



Resident Project Day

Abstract Collection

Department of Family Medicine
Schulich School of Medicine & Dentistry
Western University

June 8, 2022

Learning Objectives:

Learning objectives for Family Medicine Resident Project Day include:

- Encourage and foster research and scholarly work in family medicine
- Increase primary care knowledge through research
- Provide public recognition of the resident projects
- Provide feedback to the residents through evaluation
- Provide an opportunity for discussion about the resident projects

Resident Project Day – Wednesday, June 8, 2022

1:30 – 1:45 pm	Welcome and Opening Remarks Dr. Julie Copeland Postgraduate Program Director, Department of Family Medicine Dr. Scott McKay Chair, Department of Family Medicine
1:45 – 1:50 pm	Break
1:50 – 2:40 pm	5 presentations – 3 concurrent zoom rooms (7 mins presentation, 3 mins questions per project)
2:40 – 2:45 pm	Break
2:45 – 3:35 pm	5 presentations – 3 concurrent zoom rooms (7 mins presentation, 3 mins questions per project)
3:35 – 3:40 pm	Break
3:40 – 4:30 pm	5 presentations – 3 concurrent zoom rooms (7 mins presentation, 3 mins questions per project)
4:45 – 5:00 pm	Conclusion Dr. Julie Copeland Postgraduate Program Director, Department of Family Medicine

Session 1 - Concurrent Rooms 1-3

Breakout Room 1: Windsor

1:50 pm	Drs. Kyle DeMars and Linda Zeng	Enhancing STI Screening in Primary Care
2:00 pm	Dr. Zachary Adams	Improving the percentage of documented baseline pulmonary function tests in patients with a known diagnosis of asthma or COPD.
2:10 pm	Drs. Tristan Conciatori and Ross Lepera	Drive-Thru Influenza Vaccination Clinics to Improve Access During the Covid-19 Pandemic
2:20 pm	Dr. Maryam Zaree	Improving Cardiovascular Risk Estimation in the Primary Care Sett
2:30 pm	Drs. Steven Brunet, Adam Loennburg and Angela Workman	Approach to improve tele-communications between health care providers and patients

Breakout Room 2: SWMHC

1:50 pm	Drs. Howard Ong and John Cameron	Improving adherence to pain monitoring guidelines in the primary care setting.
2:00 pm	Dr. Brandon Belbeck	Training for Rural Emergency Medicine: Is CCFP-EM fellowship benefiting rural emergency medicine departments?
2:10 pm	Drs. Katarina Andrejevic, Theodosios Karaouzas, Reyhaneh Keshmiri and Jared Smiley	Examining the Exposure and Experience of Common Office Procedures in Family Medicine Residency During the COVID-19 Pandemic.
2:20 pm	Dr. Ian Lobb	Training of Canadian family medicine residents for POCUS screening of AAAs: a feasibility study

2:30 pm	Dr. Adam Devon	National experiences among sport and exercise medicine residents trained during the COVID-19 pandemic
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Breakout Room 3: Enhanced Skills Residents

1:50 pm	Dr. Lydia Schulz	Assessing the effectiveness of a cadaveric workshop in improving resident physicians' confidence in performing ultrasound-guided joint injections
2:00 pm	Dr. Brendan Cassidy	Perceptions of Ketamine Use in Palliative Care Physicians in Ontario: A Comprehensive Survey
2:10 pm	Dr. Ataie Fashtami	Preparing study template for ankle joint
2:20 pm	Dr. Sumeet Bhardwaj	The analgesic effects of Ketamine in terminally ill cancer patients: A Proposed Retrospective Chart Review
2:30 pm		

Session 2 - Concurrent Rooms 1-3

Breakout Room 1: BFMC Goderich Petrolia

2:45 pm	Drs. Robbie Singh, Christopher Lach, Caroline Poonai and Hoi Ling Irene Lu	Increasing Bone Mineral Density Screening in the Primary Care Clinic
2:55 pm	Drs. Massoome Najafi, Negar Dorraj, Hiba El-Fayoumi and Eanna Clifford	Improving the identification of, and care for patients with Chronic Kidney Disease at BFMC
3:05 pm	Drs. Benjamin Mora, Radek Martyniak, Kat Zimmermann and Taylor Rice	A quality improvement project utilizing paper versus electronic medical record reminders for updating patient smoking status in a family medicine teaching clinic

3:15 pm	Drs. Alexander Presello and John Pan	Improving Standardized Documentation of Advanced Care Planning Discussion in Patients Aged 65 and Older at Maitland Valley Family Health Team (MVFHT)
3:25 pm	Dr. Jennifer Gray	Do rural adolescents that use social media with a high degree of literacy experience less psychological distress? Exploring the social media behaviours and mental health outcomes of a sample of adolescents in Petrolia, Ontario.

Breakout Room 2: Regional Sites

2:45 pm	Drs. Delia Dragomir, Jordan Elmalem and Joseph Spohn	Prevalence of Renal Impairment and Dose Adjustment in a Regional Emergency Department in Southwestern Ontario
2:55 pm	Dr. Harjiwan Singh	Approach to improving long-acting reversible contraception use in the primary care setting
3:05 pm	Drs. Shazia Jabeen and Nusrat Parveen	To increase to number of patient aged 65 and over receive Pneumococcal vaccine
3:15 pm	Drs. Salman Sadeghi and Ateeya Vawda	Video-based virtual care for quarterly diabetic follow up appointments
3:25 pm	Drs. Karissa Sarkioja, Cassie Poole, Sarah Davies, Adam Beswick and Sierra Tang	Implementing Goals of Care Discussions in the Family Medicine Office

Breakout Room 3: EM/FM Residents

2:45 pm	Dr. Suhail Agarwal	Determining LHSC emergency physician comfort with facilitating high fidelity simulations
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2:55 pm	Dr. Alvin Yang	Understanding the impact of COVID-19 on the learning experiences of CCFP(EM) residents in Ontario – a qualitative pilot study
3:05 pm	Dr. Lakshmi Kamala	Understanding LHSC Emergency Medicine physicians' motivation for completing rural locums
3:15 pm	Dr. Karen Chawla	Diversity in the CCFP-EM CaRMS process: Trends and insights after development of a Fairness Committee
3:25 pm	Drs. C. Dhaliwal, K. VanAaren, D. Ruel and V. Ng	Describing Opioid Prescription Practices for Suspected Renal Colic in the Emergency Department

Session 3 - Concurrent Rooms 1-3

Breakout Room 1: SJFMC

3:40 pm	Drs. Leah Koert, Razieh Poorandy, James Chiu and Sophie Glanz	Approach to Improving Medication Reconciliation Post Hospital Discharge
3:50 pm	Drs. Liam O'Sullivan, Matthew Rowe and Jeremy Kwok	Reducing inappropriate TSH testing at SJFMC
4:00 pm	Dr. Casey Rosen	Beyond the medals: A cross-sectional study investigating retired high performance female athletes' health
4:10 pm	Drs. Kristen Viaje and Dyon Tucker	Increasing Emergency Department-Initiated Palliative Care Consults for Admitted Patients: A Quality Improvement Initiative
4:20 pm	Drs. Hiba Makhdum, Nusrat Parveen, Victor Pado and Ashkan Gitipour	Approach to improve screening and follow up of patients with low risk OP

Breakout Room 2: VFMC Hanover

3:40 pm	Drs. Tishara Wijayanayaka and Danielle Ondrejicka	Quality Improvement Project: Increasing Osteoporosis Screening in Hanover
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		Residency Practice Patients through Educational Sessions Directed at Residents.
3:50 pm	Drs. Fotina Raptis, Shawn Albers, Azar Bayat and Sheerin Elsayed Ali Mohammed Gaily Ahmed	Hypertensive management of Diabetic patients during the COVID-19 pandemic
4:00 pm	Drs. David Ma, Fredrick Martyn, Erin Klar and Yu-Han Chang	Improving rates of abdominal aortic aneurysm (AAA) screening at Victoria Family Medicine Centre (VFMC)
4:10 pm	Drs. Kosalan Akilan, Andy Seo and Michael Tsui	A quality improvement project to increase government-subsidized Shingrix uptake rates in patients between the ages of 65-70 in an academic outpatient setting
4:20 pm		

Breakout Room 3: EM/FM Residents

3:40 pm	Dr. Elyse Epp	Goals of Care discussions in patients suspected of COVID-19: A Retrospective Chart Review
3:50 pm	Dr. Manpreet Lambda	Evaluating mentor and mentee perspectives and experiences with Western University's CCFP-EM Mentorship Program
4:00 pm	Dr. Manvir Uppal	Naloxone at Discharge: A study on opioid overdose visits at LHSC and naloxone distribution
4:10 pm	Dr. Ryan Labelle	Paramedic Hyperkalemia Quality Assurance Project
4:20 pm	Dr. Bilal Akil	An examination of the treatment received during urgent care visit for migraine patients within Southwestern Ontario

Poster Presentation Abstracts

Session 1

Breakout Room 1: Windsor

Residents: Drs. Kyle DeMars and Linda Zeng

Project Type: Quality Improvement

Faculty Supervisor: Dr. Alexandria Gow

Project Title: Enhancing STI Screening in Primary Care

Abstract: Sexually transmitted infections (STIs) are associated with significant acute and chronic complications ranging from systemic infection to infertility. The most common STIs in Canada are *Chlamydia trachomatis* and *Neisseria gonorrhoeae*. The Public Health Agency of Canada currently recommends annual screening for sexually active individuals younger than 25. It was discovered that many eligible patients were not participating in STI screening in our home family medicine clinics. Barriers to completing STI screening for eligible patients in Canada are multifactorial. Interventions can be implemented at the structural, provider, administrator, or patient level. Our aim is to improve STI screening to 15 % above baseline for patients age 16-25 who are sexually active. We chose to implement an EHR reminder system as well as a physical reminder system in an effort to improve screening rates at our home clinics across two separate Plan-Do-Study-Act Cycles. In Cycle One, EHR reminders were implemented and we found that STI screen rates were increased. In Cycle Two, a physical reminder was added, while the overall rate of screening was lower than Cycle One, screening rates remained above baseline. Although we did not meet our aim, our project was successful at producing a modest increase in STI screening rates among eligible individuals across two family medicine clinics. It was easy to implement and sustainable. There were no unintended effects. We recommend our project be continued. To improve upon its effectiveness, we suggest that new staff be educated on the project to enhance buy-in and improve longevity of our interventions.

Resident: Dr. Zachary Adams

Project Type: Quality Improvement

Faculty Supervisor: Dr. Albert Schumacher

Project Title: Improving the percentage of documented baseline pulmonary function tests in patients with a known diagnosis of asthma or COPD.

Abstract: According to a 2018 report from the Canadian Chronic Disease Surveillance System, 3.8 million people over the age of one are living with asthma and 2 million people are living with chronic obstructive pulmonary disease (COPD) in Canada. Currently, the most widely validated and utilized tool for the objective measurement and diagnosis of both asthma and COPD is the pulmonary function test (PFT), which includes spirometry and total lung volumes. Unfortunately, this diagnostic tool is underutilized in primary care. In our clinic, there were 156

patients who had previously been given a diagnosis code of either COPD or asthma for any one visit. Of these patients, only 29 (18.5%) had at least one documented PFT in their chart. The goal of our project was to increase the percentage of completed baseline PFTs in this patient population from 18.5% to 25%. The first PDSA cycle involved posting an infographic in the examination rooms highlighting the importance of pulmonary 2 Version date: 2015-05-08 function testing and the second involved adding a reminder to our EMR that would cue us to initiate this discussion. Ultimately, nine PFT referrals were sent and four of these were completed and uploaded into the patients chart by the end of this QI project. This resulted in an overall increase from 18.5% to 21%. While not meeting our goal prior to the completion of this project, we concluded that these changes were easy to implement and lead to an improvement in our outcome measure without placing additional burden on office staff.

Residents: Drs. Tristan Conciatori and Ross Lepera

Project Type: Quality Improvement

Faculty Supervisor: Dr. Adam Sirek

Project Title: Drive-Thru Influenza Vaccination Clinics to Improve Access During the Covid-19 Pandemic

Abstract: Seasonal influenza causes approximately 3-5 million severe cases and up to 650,000 respiratory deaths annually. There has been a focus in recent years on identifying potential barriers to vaccine acceptance. In addition to vaccine hesitancy, access, and interactions with healthcare, COVID-19 pandemic related restrictions must also be considered. In our practice with previously high rates of influenza vaccination, we aimed to maintain those rates by mitigating barriers to access. We chose to focus on drive-thru vaccine clinics, which have been shown to be effective and efficient in other Ontario practices. In order to assess various means of communication, we started with a single social media post and escalated to direct emailing and phone calls in subsequent PDSA cycles. With a baseline in 2019 of 361 patients of 714 receiving their vaccine, we only administered 249 total in 2020 out of 721 patients. From all vaccine sources, our practice was 80% vaccinated in 2019 and only 50% in 2020. Our conclusion is that while drive-thru clinics offer patients another means of access, that seems to have been offset by an overall decline in uptake during the pandemic. This may be due to a variety of factors, including patients' perceived fears around vaccines, fears of additional vaccinations following covid immunization, and unwillingness to interact with healthcare providers. This type of access is also only applicable to individuals with the means and ability to operate a vehicle, or having family members who are willing to drive.

Resident: Dr. Maryam Zaree

Project Type: Quality Improvement

Faculty Supervisor: Dr. Dale Ziter

Project Title: Improving Cardiovascular Risk Estimation in the Primary Care Sett

Abstract: Family physicians play a big role in decreasing cardiovascular events through estimation of cardiovascular risk and subsequent primary or secondary prevention.

Cardiovascular risk estimation is done through the Framingham Risk Score which is well validated in Canada; however, there are other risk calculators such as the QRISK3 which includes more risk factors. Research has shown that the FRS may be underestimating cardiovascular risk by at least 20%. We conducted a quality improvement project to improve cardiovascular risk estimation in a Windsor-based family physician's office. Our aim is to improve the percentage of patients identified as high cardiovascular risk from a baseline of 22% as calculated by the FRS to 32%. We did this by changing to the QRISK3 risk calculator and over the span of two weeks we calculated the percentage of individuals that were classified as high cardiovascular risk. We found 38.15% of patients identified as high cardiovascular risk in two weeks. This indicated an improvement in estimation of cardiovascular risk. As process measures, we tracked how many patients had sufficient data in the EMR in order to use the QRISK3. This was an average of 86% of patients in two weeks. For balance measures, we tracked for over screening with the amount of lipid panels ordered. This was an average of 79% of patients in two weeks. Future projects should preferably target the entire patient roster. Additionally, the impact of improved cardiovascular risk estimation on cardiovascular morbidity and mortality is yet to be clarified.

Residents: Drs. Steven Brunet, Adam Loennburg and Angela Workman

Project Type: Quality Improvement

Faculty Supervisor: Dr. Ryan Carlini

Project Title: Approach to improve tele-communications between health care providers and patients

Abstract: In-office appointments provide the optimal opportunity to practice medicine with all our senses and provide the greatest sense of rapport between physician and patient. The impact of COVID -19 has created a fundamental shift in the delivery of health care services in Ontario. Accordingly, most practices have significantly decreased in-person office appointments to help flatten the curve.

COVID-19 has changed how we practice medicine with this significant change to in-office medicine. Patients coming from different locations within Windsor-Essex, enjoy having their doctor's appointment without travelling long distances. Unfortunately, with telephone consultations comes the frustrations of patient's picking up calls in environments that are not conducive for telephone consultations, being put on hold by the patient while handling serious medical issues, and the most common one, making multiple calls to one patient who may or may not answer.

The goal with this QI project was to reduce the time (i.e amount of calls) needed to successfully reach a patient for their appointment.

We tracked several variables such as date, time, method of contact, purpose of contact and the results of the contact attempt.

In contrast to these variables, we made certain to document any patient- or staff dissatisfaction, or if this did indeed would result in more work time spent.

The results of our PDSA cycles showed an increased success rate in reaching the patients for their appointments. This was measured as an absolute call number average reduction over time.

Breakout Room 2: SWMHC

Residents: Drs. Howard Ong and John Cameron

Project Type: Quality Improvement

Faculty Supervisor: Dr. Julie Copeland

Project Title: Improving adherence to pain monitoring guidelines in the primary care setting.

Abstract: The misuse of prescription opioids in the North American population has led to a public health concern commonly known as the opioid epidemic. An estimated 10.1 million people aged 12 or older had misused opioids in 2019 and the number of associated opioid overdose related deaths had risen dramatically. Many of these individuals were prescribed opioids for the management of chronic pain despite the questionable evidence surrounding the use of opioids in chronic noncancer pain. This may represent a significant proportion of our population as around 21% of Canadians were reported to suffer from chronic pain in 2012. National guidelines recommend detailed documentation on “patient assessment, treatment plan, discussion of risks and benefits, informed consent, opioids prescribed, and outcomes.” This quality improvement project aims at improving the completion rate of the chronic pain flowsheets which documents the aforementioned topics outlined by the national guidelines. The interventions for this QI project include the use of paper reminders both on the computer monitor and in the refill request folder, as well as designing and utilization of a new chronic pain flow sheet. The results of the QI project suggest an improvement in the percent of chronic pain flowsheets completed and exceeded our target goal of a 30% improvement in all PDSA cycles. These interventions were easy to implement and well received by residents and patients.

Resident: Dr. Brandon Belbeck

Project Type: Research

Faculty Supervisor: Dr. Munsif Bhimani

Project Title: Training for Rural Emergency Medicine: Is CCFP-EM fellowship benefiting rural emergency medicine departments?

Abstract: Objectives: The purpose of this study was to determine if rural emergency departments (EDs) are experiencing any benefit from emergency medicine (EM) trained graduates from the Canadian College of Family Physicians program (CCFP-EM), and what opinions rural ED physicians have on the CCFP-EM program as it relates to low-resource environments. Methods: A cross-sectional survey was distributed to 18 rural EDs with a rurality index of Ontario greater than or equal to 28. Open-ended ideas were also gathered on what can be done better to train new physicians for rural EDs. Lastly, an optional 30-minute interview with a rural generalist discussing the unique challenges of rural emergency medicine. Results:

Majority of respondents (75%, n=6) had CCFP-EM graduates working in their ED, and over half of the total respondents (62.5%, n=5) feel that their ED benefits from CCFP-EM physicians and their skills learned during EM training. All respondents (100%, n=8) agree that rural ED skills are different than larger urban hospitals, and that CCFP-EM may not always be translatable to rural EDs. Lastly, themes gathered from the open-ended questions discuss the rural necessity for good resuscitation skills, facilitating more rural rotations, and retaining CCFP-EM graduates to rural communities. Conclusion: Majority of rural EM respondents agree that low-resource EDs represent unique challenges that the CCFP-EM program may not train graduates for. Though more CCFP-EM physicians are staying in urban areas, our survey indicates that rural EDs may still be benefiting from the CCFP-EM program, with possible further improvement coming from rural electives.

Residents: Drs. Katarina Andrejevic, Theodosios Karaouzas, Reyhaneh Keshmiri and Jared Smiley

Project Type: Research

Faculty Supervisor: Dr. Kyle Carter

Project Title: Examining the Exposure and Experience of Common Office Procedures in Family Medicine Residency During the COVID-19 Pandemic.

Abstract: The COVID-19 Pandemic has impacted the delivery of medical care worldwide with secondary implications being demonstrated in the education of medical trainees. There is limited evidence of the Pandemic's influence in Primary Care training, specifically with regards to office-based procedures, whereby exposure and confidence during residency training correlates to learners' scope of future practice. This study examines the impact of the Pandemic on procedural skills in Family Medicine residency. A retrospective chart review was completed to investigate the frequency of residents' exposure to common office-based procedures at a Rural Family Medicine teaching site in Ontario, comparing data from those training before and after the onset of the Pandemic. A survey of these residents and corresponding statistical analysis were also completed to determine their subjective confidence in completing the procedures assessed. Reductions in residents' clinical experiences were demonstrated in 9 of the 10 procedures investigated in this study. The resident survey did not illustrate significant differences in confidence level in completing the procedures globally, but did show decreased confidence in certain individual procedures for residents that trained during the Pandemic. Residents had less confidence in completing IUD insertions and joint injections than those that trained prior to the Pandemic, with statistically significant differences in confidence in lesion excisions and incision/drainage of abscesses. These findings may have downstream implications on the scope of Family Medicine residents' future practices and the delivery of these services to the patient population at large.

Resident: Dr. Ian Lobb

Project Type: Research

Faculty Supervisor: Dr. Kyle Carter

Project Title: Training of Canadian family medicine residents for POCUS screening of AAAs: a feasibility study

Abstract: The misuse of prescription opioids in the North American population has led to a public health concern commonly known as the opioid epidemic. An estimated 10.1 million people aged 12 or older had misused opioids in 2019 and the number of associated opioid overdose related deaths had risen dramatically. Many of these individuals were prescribed opioids for the management of chronic pain despite the questionable evidence surrounding the use of opioids in chronic noncancer pain. This may represent a significant proportion of our population as around 21% of Canadians were reported to suffer from chronic pain in 2012. National guidelines recommend detailed documentation on “patient assessment, treatment plan, discussion of risks and benefits, informed consent, opioids prescribed, and outcomes.” This quality improvement project aims at improving the completion rate of the chronic pain flowsheets which documents the aforementioned topics outlined by the national guidelines. The interventions for this QI project include the use of paper reminders both on the computer monitor and in the refill request folder, as well as designing and utilization of a new chronic pain flow sheet. The results of the QI project suggest an improvement in the percent of chronic pain flowsheets completed and exceeded our target goal of a 30% improvement in all PDSA cycles. These interventions were easy to implement and well received by residents and patients.

Resident: Dr. Adam Devon

Project Type:

Faculty Supervisor:

Project Title: National experiences among sport and exercise medicine residents trained during the COVID-19 pandemic

Abstract: Background: Currently, the sport medicine community does not have a full understanding of the impact of the COVID-19 pandemic on the training of sport and exercise medicine (SEM) residents across Canada. The College of Family Physicians of Canada (CFPC) has published core competencies essential for the practice of sport medicine across five domains: musculoskeletal assessment, exercise medicine, urgent/emergent conditions, anti-doping and mental health. We aimed to assess graduating SEM residents’ preparedness for independent practice across these competencies to better understand the impact of COVID-19 on their training.

Methods: Data was collected in survey form by way of 5-point scale Likert-format and short answer questions. 12 of the 19 English-speaking 2020-2021 Canadian SEM residents completed the survey.

Results: We stratified the 12 participants into 2 groups for comparison: those with >50 hours of event coverage (n=4) and those with <50 hours of event coverage (n=8). The group with >50 hours of event coverage had higher mean Likert scores in all five domains: musculoskeletal assessment (4.63 vs. 4.33), exercise medicine (3.90 vs. 3.88), urgent/emergent conditions (4.06 vs. 3.62), anti-doping (3.92 vs. 3.42) and mental health (4.09 vs. 3.96).

Interpretation: Residents with decreased event coverage had decreased confidence, specifically in the domains of urgent/emergent conditions and anti-doping. Additionally, Residents identified

novel learning experiences that may be helpful to mitigate the negative impact of the pandemic including programs facilitating travel for on-field experience, acute injuries clinics, on-field simulation, virtual care teaching and continuing opportunities for involvement with varsity team coverage even after graduation.

Breakout Room 3: Enhanced Skills Residents

Resident: Dr. Lydia Schulz

Project Type: Research

Faculty Supervisor: Dr. Jane Thornton

Project Title: Assessing the effectiveness of a cadaveric workshop in improving resident physicians' confidence in performing ultrasound-guided joint injections

Abstract: Use of point of care ultrasound (POCUS) in the medical field has been rapidly expanding, including ultrasound-guided joint injections. However, a limitation to implementation in clinical practice is lack of experience and confidence. Workshops using cadavers have been shown to be an effective method to teach various ultrasound-guided procedures. Our study aimed to assess the effectiveness of a cadaveric workshop in improving resident physicians' confidence performing ultrasound-guided joint injections. Thirteen Family Medicine residents and four supervisors participated in a two-hour educational workshop, consisting of a didactic presentation, followed by a demonstration of ultrasound-guided joint assessment and four injections on a cadaveric specimen: acromioclavicular, glenohumeral, suprapatellar recess, and ankle. Participants then practiced these injections under study team guidance. Participants were asked to complete a 17-item survey with a 5-point Likert-type scale administered pre- and post-workshop to assess their confidence performing ultrasound-guided joint injections. Participant confidence significantly increased for all ultrasound-guided joint injections, from 1.85 ± 0.77 pre-workshop to 4.00 ± 0.55 post-workshop ($p=0.001$). All study participants indicated they believed the cadaveric workshop was a realistic (38.5% strongly agree, 61.5% agree) and effective (69.2% strongly agree, 30.8% agree) training method. All participants reported interest in participating in a similar workshop again and would recommend this workshop to their colleagues. In conclusion, this study demonstrated educational workshops using cadaveric specimens are effective in improving resident physicians' confidence in performing ultrasound-guided joint injections. The inclusion of cadaveric workshops as part of residency and fellowship training could help make these procedures more widely accessible to patients with musculoskeletal concerns.

Resident: Dr. Brendan Cassidy

Project Type: Cross-Sectional Qualitative Survey

Faculty Supervisor: Dr. Gil Schreier

Project Title: Perceptions of Ketamine Use in Palliative Care Physicians in Ontario: A Comprehensive Survey

Abstract: Background: Ketamine is a traditional anesthetic medication that has been used at lower doses in the palliative care setting with benefits for complex pain, anxiety, and depression. However, the evidence to support this "off-label" use of Ketamine is inconclusive and palliative care physician perceptions of Ketamine use is unknown. Objectives: This study aims to explore how comfortable palliative care physicians are using Ketamine in the palliative care setting, along with their attitudes towards it, how they use it, and what barriers exist against its use. Design: Cross-sectional qualitative study. Population: Palliative care physicians practicing in Ontario. Methods: Participants will be recruited through the OMA Section on Palliative Care email list with an anonymous link to the survey through Western's Qualtrics platform. Inclusive criteria: physicians providing palliative care in Ontario. Exclusion criteria: unable to read and write in English, without an independent license to practice medicine in Ontario and current clinical trainees. Analysis: Demographics and survey results will be assessed and described descriptively to identify trends. Findings: Currently pending Ethics approval. We hypothesize there will be variable comfort levels in the use of ketamine, those in tertiary care centers and hospices will have greater levels of comfort and use of ketamine, the primary indication for ketamine use will be analgesia and that barriers to its use will include fear of adverse effects, lack of access and lack of comfort. Conclusions: We hope to gain a deeper understanding of palliative care physician perspectives regarding Ketamine use in the palliative care setting.

Resident: Dr. Ataie Fashtami

Project Type:

Faculty Supervisor: Dr. Graham Briscoe

Project Title: Preparing study template for ankle joint

Abstract: As the PGY3 project I decided to help with the Family Medicine study guide App. I intend to prepare the MSK teaching cases involving ankle joint for this App. It is a portable "study buddy" designed to enhance Family medicine learning experience. Cases are divided in three age groups: 1: pediatric, 2: adult and 3: Elderly. Then each group is comprised of one acute case and one chronic case. Cases are prepared as an interactive format. It is mainly aiming the Family medicine resident and are cases that they are most likely to encounter in their practice. We hope that by studying these, they can confidence to start management and treatment before making a referral.

Resident: Dr. Sumeet Bhardwaj

Project Type: Research

Faculty Supervisor: Dr. Gil Schreier

Project Title: The analgesic effects of Ketamine in terminally ill cancer patients: A Proposed Retrospective Chart Review

Abstract: Pain is a very common symptom in patients with cancer and when not adequately controlled, has significant impact on quality of life and function. This can be distressing for both patients as well as loved ones. Pain presentations in advanced cancer are often complex in nature. Opioids have long been the mainstay in managing pain in the palliative care setting. At times, opioids may not be able to effectively address underlying pain in individuals with a

neuropathic component to their pain. The N-methyl-D-aspartate (NMDA) receptor is of particular interest with respect to neuropathic pain. There have been studies examining the effects of Ketamine, a potent NMDA antagonist, on pain control in individuals with cancer pain. Results from studies assessing the efficacy of Ketamine and its role in analgesia have been mixed. While some studies show an improvement in pain control and reduced opioid use (potentially reflecting an increase in opioid receptor sensitivity), other studies have shown no significant effects on pain improvement. By means of a proposed retrospective chart review on patients admitted into the Victoria Hospital Palliative Care Unit that were prescribed Ketamine, we hope that a richer understanding can be gained of the relationship between Ketamine and analgesia in terminally ill individuals with cancer related pain.

Session 2

Breakout Room 1: BFMC Goderich Petrolia

Residents: Drs. Robbie Singh, Christopher Lach, Caroline Poonai and Hoi Ling Irene Lu

Project Type: Quality Improvement

Faculty Supervisor: Dr. Sony Cejic

Project Title: Increasing Bone Mineral Density Screening in the Primary Care Clinic

Abstract: Osteoporosis is prevalent in the elderly population and is a significant contributor to hospitalization and increased mortality in the elderly. Clinical guidelines regarding BMD (Bone Mineral Density) screening have recommended screening in adults over 65 years old or those with risk factors. Despite this, the actual screening rates of these individuals for osteoporosis were lower compared to other chronic disease and cancer prevention screening such as diabetes, dyslipidemia, colorectal and breast cancer in the primary care setting. A quality improvement project was conducted in hopes of increasing BMD screening in the primary care setting. We utilized multiple methods in PDSA cycles to optimize and increase the rate of BMD referrals including resident physician education, sticky note reminders for BMD screening on resident physician computers, and posters in clinic rooms and patient waiting areas. We looked at our outcome measure (percentage of patients who have had their BMD screening updated in the EMR), process measure (the number of times resident physicians had offered BMD screening to eligible patients), and balance measure (effect on appointment time while incorporating BMD discussions and screening) as a means to estimate the effect of our implementations. Overall, we found an increase in BMD referrals as a result of the implemented changes, although other confounding factors, such as the Christmas holidays, rise of COVID 19 cases, and resident physicians taking vacation, had a negative impact on the overall result.

Residents: Drs. Massoome Najafi, Negar Dorraj, Hiba El-Fayoumi and Eanna Clifford

Project Type: Quality Improvement

Faculty Supervisor: Dr. Sonny Cejic

Project Title: Improving the identification of, and care for patients with Chronic Kidney Disease at BFMC

Abstract: Background: Chronic Kidney Disease (CKD) affects up to 71 in every 1000 Canadians, with an increased prevalence in those with other chronic conditions. At our clinic, we found that the majority of patients with CKD were going unrecognized, leading to missed opportunities for evidence-based monitoring and interventions. Methods: Three interventions were carried out, including an education session, adding a toolbar prompt for most recent eGFR, and putting paper reminders in each resident room to remember to check eGFR. Each intervention was trialled for 2 weeks, with new diagnoses of CKD, and percentage of patients meeting CKD criteria who were appropriately identified as such, being recorded. Explanatory CKD handouts were added to the EMR to assist the discussion with patients. Records were assessed for evidence of issues not being addressed due to time constraints as a result of CKD identification and discussion. Results: Identification of patients with CKD increased from a 14% to 90% by the end of the study. There were two instances of issues being carried over to a subsequent visit due to time constraints. Conclusion: Identification of patients with CKD was greatly improved with a series of simple interventions aimed at improving provider knowledge, and visual reminders. This had little effect on Clinicians' ability to address other concerns during visits. Our project suggests that CKD has been underrecognized, and care can be improved with simple interventions. Correct identification of patients with CKD is the first step, and should lead to improved monitoring and management of this patient cohort.

Residents: Drs. Benjamin Mora, Radek Martyniak, Kat Zimmermann and Taylor Rice

Project Type: Quality Improvement

Faculty Supervisor: Dr. Sonny Cejic

Project Title: A quality improvement project utilizing paper versus electronic medical record reminders for updating patient smoking status in a family medicine teaching clinic

Abstract: Purpose: To assess whether paper-based reminders or tools built into an EMR can increase rates of inquiry into smoking status and improve accuracy of smoking status in patients' EMR in a clinic setting. Methods: Four resident-physicians participated at BFMC in data collection for 2 PDSA cycle interventions. The first PDSA cycle intervention consisted of attaching a post-it note reminder to the computer monitor prompting the physician to inquire about smoking status and ensuring its accuracy in the PSS Suite EMR. The second PDSA cycle involves the addition of a built-in red-bold tab in the EMR prompting inquiry into smoking status/updating accordingly. Results: The post-it note intervention in PDSA 1 yielded an inquiry rate into smoking status of 29.6% vs 10% for baseline/no intervention and this translated into an improvement in smoking status accuracy of 9.6% of patients encountered vs 1.3% for baseline/no intervention. The EMR tab intervention in PDSA 2 yielded an inquiry rate for smoking status of 36.5% and this translated into an improvement in smoking status accuracy of 8.9% of patients encountered. Conclusion: Unfortunately both PDSA cycles fell short of our smoking status improvement percentage goal of 20%. However both interventions were effective in improving rates of inquiry into smoking status and improving accuracy of smoking

status compared to no intervention, with the EMR tab being more effective than the post-it note for rate of inquiry, but less so for improving smoking status accuracy, likely due to random variation.

Residents: Drs. Alexander Presello and John Pan

Project Type: Quality Improvement

Faculty Supervisor: Dr. Tamra Steinmann

Project Title: Improving Standardized Documentation of Advanced Care Planning Discussion in Patients Aged 65 and Older at Maitland Valley Family Health Team (MVFHT)

Abstract: Background: Currently, there are no provincial or national guidelines regarding the required documentation of an Advanced Care Plan (ACP) in the Primary Care setting. Additionally, it is well-known that in small, rural practices, practitioners frequently care for patients from their practice in the emergency department. Patients in this setting, who might present in extremis, would benefit from documented ACP prior to these incidences (ideally in the primary care setting), to aid in preventing a poor, unwanted outcome. Methods: Baseline proportion of patients with documented ACP discussion were measured using the search function of the electronic medical record system at MVFHT. Subsequently, PDSA 1 – a reminder email and presentation of a standardized form for ACP discussion – was implemented, and the proportion was remeasured at week two. Finally, PDSA 2 – an automated reminder of ACP discussion within each of the charts of eligible patients – was implemented, and the proportion was remeasured at week 4. Results: An increase in the total proportion of patients aged 65 and older with a documented ACP discussion of 0.77% at the end of week 4. Conclusion: Although the goal of a 2% increase in ACP documentation of eligible patients could not be met, some improvement did occur. Additionally, valuable insight was gained as to how these discussions could be further facilitated in the future.

Resident: Dr. Jennifer Gray

Project Type: Research

Faculty Supervisor: Dr. John Butler

Project Title: Do rural adolescents that use social media with a high degree of literacy experience less psychological distress? Exploring the social media behaviours and mental health outcomes of a sample of adolescents in Petrolia, Ontario.

Abstract: There is a growing body of evidence suggesting that social media use is associated with poor mental health in adolescent populations. This is reflected in many public health campaigns calling for a blanket reduction in screentime. However, this suggestion is not only unreasonable in a socially distanced, increasingly virtual world, it neglects the potentially beneficial uses of social media platforms that have been noted in rural adolescents in particular. This study surveyed a sample of adolescents from a rural secondary school in an effort to determine whether social media literacy was a mediating factor in whether this population benefits or experiences harm from social media use. Results suggest that though overall social media literacy has no association with experienced psychological distress, participants who reported a high level of self-regulation competencies were relatively protected from adverse

generalized mental distress. It is unclear how to promote and develop these competencies based on these findings however this presents an important opportunity for future research that may ultimately inform primary mental health providers in their assessment and management of rural adolescent populations. It was also demonstrated that participants who prefer to communicate, interact and express themselves on social media experience more psychological distress. Again, it lies outside of the scope of the current study as to whether or not rural adolescents that are experiencing difficulties with their mental well-being may be more effectively engaged using these platforms but this is a potential area of exploration in improving accessibility and efficacy of mental health initiatives.

Breakout Room 2: Regional Sites

Residents: Drs. Delia Dragomir, Jordan Elmalem and Joseph Spohn

Project Type: Research

Faculty Supervisor: Dr. Jennifer Parr

Project Title: Prevalence of Renal Impairment and Dose Adjustment in a Regional Emergency Department in Southwestern Ontario

Abstract: Background and objectives: Decreased kidney function results in decreased elimination of many medications and active metabolites, which may have adverse effects secondary to accumulation. Thus, it is important to adjust doses of such medications for patients with renal impairment. This is relevant when considering the prevalence of acute kidney injury (AKI) and chronic kidney disease (CKD) among patients presenting to emergency departments in rural regions. Design: We conducted a retrospective chart review of 125 randomly sampled emergency department encounters of patients 18-64 years old, and 253 encounters of patients ≥ 65 years old during 2019. The estimated glomerular filtration rate and creatinine clearance were calculated to determine renal impairment and estimate appropriate dose adjustments. The proportion of encounters with renal impairment and inappropriate dose adjustment were calculated. Results: We found that 4.8% (95% CI: 1.0%, 8.5%) and 42.3% (95% CI: 36.2%, 48.3%) of encounters with individuals 18-64 and ≥ 65 years old, respectively, had renal impairment. Of these patients, 25% of encounters had ≥ 1 medications requiring renal adjustment. Of those, 44% (95% CI: 25.7%, 63.1%) of encounters had ≥ 1 medications incorrectly adjusted. Conclusions: The proportion of renal impairment among patients aged ≥ 65 years was greater than the baseline rate of CKD for this population. Our findings regarding proportions of incorrectly adjusted medications were consistent with previous reports. Considering both the prevalence of renal impairment and the importance of appropriate renal dosing, initiatives aimed at improving appropriate renal dosing in this emergency department would be well-justified.

Resident: Dr. Harjiwan Singh

Project Type: Quality Improvement

Faculty Supervisor: Dr. Ryan Carlini

Project Title: Approach to improving long-acting reversible contraception use in the primary care setting

Abstract: Approximately 1 in 3 Canadian women aged 15-50 use combined oral contraceptives (COCs) as their primary form of contraception. Besides condoms, it is the most common form of contraception amongst this population with a 9% failure rate with typical use within the first year. Long-acting reversible contraceptives (LARCs) have been recommended by the SOGC as the best choice to prevent unintended pregnancies in reproductive aged females, including youth. LARCs include the copper and levonorgestrel releasing intrauterine devices (IUDs), as well as the subdermal progestin-releasing implants. The failure rate of LARCs is less than 1% and work continuously without patient intervention. However, less than 1 in 10 Canadian women aged 15-50 use LARCs as their primary form of contraception. This quality improvement project implemented strategies to improve LARC use in the primary care setting. The strategies employed in this QI project were surveys initiated via phone call and an online resource to provide patient education regarding LARCs. The results of the QI project show that patients do not initiate a change in their form of contraception after a phone survey or within a short time period, which had resulting in change of outcome measure, which was to measure patient stage of change. Using the Stages of Change model a majority of patients did demonstrate positive change using when considering using a LARC. After providing information on LARCs in the form of an online resource, 53%% of patients were in the contemplation stage of change and an additional 26% were in the preparation stage of change. Although no patients had changed to a LARC during both PDSA cycles, it was likely due to project limitations including the short time frame and having the provider initiate the conversation via phone call. In the future, a longer time frame combined with a passive approach to have patients initiate the conversation may yield more favorable results.

Residents: Drs. Shazia Jabeen and Nusrat Parveen

Project Type: Quality Improvement

Faculty Supervisor: Dr. Philip Vandewalle

Project Title: To increase to number of patient aged 65 and over receive Pneumococcal vaccine

Abstract: Pneumococcal vaccination is an important preventive health care measure that substantially reduces the burden of pneumococcal disease in vaccinated individuals and in the population. *Streptococcus pneumoniae* (*S. pneumoniae*) is a bacterium that can cause many types of diseases including invasive pneumococcal disease (IPD), and community-acquired pneumonia (CAP). For the prevention of diseases caused by *S. pneumoniae* in adults, two types of vaccines are available in Canada: pneumococcal 23-valent polysaccharide (PNEU-P-23) vaccine containing 23 pneumococcal serotypes and pneumococcal 13-valent conjugate (PNEU-C-13) vaccine containing 13 pneumococcal serotypes. The immune response elicited by each type of vaccine varies based on its formulation. *Streptococcus pneumoniae* is the leading bacterial cause of pneumonia worldwide. Other manifestations of pneumococcal infection include meningitis, bacteremia of undetermined cause, and otitis media. These pneumococcal infections cause substantial morbidity and mortality. Vaccination of adults with the

23-valent pneumococcal polysaccharide vaccine (PPSV23) protects 50 to 85 percent of relatively healthy adult recipients against invasive pneumococcal disease. Adults, ages 65 years or older — Vaccination with PPSV23 is indicated for all adults because the overall incidence of pneumococcal disease rises greatly after this age.

Residents: Drs. Salman Sadeghi and Ateeya Vawda

Project Type: Quality Improvement

Faculty Supervisor: Dr. Daniel Leger

Project Title: Video-based virtual care for quarterly diabetic follow up appointments

Abstract: The COVID-19 pandemic has greatly impacted many patient populations, and these extenuating circumstances have placed a significant burden on patients living with diabetes. Restrictions on in-person interactions as well as general fear of contracting the virus has affected how many patients are receiving adequate follow up for their diabetic care. There is increased pressure on patients living with diabetes, as they require quarterly appointments at minimum to help achieve appropriate glycemic control. This quality improvement project will implement video-based virtual care in order to mitigate the risk of in-person interactions and help patients continue to receive adequate care for their diabetes. The strategies used in this project are patient outreach via mailed letters and email, faxed requisitions for necessary laboratory investigations, a secure virtual care software platform, home equipment allowing for audio and video, as well as home equipment to measure blood pressure and weight. The results of the QI project demonstrate the challenges associated with technology for virtual care, the logistics required to successfully educate patients on how to use virtual care and the added responsibilities for support staff. Additionally, patients were found to prefer in-person interactions in general; however, a role for virtual care in diabetic follow up appointments has been highlighted moving forward.

Residents: Drs. Karissa Sarkioja, Cassie Poole, Sarah Davies, Adam Beswick and Sierra Tang

Project Type: Quality Improvement

Faculty Supervisor: Dr. Jamie Wickett

Project Title: Implementing Goals of Care Discussions in the Family Medicine Office

Abstract: Advanced care planning conversations with patients prior to hospitalization or health decompensation has been shown to have benefit in the subjective quality of the terminal phase of their lives (Simon et al., 2015; Earle & Week, 2012). Yet, there are many patients admitted to hospital who have goals of care discussions for the first time when they are acutely ill. The literature suggests that this important aspect of healthcare is difficult for many physicians to do with regularity outside of acute presentations. Our aim was to have a goals of care discussion documented and easily identified in the EMR for 25% of patients aged 65 and older who were seen by one of the five residents participating in this project during their core family medicine blocks at Strathroy Medical Clinic, Middlesex-London Family Medicine Centre, or Victoria Family Medicine Centre. Three PDSA cycles were completed which included reminder notes in resident offices, flagging patients each day who met the criteria for discussion, and adding a tab to the patient's EMR to document discussions. Though unfortunately we were not able to reach 25% of

patients we saw over the age of 65 having documented goals of care over the course of the project, within the timeline of the of the last PDSA cycle more than 25% of the patients over age 65 had documented goals of care discussions. The number of patients with a documented goals of care discussion increased from baseline, which indicates successful change overall.

Breakout Room 3: EM/FM Residents

Resident: Dr. Suhail Agarwal

Project Type: Research (Cross sectional survey)

Faculty Supervisor: Dr. Allison McConnell

Project Title: Determining LHSC emergency physician comfort with facilitating high fidelity simulations

Abstract: Introduction: High fidelity simulation (HFS) is a hallmark in emergency medicine training. A well-trained facilitator is essential in maximizing the utility of HFS. However, some facilitators lack formal training which may lead to a poor learning experience. While courses exist to train simulation facilitators, emergency room (ER) physicians may face barriers to attending such courses. Objective: This study explored the attitudes and comfort of London Health Sciences Centre (LHSC) ER physicians with facilitating HFS. Methods: A survey consisting of 15 questions was emailed to all LHSC ER physicians. Differences between groups were analyzed using chi-square analyses. Results: The survey was completed by 39 physicians. The response rate was 43.3%. Formal HFS facilitation courses were previously attended by 59% of respondents. Two respondents (5.1%) had never facilitated HFS, 14 (35.9%) respondents previously facilitated HFS, and 23 (59.0%) are actively facilitating. About 69% of respondents were comfortable with facilitating HFS. Of those not comfortable, 10 (83.3%) respondents cited lack of formal training as a reason. Although, 67% of respondents would participate if one were available. There was a statistically significant association between comfort with facilitating HFS and frequency of facilitating HFS ($p=0.038$). Conclusion: Majority of respondents were comfortable with facilitating HFS and this was linked with how often they facilitated simulations. Lack of formal training was a major contributor to discomfort with HFS facilitation. However, most respondents would attend a course if available. Future steps may include directing more resources towards HFS facilitation training and subsequently studying its impact on facilitator comfort.

Resident: Dr. Alvin Yang

Project Type: Research

Faculty Supervisor: Dr. Victor Ng

Project Title: Understanding the impact of COVID-19 on the learning experiences of CCFP(EM) residents in Ontario – a qualitative pilot study

Abstract: Introduction: We are unaware of any studies exploring COVID-19's effects on CCFP(EM) programs, which may be particularly vulnerable to disruptions compared to FRCPC programs due to their short residencies. Thus, we aimed to understand the pandemic's impact

on CCFP(EM) residents' learning experiences. Methods: The pilot study used a constructionist-grounded theory approach with a convenience sample of 2020-2021 Ontario CCFP(EM) residents. Data was collected using semi-structured interviews conducted October 2021 to January 2022. Participants were asked to discuss aspects of their training that were felt to have been affected by COVID-19. Recurring themes were identified using constant comparative analysis. Results: Responses from ten participants revealed mostly negative impacts in three key areas: clinical, academic, and wellness. Clinically, residents encountered lower patient volume and acuity during EM, orthopedic, pediatric, and anesthesiology rotations; reduced procedural opportunities; and elective cancellations. Virtual didactic and simulation sessions were convenient but detrimental to participant interactions. Professional development and personal wellbeing were affected due to lack of in-personal socialization with mentors and co-residents. Personal safety concerns were present but not a significant contributor to stress. Nonetheless, residents did not describe their transitions to practice to be affected significantly. Conclusions: This study suggests that COVID-19 had adverse effects on CCFP(EM) residencies in clinical, academic, and wellness domains. While there has been widespread adoption of virtual teaching since the beginning of the pandemic, residents still feel that their education was adversely impacted. Further studies should explore measures to ensure quality education delivery in preparation of future pandemic waves.

Resident: Dr. Lakshmi Kamala

Project Type: QI

Faculty Supervisor: Dr. Munsif Bhimani

Project Title: Understanding LHSC Emergency Medicine physicians' motivation for completing rural locums

Abstract: Introduction: Increasing number of rural hospitals face challenges in staffing their departments in recent years. In Ontario, this demand is being addressed by Health Force Ontario (HFO) in addition to individually arranged locums. This project looks to understand London Health Sciences Centre (LHSC) EM physicians' locum practice patterns and their motivation for seeking such opportunities. Methods: An anonymous 10-question electronic survey was distributed to 85 staff physicians working at LHSC Emergency department through Qualtrics. Demographics and locum practice pattern related information was collected. Motivational factors for participating in locums and challenges faced while completing them were analyzed using a 5-point Likert scale. Results: 32 surveys were included in the final analysis with a response rate of 37.6%. 59.7% of respondents reported participating in rural locums. Of the respondents who participate in locums, 64.7% report working only through HFO. 77.8% of the respondents reported locums to be a long-term aspect of their EM practice. Amount of bureaucracy, financial remuneration, ability to choose shifts, satisfaction of providing care at an underserved area, and patient flow were identified as the most important motivating factors with 83.3%, 77.8%, 77.8%, 77.8%, and 72.2% rating them as important or very important. Conclusion: More than half the respondents participate in rural locums. Amount of bureaucracy, financial remuneration, patient flow, physician satisfaction and ability to choose

shifts appear to be the main motivational factors. Further studies should focus on motivational factors for physicians in other centers and assess sustainability of locum coverage.

Resident: Dr. Karen Chawla

Project Type: Research

Faculty Supervisor: Dr. Munsif Bhimani

Project Title: Diversity in the CCFP-EM CaRMS process: Trends and insights after development of a Fairness Committee

Abstract: The Canadian Resident Matching Service states, “fairness and equity are foundational principles of the match process.” To establish equity in the selection process for CCFP-EM candidates at Western University, a ‘Western Fairness Committee’ (WFC) was created for the 2020 Match to ensure fair representation amongst applicants ranked in the match process by implementing changes to the selection process. These included: Multiple Mini Interviews, anonymous file review, and questions to identify merit-based qualities. This study aimed to determine if the WFC has improved diversity in gender and location of prior training in the Western CCFP-EM program. Western Research Ethics Board approval was obtained. Gender, school of Family Medicine (FM) residency, and location of Medical School training data was collected from CaRMS for the 2018-2021 match years. Proportions were compared 2 years before and 2 years after the formation of the WFC using chi-squared testing. Results: Prior to the WFC, successfully matched applicants were 20% non-Western FM residents. vs 36.8% non-western residents after the WFC, a 16.8% increase (95%CI -11.1% to 41.9%; $p=0.25$). Females made up 37% of applicants. Prior to the WFC, 25% of program cohort was female. After the implementation of the WFC, 53% of the program cohort was female, a two-fold increase ($\Delta 27.6\%$, 95%CI -2.7% to 51.9%; $p=0.08$). Prior to the WFC, non-Western medical students made up 88% of the applicant pool and 55% of the matched applicants. Following the WFC changes, non-Western medical students increased from 55% to 89.5% of matched applicants ($\Delta 34.5\%$ 95%CI 6.2% to 56.6%; $p=0.02$). Conclusion: The trends may suggest increased diversity in gender and location of prior training. However, these changes are not statistically significant and limitations in the research are noted. Firstly, this is a short period of data collection. Secondly, the match is a 2-way rank system, and not solely dependent on Western’s rank list, but also the applicants’ ranking. Therefore, these trends depend on the applicants’ preferred location of EM training. Future studies should analyze demographics of Western’s rank list rather than matched participants as this list will not be impacted by the applicant’s ranking. Lastly, data surrounding ethnicity would be an important variable to study diversity, however, this data is not currently collected by CaRMS. In summary, further studies are required to determine if the WFC improved diversity in our program.

Residents: Drs. C. Dhaliwal, K. VanAaren, D. Ruel and V. Ng

Project Type:

Faculty Supervisor:

Project Title: Describing Opioid Prescription Practices for Suspected Renal Colic in the Emergency Department

Abstract: Background: Despite NSAIDs being an effective mode of analgesia, renal colic remains a top contributor for ED prescribed opioids (1). Analyzing ED opioid prescription practices can assist in understanding Canada's national opioid crisis. Our objective was to describe recent ED opioid prescription practices for renal colic, and to compare this data against patterns from 10 years ago (2). Methods: We conducted a retrospective single center cohort study for all adults presenting with suspected renal colic at LHSC. We completed a chart review of a consecutive sample of 187 patient encounters with a discharge diagnosis of renal colic from 2019. The primary outcome was to describe the proportion of patients with renal colic discharged with an opioid prescription, and compare this to patterns from a 2012 study which described opioid prescription practices for renal colic in 2010 (1). We calculated simple descriptive statistics and a chi-square analysis. Results: 90 patient encounters (45.7%) resulted in an opioid prescription at discharge. Acetaminophen-caffeine-codeine 30 mg was the most common opioid prescribed. The 2012 study, reported 66.75% of patient encounters resulting in an opioid prescription, and the difference in the proportion of opioid prescriptions between the studies was 21.07%, (95%CI 12.62 to 29.20; $p < 0.0001$). Conclusion: The majority of renal colic encounters in the ED did not result in an opioid prescription. Acetaminophen-caffeine-codeine 30 mg was the most common opioid prescribed. The proportion of patient encounters resulting in an opioid prescription from the emergency department at LHSC was found to be significantly less compared to approximately 10 years ago.

Session 3

Breakout Room 1: SJFMC

Residents: Drs. Leah Koert, Razieh Poorandy, James Chiu and Sophie Glanz

Project Type: Quality Improvement

Faculty Supervisor: Dr. Saadia Jan

Project Title: Approach to Improving Medication Reconciliation Post Hospital Discharge

Abstract: Polypharmacy and medication interactions are common challenges among our aging patient population. There are many patients in family medicine practices who have several comorbidities and therefore are taking more than five medications. These patients often have specialists involved who may also play a role in prescribing some of these medications. Family physicians often do not have a completely up to date medication list for their patients accounting for outside prescribers. As a consequence, this can lead to the potential for serious medication interactions when new medications are prescribed within family medicine. This quality improvement project implemented strategies to increase medication reviews in family medicine

clinics, particularly targeting patients who were recently discharged from hospital given this is a time where medication changes were likely made. These strategies included a poster reminder in clinic rooms and specific reminders through the EMR with the assistance of our nursing and administrative staff. The results of our quality improvement project showed that the rate of medication reviews completed for patients post hospital discharge increased substantially after implementing reminders for physicians to complete reconciliations. These interventions were both cost and time effective. Although the number of medication interactions was not measured directly as an outcome, we concluded that if patients have up to date medication lists in their charts, this would result in less medication interactions within primary care.

Residents: Drs. Liam O’Sullivan, Matthew Rowe and Jeremy Kwok

Project Type:

Faculty Supervisor: Dr. Nelson Chan and Dr. Susan McNair

Project Title: Reducing inappropriate TSH testing at SJFMC

Abstract: TSH tests without appropriate indications are a waste of resources. As of 2017, TSH tests in Ontario costs \$14 each. They also foster more significant time and money costs relating to over-investigation, follow up, and patient expenditures, though these costs are not well quantified. Appropriate TSH testing is outlined by a 2019 TSH testing guidelines publication in the CMAJ; generally speaking, asymptomatic non-pregnant adults should not be tested. We have generated criteria based in the CMAJ guideline and accounting for other common indications (e.g. new AFib, peripheral neuropathy etc.). In total, three 2-week samples were collected of TSH tests ordered for all family medicine patients at the St Joes Family Medical and Dental Centre. In the baseline 2-week sample before interventions, 9 of 27 TSH tests (33%) were ordered inappropriately. Following an initial intervention of posted TSH testing criteria to clinician computers, 9 of 38 tests (23%) ordered in a 2 week period were inappropriate. After a second intervention of a formal 15 minute lecture on TSH testing at resident teaching, 5 of 17 TSH tests (29%) ordered were inappropriate. Balancing measures including incidence of clinically significant thyroid dysfunction detected in the patient sample did not significantly change. While observed changes in TSH testing appropriateness were not statistically significant, the pattern of decreased inappropriate testing after our 1st intervention in particular would suggest that visibly positioned stickies of TSH testing criteria in areas common to ordering clinicians could help reduce inappropriate TSH testing.

Resident: Dr. Casey Rosen

Project Type: Research

Faculty Supervisor: Dr. Jane Thornton

Project Title: Beyond the medals: A cross-sectional study investigating retired high performance female athletes’ health

Abstract: Major strides are being made in injury prevention for elite athletes, but little is known about the long-term health outcomes following retirement in females. Our aim was to: describe key longterm outcomes in musculoskeletal, mental, reproductive, and cardiovascular health in

retired elite female athletes compared to the general population, and explore retired athletes' perceptions of their participation in elite sport and its impact on long-term health. We administered a cross-sectional online questionnaire to retired Canadian elite female rowers and rugby players greater than 18 years of age, and at least two years retired from elite competition. Seventy-four respondents completed the questionnaire (30 rowing, 44 rugby). The average age was 44.6 years and the average years since retirement was 15.4. During their career, 63 athletes experienced a hip, knee, foot/ankle or back injury; of those, 42 reported ongoing symptoms in the same area within the last year. Compared with the general population, respondents had lower odds of anxiety, greater odds of amenorrhea, worse knee and hip pain in those 35-54 years and gave birth later. Sixty athletes scored their current health as above average or excellent and 61 reported they would compete at the same level again. The most common theme when asked to give rookies advice surrounded prioritizing injury prevention and recovery (21%). This study not only informs the care of an overlooked population of athletes but also focuses our preventative efforts, so current, former, and future female athletes can more fully experience the positive outcomes associated with elite sport.

Residents: Drs. Kristen Viaje and Dyon Tucker

Project Type: Quality Improvement

Faculty Supervisor: Dy. Kyra Harris-Schulz

Project Title: Increasing Emergency Department-Initiated Palliative Care Consults for Admitted Patients: A Quality Improvement Initiative

Abstract: Palliative Care (PC) is a specialty that aims to address the physical, psychosocial, and spiritual needs of patients with life-limiting illness¹. PC is associated with greater patient and family satisfaction², improved quality of life³, reduced hospital length of stay², lower rates of ICU events^{4,5} and hospital re-admissions², and a reduction in health care costs^{2,4,6-8}. Earlier involvement further reduces health care costs⁸ and the pursuit of aggressive management not congruent with patient values³. As such, Choosing Wisely Canada recommends that PC involvement should not be delayed, even if active management is being pursued⁹. However, PC involvement continues to be deferred and incorrectly associated with end-of-life, resulting in missed opportunities for palliative intervention and the associated benefits¹⁰⁻¹³. The Emergency Department (ED) will see roughly 50% of older patients who are in their last month of life and 75% who are in their final six months¹⁴. The ED serves as a unique and effective environment to involve PC. Collaboration between Palliative Care and the Emergency Department has been shown to improve PC consultation¹⁵, reduce time from hospital admission to PC consultation¹⁶, and decrease hospital LOS¹⁶. For these reasons, the collaboration of Palliative Care and Emergency Medicine has been highly supported by experts in both fields^{17,18}. We are proposing a quality improvement initiative to improve Emergency Department-initiated Palliative Care consults and ultimately involve Palliative Care services earlier during a patient's admission. Our aim is to increase PC consultation from the ED for admitted patients by 100% within 3 months of QI project start date.

Residents: Drs. Hiba Makhdam, Nusrat Parveen, Victor Pado and Ashkan Gitipour

Project Type: Quality Improvement

Faculty Supervisor: Dr. Saadia Hameed Jan

Project Title: Approach to improve screening and follow up of patients with low risk OP

Abstract: Bone mineral density is the standard test used at diagnosing osteoporosis and assessing fracture risk. In Canada, osteoporosis is responsible for approximately 200,000 cases of fragility fractures annually. Osteoporosis and the fractures it causes results in a large burden on the health care system and patients quality of life. Family physicians tend to overlook FRAX low risk patients and subsequently do not routinely reassess fracture risk in 5 years time. This quality improvement project will implement strategies to encourage the medical team to actively and routinely review patients' preventive screening. By ensuring adequate recalls are placed in the EMR system for appropriate follow up for fracture risk assessment for low risk patients. During the QI project two PDSA cycles were completed. One involved placing a poster to prompt physicians to place a recall for 5 year risk assessment in patients with a FRAX low risk. The second cycle involved including nursing staff in placing a recall themselves when they received low risk BMD test results. With the said interventions our data showed a significant improvement in recalls placed for reassessment of fracture risk. Both interventions were simple to implement however, somewhat time-consuming for the medical team. Nonetheless, our role as primary care providers is to ensure complete and up to date preventive care screening for our patients and one can conclude that placing recalls for 5 year reassessment for fracture risk for FRAX low risk patients must be included in this.

Breakout Room 2: VFMC Hanover

Residents: Drs. Tishara Wijayanayaka and Danielle Ondrejicka

Project Type: Quality Improvement

Faculty Supervisor: Dr. Nick Abell

Project Title: Quality Improvement Project: Increasing Osteoporosis Screening in Hanover Residency Practice Patients through Educational Sessions Directed at Residents.

Abstract: Osteoporosis can affect both men and women and is a health concern not only to the individual but also to the greater health care system. There are gaps in physician's knowledge about when to initiate screening BMDs. The goal of our QI project was to increase the number of initial BMDs in Hanover's Residency Practice Patient's by 5%. We performed 2 PDSA cycles aimed at educating residents on guideline based Osteoporosis Screening. Our 1st PDSA cycle was an educational poster and our second PDSA cycle was an educational session administered to Hanover residents. Our process measure was the number of residents who were aware that both men and women > 65 required an initial BMD. We were able to increase awareness from 66% pre educational intervention to 100% of residents post session. We successfully increased initial BMDs ordered for our patient's by 28% during our study period. Albeit the baseline number was low so we felt a more reliable measure was to compare the number of BMDs ordered in the 4 months prior to the number ordered during our study period. This measure showed an increase from 2 initial BMDs and 5 BMDs total to 4 initial BMDs and 10 total during our 4 month study period. Our balance measure of the number of FIT tests

ordered did not decrease during our study period. In conclusion, our QI project was successful in both increasing awareness of osteoporosis screening amongst residents and ultimately increasing initial BMDs ordered in our patient's.

Residents: Drs. Fotina Raptis, Shawn Albers, Azar Bayat and Sheerin Elsayed Ali Mohammed Gaily Ahmed

Project Type: Quality Improvement

Faculty Supervisor: Dr. Stacey Valiquet

Project Title: Hypertensive management of Diabetic patients during the COVID-19 pandemic

Abstract: Approximately 7.5% of the Canadian population has diabetes, costing an estimated \$14 billion annually. Diabetic management includes periodic monitoring of numerous factors, including glycemic control and blood pressure (BP) to help delay or prevent the progression of both the microvascular and macrovascular consequences of diabetes mellites. During the first-wave of the COVID pandemic, there were drastic changes to many aspects of the healthcare system, including a rapid increase in virtual and telemedicine appointments. As a consequence of this, majority of diabetic appointments were conducted virtually with no BP monitoring. This quality improvement project was aimed to implement new strategies to ensure each patient was receiving BP recordings and implore strategies to increase access to BP cuffs at home. The strategies used included ensuring all diabetic appointments were in-person, inquiring about access to home BP cuffs and using posters and information brochures to promote the importance of home BP monitoring. The results show that we were able to increase the number of in-person visits and BP readings from 1.5% to 100% and 7.5% to 100%, respectively. Secondly, we saw the number of patients with home monitors increase from 7.5% to 64% following our educational interventions. This project has not only successfully ensured every diabetic patient receives a BP recording, but it also has seen an increase in the number of patients with access to home cuffs. This may be an important factor in diabetic care in the event another pandemic results in public health measures limiting access to in-person clinic appointments.

Residents: Drs. David Ma, Fredrick Martyn, Erin Klar and Yu-Han Chang

Project Type: Quality Improvement

Faculty Supervisor: Dr. Daniel Grushka

Project Title: Improving rates of abdominal aortic aneurysm (AAA) screening at Victoria Family Medicine Centre (VFMC)

Abstract :Abdominal aortic aneurysm (AAA) screening in males aged 65-80 is an established preventative care standard in North America. Rupture of AAA carries significant mortality and morbidities with favorable cost-effective probability. Rates of screening, however, remain suboptimal across multiple studies in recent decades. Similarly, a baseline survey revealed a 38% cumulative AAA screening rate and 0% rate of change across an entire month at Victoria Family Medicine Center highlighting the imperative need for change. Through three PDSA

cycles, a significant increase in the rate of AAA screening offered to eligible patients was elicited at 47% between November 1, 2021 to February 10, 2022 compared to 0% in October 2021. Accordingly, the cumulative AAA screening increased from 34% to 65% in the defined period. Use of an electronic medical record (EMR) reminder demonstrated a marked impact on both the rate of change and cumulative percentage from 0% to 42% and 38% to 61%, respectively. In contrast, patient and staff education through clinic posters and oral presentation showed marginal added improvement of 1-2% in cumulative rate. Qualitative survey revealed limited time in face of concurrent acute medical issues was the primary barrier to discussing AAA screening. The intrinsic lower socioeconomic status and health literacy of the studied patient population and the timing of the COVID-19 Omicron wave favoring virtual over in-clinic encounters were confounding factors. Nevertheless, this study accentuated the existing paucity in AAA screening in primary care and demonstrated the immense potential for quality improvement through system change in EMR, staff and patient education.

Residents: Drs. Kosalan Akilan, Andy Seo and Michael Tsui

Project Type: Quality Improvement

Faculty Supervisor: Dr. Christina Cookson

Project Title: A quality improvement project to increase government-subsidized Shingrix uptake rates in patients between the ages of 65-70 in an academic outpatient setting

Abstract: Shingles is a disease caused by the reactivation of latent varicella zoster virus and manifests with a painful, unilateral and vesicular eruption. There are two widely available options for vaccination for prevention of shingles and postherpetic neuralgia (a complication associated with high morbidity) – these include Shingrix, a recombinant zoster vaccine, and Zostavax, a live zoster vaccine. From October 2020, Ontario Ministry of Health has transitioned its publicly funded shingles immunization program from Zostavax to Shingrix, due to the latter vaccine's superiority in producing a robust response in patients' immune systems. Our project aimed to improve administration of the newly funded Shingrix vaccines in eligible patients, aged 65 to 70 years, who have not previously been administered a publicly funded Zostavax vaccine, by 20%. We sought to achieve this with two interventions, 1) an information session incorporated into a resident-led teaching session, and 2) brochures with information about the vaccine distributed to members of the clinic. With our two interventions, we increased the vaccination rate from 7% to 17% , which did not meet our goal.

Breakout Room 3: EM/FM Residents

Resident: Dr. Elyse Epp

Project Type: Research

Faculty Supervisor: Dr. Victor Ng

Project Title: Goals of Care discussions in patients suspected of COVID-19: A Retrospective Chart Review

Abstract: Introduction: Patients infected with COVID-19 can deteriorate quickly, making it important to understand patients' goals of care (GOC) early on in disease. The primary outcome of this study was to determine the frequency at which the EM team documents a GOC discussion in patients suspected of COVID-19 who are subsequently admitted to hospital. The secondary outcomes looked to determine if there was a relationship between severity of illness and GOC discussion in the ED. Methods: Retrospective chart review of 200 randomly selected adult patients admitted to London Health Science Centre (LHSC) from the emergency department (ED) with either a positive COVID-19 PCR test during admission and/or discharge diagnosis of COVID-19 between March 11, 2020 to June 10, 2021. Patients with COVID-19 transferred from other hospitals were excluded. Results: Only 17 patients (8.5%) had a documented GOC discussion with an EM provider. Compared to those without, those with a GOC discussion in the ED were older ($p=0.011$), more likely to be admitted to the ICU ($p=0.0037$) and more likely that they did not wish to be intubated ($p=0.041$). Those that had a higher qCSI were more likely to have a GOC discussion in the ED ($p=0.015$). Conclusion: Of 199 patients admitted to LHSC with a diagnosis of COVID-19, only 8.5% had a GOC discussion with an EM provider. These patients were noted to be significantly older and sicker. Future research and Quality Improvement initiatives should focus on strategies to improve the rates of GOC discussions with COVID patients in the ED.

Resident: Dr. Manpreet Lambda

Project Type: CCFP(EM)

Faculty Supervisor: Dr. Munsif Bhimani

Project Title: Evaluating mentor and mentee perspectives and experiences with Western University's CCFP-EM Mentorship Program

Abstract: Introduction: Among emergency medicine physicians in Canada, mentorship is identified as being important to residency success. Although formal residency mentorship programs are increasingly common, relatively few emergency medicine programs have these structures in place. There is limited information about various mentorship programs in emergency medicine. The Canadian College of Family Physicians Emergency Medicine Program (CCFP-EM) at Western University implemented a formal mentorship program in 2015, whereby residents were matched to a clinical, research and non-clinical mentor. This study aims to evaluate mentor and mentee experiences with this program. Methods: A retrospective quality improvement, and program evaluation and development study was conducted. Participants include resident mentees and staff mentors since program inception to date (2015-2022). Separate, distinct surveys with multiple choice, open-ended, and likert-style questions were emailed to participants. Responses were collected using Qualtrics, online survey software. Responses were analyzed using descriptive statistics. Results: In total there were 20 mentor and 12 mentee responses, a 27% and 17% response rate, respectively. In all three mentor subgroups (clinical, research, and non-clinical), the majority (10

(90.9%), 14(87.5%), and (11)78.6% respectively) reported that they fulfilled multiple roles in the portfolio. Satisfaction with the experience was 63.6%, 57.1% and 46.1% for clinical, research, and non-clinical mentors. Of 18 respondents, 10(55.6%) agreed that the program adds value to staff physician professional satisfaction. Limited time with mentees was a common mentor-identified challenge with the program. Of 8 mentee responses, 4(50%) were satisfied with clinical mentorship. Satisfaction was most influenced by rapport with the preceptor. With research mentorship, 5(62.5%) of mentees were satisfied. Half of respondents felt neutral with regards to non-clinical mentorship. 4(50%) of respondents agreed that mentorship added value to their training. Conclusion: The small sample size limits data analysis in this study. However both mentor and mentee groups identify general satisfaction with the mentorship program. Limited time spent between mentors and mentees was a common challenge identified. Future work to incorporate these findings into Western's CCFP-EM mentorship program and evaluate similar mentorship programs, may be of benefit.

Resident: Dr. Manvir Uppal

Project Type:

Faculty Supervisor:

Project Title: Naloxone at Discharge: A study on opioid overdose visits at LHSC and naloxone distribution

Abstract: Introduction: Opioid overdose is a leading cause of death and significant morbidity among young adults in Canada. Middlesex-London Health Unit has been disproportionately impacted by the opioid crisis, consistently reporting high rates of emergency department visits, hospitalizations, and crisis, consistently reporting high rates of emergency department visits, hospitalizations, and death. Through the distribution of Naloxone, emergency departments in London are uniquely positioned to impact individuals who are at high risk for opioid overdose and death. We hope to determine how often emergency physicians are prescribing Naloxone at discharge to patients who present to London Health Science Centre (LHSC) emergency departments suspected of an opioid overdose. Methods: A retrospective chart review was completed of adult patients presenting to LHSC emergency departments due to acute opioid related overdose and discharged to home after assessment between January 1 and December 31, 2020. Results: Among the 480 visits that met the inclusion and exclusion criteria, Naloxone was prescribed to 43 patients (9%). Patients who took fentanyl were more likely to receive a prescription of Naloxone compared to those who did not (11.08% vs 4.52%, 95%CI 1.16-11.07; p=0.019). Those who presented due to an unknown drug are less likely to get a prescription for Naloxone compared to patients where the suspected opioid is known (3.12% vs 10.42%, 95%CI 1.03-11.32; p=0.025). Conclusion: Our data notes that emergency physicians at LHSC are prescribing take-home Naloxone at low rates to at-risk populations. We hope this information provides a motivation for change to the day-to-day practice of LHSC emergency physicians as it

Resident: Dr. Ryan Labelle

Project Type: Quality Assurance

Faculty Supervisor: Dr. Matt Davis and Dr. Don Eby (Principle)

Project Title: Paramedic Hyperkalemia Quality Assurance Project

Abstract: A medical directive for Ontario Advanced Care Paramedic (ACPs) to treat suspected hyperkalemia, with Calcium and Salbutamol, was introduced in 2016. A formal quality assurance study has not been performed since its implementation. A retrospective review of Ambulance Call Reports (ACRs), from April 2016 to June 2021, of three ACP services in Southwestern Ontario was completed. 465 cases of hyperkalemia were identified. 170 cases were abstracted – (111 cases calcium was administered, and 59 other cases were randomly sampled). Hyperkalemia was documented in error in 50/170 (21/50 - STEMI, 8/50 - hospital transfers, and 21/50 – unrelated). Criteria was met/applied in 30/120 cases. 30/120 met criteria but incompletely applied treatment. 60/120 didn't document criteria. Of these, 43/60 applied the directive incompletely. Hyperkalemia was found in 0.38% of ACP calls in Service(A), 0.081% Service(B), and 0.087% Service(C). Calcium was administered 77 times (A), 32 (B) and 2 (C). If Calcium was administered, Sodium bicarbonate was administered in 50/77 cases (A), 13/32 (B), and 2/2 (C). Salbutamol was administered in 23/77 (A), 12/32 (B), and 0/2 (C) cases. Overall, Salbutamol was given ~32% of cases while Sodium bicarbonate ~58%.

Resident: Dr. Bilal Akil

Project Type:

Faculty Supervisor: Dr. J.Gabriel

Project Title: An examination of the treatment received during urgent care visit for migraine patients within Southwestern Ontario

Abstract: Introduction: Approximately 15 % of migraineurs visit Emergency department at least once a year in Canada. However, little is known about the common practices or consensus in treatment regimens for these migraine patients. Research comparing efficacy of Metoclopramide alone or with adjunct therapy is also limited. This study examined the compliance of administered medications to recommendations of Canadian Headache Society and secondarily, compared the efficacy of Metoclopramide monotherapy vs Metoclopramide with adjunct treatment in terms of hospital stay and symptom resolution in acute migraine attack. Methods: A retrospective Chart review was done for patients 18 years and above who presented to UH or VC hospital emergency departments for acute migraine attack between July 01, 2017 – June 30, 2019 and received parenteral metoclopramide treatment. Patients who died, left against medical advice or had other co-morbidities were excluded from study. A list of 910 eligible patients was obtained from Decision support of which Metoclopramide monotherapy was used 34 times or 3.7% vs Combination therapy total used 876 times or 96.3%. Using Lawson REDCap, medical records of patients were reviewed to obtain data for discharge diagnosis and disposition, medications given in ED, metoclopramide administration, adverse effects of treatment, symptom relief at discharge and previous prescription or home medications. SPSS was used to present frequencies of the variables and group comparisons were done using Chi-square and t-tests.

