### Scholarship Day Program

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1. Sonika Kainth & Anna Zhang: Advance care planning in primary care: examining barriers and facilitators at Sunridge Family Medicine Teaching Centre
2. Charley Boyd, Danielle Hubbert, & Angie Karlos: Differences in Rate of Vaginal Deliveries versus Cesarean Section for Low Risk Women Delivering in Rural, Regional and Urban Hospitals in Southern Alberta in 2015
3. Lenni Folden & Yuan Bealing: Medical Assistance in Dying (MAID) and the Implications
4. Braden Teitge: Frequent users of a rural emergency department have an increased 1-year mortality

Round 2 10:45-11:40
1. Kimberly Kavanagh, Minaa Amin, Neha Chadha, & Nurunnisa Raj: Improving Teaching and Resident Engagement in Quality Improvement Projects
2. Jillian Milner: Decreasing Barriers to Refugee Health: Facilitating Community Physicians Accepting Syrian Refugees and a Literature Review on Refugee Health and Screening

Round 3: 14:20-15:15
1. James Clem: Inappropriate Long-Term Proton Pump Inhibitor Use in the Elderly
2. Ricky Agnihotri, Anthony Chan, & Jeff Zong: Analysis of Views on Patient Decision Aids in Family Practice Teaching Clinics
3. Sahriar Kabir, Laura Lu, & Michelle Wong: Opioid contract prevalence in the Sunridge Teaching Clinic patient population
Poster Presentations Schedule

Round 1: 11:40-12:15
1. Dominique Bonin & Katie Forbes: A Review of the Literature on Topical Therapies for the Management of Epistaxis
3. Sameh Wahba: Unmasking the Presence of Obstructive Sleep Apnea (OSA) in Hypertensive Patients who attend Micro System 2 Clinics at Sunridge Family Medicine Teaching Center
4. Jerry Zhang: Unemployment and Health: A Literature Review
5. Norry Kaler: Assessing and improving type 1 diabetes care at Crowfoot Village Family Practise
6. Jodie Graham, Reid Hosford, & Kasia Wieckowski: Effect of physician wait times on patient satisfaction
7. Kevin Lanni: Hyponatremia Treatment – Standards and Future Directions
8. Joanna Slusar: The role of Probiotics as an Adjuvant to Antibiotics in Preventing Recurrence of BV in Healthy, Non-pregnant, Premenopausal Women
9. Kristin Keith: The Indigenous ARP: A Qualitative Investigation
10. Trevor Luk, Sundee Dhalwal, Paul Lalli, & Miguel Nunez: Dietary Intervention in the Management of Prediabetes
11. Shaye Lafferty & Adriana Pietrzak: Non-hormonal treatment of vasomotor symptoms in women with a history of breast cancer
12. Ryan Iverach: Seniors Utilization of the Medicine Hat Regional Hospital Emergency Department

Round 2: 13:15-13:50
1. Soreya Dhanji & Iain Law: Chronic Insomnia: Cognitive Behavioural Therapy vs. Pharmacological Management on Total Sleep Time and Quality of Sleep
2. Raymond Tam: How do patients decide on which over-the-counter cough medication to take?
3. Chelsey King: Diagnosis and treatment of gout – evidence based review
4. Michelle Chow: Preconception Paternal Teratogens
5. Hyup Lee & Xiao Yuan: Non-Pharmacological Management of Insomnia in Older Adults
6. Lucy Jiang, Brit-Leigh Fermaniuk, & Sam Montasser: Topical Ketamine for Management of Neuropathic Pain
7. Victor Abdelmalak, Jill Dewar, Jimmy Huynh, Roza Kazemi, & Vicki Wielenga: Application of the Prevention and Management of Cardiovascular Disease Risk in Primary Care TOP Clinical Practice Guideline in a Clinical Setting
8. Ling Mu: Opioid Contracts in Long Term Opioid Users at South Health Campus Family Medicine Clinic
9. Bradley Lewis: Family Doctors & Office Based Opioid Treatment (OBOT) – Barriers to a Life Saving Practice: A Scoping Literature Review
10. Paul Young: Test Characteristics of Point of Care Ultrasound in the Diagnosis of Renal Colic
11. Nancy Zhao: Therapeutics of Cervicogenic Headache
12. Samantha Hage-Moussa: Using the Personal Experience in Communicating Bad News
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1. Corinne McDonald: Improving Access to Palliative Care for the Homeless
2. Simrit Bains, Farah Marani, & Sarah Truelson: Homeless Populations in Developed Nations: End-of-Life Experiences with Healthcare
3. Shirlee Ren, Eric Wang, & Alvis Yu: A Systematic Review of the Efficacy of Methylphenidate Augmentation Compared to SSRI or Placebo Alone in Patients Diagnosed with Major Depressive Disorder
5. Thomas McMurray & Lauren Robinson: Improving Advance Care Planning and Goals of Care designation use through a focus on Team Process: A Primary Care Perspective
6. Zuzana Triska, Kailey Buller, Mary Sun, & Jonathan Chow: Effectiveness of topical application of nitrates in the treatment of mid-portion achilles tendinopathy: A systematic review
7. Himani Sharma: Qualitative Review of a Pilot Treatment Protocol for Adults with Adverse Childhood Experiences (ACEs)
8. Vivian Cheng, Amanda, Lim, Zaven Mangassarian, & Bill Ressl: COPD Care Plan for Proactive Primary Care
9. Kalpit Agnihotri: Congruency of Sports Medicine Diagnoses in Primary Care
10. Tahara Bhate: Improving EBM Teaching in Clerkship: Evaluation of a Novel Tool to Improve Critical Appraisal Skills
11. Amanda Schreiner: Simulated Codes for Quality Improvement and Team-Building

Not Attending Resident Scholarship Day

1. Jocelyn Beckstead: Screening for Addiction and Aberrant Drug Behavior in Primary Care Patients Receiving Opioid Therapy: A Review of the Available Screening Tools
2. Carissa Grainger: A Review of breastfeeding outcomes in infants with ankyloglossia who underwent frenotomy
3. Joseph MacDonald: Quantitative analysis of skin biopsies performed in a family medicine clinic setting
4. Barbara Mroczek: Does fish oil supplementation in pregnancy lead to improved neurodevelopmental outcomes in offspring?
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Keynote Speaker

Scott Garrison MD, PhD is an Associate Professor in the Dept. of Family Medicine at the University of Alberta and the Director of the Pragmatic Trials Collaborative - a group of over 400 Canadian family physicians intent on pursuing pivotal primary care randomized trials (www.PragmaticTrials.ca). He is also a member of the University of Alberta's Tools-for-Practice Evidence-Based Medicine Team and will walk the audience through some of the common pitfalls of interpreting medical evidence.
ORAL PRESENTATIONS
Round 1
Advance care planning in primary care: examining barriers and facilitators at Sunridge Family Medicine Teaching Centre

Sonika Kainth BHSc MD; Anna Jiajia Zhang BSc MD
Dr Amy Tan MD CCFP(PC), Dr Carolyn Nowry MD CCFP

Purpose/ Aim Statement:
Through implementing a quality improvement project, we aimed that by February 2017, 75% of patients at our clinic over age 65 to have a documented advance care plan or ACP discussion.

Methods:
First, we conducted focus groups with residents, staff physicians and allied health professionals to identify barriers and facilitators to ACP in our clinic. Per recommendation by the focus groups, 1) a reminder to initiate ACP discussions was added to the EMR followed by 2) workshops for the residents on how to initiate and lead discussions with patients about ACP. The effectiveness of these interventions is still being analyzed, but we anticipate they increased the number of ACP discussions.

Results:
A random chart review prior to the interventions revealed that only 21.7% of patients >65 years of age had a documented ACP discussion. Several common themes were identified from the focus groups. Barriers to advance care planning conversations were: lack of skill, poor patient engagement, lack of time, lack of compensation, lack of normalization of advance care planning, and lack of preceptor support. Current and potential facilitators included: incorporating goals of care discussions into the periodic health exam through an EMR reminder system, access to workshops for residents targeted towards having advance care planning discussions in non-acute settings, and increased allied health involvement. We anticipate that our two interventions have increased the number of ACP discussions that take place, however formal chart reviews still need to be performed.

Conclusion:
Our project identified clinic-specific barriers and facilitators to ACP similar to those noted in the literature. The efficacy of the interventions we implemented are yet be to determined, however, given that their design was guided specifically by the results of our focus groups, we anticipate increased resident comfort and awareness of ACP discussions and subsequent increased uptake of advance care plans in our clinic.
Differences in Rate of Vaginal Deliveries versus Cesarean Section for Low Risk Women Delivering in Rural, Regional and Urban Hospitals in Southern Alberta in 2015

Charley Boyd MD, Danielle Hubbert MD, Angie Karlos MD

Preceptor: Dr. Bobbi-Jo Whitfield, MD

Introduction
Providing comprehensive obstetrical services for rural Canadians has been a long-standing challenge for healthcare professionals and government. Barriers include low volumes of obstetrical patients, lack of access to surgical specialists, and maintaining experienced staff. Furthermore, rates of cesarean section (c/s) have been rising worldwide over the last several decades and these rates vary by geographical location. Therefore, this study investigates the rate of vaginal delivery versus c/s for low risk mothers delivering in rural, regional, and urban hospitals in Southern Alberta communities in 2015.

Methods
Working with the Alberta Perinatal Health Program (APHP), we employed a cross sectional study design to analyze rates of c/s in low-risk women in rural, regional, and urban sites in Southern Alberta during 2015. We used the 10-group Modified Robson criteria to compare c/s rates based on women’s obstetrical characteristics. A one-way analysis of variance (ANOVA) was used for continuous variables and chi-squared test for categorical variables with 95% confidence intervals (CIs) to compare rates of c/s delivery. We also analyzed subject characteristics, neonatal outcomes, and indications for c/s.

Results
A total of 9935 women were included in the analysis; 7409 delivering in urban hospitals, 2022 regionally, and 514 rurally. Preliminary data showed that the majority of women fell in the G3 group of the Robson criteria (n=3737) (multiparous, singleton, cephalic, >37 weeks gestation in spontaneous labour) with the second highest in the G1 group of corresponding primiparous moms with the same characteristics (n=2740). The greatest percentage of c/s were performed in group 2a: primiparous moms with induction of labour: 20.5% of mom’s delivering in urban locations, 29.8% regionally and 40.2% rurally. Remaining results pending interpretation

Interpretation
This study will guide the need for surgical services in rural Albertan communities and populations most affected by increasing c/s rates. There is very little published information in Alberta about the rates of cesarean delivery by geographic location, which is important for developing local training programs to meet the needs of rural communities.
Medical Assistance in Dying (MAID) and the Implications Upon Family Medicine Practice
Yuan Bealing, MD and Lenni Folden, MD
Preceptor: Dr. Wayne Chang, MD

Introduction
On February 6, 2015, the Supreme Court of Canada declared the criminal prohibition against medical assistance in death ("MAID," formerly referred to as physician-assisted dying) unconstitutional. On June 17, 2016, the Criminal Code was amended (Bill C-14) to legalize MAID. Canada is now one of several countries that has adopted legislation regarding doctor assisted suicide. This has introduced a new outlook on end of life care for patients as well as unique challenges with regards to understanding the implications of MAID, both from a patient’s and physician’s point of view, as well as ensuring the legality of the process is upheld.

Purpose/Aim Statement
Our research aims to review existing international legislation and professional regulations regarding MAID and the rationale behind the legislation and regulations; review current experiences based on the published research papers from the eight countries/regions where MAID is already legalized in some form; discuss important challenges family physicians might face regarding MAID; provide family physicians in Alberta a practical roadmap regarding MAID by creating an associated deliverable, also referred to as the “Plus” component.

Methods
Pubmed database was used for our project. MeSH terms, MAJR and MeSH subheadings are used in our literature search. Provincial regulation and guidelines in Canada were also reviewed.

Results
Thirty-five relevant articles from Pubmed were yielded and reviewed. Guidelines from Canadian’s thirteen provinces and territories were reviewed and compared.

Conclusion
One, although MAID is now legal, lengthy discussions are ongoing and this will expose new challenges. Two, legislation, public perceptions, and actual practices are very different among countries/regions. Differences are particularly evident between Europe and North America. Three, there are challenges in defining when MAID is applicable as it is difficult to apply demarcations in areas like mental health. Four, it is important to be mindful that the debate is ongoing, stay open minded, and to familiarize ourselves with this issue in order to keep up-to-date. This will help us provide our patients with the best care possible.
Frequent users of a rural emergency department have an increased 1-year mortality
Braden D Teitge, BSc MD
Grace G Perez, MSc
Preceptor: Paul Parks MD, FRCPC

Purpose/Aim Statement
Frequent users of the emergency department (ED) are poorly studied in small centers and rural areas. This study compares the frequent user population (4+ visits/year) to non-frequent user controls (<4 visits/year), and seeks to quantify the burden of medical disease, psychiatric disease, addictions, access to primary care, and one-year mortality.

Methods
We retrospectively reviewed the database triage records for individuals presenting during a one year period 2014-15. We reviewed 38,355 unique patient visits and conducted a chart review on 200 frequent users and 200 controls. Chi-Square tests were performed to evaluate differences between the two groups, and odds ratios were calculated for one-year mortality and other chronic medical conditions. Family physician offices were contacted regarding access and waiting times for routine and urgent outpatient visits.

Results
This study identified 1130 rural frequent ED users, 4.3% of patients accounting for 16.2% of total visits. Psychiatric disease, chronic pain, addictions were the most common issues. Serious and acute psychiatric and medical illness was common. Frequent users were more likely to have advanced age, medical comorbidities, psychiatric disease, addictions, and increased one-year mortality (OR=4.3, 95%CI 1.6-11.9). Gender and presence of a family physician were not significant factors to frequent ED use. However, access to a family physician or specialist was variable: only 3/13 medical offices reported same-day access, and there was no access outside of regular hours.

Conclusion
The frequent ED user in this study population has significantly more medical and psychiatric disease, and had a much higher one-year mortality. Most ED visits were for addictions issues, situational crises, chronic pain, and serious medical ailments. Policy development could be based on improving after-hours access to family physicians, and addressing the near universal prevalence of psychiatric disease in the frequent ED user population. This study reaffirms the high-risk nature of this patient population, as they had a 10.0% one-year mortality.
ORAL PRESENTATIONS
Round 2
Improving Teaching and Resident Engagement in Quality Improvement Projects
Kimberly Kavanagh, MD, Minaa Amin, MD, Neha Chadha, MD, Nurunnisa Raj, MD
Preceptor: Dr. Sonja Wicklum, MD

Purpose: This project aimed to determine which teaching modality is most beneficial to residents. Partway through this project, we discovered that it was very difficult to get resident feedback. With this new challenge, we set out to identify why residents fail to provide survey feedback for QI projects and determine how this may be improved.

Methods: In our initial project aim, we arranged to teach the first year residents in the NW division with 3 different teaching modalities. With each teaching modality, we conducted a pre-intervention/teaching survey on the topic and an immediate post-intervention survey to determine its effectiveness. We also conducted a 2-week post-intervention survey to determine long-term knowledge retention. As our project progressed, we noticed a reduction in number of resident survey responses. Our project aim was then shifted to identify why residents do not provide survey feedback for QI projects. We have now created a new survey which offers residents 3 questions. 1. What method would be most effective to ensure survey participation? What do you think survey participation is low amongst residents for QI projects? How did you learn about this survey? We are beginning to administer this survey to all residents in the NW division. We will provide the survey via email/resident newsletter, Facebook and by paper copy during academic sessions.

Results: By distributing our surveys in various modalities, we will determine which method of survey administration is most effective in obtaining resident responses. We will also determine why resident feedback has been low through the form of a short answer question on the survey.

Conclusions: The results of this project can help other residents improve their research projects in the future. Several resident research projects rely on feedback form their peers, this project will ultimately help improve this. By identifying how to best administer a survey and why residents chose not to respond, other projects can administer their surveys in the most effective manner.
Decreasing Barriers to Refugee Health: Facilitating Community Physicians Accepting Syrian Refugees and a Literature Review on Refugee Health and Screening

Jillian Milner, BSc BEd MD
Preceptor: Dr. Michael Aucoin, MD CCFP

Introduction:
In 2015, the Canadian government committed to bring in 25,000 Syrian refugees over the course of a few months. The capacity for our established refugee health centers to accommodate the influx was limited.

Purpose:
In Calgary, the Mosaic Primary Care Network (PCN) Refugee Clinic is a primary medical clinic staffed with Family Physicians, Registered Nurses, Licensed Practical Nurses and Medical Office Assistants. It runs subspecialty clinics in-house to assist refugees in accessing the services they need during their first two years in Canada. With the influx of new arrivals, it reached out to the community to recruit family physicians to take refugees as patients into their practices.

Methods:
A literature search was done on PubMed, Medline, and Google Scholar for screening guidelines for Syrian refugees. The results were limited and the search was expanded to include general refugee screening guidelines. The screening protocols vary based on age, country of origin, and current infectious disease risks by country of origin. Time was spent with the Refugee Clinic staff and their protocols were reviewed.

Results: The information gathered was used to compile a Physician Resource Tool that was evidence-based and incorporated the Refugee Clinic protocols. It was designed to direct patient care for the first few visits as well as to provide the needed forms for screening and performing investigations relevant to the Syrian population. An in-service was held to implement the tool. Themes in the literature on refugee health included acute infectious illnesses, neglected chronic diseases, mental health, and women’s health.

Conclusions: The literature on refugee health and screening is primarily focused on infectious diseases. There is a need for evidence-based guidelines to help host countries implement effective preventative health. Barriers to physicians include a paucity of country-specific guidelines and the rapidly changing nature of the international migratory community. The Physician Resource Tool was designed to facilitate health care delivery to Syrian refugees in Canada.
Use of Indoor Tanning Beds in Southern Alberta: Are Users Aware of the Risk?
Scott Malmberg, MD
Matthew Roberts, MD
Preceptor: Dr. Tanvir Chowdhury, MD

Introduction
Tanning is recognized as an easily modifiable risk for skin cancer. The degree of risk is especially great when tanning beds are used by people under age 35. This has been reflected through Canada’s actions of banning the use of tanning equipment for minors. Despite multiple studies and public health teaching regarding the dangers of UV exposure, tanning salons are numerous in southern Alberta.

Purpose
Our purpose is to gather data around the reasons people use tanning beds and their beliefs.

Methods
An online and completely anonymous survey was posted onto social media accounts. The survey asked questions regarding frequency and reason for use, as well as knowledge based questions around common tanning topics. Individuals younger than 35 years old who had used a tanning bed in the previous 6 months were eligible to complete the survey.

Results
The survey generated 33 responses, of which 87.9% were female, with nearly equal numbers of responses from Fitzgerald skin types II, III, and IV. About three-quarters of respondents reported the presence of appropriate warning signs at tanning salons and that safety glasses were provided (p < 0.05). Other aspects of Health Canada’s Tanning Guidelines were less adhered to by salons. Most participants who completed the study reported tanning more than 6 times. The most commonly cited reasons for tanning were 1) to obtain a base tan to avoid future sunburn, and 2) for aesthetic purposes. 95.7% of short answer responses suggested cancer as a risk to tanning.

Conclusions
Most tanning equipment users are female, with most users believing cancer to be a major risk of use. Despite understanding this risk, users continue tanning partly because of incorrect beliefs that it can prevent future sunburn. Tanning salons need to improve their safety protocols to match Health Canada Tanning Guidelines. This includes advising clients to discuss tanning with their family physicians, which may prove helpful in correcting false beliefs about the benefits of tanning.
ORAL PRESENTATIONS
Round 3
Inappropriate Long-Term Proton Pump Inhibitor Use in the Elderly
James Clem, MD, Hons. BMSc
Preceptor: Dr. Karen Easton, MD, CCFP

Introduction
A growing body of evidence suggests that the long-term use of proton pump inhibitor (PPI) medications, which are one of the most commonly prescribed classes of medications in Canada, can have negative health consequences in terms of infectious disease risk, vitamin malabsorption, and potentially cognitive decline.

Purpose
Our purpose was to identify elderly patients in our practice residing at the Chartwell Colonel Belcher Residence that continue to use proton pump inhibitors without an appropriate medical indication for continuous use, and taper these medications with the intent of discontinuing them. Furthermore, we identified strategies for tapering these notoriously difficult to discontinue medications.

Methods
In reviewing the literature, we identified a list of medically appropriate indications for continued PPI therapy. Through electronic medical record review, patients with an active prescription for a PPI medication were identified. The medical profiles of identified patients were reviewed for a medically indicated condition that warranted continuous PPI therapy. If no indication was identified, the patient was interviewed to confirm their medical profile and ensure that they do not require ongoing therapy. If they met these criteria they were initiated on a taper with the intention of discontinuing the medication. This was a quality improvement project.

Results
Of the 73 patients residing at the Chartwell Colonel Belcher Residence, 26 (35.6%) had an active prescription for a PPI medication. Of the patients with an active prescription, 15 (57.7%) did not have a medically indicated condition that warranted ongoing therapy. Seven patients were successfully tapered off their medication, and at the time of this submission, 7 patients are in the process of a taper. One eligible patient moved to another facility and has a new family physician.

Conclusion
Emerging evidence suggests that continuous PPI therapy is not benign, however, many elderly patients have been prescribed these medications for many years. It is clear that often the initial indication for this prescription does not suggest lifelong therapy, and it is important to curb polypharmacy in this population.
Analysis of Views on Patient Decision Aids in Family Practice Teaching Clinics
Ricky Agnihotri, MD; Anthony Chan, MD; Jeff Zong, MD
Preceptor: Dr. Todd Hill, PhD

Introduction
Shared decision making is an important part of patient-centered care in family medicine. There is evidence that shows patient decision aids (PtDAs) are useful tools in the shared decision making of preference-sensitive healthcare decisions.

Purpose
Our purpose is to explore residents’ and preceptors’ perception of PtDAs in their family medicine teaching clinics and to identify perceived barriers to their implementation.

Methods
A cross-sectional online survey of R1 and R2 family medicine residents and preceptors of Calgary urban and rural family medicine teaching clinics was conducted, and descriptive statistics were used for analysis. Subsequently, 6 respondents volunteered to participate in a 20-minute semi-structured interview to further explore their views on using PtDAs in their clinical practice, and the results were subjected to thematic qualitative analysis.

Results
There were 46 completed surveys from November 2016 to January 2017. These included 4 R1 residents, 27 R2 residents and 15 preceptors. When asked about intention to use PtDAs, respondents mean rating was 6.50 ± 2.2 (where 0 = not likely and 10 = very likely). The most common barriers to using PtDAs were ranked as (i) lack of awareness that a PtDA exists for a specific treatment decision, (ii) information covered by most PtDAs are too simplistic, and (iii) time constraints in explaining to patients how to use a PtDA. The interviews’ qualitative analysis reflected similar attitudes but also provided examples in which decision aids would become challenging in the office setting.

Conclusions
Residents and preceptors overall responded favorably to PtDAs as a useful tool for shared decision making. However, there was a sense of ambivalence about their implementation, perhaps because many were unfamiliar with the aid’s availability and applicability in the clinic. By addressing important attributes physicians look for in PtDAs as well as barriers to their implementation, we believe uptake would be more favorable in practice, and can possibly be trialed in various teaching clinics.
Opioid contract prevalence in the Sunridge Teaching Clinic patient population
Sahriar Kabir, MD; Laura Lu, MD; Michelle Wong, MD
Preceptor: Dr. Wes Jackson, MD

Introduction
Opioids are an important class of medications for pain management, but are associated with many risks and potential side effects. In recent decades, the number of opioid prescriptions in Canada has increased drastically, along with associated adverse effects. The use of opioid contracts may increase patient adherence and protect physicians from litigation.

Purpose
Our purpose was to increase the number of opioid using patients with an up-to-date opioid contract attached to their chart.

Methods
This QI project consisted of 3 different PDSA cycles, each lasting 28 days. For all cycles, we randomly selected a subset of the opioid using population at Sunridge Teaching Centre and determined the number of these patients without an up to date opioid contract. We then implemented a different intervention for each PDSA cycle. For all 3 PDSA cycles, we then analyzed the number of patients who had their opioid contract updated over the 28 days.

Results
PDSA cycle 1. Intervention was the placement of a reminder checkbox in the EMR Prescription Writer. With this intervention, we were able to increase the percentage of up to date contracts from 39.1% to 43.5%.

PDSA cycle 2. Intervention was a message sent in the EMR to all residents and physicians. This intervention failed to increase the percentage of up to date contracts from the baseline of 45.4%

PDSA cycle 3. Intervention was a presentation given to residents and physicians working on that particular day outlining the importance of opioid contracts. The results of this presentation are pending.

Conclusions
This study demonstrated that increasing the proportion of patients with up to date narcotic contracts is challenging. Sending a message through the EMR is not an effective method of achieving this. Placement of a reminder checkbox in the EMR Prescription Writer has some limited efficacy. We anticipate that giving an educational presentation will be the most effective intervention.
POSTER DEFENSE
Round 1
Introduction
Epistaxis is an extremely common condition with approximately 6% requiring medical assistance. It is key that physicians be able to manage them quickly and effectively. Topical therapies appear promising, however there are no evidence-based recommendations available on the use of topical agents for epistaxis.

Purpose
The purpose of this study is to conduct a literature review on topical treatment options for epistaxis.

Methods
A systematic review was conducted on the topical therapies for epistaxis. The search was conducted using OVID and PubMed. We included randomized control trials on humans, in the English language between the years 2000-2017. Our exclusion criteria included studies focusing on special populations (i.e. bleeding or genetic disorders, infections or neoplasms), and epistaxis prevention, or post-operative bleeding.

Results
Five randomized control trials evaluating various topical therapies for epistaxis were included in this review (n=615 patients). Three topical agents: TXA, Ankaferd Blood Stopper and Floseal were found to decrease time to hemostasis and risk of rebleeding. However, another study reported no difference in time to hemostasis of TXA compared to placebo. Finally, one study was inappropriately randomized and therefore the results could not be extrapolated.

Conclusion
The results of these papers appear promising as topical therapies were shown to achieve faster hemostasis and reduce the risk of rebleed. In addition, patients and physicians alike are more satisfied with the use of topical therapies when compared to nasal packing. However, there is limited literature on the use of topical therapies in acute spontaneous epistaxis in the general population and further research is needed to prove the long-term safety and cost benefit of these therapies.
Introduction
Major depressive disorder is experienced by many people in Canada and significantly affects the life and function of individuals suffering from the condition.

Purpose/Aim Statement
Our aim is to determine which medications have the best evidence for treating major depressive disorder in primary care and to report the most common side effects seen when using these medications. Combining medication effectiveness with side effect profiles, we will recommend the medications most likely to improve major depression in primary care, factoring in potential side effects and their impact on common comorbidities seen in our patient population.

Methods
Multiple databases were searched to find articles which discussed pharmacotherapy for major depressive disorder in a primary care setting. The studies were limited to discussing adults, humans, in the English language and published since 2005. After eliminating duplicates, we screened through the abstracts of our results to confirm that the articles were applicable to our study. This filtering resulted in the evaluation of 12 articles. The studies found were evaluated using two different grading tools to determine their overall quality. The quality of each article was combined with the conclusions of the study to create our overall results and conclusions.

Results
We anticipate finding that citalopram, escitalopram, and venlafaxine will have the greatest statistical improvement on major depression from the wide variety of pharmacotherapies available.

Conclusion
We anticipate that when factoring in side effects and common comorbidities seen in primary care, citalopram, escitalopram, and venlafaxine will be the recommended first line pharmacotherapies available to treat major depression.
Unmasking the Presence of Obstructive Sleep Apnea (OSA) in Hypertensive Patients who attend Micro System 2 Clinics at Sunridge Family Medicine Teaching Center

Sameh Wahba, M.B., B.Ch, M.Sc., DCH (Glasgow), ECFMG (USA), LMCC (Canada), FRCP (London), FRCP (Glasgow) and FRCP (Edinburgh).

Preceptor: Dr. Keith Wycliffe - Jones, MB, ChB, FRCGP, CCFP

Introduction
The association between hypertension and Obstructive Sleep Apnea (OSA) has been established in many studies, particularly in patients with resistant hypertension. The “STOP–Bang” is an eight-item survey which screens for moderate to severe OSA.

Purpose
By December 2016, 90% of MS2 patients at Sunridge FM Teaching Center with hypertension and no prior diagnosis of OSA will be screened for OSA using the STOP-Bang questionnaire and referred to specialists if needed.

Methods
This QI project uses PDSA cycles. Ninety percent of hypertensive patients with no diagnosis of OSA were invited to complete the STOP-Bang questionnaire and those with high risk scores were referred to specialists. For our first PDSA cycle, two emails were sent to all the preceptors and residents of MS2 as an intervention. For our second PDSA cycle’s intervention, a new reminder “Task” was entered in the charts of high risk patients who were not referred to specialists.

Results
Baseline: 37 patients completed the questionnaire, 5 were low risk, 20 were intermediate risk, and 11 were high risk. Of the high-risk patients, only 2 were referred to specialists and of these 2, one diagnosis of OSA was confirmed. Six of the 9 high-risk patients refused to participate after being told their risk and 3 were not referred. Outcome: Following the intervention, 51 patients completed the questionnaire. Twenty patients were low risk, 12 were intermediate risk, and 19 were high risk. Of the high-risk patients, 10 were referred for further assessment. Of those referred, 9 (90%) had OSA confirmed and started treatment. In the remaining 9 patients, 4 refused to go for sleep studies and 5 were not referred.

Conclusion
This project demonstrates the value of using the STOP-Bang questionnaire among a targeted group of patients with hypertension to unmask the presence of OSA. As OSA is associated with cardiovascular and stroke risk and is also potentially a treatable condition, the inclusion of and use of the STOP–Bang questionnaire in the charts of hypertensive patients is recommended.
Unemployment and Health: A Literature Review
Jerry Zhang
Preceptor: Ben Addleman

Introduction: As a social determinant of health, employment provides many positive psychological and social benefits beyond income. It is however, also a determinant that can contribute to marked morbidity and mortality when lost. Unemployment’s effects on health outcome was broadly reviewed almost two decades ago. Given the rapidly changing conditions and working demographics, older research may become less relevant over time. Thus, this project seeks to review newly published data unemployment effects on health outcomes in order to update our understanding of their interaction.

Methods: A search of the Ovid MEDLINE database was conducted with the keywords “health status” and “unemployment”. Results were filtered through the following criteria: primary research article, working age range, English language, and recently published. Results were selected specifically addressing the effect of unemployment on health. Review synthesis employed a mix-method ‘realist’ review methodology. Information from the review will inform the creation of a clinical screening tool for those experiencing unemployment.

Results: Overall, both men and women suffer from deterioration of health outcomes. Women also appear to be more prone to mental deterioration than men, though were also more resilient. Job loss itself was a stronger mediator for men, while loss of income a stronger mediator for women. Unemployment was also associated with greater all-cause mortality in men. Characteristic-wise, negative effects of unemployment accumulative over time and across separate episodes. However, those who left their jobs voluntarily suffered no deleterious effects. Youth unemployment showed deleterious effects which can last long into adulthood. Finally, vulnerable populations were significantly more impact by the deleterious health effects of unemployment.

Conclusions: Overview of new literature support the general observations of poor health outcomes associated with unemployment. This review of recent literature offers contextual differentiations in determining unemployment’s impact on health outcomes. These findings help advance a greater understanding of this topic and offers clearer guidance for screening and interventional strategies for unemployment in a primary care setting.
Assessing and improving type 1 diabetes care at Crowfoot Village Family Practice

Norry Kaler BSc, MSc, MD
Preceptor: Dr. Ted Jablonski MD

Aim
To assess and improve type-1 diabetes care in a subset of patients at Crowfoot Village Family Practice in Northwest Calgary.

Methods
We reviewed patient charts on the silver team at CVFP who met criteria for “diabetes.” Since there was no label in the EMR to differentiate between type-1 and type-2 diabetes, we manually reviewed the charts to see how many had type-1 diabetes. Once we found these charts, we reviewed these charts to see how many individuals had a Hemoglobin A1C (HbA1c), Thyroid Stimulating Hormone (TSH), Celiac Screening, and Patient Health Questionnaire - 9 (PHQ-9). We asked the three medical providers involved a 4-question survey.

Once this data was collected, we contacted patients to complete any missing data. Our goal is to have a TSH yearly, HBA1c every 3 months, a yearly PHQ-9, and a Celiac Screen every 3 years. Some patients were lost to follow-up, but the remainder updated their data. We contacted patients directly and educated them on the role of HbA1C.

Results
There are 5894 patients in our physician population. 167 of these patients have undifferentiated diabetes (Type-1 or Type-2 on insulin), 12 had type-1 diabetes. Only 50% of these patients had an A1c in the past year prior to the study. 0% had a celiac screen and 42% were screened for thyroid disorders. Only 8% had a target A1C <7.5%. 58% were on medication for mood disorders such as depression.

All physicians involved were open to the EMR flagging these patients for routine screening. All thought A1c was an effective tool for glycemic control in these patients and 40% of physicians knew that Type-1, hypothyroidism, and celiac disease are genetically associated conditions.

Conclusion
Our interim results show that regular monitoring of patients with type-1 diabetes was not occurring, but will be in the coming years. Recognizing the gaps in monitoring and increasing awareness of related conditions to those with type-1 diabetes is important in the management of these patients.
Effect of physician wait times on patient satisfaction
Jodie Graham, MD, Reid Hosford, MD, Kasia Wieckowski, MD
Preceptor: Dr. Dorcas Kennedy, MD, Dr. Bobbi-Jo Whitfield, MD

Purpose
The purpose of our study was to determine if a correlation existed between the length of time a patient waited in clinic prior to being seen by their family physician and the overall satisfaction with the care they received.

Methods
A self-reported, anonymous, questionnaire was given to patients at two family practice clinic destinations. The first was a Lethbridge, Alberta and the second was Camrose, Alberta. The questionnaire was distributed to patients during the period of November 2016 to January 2017. The questionnaire included information on patient demographics, patient wait times and expectations regarding wait times, and overall satisfaction with clinical/medical management.

A total of 387 questionnaires were collected, 285 in Lethbridge and 102 in Camrose. A total of 144 questionnaires were excluded from analysis because they were not completed in full leaving us with 184 and 59 questionnaires for Lethbridge and Camrose, respectively.

The questionnaires have now been collected and the data is currently undergoing analysis. The details of our analysis will be elaborated on once they are complete, however, they will include a summary of patient demographics and linear regression analysis to look for correlations between variables, e.g., satisfaction vs. wait time.

Results
Analysis is currently underway. We anticipate finding a correlation between patient satisfaction and wait time.

Conclusion
We are currently in process of analyzing our data to see if a correlation exists between physician wait times and patient satisfaction, as well as whether there are any other explanatory variables. Our conclusions will consist of a discussion of our results as well as a discussion of the limitations that we encountered while carrying out this research and recommendations for future analysis.
Hyponatremia Treatment – Standards and Future Directions
Kevin Lanni, MD
Preceptor: Dr. Beverly Burton, MD

Introduction
Hyponatremia is the most common electrolyte disorder found in laboratory testing. Although evidence suggests that even asymptomatic hyponatremia leads to increased morbidity and in certain cases mortality, its management varies widely across the medical community.

Purpose
To perform a systematic review of relevant literature to increase the use of evidence informed approach to manage hyponatremia. The review also aims to introduce and evaluate evidence for use of vasopressin antagonists and provide a clinical card to summarize the evidence for use in practice.

Methods
A comprehensive search was conducted using MEDLINE and the Cochrane Database for relevant review papers, clinical practice guidelines, and consensus statements for review. A total of 16 research papers were critically appraised using the Critical Appraisal Skills Program (CASP) checklists designed to 1) review and assess results, 2) determine the validity of the review, and 3) assess the applicability of the results locally. With this analysis in mind, the most consistently agreed upon and evidence-based treatments for hyponatremia were used to develop a clinical card in summary for use in practice.

Results
There was a great deal of variability seen in the literature around treatment of hyponatremia with many papers emphasizing a lack of definitive evidence. All of the recommendations agreed that initial emergent treatment of symptomatic required hypertonic saline, although the speed and method of providing this treatment varied greatly. Fluid restriction guidelines also showed a range of recommendations from hard values for restriction to in-depth formulaic calculations for assessment of free water clearance. There was disagreement as to the rate that sodium can be safely corrected, although the highest quality papers all agree on the standard of 12mmol/L maximum correction in the first 24 hours. The evidence reviewed on the use of vasopressor receptor antagonists (VAPTANS) was also mixed, with some review papers/CPGs advocating for use in the select patients and others claiming they are too expensive and unsafe at this time. More research is likely required to make a definitive statement on their use.
The role of Probiotics as an Adjuvant to Antibiotics in Preventing Recurrence of BV in Healthy, Non-pregnant, Premenopausal Women

Joanna Slusar, BSc, MSc, MD
Bobbi-Jo Whitfield

Introduction
Bacterial Vaginosis (BV) is one of the most common forms of vaginitis in sexually active woman. Despite traditional antibiotic treatment, the risk of recurrence is approximately 30% per year. BV is characterized by an imbalance in vaginal bacterial flora. Therefore, there may be an opportunity to explore the use of probiotics in addition to conventional treatment, to help promote balanced vaginal flora, thereby preventing relapse of BV symptoms. Probiotics are defined as “live microorganisms which, when administered in adequate amounts, confer a health benefit on the host.” Lactobacilli are the commonest organisms used as probiotics.

Purpose
This scoping review systematically searched and summarized the literature on probiotics, in addition to antibiotics, to help reduce risk of recurrence of BV.

Methods
PubMed, PROSPERO, and Cochrane Database were reviewed for all papers that involved non-pregnant, healthy, premenopausal females treated with probiotics in addition to conventional antibiotics, comparing treatment of BV with traditional antibiotics alone or in combination with probiotics for risk of recurrence of BV symptoms.

Results
6 studies were available that looked at the recurrence rate of BV following administration of antibiotics alone or in addition to probiotics. All of these studies showed that supplementation with probiotics reduce risk of recurrence both in patients’ symptoms and microbiology evidence of BV.

Conclusion
Probiotics are a useful adjuvant to prevent recurrence of BV.
The Indigenous ARP: A Qualitative Investigation

Kristin Keith, MD

Preceptor: Dr. David Keegan, MD

Introduction
Family physicians serving Indigenous communities are needed, and several barriers to care have been identified by Alberta Health Services, including the financial constraints of working as a physician for Indigenous communities under the traditional fee-for-service model. The Alternate Relationship Plan (ARP) aims to ameliorate some of these barriers by offering physicians who work with Indigenous populations another for compensation.

Purpose
This study aims to explore the value of the ARP for physicians serving the Indigenous Community.

Methods
Semi-structured interviews were conducted with 4 physicians working with the Indigenous community. The dialogue from these interviews were transcribed verbatim and read by investigators for themes using a constant comparative approach.

Results
Common themes include physicians being satisfied with the ARP model, that the ARP improves physician work satisfaction, and that it significantly improves the financial constraints that hinder physicians practicing in Indigenous communities. The strengths of the ARP include its ability to give physicians sufficient time to manage complex social and medical patients and its ability to depart from eye-to-eye care. For weaknesses, participants identified the ARP’s lack of transportation coverage, administrative infrastructural limitations, and some cultural awareness issues.

Conclusions
For physicians who practice in Indigenous communities, the ARP has removed some of the barriers created by the traditional fee-for-service model. Additionally, the ARP has improved physicians’ perceptions of their ability to provide quality care to Indigenous patients. However, a key area for improvement is the ARP’s inability to bill for transit to remote Indigenous communities. Furthermore, administrative infrastructure and cultural awareness were also be identified as barriers to care.
Dietary Intervention in the Management of Prediabetes

Trevor Luk, Sundeep Dhaliwal, Paul Lalli, Miguel Nunez

Preceptor: Dr. Keith Wycliffe-Jones

Introduction: The prediabetic population are identified as high risk for developing diabetes and associated metabolic complications. Targeting this population for intervention would improve the morbidity and mortality associated with conversion to diabetes.

Purpose: Our purpose was to fill a gap in our knowledge in relation to lifestyle interventions. In particular, examining the evidence for dietary intervention in managing prediabetics.

Methods: A Systematic Review of from Ovid Medline and MCBI Pubmed focussing on prediabetes, diet therapy and prevention was performed. The refined results were parsed through and several appropriate papers were chosen for analysis by two independent residents.

Results/Conclusions: We are currently in the process of analyzing the selected papers and comparing independent assessment. We are also in the process of creating a patient handout for prediabetes. In brief, there is a paucity of strong evidence for anything other than the Mediterranean diet for intervention in prediabetic populations.
Non-hormonal treatment of vasomotor symptoms in women with a history of breast cancer
Shaye Lafferty, MD and Adriana Pietrzak, MD
Preceptor: Dr. Mary Ellen James, MD

Introduction
Vasomotor symptoms and breast cancer are common issues seen in family practice. Family physicians need to be familiar with effective and safe non-hormonal options for managing problematic hot flashes in breast cancer patients.

Purpose/Aim Statement
To review the recent literature on non-hormonal treatments of vasomotor symptoms in breast cancer survivors, to aide in developing a treatment algorithm for these patients.

Methods
We searched MEDLINE, EMBASE, and CINAHL for relevant papers published between 2010-2016. Selection criteria included randomized controlled trials and controlled clinical trials investigating the efficacy of non-hormonal options for vasomotor symptoms experienced by peri- or post-menopausal breast cancer survivors. Two authors independently appraised 252 article abstracts, excluding 60 duplicate, 171 inappropriate, and 5 unavailable articles. The remaining articles were independently assessed for level of evidence, risk of bias, and research outcomes.

Results
Of the 21 remaining articles, sixteen RCTs were available for review. We included three studies on selective serotonin (SSRI) and serotonin-norepinephrine (SNRI) reuptake inhibitors, one on each of melatonin and a cool pad pillow topper, three on acupuncture, two on acupuncture and gabapentin/venlafaxine, three on cognitive behavioural therapy (CBT), and one each on paced respiration, flaxseed, and lifestyle changes.

Venlafaxine, gabapentin, escitalopram, and duloxetine were all effective at reducing hot flash severity, unlike zolpidem and melatonin. Escitalopram and duloxetine also decreased hot flash frequency. Two acupuncture studies demonstrated a significant improvement in hot flash scores from baseline when compared to enhanced self-care, and gabapentin, but two showed no difference when compared to sham acupuncture or venlafaxine. Three CBT studies demonstrated a significant improvement in hot flash problem rating which was pronounced in patients not receiving chemotherapy and non-white patients, but demonstrated no effect on hot flash frequency. No other non-pharmacological therapies showed significant benefit.

Conclusion
Venlafaxine, gabapentin, escitalopram, and duloxetine showed a significant improvement in hot flash symptoms of breast cancer survivors. Acupuncture shows a promising trend towards effect, however these findings need to be replicated in higher level trials.
Seniors Utilization of the Medicine Hat Regional Hospital Emergency Department

Ryan Iverach DC, MD, BSc, Braden Teitge MD
Preceptors: Susan Witt MD, Paul Parks MD, Bobbi–Jo Whitfield MD, Laura Schattle-Weiss

Introduction
Emergency Department (ED) overcrowding has become a significant problem over the last decade as ED volumes have increased substantially. Frequent users of the ED are often studied, given that they may represent a disproportionate number of ED visits. This study seeks to analyze ED usage by seniors in a community hospital setting, and what percentage of those patients have repetitive and/or common reasons for presentation to the ED.

Purpose
The purpose of this study is to better understand seniors’ emergency department usage (frequency, frequent users, common reasons for presentation), and identify any specific areas of attention that could enhance the care of these patients.

Methods
Medicine Hat Regional Hospital Emergency Department triage data for seniors (aged >65) was retrospectively analyzed and in the Alberta Health Services database for patients presenting between the dates January 1, 2015 to December 31, 2015. Frequent senior ED users were identified as having presented greater five times or more, and their records further analyzed to determine the reason for their visit.

Results
The reasons for their visits will be compiled and analyzed for similarities among frequent senior ED users. Charts and tables will graphically depict these results to help the reader understand the distribution of common reasons for presentation to the ED.

Conclusions
Although results have not yet been tabulated, it is hypothesized that the study will yield patterns of presentations that will be recognized among the frequent ED senior users. Potential recommendations will be made based on these results for improving the care of seniors in the community who frequently present to the ED with the aim of reducing the number of visits they require for similar complaints in the future.
Chronic Insomnia: Cognitive Behavioural Therapy vs. Pharmacological Management on Total Sleep Time and Quality of Sleep
Soreya Dhanji, MD and Iain Law, MD
Preceptor: Dr. Sawyer, MD and Dr. Thomas, MD

Introduction
Insomnia is the most prevalent sleep disorder. Issues with sleep cause patients distress and interferes with social, occupational, and everyday function. A Canadian survey found that 19.8% of adults report dissatisfaction with sleep and family physicians were the most commonly consulted provider, handling 74% or presentations.

Purpose
This analysis endeavours to compare cognitive behavioural therapy to pharmaceutical management of insomnia on total sleep time and quality of sleep. This analysis aims to build the evidence base for insomnia management and enable practitioners to make evidence based decisions when choosing one treatment modality over another.

Methods
A search strategy was conducted across multiple databases and subsequently limited to RCTs, guidelines, reviews, and systematic reviews. RCTs were selected based on inclusion and exclusion criteria which yielded 10 RCTs. Outcomes will be collected on total sleep time and quality of sleep, which will be statistically analyzed and represented on forest plots.

Results
Results and analysis are forthcoming.

Conclusion
Conclusions based on analysis and results are forthcoming.
How do patients decide on which over-the-counter cough medication to take?

Raymond Tam, MD

Preceptor: Dr. Tanvir Chowdhury, MD

Introduction: In the United States, 240 million people report using over-the-counter (OTC) medicine on a regular basis. In many cases, patients self-initiate treatment with over-the-counter medications without consulting professional healthcare providers. Since they often do not consult professional health providers, we are left to wonder how patients decide which OTC preparation to use. Based on the most recent studies, it was revealed that they rarely examine the product label information and very rarely are they aware of the active substance in common OTC medication. Otherwise, little information is established regarding the decision-making process in the literature.

Purpose: The purpose of this study to achieve a better understanding of how patients decide on over-the-counter medication for treating simple ailments like colds and coughs. What factors do patients consider when they decide on an OTC product?

Methods: We investigated how patients choose OTC drug preparations by administering a paper survey to participants at a rural-urban clinic in southern Alberta (Black Diamond). In this survey, we collected some simple demographic information and explore what factors contribute to participants’ decisions to choose OTC.

Results: Currently, we are undergoing data analysis for the results collected thus far. Based on preliminary assessment, it appears that there is variability in the factors which affect the purchasing pattern. They seem to correlate with the demographic information. In addition, most patients do not consult a family doctor prior to OTC use and the most common reasoning is that doctors are not readily available or that they don’t feel their symptoms are severe enough to warrant a clinic visit. They seem to more readily access information through the pharmacist due to their availability and their respect of their expertise in medications. Predominant reasoning for consulting health professionals includes the intended user being a child or the patient worries about drug interactions.

Conclusion: This small study served as an important starting point to gain better insight into the purchasing pattern of patients in regards to OTC cough medication.
Diagnosis and treatment of gout – evidence based review
Chelsey King, BSc, MSc, MD,
Preceptor: Fozia Alvi MD CCFP

Introduction
Gout is a common inflammatory arthritis encountered by family doctors. Gout has several risk factors, including lifestyle and medications and the treatment is targeted towards symptom control. There are significant practice variations observed between providers in the diagnosis, education, and treatment of gout.

Purpose
To review 1) the validated diagnostic criteria for gout, 2) the evidence based risk factors, and 3) the evidence based treatments for gout.

Methods
Pubmed was searched using terms Gout/diagnosis"[Majr], Gout/chemically induced"[Majr] OR Gout/etiology"[Majr] OR Gout/genetics"[Majr] ) Gout/etiology"[Majr] Gout/therapy"[Mesh] "Gout/therapy"[Mesh] and NSAID and recent literature, guidelines and RTCs were reviewed.

Results
1) Gold standard diagnostic criteria includes joint aspiration and examination by crystals, however, most diagnoses are practically done clinically
2) Risk factors: consistent use of thiazide diuretics, ACEi, family history, alcohol, and meat
3) Although it is common for indomethacin to be anecdotally referred to as the non-steroidal anti-inflammatory (NSAID) of choice, evidence shows that no NSAID has been proven superior to another.

Conclusions
This review has focused on summarizing a concise and evidence based approach to diagnosis, risk factor isolation, and treatment of gout.
Preconception Paternal Teratogens
Michelle Chow, BSc (Hons), MD
Preceptor: Angela Wooller, MD

Introduction
To date, research on pregnancy teratogens has focused primarily on maternal exposures. However, animal studies indicate that certain paternal exposures preconception may lead to abnormal pregnancy outcomes and increase the risk of congenital anomalies. In 2014, the Organization of Teratology Information Specialists (OTIS) conducted its own review on paternal teratogens and released a public statement concluding that there was no conclusive evidence to suggest that periconceptual paternal exposures had any effect on birth defects.

Purpose/Aim Statement
The purpose of this study was to investigate more recent evidence on preconception paternal teratogens and the effect on pregnancy outcomes and congenital abnormalities.

Methods
This study involved a systematic literature review focusing on the preconception period and paternal teratogens. Papers were restricted to those in English and involving humans and singleton pregnancies that were naturally conceived. Studies were also restricted to those published after the release of OTIS’ report in 2014.

Results
A total of 13 relevant papers were identified consisting of meta-analyses, case-control studies, prospective and retrospective cohort studies and one case report. Preconception paternal pesticide exposure was associated with an increased risk of childhood brain tumours, but dietary folate and vitamins B6 and B12 were not. Another study showed a decrease in birth weights with organic pollutants, while bisphenol A and phthalate exposure tended to increase birth length and gestational age at delivery. Certain polyfluoroalkyl substances resulted in a decrease in the secondary sex ratio. Other toxins such as polycyclic hydrocarbons, diesel motor exhaust, asbestos, crystalline silica, chromium and nickel did not affect pregnancy. Disease-modifying anti-rheumatic drugs and immunosuppressants had no appreciable effects on offspring. Alcohol did not appear to affect infant head circumference. A clinical tool summarizing the evidence on paternal teratogens was made to aid with preconception counseling.

Conclusion
The effects of paternal teratogens on birth outcomes, if any, are small and of questionable clinical significance and there are no significant effects on major congenital anomalies. However, study numbers remain small and further research is encouraged before changes are made to current pregnancy recommendations on paternal teratogens.
Non-Pharmacological Management of Insomnia in Older Adults

Hyup Lee, MD & Xiao Yuan, MD
Preceptor: Dr. Douglas Myhre, MD

Introduction
Geriatric insomnia is extremely prevalent, but, unfortunately, patients are often managed with hypnotics, which can have detrimental health consequences. Cognitive behavioural therapy for insomnia (CBT-I) is an efficacious non-pharmacological alternative, but is resource-intensive and requires the patients to be highly motivated.

Purpose
Our purpose was to review the literatures on non-pharmacological non-CBT management of geriatric insomnia to determine an effective, user-friendly, and safe alternative to CBT-I.

Methods
A literature search was performed using PubMed, Medline, and PsychINFO to find studies on non-pharmacological, non-CBT sleep interventions for adults over age 50. A total of nine studies were retrieved. Their qualities were assessed via the Cochrane Risk of Bias Assessment Tool and the CEBM Critical Appraisal Tool. The effects of a variety of sleep interventions on quantitative sleep outcomes, such as sleep efficiency (SE), sleep onset latency (SOL), total sleep time (TST), wake after sleep onset (WASO), and Pittsburgh Sleep Quality Index (PSQI), were extracted from each study and analyzed.

Results
Muscle relaxation (Mean SE +4.7%, SOL -10.3 minutes, TST +29.0 minutes, WASO -15.2 minutes, PSQI -2.0), mindfulness (Mean SE +8.8%, SOL -10.9 minutes, TST +52.8 minutes, WASO -23.9 minutes, PSQI -3.1), and sleep hygiene (Mean SE +9.6%, SOL -10.7 minutes, TST +44.6 minutes, WASO -22.3 minutes, PSQI -1.1) all trended towards improved sleep outcomes greater than no-intervention controls (Mean SE -0.9%, SOL -7.1 minutes, TST +5.8 minutes, WASO +30.0 minutes, PSQI +0.1). However, CBT-I resulted in more marked improvements than any other sleep interventions (Mean SE +12.2%, SOL -24.8 minutes, TST +16.1 minutes, WASO -29.6 minutes, PSQI -3.6), except in TST, which was expected due to the sleep restriction component of CBT-I. Music resulted in an improved PSQI (-3.84) but not SE (+2.2%) or SOL (+0.46 minutes).

Conclusion
Muscle relaxation, mindfulness, and sleep hygiene education can be effective interventions for older adults with initiation or maintenance insomnia, although they are not as efficacious as CBT-I.
Topical Ketamine for Management of Neuropathic Pain
Lucy Jiang, MD          Brit-Leigh Fermaniuk, MD          Sam Montasser, MD
Preceptor: Divya Garg, MD CCFP

Introduction
The management of patients with neuropathic pain is a common clinical challenge encountered in the primary care setting. Neuropathic pain encompasses conditions of many etiologies, but is initiated by a primary lesion and driven by dysfunction in the nervous system. Its pathophysiology is multiplex, and often becomes chronic as it centrally sensitizes via glutaminergic NMDA activation into allodynia and hyperalgesia. There are many analgesic options available for pain management; however, only 40-60% of patients achieve partial relief with the oral therapies we have. Ketamine possesses potent NMDA antagonism, and can decrease neuronal excitation pathways that develop into these pain conditions. Furthermore, topical therapies are underutilized tools with great potential as attractive therapeutic options. They provide direct access to the affected site, prevent drug interactions as with oral medications, avoid first pass metabolism issues, and is painless to administer - all of which may improve patient tolerability and compliance with their treatment regimens.

Purpose
The purpose of this review was to determine the efficacy of topical ketamine in reducing the subjective pain experience of patients with neuropathic pain.

Methods
A systematic review of Ovid/Medline, and Embase was performed, and articles included were based on a pre-determined list of criteria and limitations. Randomized control trials (RCTs) studying topical ketamine and neuropathic pain were included. Non-topical ketamine, nociceptive pain, case reports/series, retrospective or open label studies, and reviews were excluded.

Results
Thirty-nine articles were screened for eligibility, but only four RCTs met our pre-set inclusion/exclusion criteria. Though the project is only partially completed, we anticipate not finding a statistically significant benefit to the use of topical ketamine.

Conclusions
Limited data is available regarding the use of topical ketamine in neuropathic pain as only 4 RCTs with small sample sizes were identified in this review. We believe that topical ketamine will not show significant evidence as an effective treatment of neuropathic pain, but that there is little harm or contraindication to its use.
Application of the *Prevention and Management of Cardiovascular Disease Risk in Primary Care* TOP Clinical Practice Guideline in a Clinical Setting

Jill Dewar, MD; Jimmy Huynh, MD; Roza Kazemi, MD; Vicki Wielenga, MD; Victor Abdelmalak, MD

**Preceptor:** Dr. Chris Gorrie, MD

**Introduction**

An updated Towards Optimized Practice (TOP) guideline for the management of cardiovascular disease (CVD) was published in February 2015. Following clinical guidelines is important for providing patients with optimal care, reducing the chance of harm from over or under treatment, and reducing healthcare costs by limiting investigations.

**Aim Statement**

The goal of our QI project is to determine how well CTC Modules 1 and 4 are adhering to the *Prevention and Management of Cardiovascular Disease Risk in Primary Care* TOP guideline, and improve the adherence rate with targeted teaching, aiming to achieve 95% adherence by March 3, 2017.

**Methods**

Baseline data was collected through chart reviews of complete medicals and other patient encounters in which lipids were ordered in Modules 1 and 4 at the CTC over a 3-6 month period. We also surveyed residents and staff in Modules 1 and 4 to assess current knowledge of the guideline and potential barriers to implementation. The data was compiled to create an educational handout highlighting knowledge gaps. Subsequent interventions are underway, including an updated handout and team meetings with residents and staff to discuss barriers and methods to enhance sustainability.

**Results**

The baseline guideline adherence rate was 39.9%, which improved to 57.6% with the first intervention. In addition, our data showed that the Framingham Risk Score (FRS) is frequently not recorded and/or calculated when indicated. A recorded FRS was missing 60.1% of the time, a rate which did not improve with our first intervention. A lack of knowledge of the guideline and personal clinical practice preferences were found to be the main contributors to poor adherence.

**Conclusion**

Our project demonstrates that targeted teaching can be used to improve guideline adherence. We anticipate continued improvement with completion of our next interventions, however, a guideline adherence rate of 95% is unlikely to be attained.
Opioid Contracts in Long Term Opioid Users at South Health Campus Family Medicine Clinic
Ling Mu, MD
Preceptor: Joe Tabler, BSc. Pharm, PharmD, BCPS

Purpose/Aim Statement
Opioid prescriptions have increased significantly in recent years. Patients may take opioids for a variety of reasons including cancer pain, non-cancer pain (i.e., Chronic pain from previous injury), and neuropathic pain. The College of Physicians and Surgeons of Alberta (CPSA) has strongly recommended Opioid contracts for patients who are long term opioid users for better accountability of opioid use and prevent opioid misuse. This study aims to increase the number of opioid contracts in clinic.

Methods
Long term or chronic opioid use is defined as having three or more opioid prescriptions in the preceding 12 months. Opioid contracts are considered active for one year from the date they were signed. Chart reviews were conducted for all these patients to gather baseline data on September 27, 2016. In early and mid-October 2016, two separate teaching sessions were held for all physician and support staff. Sessions detailed the recommendations made by CPSA, clauses outlined by the contract, and logistics of opioid contract completion within our clinic. Post intervention data were then collected January 11, 2017.

Results
A total of 83 patients were eligible for opioid contracts on September 27, 2016. Out of the 83 patients, 11 had active opioid contracts on their chart. Following teaching interventions, 4 additional opioid contracts were recorded to a total of 15 contracts.

Conclusions
This study showed teaching sessions did not assist in increasing opioid contract numbers. Numerous barriers were factored into this including difficulty in scheduling sessions to accommodate all clinic staff, time constraints during visits, and opioids prescribed by the chronic pain clinic and thus opioid contract with their clinic.
Family Doctors & Office Based Opioid Treatment (OBOT)
Barriers to a Life Saving Practice: A Scoping Literature Review
Dr. Bradley Lewis, MD
Preceptor: Dr. Lara Nixon, MD

Introduction
Alberta has a narcotics problem. Of note, fentanyl and other opioid-related deaths have risen substantially in the last two years in Alberta. According to the Opioid and Substances of Misuse Alberta Report, published October 27th, 2016, 338 Albertans died from a drug overdose related to fentanyl or another opioid. There is a significant body of literature supporting opioid replacements/alternatives, such as methadone, buprenorphine, and buprenorphine/naloxone combinations (Suboxone) as safe and effective outpatient treatments for opioid dependency. Family physicians are uniquely situated within the context of patient care to provide office-based opioid treatment (OBOT). However, few family physicians in Alberta have implemented this potentially lifesaving treatment modality into their current practice.

Purpose/Aim Statement
To objectively compile, summarize, and disseminate current literature evidence on the barriers/facilitators to OBOT prescribing by family doctors in a primary care/community setting. Secondary Purpose: contribute to discussion of barriers inhibiting current prescribing of OBOT for family physicians in Alberta. Aim: identify opportunities for change to training, practice and policy that could lead to improved access to OBOT in Alberta.

Methods
A scoping literature review will be performed utilizing the framework outlined by Arksey & O’Malley in the, International Journal of Social Research Methodology, for Scoping studies. Literature will be identified via a systematic electronic database search of: Ovid Embase®, Ovid MEDLINE®, Ovid PsycINFO®, and PubMed®. Period of search: January 1st, 1990 to January 12th, 2017. No less than two reviewers will perform preliminary screening of articles. The, Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) statement, will guide methods and results presentation.

Results
Data extraction/descriptive summary of results: in progress.

Conclusion
Preliminary findings suggest myriad and multilevel barriers exist to widespread family practice delivery of office-based opioid treatment. These include limitations related to training and education, stigma, infrastructure, multidisciplinary team support, funding, and licensing complexities. These findings may help to inform and strengthen current efforts to respond to the opioid crisis in Alberta.
Introduction
There are several diagnostic modalities used in the diagnosis of renal colic. Concerns regarding availability of CT scanning in rural centers and the burden of radiation in patients with renal colic has led to consideration of point of care ultrasound in the work up of patients with suspected nephrolithiasis.

Purpose
Our purpose was to develop the first systematic review investigating the diagnostic accuracy of point of care ultrasound for renal colic. Specifically, our study aimed to review the literature to determine sensitivity, specificity, positive, and negative predicative values in comparison to current gold standard modalities.

Methods
We employed a systematic review of the literature utilizing five online databases (MEDLINE, PUBMED, EMBASE, Scopus, and Web of Science) for studies comparing point of care ultrasound in the diagnosis of renal colic to a gold standard modality including CT scan and intravenous pyleogram. Studies selected were reviewed using the QUADAS-2 tool to screen for bias. Test characteristics were determined with the selected tools by statistical analysis.

Results
We expect to generate results detailing the sensitivity of renal colic patients to be around 80-90% with a specificity greater than 90%. This would be similar to test characteristics for the current gold standard modalities including CT.

Conclusions
This study demonstrates that point of care ultrasound has favorable sensitivity and specificity for the diagnosis of renal colic when compared to current gold standard diagnostic tests. This finding provides evidence that ultrasound can be utilized by clinicians at the bedside to make accurate diagnoses in a cost-effective strategy that also minimizes radiation harm to patients.
Therapeutics of Cervicogenic Headache
Nancy Zhao, MD
Preceptor: Dr. James Richards

Purpose
Cervicogenic headache is an important diagnosis to consider when the family physician is presented with a primary headache disorder. Its prevalence in the general population is estimated to be up to 4% of people. This review aims to synthesize information known regarding cervicogenic headache’s pharmacologic and non-pharmacologic therapeutics.

Methods
A literature review was conducted in the databases of Cochrane, PubMed, EMBASE and ClinicalKey. Articles were identified using the search terms “cervicogenic headache” and “therapy”. The researcher then went through the studies and selected the most relevant and current papers. Those then received critical appraisal, organized by modality of therapy. Information and graphics representing the therapeutics identified as hopeful by the review will be organized and presented as a one page handout for the “plus” part of the project.

Results
Using the outlined keywords, 15 articles were generated in Cochrane database, 544 articles in PubMed database, 496 articles in EMBASE, and 283 full text research articles in ClinicalKey. There was of course much duplication in the results yielded by the latter three databases. These were narrowed down based on the inclusion and exclusion criteria and 8 articles were selected for further analysis. The therapeutics of cervicogenic headache were discussed by theme including exercises, spinal manipulation and mobilization, massages, cervical facet joint injections and nerve blocks, radiofrequency ablation, and pregabalin. Further modalities may be identified as the literature review reaches completion.

Conclusion
Overall, this review demonstrated that while many therapeutics have been investigated for the treatment of cervicogenic headache, there have been as of yet no definitive treatment with a significant response rate by the patients. However, there are some percentage of responders to each of the therapeutics that have been investigated. As medical knowledge currently it stands, the most prudent approach might be a combination of different therapeutic modalities that will hopefully prove to be complementary in their effects. To that end, an accessible guide for the primary care provider will be produced at the end of this project.
Using the Personal Experience in Communicating Bad News
Samantha Hage-Moussa, MD
Preceptor: Todd Hill, PhD

Introduction
Bad news is subjective, but is often used to describe situations where there is either a feeling of no hope, a threat to a person’s mental or physical well-being, a risk of upsetting an established lifestyle, or where a message conveys fewer choices in life. News is also seen as being bad when it results in cognitive, behavioural, or emotional deficits. There are many situations in which family physicians’ clinical encounters involve communicating bad news to patients. This undertaking often comes early in one’s medical education and is a topic of particular salience in family medicine residency training.

Purpose
Some clinicians might be better able to identify the spectrum of relevant issues in communicating bad news because they themselves have been in the position of receiving bad news. However, personal reflections about residents’ own experiences with medical adversity are a little explored area. Therefore, the proposed research was specifically interested in answering the following question: Does having experienced personal medical adversity impact residents’ experiences of communicating bad news to patients?

Methods
This quantitative study involved administering a structured online survey to first and second year residents in the University of Calgary’s Family Medicine program. Questions were related to residents’ past experiences with medical adversity, communicating bad news with patients, and self-reflection. The survey contained 16 questions, which requested ratings on a scale from 0 to 10. SPSS statistical software is being used to produce Pearson correlations. This study was approved by the University of Calgary Conjoint Health Research Ethics Board (REB16-1015).

Results
At the time that this abstract was written, 48 residents had completed the online survey. We are anticipating that in the coming weeks we will recruit more participants. Our aim is to collect at least 50 completed surveys; therefore, our data has not yet been analyzed.

Conclusion
We anticipate that this study will provide data describing the relationships between residents' personal experiences with medical adversity, self-reflection, and comfort and skill in communicating bad news with patients.
POSTER DEFENSE
Round 3
Introduction
Sports and musculoskeletal medicine makes up a sizable portion of primary care medicine. Though musculoskeletal medicine is a part of the training curriculum of primary care physicians, more studies are needed on which areas of the curriculum deserve additional time and effort.

Purpose
The purpose of this project was to examine the congruency of Sports Medicine diagnoses between Sports Medicine specialists and primary care teaching clinics. In particular, the intent was to examine the diagnoses with the lowest and highest congruencies between the primary care physician and the Sports Medicine physician.

Methods
The MedAccess electronic medical record charts were reviewed for the three-year period between August 1, 2013 and August 1, 2016 for both the South Health Campus and Sunridge Family Medicine teaching clinics in Calgary, Alberta. Specific inclusion and exclusion criteria were used to select Sports Medicine consults for data and further analysis. Relevant data was entered and analyzed in Microsoft Excel.

Results
For the stated three-year period, preliminary results indicate that the most common musculoskeletal regions that required a Sports Medicine consult were the knee and the shoulder. Some common discrepancies for these musculoskeletal consults included discrepancies in the diagnosis of meniscal tears of the knee and scapular dyskinesis of the shoulder. Few to no Sports Medicine consults for back pain were sent, despite it being a common primary care complaint (likely these issues are sent to Orthopedics or Neurosurgery instead).

Conclusions
Based on these preliminary results, knees and shoulders were areas with poor congruency of diagnosis between primary care and Sports Medicine. This suggests a potential focus for future training in the primary care musculoskeletal curriculum. However, further chart review and data analysis is pending and will be completed over the coming weeks.
Improving EBM Teaching in Clerkship
Evaluation of a Novel Tool to Improve Critical Appraisal Skills

Tahara B hate, MD MHSc
Preceptor: Dr. Martina Kelly, MA MB BCh CCFP

Introduction
Evidence-based medicine (EBM) is considered the foundation of current medical practice, with EBM skills receiving significant time and focus within medical school curricula. While there has been considerable work done to identify optimal methods of teaching EBM skills in the pre-clinical environment, few studies examine how well students transition those skills into clinical training. Likewise, our own unpublished data suggests gaps in EBM competency during this phase of medical education, particularly with respect to critical appraisal.

Purpose
Our primary objective was to assess EBM competency in clerkship students as compared to a pre-clerkship baseline, using a quantitative, validated assessment tool. We developed a tailored resource for critical appraisal (the G-CAp), with a secondary objective to assess if the provision of this educational intervention will aid students in increasing competency in critical appraisal during clinical training.

Methods
Following ethics approval, all second and third year medical students at the Cumming School of Medicine were invited to participate in the study. Both groups were invited to complete a standardized, validated EBM skills test (the ACE tool), which assesses all 4 EBM domains. Third year students were provided with a copy of the G-CAp during their family medicine rotations, to assist in their mandatory EBM projects (PICO-style projects). Evaluations of the G-CAp were conducted concurrently with completion of the ACE tool.

Results
Data collection is ongoing. Data will consist of demographic descriptive statistics to include: gender, n (%) of respondents with prior EMB training, ACE score, ranges, and standard deviations. If possible, self-reported evaluation scores will be controlled for prior educational background. If appropriate, a student’s t-test will be used to compare scores between cohorts, otherwise non-parametric means will be used. If possible, intra-cohort score analysis within the 3rd year class to assess for G-CAp effect on performance. Descriptive statistics will be used to examine questions relating to use of the G-Cap.
Effectiveness of topical application of nitrates in the treatment of mid-portion achilles tendinopathy: A systematic review

Z. Triska MScPT MPT MD, K. Buller MD, M. Sun MD, J. Chow DC MD, Roberton, HL Clinical Librarian.

Preceptor: Dr. J. A. Garcia

Introduction
Topical nitrates are effective in the treatment of chronic tendinopathies. While RCTs have been conducted on this therapy for mid-substance achilles tendinopathy, no systematic reviews have been done to ascertain efficacy.

Purpose
Our intent is to review current literature on the efficacy of topical nitrates in treating mid-substance achilles tendinopathy.

Methods
Our team used MEDLINE and EMBASE as the main search databases for RCTs published between 1995 and 2016. These results were cross referenced with other resources and databases. Randomized control trials using either a glyceryl trinitrate or nitroglycerin patch in adults with mid-substance achilles tendinopathy versus standard interventions such as oral pain medications and physiotherapy were included.

Results
A total of 159 papers were reviewed after duplicates had been eliminated. These were further reviewed against our inclusion and exclusion criteria, and two met all criteria. Both RCTs were considered high-quality studies and included a total of 85 patients, or 124 achilles tendons.

Of these two studies, one found significant decreases in pain and disability across five parameters as compared with conventional therapies. Overall, the number needed to treat for decreased long term pain was 3.4. The overall effect size at 24 weeks of topical nitrates was 0.14 (95% CI 0.09-0.19). The second study did not find any statistically significant differences in pain or disability at 24 weeks (p=0.38). No assessment of treatment effect was noted as they found no difference between the studied groups.

Conclusion
Overall, there is no clear evidence that nitroglycerin or glyceryl trinitrate patches provide improvement in pain, function, or side effects as compared with conservative treatment. With only two high quality trials completed in the previous 20 years, showing equivocal results, more research is warranted before a definitive conclusion is reached regarding this treatment.
Purpose/Aim Statement

Chronic obstructive pulmonary disease (COPD) has high resource consumption due to high morbidity, frequent exacerbations, and high mortality, significantly impacting quality of life. In accordance with the Crowfoot Village Family Practice’s goals, the purpose of this project was to investigate and implement evidence-based interventions to proactively improve the care of patients with COPD with the goal of reducing acute exacerbations and costly hospital stays.

Methods

Within a single physician’s patient panel, 40 patients with probable COPD were identified by EMR diagnostic code and physician review. A chart review was used to create a registry listing their most recent pulmonary function tests (PFTs), medications, and exacerbations. PFTs that were done within the last 2 years were considered up to date, while those without recent PFTs were recalled for repeat testing. Furthermore, data was requested from Alberta Health to identify patients who have been hospitalized due to COPD exacerbations. Patients were subsequently risk stratified based on their PFT results and exacerbation history. Further actions for preventative care were then planned based on each patient’s risk level.

Results

Out of 40 patients initially identified, 17 had recent PFTs allowing them to be classified as mild (11), moderate (5), and severe (1). Of the remaining, 18 were identified as candidates to have updated PFTs while 5 were considered inappropriate due to unrelated health issues. Of the 18, 15 updated PFTs were completed, revealing 8 consistent with COPD, either mild (1) or moderate (7). Alberta Health data is pending to finalize the severity classification. As an initial management, all COPD patients are being called to ensure influenza and pneumococcal vaccinations are up to date.

Conclusion

This initial attempt at creating a COPD care plan within a multidisciplinary care team has highlighted some of the difficulties in seemingly simple tasks such as establishing a registry of patients who have COPD and the severity of disease. Based on this experience, the clinic plans to continue to iteratively expand this effort across the clinic.
Is Frenotomy an Effective and Safe Procedure to Help Neonates with Difficulties Breastfeeding, a Literature Review
Michael Dussault, MD Samah Kassem, MD

Preceptor: Dr. Melanie Hnatiuk, MD

Introduction
Difficulty in breastfeeding in early infancy is experienced by many newborns, and poor latch is considered one of common causes. Ankyloglossia is a congenital anatomical variation that can impair babies’ tongue movement and negatively affect breastfeeding. Frenotomy is an office based procedure where the web of tissue under the tongue is divided with minor to no complications.

Purpose
This review of the literature is to examine the effectiveness and safety of frenotomy in improving breastfeeding.

Methods
A database search was completed of MEDLINE, CINAHL, PubMed, and OVID with the following search terms "ankyloglossia or tongue tie" and "frenotomy". The terms “ankyloglossia” and “frenotomy” were also searched independently. The search was narrowed to only include clinical trials that occurred after 2000 to present. Our inclusion criteria included: healthy, term infants without craniofacial deformities, severe weight loss, and developmental concerns. Our exclusion criteria included those studies that used more complicated surgical frenotomies or general anesthetic, and bottle fed only infants. After removing duplicates and applying our inclusion and exclusion criteria, this yielded 6 studies.

Results
The majority of the literature reviewed revealed improvement of the latch, however, nipple pain was still a controversy as 3 studies showed improvement with statistical significance (P<0.005) and two studies showed no statistical significance. Although, the length of breastfeeding after frenotomy was improved, there was no statistical significance (P =0.73). The procedure deemed to be safe with none to minor complications such as crying and very minor bleeding. There were few reported complications like ulcer of the floor of the tongue that heals spontaneously. The technique described in some of the literature was the classical.

Conclusions
Frenotomy is a simple and safe office procedure. It is effective in improving the latch and could be beneficial for nipple pain. However, there is still controversy of its effectiveness for the breastfeeding. There is a need for more studies to be able to recommend the procedure on routine basis for the babies with mild to moderate ankyloglossia.
Homeless Populations in Developed Nations: End-of-Life Experiences with Healthcare

Simrit Bains, BSc, MD
Farah Marani, BSc, MPH, MD
Sarah Truelson, BSc, MD

Preceptor: Dr. Martina Kelly, MA, MD, CCFP

Introduction
Every year, homeless people with terminal illness die on the streets of Calgary. This group of patients has specific needs and challenges when it comes to providing for their palliative care needs. At present, despite local physician activity, no specific palliative care service exists to support homeless patients.

Purpose/Aim Statement
To inform service development, we aimed to detail the end-of-life experiences of adult men and women in developed nations who have identified as being homeless.

Methods
This is a qualitative evidence synthesis. Multiple databases were searched (Medline, EMBASE, PsycINFO, Scopus, CINAHL, DARE and Cochrane Database of Systematic Reviews) using MeSH headings. Papers were critically appraised independently by 2 reviewers using the CASP tool. Thematic data were extracted and synthesized.

Results
Our search yielded 401 unique papers; following application of exclusion criteria 6 qualitative studies were retained for synthesis. Five themes were identified: importance of end-of-life planning and practical considerations; ideas of good versus bad deaths; concept of dignity; relationships with healthcare providers and others; and coping strategies.

Conclusion
This study demonstrated the specific and unique experiences of homeless populations in end-of-life care provision. We were successfully able to identify common priorities among this population, which included establishing respectful and compassionate relationships within and outside of healthcare, recognition of emotion and previous experiences, and written end-of-life plans. Identifying these goals will help inform health policy and improve health outcomes in this vulnerable population. The number of studies in this review was limited, indicating a need for further quality research in this area. Nevertheless, the available data enlighten us to the challenges faced by this population, demonstrating a need for a different approach towards end-of-life care.
Improving Access to Palliative Care for the Homeless
Corinne McDonald, MA, MD
Preceptor: Ron Spice, MD CCFP(PC) FCFP

Introduction
Those who are homeless or marginally housed face significant barriers on multiple levels in accessing health care services, including palliative care.

Purpose
To determine how access to palliative care for individuals who are homeless can be improved by developing a compendium of barriers to the provision of palliative care for the homeless and identifying solutions attempted or implemented to date and how/whether these have been evaluated.

Methods
We conducted a systematic literature review based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses statement. A preliminary database search through 10 September 2016 of MEDLINE, PubMed and EMBASE – using search terms related to keywords around (1) palliative care, (2) homeless and (3) barriers, and limited to English language and humans in the last 10 years – returned 1,020 records. We screened these records against exclusion criteria, removed duplicates, and completed full-text assessments of the remaining 38 records. Additional records were identified through other sources (e.g., reference sections of included articles) for possible inclusion.

Results*
19+ articles met inclusion criteria. We are in the process of completing the final review of these texts.

Conclusion*
We anticipate that barriers to access palliative care for individuals who are homeless or marginally housed exist on many levels – individual (from the perspective of both the patient and the care provider), societal (e.g., stigma) and systemic (e.g., policies, limited financial and human resources, infrastructure). Creative attempts with varying results have been made to overcome aspects of these barriers through a number of pilot projects, but there has not been a systematic and organized effort to address these issues at any government level (municipal, regional, provincial or national). Further rigorous evaluation of interventions to improve access to palliative care for the homeless are required in order to establish clearly the effect and efficacy of these efforts and how best to sustain them.

* To be confirmed
A Systematic Review of the Efficacy of Methylphenidate Augmentation Compared to SSRI or Placebo Alone in Patients Diagnosed with Major Depressive Disorder

Shirlee Ren, MD, Eric Wang, MD, Alvis Yu, MD
Preceptor: Tristan Hembroff, MD, CCFP

Introduction
Through clinical rotations, members of this group have encountered the use of methylphenidate as an adjunct to treating treatment-resistant depression. We wondered about the scientific evidence behind this method of treatment.

Purpose
The purpose of this systematic review is to critically analyze the efficacy of methylphenidate as an adjunct to SSRI in reducing symptoms of treatment-resistant depression when compared to SSRI or placebo alone.

Methods
In this systematic review, we conducted a systematic search of all articles in databases EMBASE, Medline, PsychInfo, and Cochrane Reviews from 1946 to present. Based on specific inclusion and exclusion criteria, we arrived at four (4) randomized controlled trials to be included in our systematic review analysis.

Results
In two studies, there were no statistical differences in the relative risk reduction of methylphenidate augmentation group compared to the SSRI or placebo group in terms of reduction in symptoms of major depressive disorder. In another study, the samples sizes were too small to perform any meaningful statistical analysis. In the final study, the study was unclear on which patients had treatment-resistant depression and which had major depressive disorder, so further statistical analysis would not be helpful in answering our research question.

Conclusion
Methylphenidate augmentation does not appear to be more efficacious in reducing symptoms of major depressive disorder when compared to SSRI or placebo alone. However, our conclusion is in light of small sample sized and limited RCTs. We would recommend larger RCTs in this field to help clarify our research question.
Improving Advance Care Planning and Goals of Care designation use through a focus on Team Process: A Primary Care Perspective

Thomas McMurray, M.D, Lauren Robinson, M.D
Preceptor: Dr. Sanjeev Bhatla

Purpose
We aim to improve the frequency and quality of Advance Care Planning and Goals of Care Designation discussions occurring at Bowmont Clinic. The project is part of a larger research study conducted by the Advance Care Planning CRIO initiative, which explores ACPGCD Quality Improvement in multiple healthcare settings. The larger study aims to enhance the processes that create high quality ACP GCD conversations and documentation among interdisciplinary team members and patients. Our patient population includes patients aged ≥60 years who have a diagnosis of cancer, cardiac disease, cerebrovascular disease, or chronic pulmonary disease. The aim is to have 15% of patient charts contain a GCD order by February 28, 2017, and 5% of charts contain a conversation documented on the ACP tracking record by February 28, 2017.

Methods
Charts were searched for the presence of a Goals of Care discussion twice weekly for five weeks prior to the interventions, during the interventions, and post-intervention. Participating physicians and the ACP CRIO Research Team met for a two-day workshop to discuss the current process of ACP and GCD amongst different practitioners and ways to improve current practice. Interventions in the areas of EMR modifications, staff education, physical and electronic reminder systems, and role clarification were carried out.

Results
The first PDSA cycle results showed a small decrease in the percentage of charts with GCD orders (13/151, 8.6% compared with 8/80, 10% pre-intervention). There has been a rise in percentage of charts containing tracking records (2/151, 1.3% compared with 0/80, 0%). Since physician interest is increasing, we anticipate these numbers will rise during the post intervention period.

Conclusions
We anticipate the conclusions that will be made from this study are that a combination of collaborative staff meetings focused on process improvement around ACP/GCD, electronic medical record reminders and templates, and staff education/role clarification will improve the frequency and quality of ACP/GCD conversations in community family practice.
Qualitative Review of a Pilot Treatment Protocol for Adults with Adverse Childhood Experiences (ACEs)
Himani Sharma, MD
Preceptors: Dr. Keith Dobson, Ph.D., Dr. Penny Borghesan, M.D.

Introduction
Adverse childhood experiences (ACEs) not only have a profound impact on child development, but they also strongly affect later life health outcomes, including health-risk behaviors, psychosocial problems, and disease.

Purpose
Our purpose was to qualitatively evaluate a pilot treatment protocol developed by the ACEs-Alberta (ACEs-A) research program for adults afflicted with significant adverse childhood experiences.

Methods
Two small groups of participants (11 in first group and 6 in the second) with three or more adverse childhood experiences, underwent the ACEs-A pilot group treatment protocol which consisted of six weekly skills sessions. Upon completion, each set of participants attended a focus group, to discuss their experiences of the treatment.

Results
Most participants agreed that the pilot treatment provided an informative introduction to the concept of ACEs and their relationship to health outcomes. For all participants, sessions based on self-care were very useful, and sessions based on emotions, thoughts and relationships would be very beneficial if sessions were longer. Most participants would re-do the treatment or recommend it to others.

Conclusions
The study demonstrates that adults with adverse childhood experiences can benefit greatly from skills training on self-care, thoughts, relationships and emotions. Awareness and appropriate treatment of adults with ACEs can provide a strategy for preventing adverse psychosocial and health outcomes, in primary care.
Simulated Codes for Quality Improvement and Team-building at Oilfields General Hospital

Resident: Amanda Schreiner, MSc MD
Preceptor: Timothy Dowdall MBChB, CCFP

Introduction
Resuscitation of seriously ill patients depends on the provision of rapid, accurate, and seamless medical care. ACLS/BLS training has been widely implemented to support resuscitation education. However, in low volume settings, maintenance of these skills can be challenging. Literature supports the use of simulated code scenarios to maintain and improve resuscitation care in all settings.

Objective/Aim Statement
Our goal was to determine whether regular simulated code practice and education interventions increased confidence levels and improved team performance during mock resuscitation care.

Methods
Our team participated in 6 simulated codes at OGH. Codes were grouped in twos consisting of a pre-education and a post-education code. Each group of codes had an intervening “education session” of either 1) a PowerPoint presentation on ACLS medical and teamwork guidelines, 2) a “pre-brief” and “de-brief” from the Workshop in Simulation Education course provided by AHS or 3) a combination of ACLS and WISE approach. Simulations were objectively scored using a validated scoring system based on ACLS protocol and qualitatively scored using an anonymous participant survey. The pre- and post- scores and team comments were compared to determine if the interventions improved team resuscitation care.

Results
Results showed a scoring increase of 17% and 77% for objective and qualitative measures, respectively. The increase in objective score and perceived confidence occurred regardless of which education intervention was used. No single intervention appeared advantageous compared over another.

Despite more regular simulated code practice at OGH, we were unable to show a gradual increase in baseline objective performance scores over time, which demonstrates that skill maintenance may require more frequent practice throughout the calendar year.

Conclusion
Simulated codes followed by scenario education using either PowerPoint or pre- and de-briefing methods improved objective measurements of interventions and perceived comfort/confidence in self and team performance. Simulations can be an efficient way to provide important resuscitation learning opportunities in low-volume settings. A future QI project could aim to determine the number of simulations required to maintain resuscitation skills over time.
Screening for Addiction and Aberrant Drug Behavior in Primary Care Patients Receiving Opioid Therapy: A Review of the Available Screening Tools

Dr. Jocelyn Beckstead, MD
Preceptor: Dr. Fariba Aghajafari, MD

Introduction
Opioid medications are commonly prescribed in primary care as a treatment for chronic pain. The last decade has seen a remarkable increase in the number of opioid prescriptions worldwide, with North America being the leading consumer. As opioid prescribing increases, so does the incidence of abuse. Currently, there exist a great number of clinical tools that are designed to screen for patients at risk for opioid addiction and/or aberrant drug behaviors. Presently, however, it is unclear which tools are most evidence-based and validated.

Purpose
To identify the most evidence-based and validated opioid screening tools that are appropriate for use in primary care.

Methods
A literature search of MEDLINE and PubMed was conducted to identify which of the available opioid screening tools are most effective for screening for addiction and/or aberrant drug behavior. The search was limited to English articles with adult subjects. Search results were reviewed and only relevant articles kept.

Results
The literature search yielded 368 articles, 46 of which were relevant to the evidence base of available opioid screening tools. The review of these articles is still in progress.

Conclusions
We anticipate identifying the benefits and shortcomings of the available opioid screening tool and plan to subsequently make recommendations regarding which are most ideal for use in primary care. As the review of the literature is still in progress, we cannot yet make our conclusions.
A Review of breastfeeding outcomes in infants with ankyloglossia who underwent frenotomy
Carissa Grainger, MD
Preceptor: Cindy Landy, MD

Introduction
Ankyloglossia or “tongue-tie” has recently become a commonly identified cause of breastfeeding difficulties in newborn babies. Much controversy surrounds the role that ankyloglossia plays in breastfeeding and further controversy exists over the benefit of its treatment. Recommended treatment of babies who are tongue tied and experiencing breastfeeding difficulties is to have the tongue tie clipped, a procedure known as a frenotomy.

Purpose
The objective of this systematic review is to review the most current information regarding the effects of ankyloglossia on breastfeeding and more specifically if and how frenotomy improves breastfeeding outcomes such as more effective latch and milk transfer, decreased maternal nipple pain, and duration of exclusive breastfeeding.

Methods
The methods used to carry out this systematic review were guided by the PRISMA recommendations. Search terms included breastfeeding, ankyloglossia, tongue-tie, frenotomy or frenulotomy, and neonatal. Databases searched included Medline, Ovid, PubMed, Embase, and PsycInfo. The search returned 111 papers with 16 RCTs and cohort reviews meeting the required inclusion criteria. All papers were reviewed by myself.

Results
Thus far, studies appear to show benefits including decreased nipple pain and increased breastfeeding success post frenotomy in infants identified to have ankyloglossia. Many of the retrospective cohort studies report inconsistencies in diagnosing the degree of ankyloglossia, while many RCTs failed to show any improvement in latch and breastfeeding adherence for a prolonged time period.

Conclusion
I anticipate the results to show that babies who have identified ankyloglossia as diagnosed by a breastfeeding specialist will benefit from a frenotomy, with the primary being outcome being a reduction in maternal nipple pain. Further studies are needed to identify best standardization tools to identify ankyloglossia and any long-term benefits of infants undergoing frenotomy.
Quantitative analysis of skin biopsies performed in a family medicine clinic setting

Joseph MacDonald, MD

Preceptor: Dr. Juan Antonio Garcia Rodriguez, MD

Introduction
There are certain procedures which are fairly straightforward, not prohibitively time consuming, and of important value to the care of patients that they can and should be done by family medicine physicians. One of these procedures is the skin biopsy. Referral to a specialist delays care and adds cost.

Purpose
My purpose in this project is to attempt to quantify the number of skin biopsies done in the family medicine clinic of the South Health Campus as well as the Sunridge Family Medicine Teaching Clinic compared to the number of patients referred to a specialist for the same procedure, and include a cost analysis.

Methods
This quantitative analysis will be accomplished by doing a chart review and tracking the skin biopsies done at the Sunridge and South Health Campus family medicine teaching clinics compared to the lesions referred on to dermatology. Both of these clinics use electronic medical records, specifically MedAccess. MedAccess has the capability of listing all dermatology referrals made as well as tracking billing codes used for biopsies done in clinic.

Results
Among the 285 cases, 80 (28%) were from South Health Campus, while 205 (72%) were from Sunridge Clinic. Of the 80 cases from South Health Campus, 20 (25%) were referred out to dermatologists for skin biopsy procedures, while the remaining 60 (75%) were performed in-house by family physicians. For Sunridge Clinic, of the 205 skin biopsies, 67 (33%) were referred out to dermatologists and 138 (67%) were performed in-house.

In this subset of patients included in the chart review over a 1-year period from South Health Campus and Sunridge Clinic, we found 87 skin biopsy referrals to dermatologists. Thus, the bill for the comprehensive consultation fee alone would equal to $6,804.27 extra financial burden on the health system.

Conclusions
This analysis shows that the majority of required biopsies at the two teaching clinics are performed by family physicians, saving the health system money. However, there is room to increase those numbers.
Does fish oil supplementation in pregnancy lead to improved neurodevelopmental outcomes in offspring?
Resident: Barbara Mroczek, MD, BSc
Preceptor: Dr. Rick Ward

Purpose
This review aims to explore whether fish oil supplementation in pregnancy leads to overall improved neurodevelopmental outcomes in offspring, as well as determine whether there is evidence for benefits to certain age cohorts or for specific developmental outcomes.

Methods
Medline and PubMed were searched, using the search terms "pregnancy", "prenatal", "fish oils", "omega 3", "DHA", "development", "cognition", "neurodevelopmental", and "outcomes in children". Inclusion criteria required randomized controlled trials or clinical trials with human subject using clinical outcomes, published in the English language (original or translated) between 2011 and 2017. Studies which used surrogate markers or outcomes were excluded from this review.

Studies were assessed for quality using the GRADE method. The results of this review will be reported according to the PRISMA statement for systematic reviews.

Results
Initial searches identified 10 studies meeting the initial inclusion/exclusion criteria. As this review is completed, additional newly published studies will be added as appropriate. All but one of these studies found that there was no effect of prenatal fish oil or omega 3 supplementation on neurodevelopmental outcome in children. One study found that there was an improvement in sleep patterns (an early developmental outcome) with prenatal fish oil supplementation.

Conclusion
Overall, there does not appear to be any benefit to neurodevelopmental outcomes in offspring whose mothers took fish oil supplements in pregnancy. Once all studies have been identified and appraised, final results will be reported, including strength of recommendations and evidence.
Dr. George McQuitty

Dr. George McQuitty was a GP in Great Britain – one of the Birmingham Rebels – who withdrew from the National healthcare system there and came to Canada in 1965. He was in private practice in both Calgary and Cochrane before joining the University of Calgary Department of Family Medicine in the early 70’s, becoming one of the first geographic full-time faculty members. Dr. McQuitty was Professor and Head of the Department at the time of his death in 1979.

During his years at the University of Calgary, he had a strong interest in “primary care morbidity patterns” and actively pioneered research in the application of computers in the discipline of family medicine. In 1980, the McQuitty Memorial Oration Fund was started in memory of Dr. George McQuitty and has been used to sponsor the annual McQuitty Memorial Oration ever since. This event represents a time to celebrate the past and to inspire members of our discipline to break new ground in the future. During the past several years the Oration has been held in conjunction with the resident presentations at the Department’s Resident Research Day.
Thanks for attending!

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