

Developing a Methadone Information Handbook: The Patient's Perspective

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ABSTRACT

Background: Methadone is a harm-reduction medication that is used to treat opioid addiction, which decreases mortality while improving quality of life. Despite the many benefits, methadone maintenance therapy (MMT) also has many risks and responsibilities; therefore it is important patients are well informed for both their safety and proper engagement in their own recovery. Despite this, there are few resources for patients, and those that exist have not been studied for their value in the patient's opinion.

Focus Group Objectives:

1. To gain insight into the current understanding patients have of the MMT program.
2. To assess what current sources of information MMT patients use and if they desire more resources.
3. To evaluate if patients desire an information handbook on MMT. If yes, what information it should contain and what it should look like.

Methods/Methodology:

Three focus groups (n = 18) were guided in discussion through semi-structured interviews to explore the objectives of the study. Audio recordings were transcribed and analyzed for themes. Demographic data collected included age, gender, education, work, ethnicity, and time spent on methadone therapy.

Results/Findings: Four themes were identified. Theme one surrounded understanding methadone and included defining methadone, benefits of methadone, and harms of methadone. Theme two was on a lack of information and covered initial sources of information, current sources of information, and a desire for more resources. Theme three was that participants desired a methadone handbook and information was gathered on handbook content and images. Consensus was reached in all groups that a handbook was desirable. Theme four was on stigma and prejudice, which included spontaneous conversation about difficulties in dealing with the stigma of using methadone treatment, especially in the context of pharmacy interactions.

Discussion, Conclusions, Recommendations: As a result of the findings that participants felt they lacked adequate resources and desired more information, including an information handbook, the development of a patient centered handbook was initiated using the recommendations provided by participants. It is recommended that consultation with patient groups continue as it was both an informational project and helps to strengthen the relationships between healthcare workers and the community they serve.

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Hepatitis C: Exploring the Illness Experience

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ABSTRACT

Background: Hepatitis C is a growing concern as the number of affected individuals continues to increase worldwide. As many as one third of people living with Hepatitis C are unaware they have the disease.

Research Questions:

1. What is it like for people living with Hepatitis C and what is their perception of the role of the family physician in their circle of care?
2. What do patients living with Hepatitis C understand about their disease?
3. Is there a larger role for family physicians in Regina (and communities alike) to play in caring for patients with Hepatitis C?

Methodology: Individuals diagnosed with Hepatitis C were invited to participate in this research project and if they agreed, individually interviewed using a semi-structured format with eight standard questions. Responses were analyzed using the *General Inductive Approach*, and key themes were extracted. The University of Saskatchewan's Behavioural Research Ethics Board and the RQHR Research Ethics Board granted ethics approval for this study.

Findings & Discussion: Four key themes emerged from this study:

1. Family physicians are playing very little part in the medical care of study participants.
2. Participants had substantial knowledge gaps regarding basic aspects of their disease.
3. Perceived discrimination by family doctors was significant among a subset of the participants.
4. Fear played a prominent role in some participants' disease experience.

Participants expressed medical needs that could have been managed well by a family physician, especially in the setting of a longstanding, trusting patient-physician relationship. They also had gaps in basic knowledge about their disease, which the literature suggested could be mitigated by engagement with a family physician.

Conclusion: Family physicians can help dispel stigma associated with Hepatitis C, while facilitating access to specialist care and psychological support for these patients.

Recommendations: Family physicians ought to play a larger role in the medical care of Hepatitis C patients in Regina, taking care to avoid discrimination against patients. Incorporating family physicians onto the multidisciplinary team at the Infectious Disease Clinic could help to ensure continuity of care for patients diagnosed with Hepatitis C.

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Current Perspectives on Traditional Foods in Woodland Cree

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ABSTRACT

Background: Aboriginal communities in Northern Saskatchewan are particularly vulnerable to chronic disease and, in particular, those associated with diet, nutrition, and inactivity. Colonization/contact has had an impact on indigenous peoples' diets throughout the world. The transition from traditional diets to western diets has, in turn, insidiously impacted health, culture, and lifestyle of indigenous groups.

Research Questions:

1. What do Aboriginal people within a community of the Lac La Ronge Indian Band view as traditional foods?
2. What impact does decreased interaction with traditional food gathering methods such as hunting, gathering and fishing have on Aboriginal people's physical fitness, and their interaction with their culture and spirituality?
3. What factors determine whether or not people choose to use wild/country foods?
4. Does food safety or contamination play into choice of food?

Methods/Methodology: An ethno-history approach was used. A review of the historical archives for documents related to traditional food and open-ended interviews focused on traditional foods took place. We interviewed 8 participants from Grandmother's Bay. The interviews were transcribed and codes and themes were developed. Coded and themed transcripts were the "results" and provided the basis for writing up our discussion, in combination with archival research.

Discussion: Traditional foods were consistently described as food that is hunted or gathered from the land. Post-contact foods were never mentioned. Participants thought that there is a link between store bought foods and illnesses. Participants identified the physical activity required to obtain these foods as the important factor for health. Most of the participants felt that the use of traditional foods is decreasing. They felt that the work, physical fitness and cost associated with traditional food were a barrier. Participants said they did not worry about contamination of traditional foods. Participants recognized that while store-bought foods *can* be healthy, cost is a barrier.

Conclusions: This research demonstrated a unique perspective on traditional foods. The impact that decreased interaction with traditional foods has on physical fitness and culture is complex and participant reflections in this area were not unanimous. Most participants felt that accessing traditional food has a great benefit to their physical health and not accessing traditional food has a negative impact on health and culture.

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Patient-Oriented Research: Post-Procedural Wound Infection Rates
at the West Winds Primary Health Centre

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ABSTRACT

Background: As family physicians are performing an increasing number of minor dermatological procedures in their clinics, it becomes necessary to assess the quality of their procedural practices. Surgical site infection (SSI) is one of the common post-procedural complications. Most of the quality assessment studies related to SSIs performed by FPs are from foreign sources. Therefore we performed a study to evaluate the standard of care at our site.

Research Question: What is the rate of SSI among patients undergoing skin excisions at West Winds Primary Health Centre (WWPHC)?

Methods/Methodology: A retrospective chart review of all minor dermatological procedures performed between November 2010 and November 2013 was undertaken. The patient list was generated on the MedAccess EMR using billing codes. Various identified parameters included age, gender, type of procedure, area of lesion, surgical technique, histopathology, smoking and diabetes status. A descriptive analysis was conducted using SPSSv.22..

Results/Findings: Data was collected for 384 individual procedures: 66.1% had post-procedural follow-up. In order to compare the rate of infection with the rate from a similar study in Australia, facial excisions were excluded, resulting in a rate of 3.2%. This was significantly lower ($p < 0.022$) than the Australian rate of 8.6%.

Discussion: Results showed that SSIs were very low, and when compared to other published studies the rate fell into the low end of the range of rates reported. This may in part be due to the relatively healthy population that received the procedures. However, due to the small number of SSIs, it was not possible to make associations with risk factors identified in other studies. This data does seem to suggest that the residents and staff physicians at the WWPHC are taking the appropriate precautions to prevent complications.

Conclusions: The rate of SSIs from minor dermatological procedures at WWPHC was very low, when compared with the rates cited in the literature and was both statistically and substantively lower than a previous study conducted in a similar setting.

Recommendations: With such a low rate of SSI in a primary care setting, we believe that more procedures performed at the primary care level should be promoted, to decrease patient wait time for specialist appointments. Resident involvement in procedures should also be promoted as it provides a great learning opportunity without compromising patient care.

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Neonatal Red-Reflex Testing with the iPhone Camera System

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ABSTRACT

Background: Red reflex testing (RRT) was introduced in 1962 as a method to screen for vision abnormalities. Still today, it is a quick, reliable and non-invasive test that is the gold standard in vision screening. The responsibility of detecting eye abnormalities falls largely on the family physician, due to their frequent contact with the younger population.

Despite the known importance of RRT, there are barriers that prevent it from being completed in the entire pediatric population, one of which is the lack of ophthalmoscope availability.

Smart phone devices are being used extensively by health care professionals; many use an iPhone. It was hypothesized that the iPhone's camera could be used to detect a one time red reflex in the newborn population.

Research Question: Is the iPhone built-in camera system capable of detecting the one time presence of a normal red reflex in healthy infants aged 0 – 6 months with reasonable specificity when compared with ophthalmoscopy?

Methods/Methodology: A within-subjects quantitative pilot study was performed. Ethics approval was granted, and the study was performed at West Winds Primary Health Center (14 participants) and the Royal University Hospital (38 participants). Children were tested by a single examiner with both the ophthalmoscope and the iPhone with each case randomized as to which method was carried out first. The examiner recorded the presence or absence of the red reflex for each eye, for each method.

Results: The specificity of the iPhone camera system was compared to the gold standard (ophthalmoscope); right eye 0.44 (95% CI 0.31-0.59), and left eye 0.52 (95% CI 0.38-0.67).

Discussion/Conclusion: Limitations in this study included a small sample size, inter-individual variability in the interpretation of the red reflex using different modalities, and the research design, in which researchers were not blinded to the results of each method used.

It was concluded that the iPhone is likely not a reliable method for detecting the presence of a red-reflex and should not be used for routine screening at this time.

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What are the characteristics of patients who leave the Emergency Department without being seen at the Victoria Hospital in Prince Albert, Saskatchewan?

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ABSTRACT

Background: The Victoria Hospital Emergency Department (ED) in Prince Albert, SK was the focus of this research project. Internationally, rates of left without being seen (LWBS) vary from 0.06% to 20%; LWBS rates are considered an important marker of the quality of ED care. There are few studies in Canadian populations, and in particular rural ED's examining this issue.

Research Question: What are the characteristics of patients who leave the Emergency Department without being seen at the Victoria Hospital in Prince Albert, Saskatchewan?

Methods/Methodology: This study was a retrospective review of all LWBS patients at the Victoria Hospital ED from April 1st 2013 to March 31st 2014. Data was collected using the Sunrise Emergency Care Database, which compiles information on all patients who are triaged at the Victoria Hospital. Characteristics collected include age, Canadian Triage Acuity Scale (CTAS), chief complaint, time presenting, and length of stay before leaving.

Results: Out of 27,741 visits 3566 patients LWBS, resulting in a LWBS rate of 12.85%. After exclusion, 3441 patient encounters were analyzed. The mean age was 34.30 (sd=20.53), ranging from 4 months old to 103 years old. Average length of stay was 2 hours 29 minutes (sd = 1:54). Out of 3441 total patients who LWBS, 3.2% (n=110) were CTAS2. The chief complaints were grouped into 17 categories with the highest proportion of LWBS presenting with gastrointestinal concerns (16.4%, n=565), the lowest with endocrine concerns (0.3%, n=12).

Discussion: Of concern was the 110 CTAS 2 patients who LWBS, the average length of stay being 2h 30mins, with a maximum stay of 11h 23 minutes.

Conclusions: LWBS patients at the Victoria Hospital ED fell within the internationally reported range, however it was higher than a study previously done in a Toronto hospital.

Recommendations: ED staff could use this data to streamline their approach to patient care. Data that compares characteristics of those who are admitted to the ED versus those who LWBS, as well as the gender of LWBS could have provided further insight. A prospective study geared toward the reasons individuals choose to leave could improve ED care.

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Mental Health Awareness among Canadian Interuniversity Sport Athletes

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ABSTRACT

Background: Canadian Inter-University Sport (CIS) student-athletes undergo a unique set of pressures due to academic and athletic expectations. Such pressures could act as stressors, predisposing them to a variety of mental health disorder, including depression and anxiety. This study aimed to explore the awareness of Canadian Interuniversity Sport athletes regarding mental health disorders, especially anxiety and depression.

Research Question: What is the current knowledge base of Canadian Interuniversity Sport athletes regarding anxiety and depression?

Methods/Methodology: We conducted an online survey of CIS athletes. We used both clinical vignettes and subsequent question stems created using DSM-V criteria. Team physicians and coaches of all Canada West teams were contacted to distribute the surveys to their athletes. Data was subsequently analyzed using descriptive statistics.

Results/Findings: The response rate was 28% (85/300). Of the athletes that responded, 29% (25/85) were male and 71% (60/85) were female, with an average age of 20 years. Anxiety and depression symptoms from the clinical vignettes were correctly identified by 69.4% of the athletes. There was no significant difference between those who had a personal history of anxiety and depression and those who did not. About 49% (n=42) of athletes wanted to know more about mental health with the majority (54%, n=46) preferring to receive information delivered via e-mail.

Discussion: Most athletes surveyed showed a high knowledge of the features of depression and anxiety although this was lower than the 75% Canadian average. The athletes indicated interest in knowing more about mental health, and would prefer information delivered through e-mail messages. However, identifying more specific characteristics of each mental health disorder within a scenario proved to be more challenging.

Conclusion: CIS athletes in western Canada showed a high awareness of mental health disorders although up to one-third of them needed to improve their knowledge in this regard.

Recommendations: There is a need to increase mental health education for CIS athletes. Team coaches could be trained to share this information with athletes as they spend more time with them.

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How does an Eco-Medical Seminar Series Influence Medical Students' Knowledge, Attitudes and Behaviors towards Climate Change and Health? A Mixed Methods Study.

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ABSTRACT

Background: Since climate change is recognized as a growing global health issue, there needs to be improved training for current medical practitioners and the future medical team. Additionally, the current literature does not reveal any attempts to quantify medical students' understanding of interactions between climate change and the healthcare system.

Research Question: At the University of Saskatchewan, will participation in an optional seminar series influence medical students' knowledge, attitudes and behavior related to climate change and health?

Methods: A 20-question survey on climate change and health was administered to the first year medical student class (cohort of 99 students) at the University of Saskatchewan in February 2014. Subsequently, the first year students were offered the opportunity to participate in a four-part seminar series on climate change and health. The survey was then re-administered at two and eleven months from the completion of the seminar series. Survey results were analyzed through IBM SPSSv.22 using ANOVA, including post-hoc analyses.

Results: At baseline, female survey results were generally more eco-friendly. Series participation resulted in statistically significant improvements in survey scores at two and eleven months post-seminar series on some items related to knowledge and advocacy, but seminar series participation had no effect on eco-friendly practices or advocacy behaviours.

Discussion: Participation in a seminar series had a positive impact on students' appreciation of eco-medical issues. This influence was both immediate and lasting. This suggests that a seminar series is an effective teaching modality for eco-medical education.

Conclusion: A eco-health seminar series had a positive effect on students' attitudes and knowledge but had no effect on students' behaviours with regards to climate change.

Recommendations: Creation of a validated survey to quantify student opinions would be beneficial.

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Exploring the challenges and prospects of implementing the new Triple-C Family Medicine Residency Training curriculum in Saskatchewan: a case study of Regina Family Medicine Program

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ABSTRACT

Background: Family medicine education programs have historically been structured on rotating internships, which centre on traditional, non-educational service, and ancient apprenticeship models. The College of Family Physicians of Canada has redefined the qualities that make up a ‘good family physician’, and has developed the new curriculum around these concepts: being Comprehensive, focusing on Continuity of education and patient care, and Centring in family medicine (Triple-C). This competency-based model differs from the old time-based model as it requires learners to demonstrate specific competencies prior to promotion, rather than simply having a period of exposure to the specialties. There have been no studies to explore the prospects of implementing the Triple C Curriculum by off-site (non-family medicine) rotations.

Research Questions: What do the leaders of off-site rotations know about the Triple-C Curriculum (TCC)? How could they best implement this, and what are the potential barriers to implementing TCC?

Methods: A mixed-methods design was used, comprising face-to-face surveys and interviews of all the academic leads in off-site rotations (n=10) associated with Regina Family Medicine program. Interviews were recorded, transcribed, and analysed for common themes.

Results: Seven of ten eligible academic leads participated in the study; 70% participation rate. 85.7% (6/7) of them were aware of the TCC. None of them could further elaborate on the components of the TCC. Components of TCC not well aligned with programs of off-site rotations were “following patients over time” and “following patients in different settings”, while “continuity of supervision and assessment” was the best aligned. Barriers identified include: ‘the intrinsic nature of the specialty’, poor communication between the program leaders, and the structure of family medicine residency program.

Discussion: Although there was high awareness about TCC, there was low understanding of its components among the participants. A brief presentation on TCC made during the study improved their knowledge on the curriculum. Most of the barriers identified by the participants were anticipated, except that regarding the structure of the family medicine program which interrupts the supervision by off-sites.

Conclusion/Recommendation: Implementation of TCC in Regina will be challenging but proper communication among program leaders will facilitate the process.

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Toward Comparative Effectiveness Research in Primary Care: An Implementation Framework

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ABSTRACT

Introduction: Despite the increasing uptake of electronic medical record (EMR) software in Primary Care, there has been little effort to date to utilize this software to conduct pragmatic comparative effectiveness research (CER) trials in Primary Care.

Objectives: The primary objective of the study was to design an implementation framework composed of key self-reflective questions and a prototype patient recruitment interface to aid in CER studies in Primary Care using current-generation EMR products.

Research Questions: What is the current state of EMR usage for CER in Primary Care? What are the barriers (technological, methodological, ethical and practical) to implementing CER in Primary Care?

Methods: We incorporated selected key stakeholders in discussions to improve on an initial CER framework prototype and “sham” EMR module for patient recruitment. Participants included researchers with an interest in Primary Care research, technical representatives of EMR vendors, and Family Physicians.

Results: There was little familiarity and no apparent impetus from the vendor to collaborate in this type of research. There is a common theme of frustration from researchers directed at the difficulty in access EMR databases from a large field of vendors. From the clinician side, physicians are generally reluctant to participate in CER research without effective compensation for time spent. Patient recruitment interfaces should be designed to be as simple and straightforward as possible.

Conclusion: There are currently multiple barriers to conducting EMR-enabled research in Primary Care. The largest and most important barrier is the lack of effective IT infrastructure to support this type of research. Although this type of research is overall more cost-effective, there are significant upfront costs in creating the initial study infrastructure that private vendors are unlikely to bear themselves. Ideally, government would step forward and implement the backend infrastructure with which EMR vendors can interface to help enable this type of research. In the future, researchers will need to clearly outline the business case for vendors to participate in Primary Care research.

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Family Practice Clinic Behind Schedule: Does Informing Patients via Automated Text Messaging Service Increase Patient Satisfaction?

A Proof of Concept

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ABSTRACT

Background: Waiting room delays are a significant source of patient dissatisfaction. Physicians and office staff frequently bear the brunt of patient dissatisfaction with delays. There are many reasons for clinic delays, many of which are unavoidable. Examples include patients who are quite ill, or physicians needing to squeeze in urgent cases. Few interventions have been tested to mitigate this source of dissatisfaction in family practice offices.

Hypothesis/Research Questions: Can a patient-initiated automated text messaging service be developed to notify patients of office wait times?

Methods/Methodology: A number of approaches were trialed to develop an automated text message alert system. Using Twilio (a commercial text messaging company) we were able to produce a system that would automatically reply to patient-initiated text messages with clinic wait time information. Patients queried the system via text messaging. This system allowed for automated responses without collecting patient data. The physicians on the research team utilized the same service to update their clinic status. Participants with scheduled appointments were recruited from West Winds Primary Health Care Centre. Patients were invited to try the system while waiting in the examination rooms. They were given written instructions regarding use of the text message service. Exit surveys were completed to gauge whether patients would find this service useful.

Results/Findings: In general, patients were very satisfied with the text messaging experience and would use it in the future.

Discussion: The system successfully alerted patients to the most up to date clinic wait times. While updating the system between patients, clinicians became more aware of wait times and this served as motivation to stay on schedule. Future areas of study may include integrating this system into clinic computers (to minimize physician involvement), having someone besides the doctor updating the system (i.e. medical office assistant), and designing a way to remind patients to use the system before they arrive to clinic.

Conclusions: Patient-initiated automatic text messaging systems can be an effective way to notify patients of office delays. Study participants were satisfied with the service and many indicated that they would like to use this system in the future.

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A 360 View on the Effects of Apprehension on Mothers

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ABSTRACT

Background: Substance use, unstable home environments, and mental health issues often lead to newborn apprehension after delivery. The effects of apprehension on mothers has not been systematically explored.

Research Question: What are the effects of newborn apprehension on maternal life course?

Methods: A qualitative study using semi-structured interviews was undertaken to explore the reflections and experiences of care providers who work with women experiencing child apprehension. The participants included family doctors, Registered Nurses, social workers, addictions workers, and employees from the Ministry of Social Services from Prince Albert, Saskatchewan. The interviews were audio-recorded, transcribed and returned to participants for review. The transcripts were analyzed by the members of the research team separately to identify words, ideas and themes. Ethics approval was obtained through the Beh-REB at the University of Saskatchewan.

Findings: There were five main themes that evolved from the data. These were: reasons for apprehension; effects on the mother; barriers; cycles; and, community resources. Within these themes, multiple subthemes were identified. The number one reason women have their newborns apprehended was substance abuse. Other reasons included: previous involvement with social services; domestic violence; unsafe home environments; and, mental health difficulties. The subthemes included under the effects on the mother included mental health and self-esteem, self-harm behavior and spiraling. The barriers theme included discussion about systemic barriers, accessing resources and intrinsic barriers. The 'cycles' theme included multiple important cycles such as foster care, mental health, abuse, addiction, dysfunctional families and poverty. The final theme discussed community resources and funding.

Discussion: The findings showed no positive effects on the mother following apprehension. The reasons for apprehension were often multifactorial; however, the participants indicated that drug abuse was the number one reason. As such, prevention was felt to be important and required a multifaceted approach. Affordable, safe housing, identifying and properly referring women at risk of apprehension were important preventative factors. Poor communication between social supports was highlighted as a major concern.

Conclusions: Newborn apprehension has multiple negative effects on mothers including increased drug use, increased self harm behaviours, decreased confidence, increased guilt, traumatization and depression.

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Perceptions of the Culture of Safety on an Obstetrics Unit

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ABSTRACT

Background: Obstetrical wards are known to be high-risk environments where errors can have potentially disastrous consequences. As such, they can benefit from the implementation of programs derived from highly reliable organization (HRO) principles, towards a culture of safety. Safety assessment surveys provide a framework for evaluating safety culture in an organization, and provide an avenue to engage frontline staff and administration in efforts towards appropriate HRO program implementation. The Cypress Regional Hospital (CRH)'s obstetrical unit currently does not use the principles of HRO. This baseline study seeks evaluate perceptions of safety to determine whether an HRO program would be beneficial in this unit.

Research Question: What is the current perceived safety culture in the obstetrical unit at CRH?

Methods: This was a cross-sectional study using the validated online Culture Assessment Survey (CAS) tool, which consists of six core HRO elements (patient safety as everyone's priority, teamwork, valuing individuals, open communication, learning, and empowering people). All (n=81) healthcare professionals (HCPs) involved in maternity care were invited to participate. Likert scale responses to value statements relating to each of the six CAS elements were aggregated into statistical means for comparison. Data was analyzed using descriptive statistics and T-tests.

Results & Discussion: Fifty-one percent of the target HCPs participated in the CAS. Overall, the element "patient safety is everyone's priority" scored lower than all other elements (mean Likert score = 3.56, 95% CI [3.48, 3.63]. This is similar to CAS results at other Canadian sites before the implementation of an HRO program. When comparing mean scores between professions, physicians rated "patient safety is everyone's priority" and teamwork significantly lower than nurses (physicians = 3.06 vs. nurses = 3.83, $p < 0.01$, and physicians = 3.37 vs. nurses = 4.01, $p < 0.01$, respectively). Shorter length of employment amongst participating physicians and maternity nurses' camaraderie due to their continuous interaction with patients may have led to these differences.

Conclusion: Although CRH staff performed below target on all domains, the adoption of an HRO program at CRH could improve perceptions of safety, and potentially result in better patient outcomes and cost savings.

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Increasing rates of Cesarean Section Deliveries in a Regional Saskatchewan Hospital: Is this driven by Clinical Practices or Patient Factors?

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ABSTRACT

Introduction: At a regional hospital, the rate of Cesarean section (CS) deliveries increased from 24.6% in 2006 to 34.8% in 2012, exceeding both the provincial (22.9%) and national (28.1%) age-adjusted rates.

Research Questions: What are the maternal, antenatal, intrapartum, and neonatal variables associated with CS delivery in the years 2006 and 2012 at this hospital? Is the increase in CS delivery rates associated with changes in clinical practice versus changes in patient risk factors?

Methods/Methodology: All deliveries in 2006 (n = 254) and 2012 (n = 368) were retrospectively audited for maternal, antenatal, intrapartum, and neonatal variables related to CS delivery. The primary outcome was mode of delivery. Data analysis was performed with SPSS version 22.0 and included descriptive statistics, Chi-square, ANOVA, Spearman 2-tailed correlations, and multiple regression.

Results: Significant differences between deliveries in 2012 and 2006 were, in 2012: more women had a history of previous CS (22.3%), more women lived greater than or equal to 70 kilometers from the hospital (30.7%), fewer women had an epidural inserted at greater than or equal to 4 centimeters dilation (70.2%), and more women delivered by CS (33.2%). The "Multiparous, singleton, cephalic, ≥ 37 weeks, with previous CS" Robson group was the major contributor to CS rates in both 2006 (8.7%) and 2012 (13.9%), and was significantly higher in 2012 ($p = 0.048$). A history of previous CS was positively correlated with any CS in 2006 ($r = 0.491$) and 2012 ($r = 0.497$), and elective CS in 2006 ($r = 0.521$) and 2012 ($r = 0.429$); $p \leq 0.05$. The second major Robson group in both years included women who were induced. For the regression, only previous CS was predictive of CS in 2006 (Beta = 3.190, $p = 0.000$). In 2012, previous CS (Beta = 2.790, $p = 0.000$), maternal obesity (Beta = 0.832, $p = 0.008$), and breech presentation at 36 weeks (Beta = 2.597, $p = 0.001$) were predictive of CS.

Discussion: This obstetrical population was low risk, and demographically unchanged between 2006 and 2012, except for a history of previous CS. Clinically, the number of forceps deliveries fell and induction contributed to the overall CS rate.

Conclusions: A history of previous CS was the most important contributor to CS rates in general and in particular to the increased CS rate in 2012. Preventing the first CS is important for preventing a repeat CS. Forceps delivery is a method for preventing emergency CS; however, the number of forceps deliveries declined in 2012. Induction practices at this center require review to understand how they are contributing to CS risk.

Recommendations: CS rates may be reduced by educating providers and patients about trial of labour after Caesarean, maintaining forceps skills, and reviewing induction practices.

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Prenatal Care and Health of Women at West Winds Primary Health Centre

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ABSTRACT

Background: The prenatal care and health of pregnant women are extremely important concerns relating to a healthy pregnancy and baby. West Winds Primary Health Centre (WWPHC) provides prenatal care for over 100 women per year. There are numerous guidelines on the optimal prenatal care and health of pregnant women. However, actual practice does not always reflect recommendations from guidelines.

Research Questions: What is the level of prenatal care and health of pregnant women at WWPHC, in terms of the number of prenatal visits throughout pregnancy, the use of prenatal vitamins (PNV) and folic acid supplementation before, during, and after pregnancy, the prevalence of substance use, and when anemia is screened? How does the practice at WWPHC compare to recommendations from guidelines?

Methods/Methodology: A retrospective chart audit of all prenatal patients (N=106) between January 1 and December 31, 2014 at WWPHC was done extracting data from the clinic's Electronic Medical Record (EMR). IBM SPSSv.22 was used for the analysis.

Results: The average age of prenatal patients was 24.94 years (SD= 6.41). On average, they had 7 prenatal visits throughout pregnancy. 73% of the women were taking PNV in the first trimester. 58% had their hemoglobin tested in the first trimester. 32% smoked cigarettes during the first trimester; nine quit during pregnancy.

Discussion and Conclusion: The average number of prenatal visits throughout the pregnancy of our patient population was lower than the recommended 9-14 visits. Almost three quarters of the women were taking PNV in the at least first trimester, as recommended by all major organizations. Not all women were screened for anemia in the first trimester. Overall, prenatal care of WWPHC patients modestly reflects recommendations from guidelines, particularly in the first trimester.

Recommendations:

To increase the number of prenatal visits, greater attempts should be made to follow-up with prenatal patients. To increase PNV use, multivitamins can be suggested as alternatives, patients advised that Sobey's provides free PNV, and women encouraged to trial PNV again in the second/third trimester when nausea and vomiting have settled. More support should be provided to encourage smoking cessation.

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Evaluation of IUD insertion practices and procedure tolerance in Regina, SK

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ABSTRACT

Background: There is currently no formal guideline or standard of care with regards to peri-procedural cervical anaesthesia for tenaculum placement and IUD insertion. Previous studies have not shown a benefit to using topical lidocaine gel or spray on the cervix, or lidocaine infusion into the uterus. In addition, evidence around the use of a 1% lidocaine paracervical block, while promising, did not achieve statistical significance in reducing pain scores during IUD insertion. Most recently, 1% intracervical lidocaine resulted in lower mean pain scores at time of tenaculum placement, but no data was collected for pain scores during placement of the IUD. Given the minimal and conflicting evidence guiding current standards of care, physicians typically perform the procedure as they were trained, resulting in provider-dependent cervical preparation.

Research Question: Does the application of intracervical lidocaine prior to tenaculum placement improve procedural tolerance of IUD insertion?

Methods/Methodology: The proposed project is designed as a prospective cohort study with two parallel cohorts; based on exposure to 1% Lidocaine. The primary outcome will be patient-reported pain rating on a 10-point scale regarding IUD insertion prior to tenaculum placement. Participants (n= 130) will be women already booked for IUD insertions at any of four participating clinics in Regina, SK. Data analysis will compare average pain rating and procedure tolerance (incidence of nausea, vomiting, cramping and dizziness) between the groups. Data will be analyzed using T-test, chi-square and logistic regression.

Results/Findings: This is a proposed research, which is yet to commence due to delays in ethical approval. There are no results at this time.

Discussion: Ideally, a RCT with a placebo or sham injection would provide the most definitive evidence. This proposed study is an ideal pilot project to collect preliminary data prior to a future RCT.

Conclusions: Further research is required to answer this clinical question.

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A Review of Complications Associated with Mirena IUDs at Saskatoon Unit, Department of Family Medicine

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ABSTRACT

Background: An intrauterine device (IUD) is a type of long-acting, reversible contraceptive method that can also be used for menorrhagia and dysmenorrhea. The two most commonly used IUD's are the Copper IUD and the Levonorgestrel-releasing intrauterine system (LNG-IUS/Mirena). Common complications include irregular bleeding and cramping abdominal pain. The purpose of this study was to explore the complications that occurred with IUD insertions at West Winds Primary Health Care Centre and to identify whether or not pre-insertion counselling and follow-up visits were associated with a lower rate of complications.

Research Questions:

1. What are the most prevalent complications of IUDs at West Winds Primary Health Centre in the last 3 years?
2. Is pre-insertion counselling associated with fewer Mirena IUD complications?
3. Are follow-up visits post Mirena Intrauterine Device (IUD) Insertion associated with a decreased incidence of IUD complications?

Methodology: A chart review was conducted at the Saskatoon Unit, Department of Family Medicine. The data was entered into Microsoft Excel for descriptive analysis.

Results: One hundred and five patients with IUD insertions were identified and of these 93 had Mirena IUD insertions. Seventy-eight patients had pre-insertion counselling documented. Of the 78 patients who had pre-insertion counselling documented, 59 had documentation of potential specific complications. The total number of patients with documented complications at some point after their IUD insertion was 44 patients. The most prevalent complications were irregular bleeding and cramping pain. Of the 15 of the 93 patients without pre-insertion counselling documented, four had complications documented in their chart.

Discussion: 5.4% of patients discontinued IUD use due to complications during the study period. There was a lack of documentation of pre-insertion counselling noted in 16.1% of charts. 39.8% of women had follow-up appointments documented.

Conclusions: The most common complications documented in post insertion visits were consistent with those described in the literature. Pre-insertion counselling was not associated with a reduction in post-IUD insertion complications. Post-IUD insertion follow up was not consistently arranged at the clinic.

Recommendations: Create an IUD template for the EMR, provide patients with written information regarding complications and arrange follow-up visits post-IUD insertion.

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A prototype to detect fetal brain wave signals to assess fetal presentation in utero

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ABSTRACT

Background: Malpresentation is a common complication of pregnancy and can occur in 3-4% of deliveries. In order for a woman to successfully deliver a baby vaginally, the fetus must be in a cephalic position prior to the onset of labour. The current method for determining the fetal presenting part is a series of physical exam methods, known as Leopold's maneuvers, which consists of palpating the maternal abdomen. The accuracy of these maneuvers is dependent on clinician skill and experience and mistakes often do occur. The gold standard method for determining fetal presentation is ultrasonography. Ultrasound is relatively expensive and availability is quite limited in Saskatchewan, particularly in locations outside of the two major cities.

The purpose of the study was to create a device, which uses electroencephalography (EEG) technology to confirm cephalic presentation of the fetus. The device was created and tested to ensure that it could detect EEG waves transabdominally.

Research Question: Can transabdominal fetal EEG signals be used to ascertain fetal presentation in utero?

Methods/Methodology: We utilized an EEG headset linked to a laptop computer to detect EEG signals. A simulation of the maternal abdominal wall was created using various biological products (i.e. meat, fat and saline solution). We tested to determine if the EEG signals could pass through these approximations of the maternal abdominal wall and uterine wall.

Results/Findings: It was determined that EEG signals could pass through our simulated maternal abdominal/uterine wall. It was shown that the EEG signal could distinguish between a "cephalic" and "non-cephalic" presentation in the model setting.

Discussion: While there were many limitations to the model used in this study, it seems that it is technically feasible to detect fetal EEG signals through the maternal uterine and abdominal walls. Further work is necessary to refine this work including the involvement of pregnant women as subjects and the use of medical-grade EEG equipment.

Conclusions: This proof-of-concept study has determined that it should be technically feasible to determine fetal position via detection of fetal EEG waves.

Recommendations: Further study is required using medical grade EEG equipment and actual pregnant women as research subjects.

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The Practices and Perceptions of Primary Care Providers on the Use of Social Media in Primary Care

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ABSTRACT

Background: Social media (SM) is fast becoming a powerful source of healthcare information and communication around the globe. Social media has the potential to improve patient care by facilitating physician collaboration, knowledge dissemination and on-line support for clinical and professional development purposes; as well as, patient engagement outside of the office setting. There is limited evidence on how to integrate social media into patient-centered care especially in primary care. Study aims to evaluate the perceptions and practices of residents and family physicians in an Academic Family Medicine setting regarding social media (Facebook, Twitter and LinkedIn).

Research Questions: What perceptions do Primary Care Providers (PCP) at the Family Medicine Unit (FMU)-Regina have on the role of social media use in Primary Care? How, if at all, do these providers incorporate social media into their practice?

Methods: This was a concurrent embedded mixed methods study of all PCP in the FMU-Regina. An online survey of 36 questions was developed and distributed to 42 primary care providers. Analysis involved descriptive statistics (quantitative) and deductive, thematic analysis of text (qualitative).

Results: A total of 14 Family Medicine Residents and four additional primary care providers responded. The response rate was 39% (18/46). The majority of respondents 94% (17/18) reported using social media for personal purposes especially Facebook. LinkedIn was the most popular site for professional use, 22% (4/18); however, 55% (10/18) reported not using any type of social media applications, professionally. All respondents have never used social media to interact with patients. Concerns of privacy, confidentiality and professionalism were among the barriers to the use of social media in primary care.

Discussion and Conclusions:

While most people agreed that the use of SM in primary care could be innovative, guidelines are needed to mitigate concerns.

Recommendations: Further research is required.

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Effects of the Clinical Physical Environment on Patients' Satisfaction in an Academic Primary Care Setting: A Mixed Methods Study

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ABSTRACT

Background: The effect of the physical environment of the general practice examination room was investigated for its effect on patients' perceived wait times and visit satisfaction in a resident family medicine unit teaching unit.

Research Question: Is there any relationship between design of examination rooms and satisfaction for patients seen at Family Medicine Unit-Regina (FMU-R)?

Methods: This was a mixed methods study, involving a questionnaire with open ended questions. A sample of 55 adult patients was consecutively assigned to decorated rooms or standard rooms; rooms were identical in layout dimensions but differed as some were decorated with paintings. Survey asked about their perceived wait times, satisfaction and suggestions on how to improve satisfaction with services rendered at FMU-R.

Results: Fifty-five patients participated in the study (Standard rooms [n=28], Decorated rooms [n=27]). These consisted of 19 males (34.5%) and 36 females (64.5). Average age was 52.8 (± 18.6) years, and they have been patients at FMU for an average of 23.2 (± 10.3) years. There was no significant difference in actual wait times (minutes) prior to patients being seen by the physicians, for both rooms; standard 10.4 (± 14.5) minutes, decorated 17.7 (± 14.5) minutes, $p=0.13$. There were no significant differences between rooms with actual wait times; decorated 10.50 (± 9.64), standard 16.72 (± 13.8), $p=0.19$. There was no difference in perception of the rooms ($p=0.35$) and overall satisfaction ($p=0.23$). In their words: "not a lot as long as it is clean"; "modern, clean, professional"; "Design not as important as cleanliness."

Discussion: Although the participants in this study were largely similar in terms of baseline characteristics, there was no significant difference in their satisfaction based on perception about the room design. They appeared to be more concerned with cleanliness of the rooms than with the presence of pictures.

Conclusion: Examination room design is not as important as punctuality and the cleanliness of the FMU-R.

Recommendations: Further studies are needed.

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Is the Use of MRI or CT Scan in Acute Scaphoid Fractures More Cost Effective Than Casting, Repeat X Ray and Follow Up?

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ABSTRACT

Background: Scaphoid fractures are often not evident on initial X-rays and have the potential to cause significant morbidity if they are not diagnosed and immobilized. The current standard of care is to immobilize all suspected scaphoid fractures if initial X-rays are negative and to repeat the imaging and clinical assessment in 10 to 14 days. CT and MRI have both been presented as possible alternatives to X-ray as initial investigations as they both have considerably higher sensitivity. This may provide a viable alternative to improve initial diagnosis of scaphoid fractures and to decrease the rates of unnecessary follow-up or immobilization for patients.

Hypothesis/Research Questions: Is initial investigation of suspected scaphoid fractures with either CT or MRI more cost effective than traditional follow-up with immobilization and repeat X-rays?

Methods/Methodology: Fifty charts of patients with suspected scaphoid fractures from the RQHR were reviewed. The total estimated cost of their total follow-up was averaged and the incidence of an actual scaphoid fracture was calculated.

Results/Findings: Out of the 28 charts of patients who were casted for query scaphoid fractures, only five were found to actually have a fracture on repeat imaging. This means that 23 of these patients (82%) were unnecessarily casted. The mean cost per patient follow up experience was \$1807.50. If a patient were to present to the ER, be seen by an emergency physician and have an initial MRI ordered to diagnose or rule out scaphoid fracture, the estimated cost would be \$1008.80. Alternatively, if CT were used as an initial diagnostic test, the estimated cost would be \$1031.80.

Discussion: This study demonstrated that the overall cost per patient may be less with initial CT or MRI. However, the sample size was relatively small and further investigation may be required to determine the true costs for patients receiving CT or MRI.

Conclusion: Initial investigation of suspected scaphoid fractures with CT or MRI has the potential to represent increased cost effectiveness compared to traditional follow-up.

Recommendations: Depending on the availability of access to CT or MRI, these methods may be considered as an alternative to traditional X-ray imaging for patients with suspected scaphoid fractures.

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Accuracy of Perceived Alcohol Impairment as Determined by Subjective “Fitness to Drive” in Estimating Actual Measured Blood Alcohol Concentration (BAC)

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ABSTRACT

Background: The breathalyzer is commonly accepted as the standard in law enforcement for measuring blood alcohol concentration (BAC), and while there have been studies that have compared it to subjective estimates of BAC, few have related it to where it matters most – the decision to drive or not to drive.

Hypothesis/Research Questions: The goal of this study is to elucidate the relationship between estimation of BAC and the decision to drive as well as to assess the dependability of two mobile smartphone applications at predicting BAC.

Methods/Methodology: 18 men and women were asked to ingest typical amounts of alcohol in a given time, following which they were asked to estimate their BAC and decide if they felt they could drive. A breathalyzer was then used to measure their actual BAC. Data from the study was entered into two mobile smartphone applications and the values obtained were compared to the breathalyzer reading.

Results/Findings: With lower measured BAC, self-estimates of BAC were either correct or overestimated, whereas in measured BAC over 0.08% accuracy decreased, with a tendency to underestimate. Estimating correctly a BAC greater than 0.04% did not necessarily mean the individual made the decision to refrain from driving, and 6 of the 18 participants would have decided to drive when they shouldn't have. *Can I Drive Yet* estimated BAC levels closer to the breathalyzer used in this study compared to *Intellidrink*, but both were reliable.

Discussion: In a study group comprising mostly of health care professionals expected to be more educated in health and legal repercussions of driving while impaired, one third of the participants would have wrongfully driven while intoxicated.

Conclusions: There is a mismatch between the ability to estimate BAC and the decision to drive. Mobile smartphone applications may be useful to help users decide when to drive following alcohol ingestion.

Recommendations: Stronger emphasis should be put on rate of drinking in the LRDG and aggressive education of the public regarding the legal definitions and consequences of drinking and driving should be carried out.

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