a useful tool and should become common practice.

CONCLUSIONS: Prehospital POCUS is available in Western Canada with 31.6% of Canadian population having access to ultrasound in aeromedical services. 63% of the population does not. The Maritimes and the Yukon Territory will further extend POCUS use on fixed-wing aircraft. While there are barriers to POCUS use, it is considered valuable once utilized. Further research is required to evaluate the effect of POCUS on patient outcomes.

CLINICAL MEDICINE

Can Emergency Department Point-Of-Care Ultrasound Be Used to Identify Significant Carotid Stenosis in Patients with Transient Ischemic Attacks?

Authors: Kapur P¹, Mehar A², Chenkin J²

University of Saskatchewan¹ & Sunnybrook Hospital²

INTRODUCTION: Traditionally the evaluation of patients with features of a transient-ischemic attack (TIA) is referral to a stroke clinic to obtain ultrasounds of both carotid arteries. However, such ultrasounds impose a cost in terms of time and effort. The growth of point-of-care ultrasound (POCUS) offers an efficient alternative. Our goal is to determine whether B-Mode POCUS performed by emergency physicians' correlates with formal radiology measurements to identify significant carotid stenosis.

METHODS: This observational cross-sectional study used a convenience sample of 55 patients attending the Sunnybrook Stroke Clinic. Patients underwent a radiology ultrasound and a simplified B-Mode ultrasound of both carotid arteries. The common carotid artery (CCA) and internal carotid artery (ICA) were evaluated in the transverse plane from 1cm proximal to the carotid bulb to 1cm distal to the carotid bifurcation. The minimal luminal diameter (MLD) was measured at the CCA and ICA bilaterally. The sensitivity and specificity of carotid POCUS for detecting >50% carotid stenosis was calculated using radiology-performed carotid Doppler studies as the gold standard.

RESULTS: Results showed 2 patients with left sided carotid stenosis (53 unaffected) and 6 patients with right sided carotid stenosis (48 unaffected). Of these cases, POCUS detected the 2 cases of left sided stenosis (17 FP, Zero FN) and only 3 cases of right sided stenosis (10 FP and 3 FN), yielding an overall sensitivity of 62.5% and specificity of 73.2%.

CONCLUSIONS: In patients with TIA symptoms, early detection and treatment of carotid artery stenosis can decrease stroke risk. Our results using POCUS do not show sufficient sensitivity or specificity to currently warrant its use as a screening test.

Validation of the Stoplight Pain Scale Tool in the Canadian Emergency Setting.

Shwetz S, Morrison E, Drendel A, Yaskina M, Rajagopal M, Estey A, Ali S

University of Saskatchewan, 103 Hospital Drive, Saskatoon, Saskatchewan

INTRODUCTION: A variety of pain assessment tools exist for children. However, none were created specifically for caregiver use. This study aimed to validate a novel, three faced, colour-coded pain tool, the Stoplight Pain Scale, by comparing it to the validated Faces Pain Scale-Revised (FPS-R). This novel tool has the capability to guide families with regards to treatment, while measuring pain.

METHODS: A prospective observational cohort study was conducted at the Stollery Children's Hospital emergency department (ED) (Edmonton, Alberta) from November, 2014 to February, 2017. Patients (3-12 years) and caregivers were asked to rate patient pain using Stoplight Pain

Scale and FPS-R. Pain was measured at presentation to the ED, immediately following painful procedures, and thirty minutes after analgesia administration. Patients and their caregivers indicated their preferred scale for assessing pain.

RESULTS: A purposeful random sample of 227 patients were included for analyses; 61/227 (26.9%) of patients were 3-5 years old; 166/227 (73.1%) were 6-12 years old. Correlation between the two pain scales was consistently 'fair' to 'moderate'; using Kappa Statistics, a baseline correlation for Stoplight and FPS-R was 'fair' for both caregivers (0.38, 95% CI 0.28 – 0.48) and patients (0.36 95% CI 0.27-0.45). The Stoplight Pain Scale had 'fair to moderate' correlation between caregiver and patient scores, (0.37, 95% CI 0.27-0.47), compared to FPS-R which showed 'poor to fair' agreement between caregiver and child scores (0.20, 95% CI 0.12-0.29). Regardless of age or hospitalization status, 64% of patients (139/218) and 54% caregivers (118/220) preferred the Stoplight Pain scale ($p=0.001$).

CONCLUSIONS: The Stoplight Pain Scale correlates moderately well with FPS-R and shows good correlation between patients' and caregivers' assessment of reported pain. The Stoplight Pain Scale is a simple tool that may have a role in empowering family involvement in ED pain management. Future research should focus on at-home use of the tool.

Characteristics and Outcomes of Patients with Fetal Alcohol Spectrum Disorder Presenting to the Emergency Department: A Retrospective Chart Review.

Webster, B., Durr, K., Oyedokun, T., Mela, M., Anderson, T., Bryce, R.

Department of Emergency Medicine, College of Medicine, University of Saskatchewan, Saskatoon, Saskatchewan

INTRODUCTION: Fetal alcohol spectrum disorder (FASD) is an under-recognized and under-diagnosed medical condition. The true prevalence is unknown, but presumed to affect ~1% of all live births within Canada. Previous literature indicates there is a large psychological, social, and economic burden associated with the condition—part of which includes the tendency for this population to have high utilization rates of acute care medical services. Until now, no studies have looked at the rate and patterns of emergency department (ED) use, by patients with a known diagnosis of FASD, in Saskatchewan.

METHODS: Participants with a diagnosis of FASD were identified via a database maintained by the psychiatry department. A further search of all paper and electronic medical records within Saskatoon's three major hospitals identified additional participants with a documented ICD-10 code consistent with the diagnosis. Emergency department visits by all identified participants, over a 6-year span, were examined. The resultant data set was then analyzed descriptively.

RESULTS: Forty-five participants, contributing to 740 unique ED visits, were identified and examined. Twenty participants were female. Twenty-five were male. Age at time of presentation ranged from 3 to 56 years old. Both chief complaints and discharge diagnoses varied widely, but mental health and social problems were among those most frequently cited. Repeat ED visits within a 48-hour time frame were not uncommon. Two outliers presented with an increased frequency, having 180 and 117 ED visits respectively.

CONCLUSIONS: As expected, only a small number of participants were identified for the purposes of this study, in keeping with the notion that FASD is grossly under-recognized and under-diagnosed in our community. Unsurprisingly, several participants also proved to be high users of our EDs, a sure sign of room for improvement in the care and support we provide.

EDUCATION

How I Stay Healthy in Emergency Medicine: A Qualitative Analysis of a Blog-Based Survey of Expert Emergency Physicians and Their Methods to Maintain and Improve Their Wellness.

Poonja Z, Chou J, Innes M, Chan T, Thoma B.

University of Saskatchewan, College of Medicine. Regina. Saskatchewan.

INTRODUCTION: We sought to investigate the strategies emergency physicians employ to maintain and improve health and wellness while mitigating the professions' stressors. Emergency medicine (EM) is a demanding specialty with high rates of physician burnout. While we all desire a healthy lifestyle, maintaining one in practice can be difficult. As emergency physicians, we must stay healthy to promote healthy living, optimize our ability to care for our patients, extend our careers, and be there for our families.

METHODS: From April 2015 to July 2017, forty-three wellness champions from Canada, the USA, and Australia were identified using a snowball sampling technique. Each participant answered 5 introductory questions and 8 productivity questions pertaining to health and wellness. These were transcribed and loaded to a publicly accessible blog, ALiEM.com, as part of the "Healthy in EM" series. Two investigators reviewed the transcripts using inductive methods and a grounded theory approach to generate themes and subthemes using coding software (NVivo-Burlington, Massachusetts) until saturation was achieved. Consensus between investigators (JC, ZP) established the master code and audit trail. An external audit by investigators (TC, BT) not involved with the initial analysis was performed to ensure reliability.

RESULTS: Major themes including diet, sleep, exercise and social activities were coded and further subcategorized along with perspectives, habits, personal philosophies, and career diversity. These themes translated across both professional and personal aspects of participants' lives. For example, the pre-shift and post-shift strategies often included some form of regimented activities-of-daily-living that required discipline to adhere to at work and home.

CONCLUSIONS: Our findings show the importance of homeostasis in the professional and personal realm among expert emergency medicine physicians. Among healthy emergency physicians, diet, sleep, and exercise patterns intertwined with perspectives, habits, personal philosophies, and social activities contributed to maintenance of wellness.

The Effect of Infographic Promotion on Research Dissemination and Readership: A Randomized Control Trial.

Huang S, Martin L, Chin A, Yeh C, Murray H, Mohindra R, Sanderson WB, Chan T & Thoma B.

University of Saskatchewan, 2440 Atkinson Avenue, Upper Suite, Regina, SK, S4N 3X5*

INTRODUCTION: With the increasing volume of medical literature published each year, it is difficult for clinicians to translate the latest research into practice. Awareness is the first step of knowledge translation and journals have begun using social media to increase the dissemination

and awareness of their publications. Infographics can describe research findings visually, are shared broadly on social media, and may be a more effective way to convey information. We hypothesized that infographic abstracts would increase the social media dissemination and online readership of research articles relative to traditional abstracts.

METHODS: Twenty-four articles (4 articles per issue) were chosen from the six issues of the Canadian Journal of Emergency Medicine (CJEM) published between July 2016 and June 2017 and randomized to an infographic or control group. Infographic articles were promoted using a visual infographic. Control articles were promoted using a screen capture image of each article's abstract. All articles were disseminated through the journal's social media accounts (Twitter and Facebook). Infographics were also promoted by the CanadiEM.org website. Abstract views, full text views, and the change in Altmetric score were compared between groups using unpaired two-tailed t-tests.

RESULTS: There were no significant differences in the groups at baseline. Abstract views (mean, 95% CI) were higher in the infographic (379, 287-471) than control group (176, 136-215, $p < 0.001$). Mean change in Altmetric scores was higher in the infographic (26, 18-34) than control group (3, 2-4, $p < 0.0001$). There was no difference in full-text views between the infographic (50, 0-101) and control groups (25, 18-32).

CONCLUSIONS: The promotion of CJEM articles using infographics on social media and the CanadiEM.org website increased abstract views and Altmetric scores. Infographics may have a role in increasing awareness of medical literature.

A Qualitative Analysis of Expert Interviews to Identify Quality Indicators for Health Professions Education Videos

Leontowicz, J, Andruko, J, Gray-Colmers, I, Tackett, S, Karpyshyn, J, Thoma, B
University of Saskatchewan College of Medicine, Regina, Saskatchewan

INTRODUCTION: Educational videos have become readily available as modern technology has made video recording, editing, and hosting broadly accessible. Medical instructional videos that demonstrate physical exam maneuvers and medical procedures can be especially valuable as initial exposure or refreshers for these skills. However, despite an abundance of existing procedural videos, no established measures of quality exist to guide their appraisal or creation. An initial literature review found a paucity of articles outlining any quality indicators for these resources. The lack of literature on this topic has implications for educators, who do not have formal guidance on how to make a high-quality resource, and learners who may not be equipped to assess the quality of these resources. Our study sought to identify features that improve the quality of procedural and physical exam videos through a qualitative analysis of interviews of expert medical video producers.

METHODS: Semi-structured interviews were conducted with a group of expert producers of medical videos who were identified using a snowball sampling technique. Field notes were recorded during the interviews and were used for the qualitative analysis. When there was a lack of clarity regarding the field notes, interview audio recordings were reviewed. A simple thematic analysis was performed to identify a list of key themes for procedural and physical exam videos.

RESULTS: 28 experts from four countries identified through the snowball sampling technique were contacted to participate in our study. 14 were interviewed. The thematic analysis of the field notes identified central themes and subthemes for quality procedural and physical exam videos. Central themes included:

- Tailoring to audience
- Content sources and layout
- Content presentation and resources required
- Production and technical aspects
- Accessibility of video

CONCLUSIONS: Using a thematic analysis of transcripts from expert video producers, multiple themes and features of quality medical videos were identified. These findings should guide the production and evaluation of these resources.

QUALITY IMPROVEMENT

Why Did You Leave? Contacting Left Without Being Seen (LWBS) Patients to Understand Their ED Experience.

Brar B, Goodridge D, Stempien J

INTRODUCTION: As experienced in Emergency Departments (EDs) across Canada, Saskatoon EDs have a percentage of patients that leave before being assessed by a physician. This Left Without Being Seen (LWBS) group is well documented and we follow the numbers closely as a marker of quality. However, what happens after they leave is not well documented. In Saskatoon EDs, if a CTAS 3 patient that has not been assessed by a physician decides to leave, the physician working in the ED is notified. In spite of trying to have patients stay for assessment, these patients still leave Saskatoon EDs without ever being seen by a physician. Our desire was to follow up with the LWBS patients and try to understand why they left the ED.

METHODS: Daily records from one of the three EDs in Saskatoon documenting LWBS patients with a CTAS acuity of 3 or more were reviewed over an eight-month period. A nurse used a standardized questionnaire to call patients within a few days of their ED visit to ask why they left. If the patients declined to take part in the quality initiative, the interaction ended. If they agreed, a series of questions was asked. Descriptive statistics were then obtained and analyzed.

RESULTS: We identified 322 LWBS patients in an eight-month time period as CTAS 3 or more acute. We were able to contact 41.6% of patients. The average wait time was 2 hours and 18 minutes. The shortest wait time was 11 minutes, whereas the longest wait time was 8 hours and 39 minutes. It was found that 49.1% of patients went to another health care facility within 24hrs of leaving the ED. Long wait times were cited as the number one reason for leaving. Lack of better communication from triage staff was cited as the top response for perceived roadblocks to care.

CONCLUSIONS: The Saskatoon ED LWBS patient population reports long wait times as the main reason for leaving. In order to improve the LWBS rates, improving communication and expectations regarding perceived wait times is necessary. The patient perception of the ED experience is intertwined with wait times, their initial interaction with triage staff, and how easily they navigate our very busy departments. Therefore, it is vital that we integrate the patient voice in future initiatives geared towards improving health care processes.

Habits Die Hard: Effectiveness of an Educational Intervention on ESR Test Ordering in the Prince Albert Emergency Department

Buhiire J, Little C, McKay S, Okpalauwaekwe U, Davis B
Victoria Hospital, 1200 24 St W, Prince Albert

INTRODUCTION: Non-indicated investigation ordering is a widespread problem giving rise to increased healthcare costs, unnecessary patient anxiety, and possible patient harm. The literature has mixed results on whether or not educational interventions are effective in reducing unnecessary investigations. In this study, an educational intervention was delivered to the Prince Albert Emergency Department physicians with the goal of decreasing the number of non-indicated Erythrocyte Sedimentation Rate (ESR) tests ordered in the Department.

METHODS: A list was created of the ESR tests ordered in the Department between November 2016 and March 2017. From this list, 55 random charts were reviewed to determine why the ESR was ordered. Next, an education intervention was performed, which consisted of both a didactic lecture to Department physicians and an infographic summarizing indications for ESR posted in high traffic areas of the Department. Four months post-intervention, another list of all ESR tests ordered in the Department was generated and a similar number of charts were reviewed.

RESULTS: Our comparison of pre- and post-intervention data revealed that there were substantially fewer total ESR tests ordered in the Department compared to the previous year. Our chart review showed that, of the ESRs ordered in the Department, a smaller fraction of these were ordered by the Department physicians (71% before and 58% after intervention, with the remainder ordered by community family doctors and specialists), and a greater proportion of those Department-physician-ordered ESRs were for indicated reasons (46% before and 54% after intervention).

CONCLUSIONS: An educational intervention can improve the test ordering habits of physicians in a regional hospital, at least in the short term.

Evaluating Utility of Coagulation Studies at Regina General Hospital for Patients with Suspected Acute Coronary Syndromes

Kaban G, Karreman E, Cabigon N, Dussault M
Regina General Hospital, Emergency Department, 1440 14th Avenue, Regina SK, S4P 0W5

INTRODUCTION: Coagulation studies (PT/INR and aPTT) are often ordered as a part of a routine work up for chest pain in the evaluation for acute coronary syndrome. However, it has been proposed that these are unnecessary and do not lead to significant changes in management and disposition. While it is known that previous use of anticoagulants can lead to complications, the determination of who is at risk can usually be based on past medical history alone. However, once identified, it is unclear if these higher risk patients will undergo any changes in management based on abnormalities found on coagulation studies testing.

Our primary endpoint focuses on whether abnormal coagulation studies result in changes in intervention or changes in clinical plan, as demonstrated by withholding of anticoagulant medication, change in heparin dosing, delayed procedure or the need for vitamin K/fresh frozen

plasma. Other secondary outcomes included whether coagulation studies were ordered for appropriate reasons, and the overall cost of these tests.

METHODS: A retrospective chart review was conducted from the dates October 1 2017 to January 1 2018. Our inclusion criteria included patients whose diagnosis included STEMI, NSTEMI, unstable or stable angina, chest pain NYD and had routine coagulation studies performed. They were then separated into groups of normal or abnormal coagulation studies. The charts were reviewed to identify if they had any risk factors for abnormal coagulation, which included liver cirrhosis, coagulopathy, or warfarin use. The electronic and paper charts were reviewed for any changes in therapy, procedures, or if reversal agents were given based on the abnormal coagulation studies. A minimally clinically important difference between the two groups (normal vs. abnormal coagulation studies) would be sought. Chi-square analysis or Fischer exact test was used to conduct the comparison analysis.

RESULTS: The primary endpoint showed withholding of anticoagulant agents only occurred in a very small subset of patients and there was no change in procedural management in which those patients had. If there was a change in management, it was established based on history rather than on laboratory testing.

CONCLUSIONS: Routine coagulation studies in the evaluation of chest pain are both unnecessary and costly to the health region and should only be ordered if there are risk factors present. This retrospective chart review supports removing the coagulation studies for the current list of routine labs that are ordered in the CCU panel.

Describing Antibiotic Utilization and Uptake of the Chronic Obstructive Pulmonary Disease Order Set in Saskatoon Emergency Departments.

Durr K, Kosar J, Blackburn D, Oduntan E, Zhao G, Oyedokun TS

University of Saskatchewan, 5136 Wasnaca Vista Pl., Regina, Saskatchewan.

INTRODUCTION: Antibiotic use in patients with acute exacerbations of COPD (AECOPD) in the emergency department (ED) is dependent on severity. The Anthonisen criteria (AC) utilizes the cardinal symptoms of AECOPD to determine which patients would benefit from antibiotics. In July 2015, a COPD order set utilizing the AC was implemented in the Saskatoon EDs. The goal of this project was to assess its effectiveness and uptake by emergency physicians.

METHODS: A chart review was conducted on AECOPD patients presenting to Saskatoon EDs between July 2015 and June 2017. Included patients had a primary diagnosis of AECOPD and were discharged without inpatient admission. Patients were excluded if they required antibiotics for comorbid conditions or if their electronic refill history was unavailable. A second reviewer independently abstracted a random 15% (35/236) of the charts to ensure data validity. The primary outcome was appropriate antibiotic utilization, including no antibiotic use. The secondary outcome was order set utilization.

RESULTS: Of 236 patients presenting to the ED with AECOPD between 2015-2017, 173 met inclusion criteria. Appropriate antibiotic use was found in 63% of patients (109/173). Of patients prescribed antibiotics (115/173; 66.5%), at least 2 cardinal symptoms were present in 60%

(69/115) of cases. In patients not receiving antibiotics (58/173; 33.5%), 31.0% (18/58) exhibited at least two cardinal symptoms, suggesting antibiotics were indicated. Of the patients receiving antibiotics, 64.9% (74/114) were prescribed the appropriate class. Additionally, 64.4% (56/87) of prescribed antibiotics were for the appropriate duration. Only 2.31% (4/173) of charts contained documentation of order set use. All patients treated with the order set received appropriate antibiotic therapy.

CONCLUSIONS: Our results suggest that antibiotic management in AECOPD patients is not optimized and that the order set is not adequately utilized. These results demonstrate the need to promote the use of the order set.

Factors Associated with Prolonged Length of Stay of Admitted and Discharged Patients in a Tertiary Care Emergency Department: A Closer Look at Consultants.

Johns K, Kastelic A, Smith S & Karreman E

Departments of Academic Emergency Medicine and Family Medicine, College of Medicine, University of Saskatchewan, Regina General Hospital, Regina, Saskatchewan, Canada

INTRODUCTION: Extended length of stay (LOS) in emergency departments (EDs) and overcrowding are a problem for the Canadian healthcare system, creating an access block, reduced health outcomes, and decreased satisfaction. Previously, we revealed time of Consult Request to Disposition Decision (Admit or Discharge) had a significant relationship with LOS ($p < 0.01$) for both admitted and discharged patients. The goal of this study is to identify specific consultant factors that predict LOS in EDs for those patients who fall in the highest LOS category.

METHODS: We previously reviewed 130 and 603 charts of admitted and discharged Regina ED (Pasqua and Regina General Hospitals) patients, respectively. Included charts were from the 90–100th percentile of time-stayers according to disposition, registered during February 2016 and seen by an ED Physician. We then evaluated the 131 patient visits involving a consultant. Electronic and paper charts were investigated for important consultant time intervals and qualitative data. T-tests and multiple regression analyses were to be conducted to identify any significant predictors of our outcome variable, LOS.

RESULTS: Incomplete documentation limited the analysis in this study. Time between Consultant Requested and Seen (Total Consult Time) was the only interval with sufficient data ($n=131$, $\mu=4.67h$, $\sigma=4.37h$). Total Consult Times for admitted and discharged samples were combined from General Surgery, Internal Medicine (CTU), Psychiatry, and Other groups ($n=26$, 13, 29, and 63 respectively). Comparison of the groups with a nonparametric test (K-W test) was not significant ($p=0.054$).

CONCLUSIONS: The results of this study were limited due to incomplete documentation. Establishing standardized documentation and improved record of important consultant times could alleviate this concern for future studies.

Characterizing Use of Next-Day Ultrasound from the Emergency Department.

Roberts C, Witt L, Cload B, Oyedokun TO

Family Medicine – Emergency Medicine, College of Medicine, University of Saskatchewan, Saskatoon, SK.

INTRODUCTION: Formal ultrasound imaging, with use of ultrasound technicians and radiologists, provides a valuable diagnostic component to patient care in the Emergency Department (ED). Outside of regular weekday hours, ordering formal ultrasounds can produce logistical difficulties. EDs have developed protocols for next-day ultrasounds, where the patient returns the following day for imaging and reassessment by an ED physician. This creates additional stress on ED resources – personnel, bed space, finances – that are already strained. There is a dearth of literature regarding the use of next-day ultrasounds or guidelines to direct efficient use.

METHODS: This study was a retrospective chart review of eighty patients from each of two different tertiary care hospitals in Saskatoon, SK. After a predetermined start date, convenience samples were collected of all patients who had undergone a next-day ultrasound ordered from the ED until the quota was satisfied. Patients were identified by an EMR search for specific triage note phrases indicating use of next-day ultrasounds. Different demographic, clinical, and administrative parameters were collected and analyzed.

RESULTS: Data was collected to report on patient demographics, timing of important events during patient visits, length of stay metrics, next-day ultrasound indications and results, as well as patient related clinical outcomes. Statistical analysis was applied where appropriate.

CONCLUSIONS: Information was gathered to close gaps in knowledge about the use of next-day ultrasounds from the ED. This will serve to stimulate further research and aid development of guidelines to improve patient care and ED resource utilization.