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**ABSTRACT BOOK**

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# Repeatability in Ovarian Follicular Wave Dynamics in Women: A Preliminary Analyses

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## ABSTRACT

**Background:** Women develop two or three waves of ovarian follicular development during the menstrual cycle. Waves are defined as the synchronous growth of a group of antral follicles. Minor and major patterns of follicular growth occur. It is unknown whether the numbers and patterns of follicular wave dynamics are consistent across multiple cycles.

**Research Question(s):** The objective of our study was to test the hypothesis that wave patterns of ovarian follicular development are repeatable over 2 menstrual cycles.

**Methods/Methodology:** A prospective observational study was conducted. Biomedical ethics approval was obtained prior to initiating study procedures. Transvaginal ultrasound examinations were performed every 1-3 days over one interovulatory interval (IOI) in 26 women (age 18-50). Growth profiles of follicles  $\geq 6$ mm were quantified over 2 IOIs following retrospective review of ultrasound cine-loops. Changes in antral follicle count (AFC) were quantified across 2 IOIs for the diameter categories; 2-5mm, 2-10mm,  $\geq 4$ mm,  $\geq 5$ mm and 4-6mm. Follicle waves were defined as an increase followed by a decrease in follicle diameter  $> 4$  mm in association with an increase in AFC. Major follicle waves were those in which a dominant follicle was selected for preferential growth. Minor waves were those in which a dominant follicle did not develop. Follicle waves were further characterized as ovulatory or anovulatory. Multivariate repeated measures statistics will be used to characterize changes in follicle diameter and AFC across the 2 IOIs (SAS v9.5).

**Results/Findings:** From our preliminary analyses, 14/17 (82%) women developed 2 follicle waves within each of the 2 cycles evaluated. The remaining 3 women developed 2 or 3 waves across the 2 cycles. In 10/17 (59%) women, major and minor follicular wave patterns were repeatable.

**Discussion and Conclusions:** Most women appear to exhibit repeatable patterns of ovarian follicular wave dynamics across two cycles. These findings are consistent with those previously reported in domestic farm animal species.

**Recommendations:** These preliminary findings have implications for optimizing stimulation of follicle growth during fertility therapies and suppressing follicle growth with contraceptive therapies.

# The Impact of Virtual Care in Saskatchewan during the COVID-19 Pandemic: A Review of Local Research

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## ABSTRACT

**Background:** The advent of the COVID-19 pandemic caused a rapid shift from face-to-face interactions in healthcare delivery to virtual care (VC). Our study identifies the impacts of VC uptake during the COVID-19 pandemic in Saskatchewan, exploring its influence on patient/health care provider outcomes.

**Research Question(s):** Research questions guiding our study were: a) How did VC impact healthcare delivery in Saskatchewan?; b) What was the experience of family medicine residents with the learning and implementation of VC?; c) What were the barriers/disadvantages and facilitators/advantages of VC during the COVID-19 pandemic?; and d) What were recommendations and opportunities for change beyond the pandemic?

**Methods/Methodology:** Ethics exemption was granted for this study. A systematic approach was used to source and gather data/literature published in SK on VC. We searched for peer-reviewed literature, pre-prints, abstracts, conference papers, technical reports and grey literature published from March 20, 2020 to April 30, 2022. The following specific keywords were used: virtual care, COVID-19, Saskatchewan. Next, we reached out directly to researchers, clinicians, and health professional bodies to inquire and retrieve research projects on VC during the pandemic in Saskatchewan. Included studies were collated for descriptive and thematic analyses.

**Results/Findings:** Ten studies were included in this review. 40% of studies reported diminished quality of care and patient/clinician satisfaction using VC during COVID; while 20% showed improved quality of care delivered using VC. Key barriers/disadvantages of VC identified in descending order included: lack of meaningful engagement using VC; technical and connectivity concerns; more unmet needs using VC. Key facilitators/advantages included: convenience; time and cost savings; reduced spread of pathogens; and enhanced inclusivity and access to remote communities.

**Discussion and Conclusions:** The COVID-19 pandemic provided an opportunity to adapt our healthcare delivery models. Our study showed there are opportunities for innovation using VC delivery that overcome barriers and engage patients/clinicians in a manner that may enhance quality VC delivery.

**Recommendations:** Recommendations for enhancing VC provided included: 1) using person-centred approaches to enhance the quality of care delivered; 2) more training for clinicians and patients on the use of VC; and 3) employing multidisciplinary hybrid approaches to VC delivery.

# Evaluation of Exposure to Procedural Skills in Family Medicine Training

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## ABSTRACT

**Background:** This project was designed to determine the current state of procedural skills training within the University of Saskatchewan Family Medicine program and to verify the gaps when compared to the College of Family Physicians of Canada (CFPC) Residency Training Profile.

**Research Question(s):** What is the current state of exposures to procedural skills in the program and what are the gaps when compared to the national standard?

**Methods/Methodology:** This program evaluation was deemed Exempt from Ethical Review by the University of Saskatchewan Research Ethics Board. A survey was sent to current residents and site directors to assess family medicine residents' exposure to procedures outlined in the CFPC Residency Training Profile Procedural Skills list (List A = required skills, List B = supplementary skills). Procedures were deemed to have "Adequate Exposure" if at least 80% of residents or site directors reported adequate or high levels of exposure and "Inadequate Exposure" if this proportion was less than 80%. Using the Chi-Square test/Fisher's exact test, the exposures between post-graduate year 1s and 2s (PGY1s, PGY2s) were also compared for List A procedural skills.

**Results/Findings:** A total of 50 residents and seven site directors responded to the survey. Seven of the 62 List A Skills (11.3%) were reported by residents as having "Adequate Exposure"; this proportion was 32/62 (51.6%) among site directors. From the 25 List B Skills, none of the procedures were indicated as "Adequate Exposure" by residents or site directors. Of the List A procedures, 9/62 (14.5%) showed statistically significant improvement from PGY1 to PGY2.

**Discussion:** Given the procedural skills outlined and the low number of required procedures reported as having "Adequate Exposure" by the residents, co-creation of a strategy to increase "Adequate Exposure" is critical. Significant differences between PGY1s and PGY2s for certain procedures only suggest increased exposure in PGY2, not necessarily increased levels of competence.

**Conclusions:** A small number of procedural skills had "Adequate Exposure" by resident assessment, highlighting the need to co-create a strategy that would ensure "Adequate Exposure" to List A Procedural Skills in all Residency Training Sites across Saskatchewan.

## University of Saskatchewan Medical Student Career Choice Decisions

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### ABSTRACT

**Background:** Matches of medical students in CaRMS to family medicine residencies nationally and in Saskatchewan have been declining and difficulties have been experienced in recruiting our students to family medicine residencies here in Saskatchewan. This is despite significant needs for more family physicians in the province. Unintended impacts of our admissions, the hidden curriculum and other factors during medical school may discourage our medical students choosing family medicine. This study will examine these factors from the learners' experience to gain knowledge of the issues and challenges of choosing family medicine in SK, and what factors impact students' choice to train in Saskatchewan.

**Research Question(s):** What are the barriers and facilitators in medical student family medicine career choice decisions in SK? What factors impact the choice to train in Saskatchewan?

**Methods/Methodology:** The project is a two-year study starting in May 2022. A detailed literature review is to be completed in Phase One, this summer, as well as an application for ethical approval. The literature review will provide insights exploring best options for the focus group questions and timing of the study to follow based on student and resident schedules. A qualitative approach using focus groups is planned for Phase 2, summer of 2023. Medical students, residents choosing family medicine in Saskatchewan, residents that considered family medicine but matched elsewhere, residents matching to other disciplines, as well as early career family physicians in Saskatchewan who trained in the province would be targeted for the focus groups.

Transcribed records of these interviews will be analyzed for common themes which would then be compared with the results of the literature review. Using our data and the lit review, a report will be generated describing the factors influencing medical student career choice decisions broadly and those unique to Saskatchewan with the potential action items that could be shared with educational leadership to inform work in the future around improving family medicine match rates.

**Results/Findings:** N/A (Not Available at this Time.)

**Discussion and Conclusions:** N/A (Not Available at this Time.)

**Recommendations:** N/A (Not Available at this Time.)

# The Acceptability of Kinesiology Students in Family Practice Settings

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## ABSTRACT

**Background:** Physical inactivity has been identified as a major public health concern and demands continued attention with new strategies to combat this issue. The benefits of physical activity are well established and known to be appropriate therapy for the prevention and management of many chronic diseases. One strategy to help patients receive individualized evidence-based exercise counselling is to promote kinesiologists working with physicians within family practice (FP) clinics providing team-based care. The purpose of this project is to review the literature on the role of kinesiologists in FP settings and explore the acceptability of having kinesiology students working with patients and physicians as being part of the healthcare team.

**Research Question(s):** In family practice settings, would patients, staff, learners and faculty be accepting of kinesiology students on the team to enhance exercise counselling with patients?

**Methods/Methodology:** A literature search has been completed using MEDLINE and Google Scholar, examining the role of kinesiologists in healthcare settings. An environmental scan was also completed to understand varying provincial regulations for health professionals including specifically kinesiologists working as healthcare professionals. The qualitative study will proceed this summer with focus groups conducted with faculty, residents, patients and kinesiology students to provide insights into the acceptability of having kinesiologists training in a Saskatoon FP teaching clinic.

This study received ethical approval from the UofS; the focus groups will be completed in the summer of 2022. The project is funded through the Office of the Dean of Kinesiology.

**Results/Findings:** The literature review and environmental scan were completed in 2021 and supported further exploration of kinesiologists in FP clinics in Saskatchewan. Interviews are planned to specifically understand what barriers and supports exist for integrating kinesiology students into FP clinics in Saskatoon given the critical role of exercise in medicine. If acceptable, the future challenge may be to have kinesiology recognized in Saskatchewan as a regulated health profession.

**Discussion and Conclusions:** There is a complex political environment regarding the role of applied kinesiology in healthcare settings.

**Recommendations:** To follow the completion of the study in August 2022.

# Canadian Primary Care Sentinel Surveillance Network

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## ABSTRACT

**Background:** The Canadian Primary Care Sentinel Surveillance Network (CPCSSN) has existed for over a decade providing family physicians with EMR data on clinical questions for research and quality improvement at the individual physician, practice, provincial and national levels. CPCSSN has a focus on chronic disease which is a significant part of family practice affecting one in three Canadians. The EMR data collected can enable family physicians to review, monitor and improve patient care particularly for CDM.

**Research Question(s):** Can the sharing of family practice EMR data in Saskatchewan through CPCSSN improve patient outcomes in primary care in the province?

**Methods/Methodology:** An ethics application is being developed to implement CPCSSN in Saskatchewan. A grant of \$70,000 has been received. CPCSSN will facilitate the extraction of clinical information from member practices in response to research and quality improvement questions raised by Saskatchewan family physicians. Data Sharing Agreements will be in place, patient identifiers will be removed for the purposes of collecting and sharing vital health information to improve patient outcomes in the province and to share nationally. Data is sent to a central repository in a secure facility located at Queens. We will start with small EMR projects using a local practice facilitator model and gather EMR data to address desired quality improvement and clinical research questions. The initial pilot will be done at West Winds Primary Health Centre (WWPHC).

**Results/Findings:** N/A (Not Available at this Time.)

**Discussion:** An Advisory Collaborative is in place for CPCSSN development and implementation in the province of Saskatchewan. WWPHC has been selected as the initial practice to be recruited and will follow with other interested teaching site practices around the province as well as community-based family practices. A future project will be developed by a northern First Nation community through Northern Medical Services (NMS) using EMR data in NMS clinics that will be driven by the questions from the community and will strive to improve the outcomes of the FN populations served by NMS family physicians. The plan is to grow capacity incrementally through volunteer enrolment of practices in CPCSSN Saskatchewan.

**Conclusions and Recommendations:** N/A (Not Available at this Time.)

## Access to Family Practices in Saskatoon

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### ABSTRACT

**Background:** Access to family physicians remains a major challenge in Saskatchewan often with a focus on rural Saskatchewan. The Patients' Medical Home (PMH) model is a reform that can address access. Family medicine recruitment remains challenging; aggravated by waning interest in family medicine as a career choice. Better data is needed for more accurate Health Human Resource (HHR) planning in Saskatchewan. Family medicine residencies can rise to the challenge to attract medical students to the discipline to meet the need for more family physicians. Distribution will also need to be addressed.

It is not clear however, how many family physicians work in Saskatoon, fulltime or part time and how many work in other areas such as long-term care, occupational medicine, emergency or niche practices. This study would provide a description of what the family physician workforce looks like and what services they provide in Saskatoon to assess any gaps and barriers to access. A coordinated overview of family practice in Saskatoon is needed that addresses these gaps to better meet patient needs in the city with accurate HHR data related to family medicine and how this might inform implementation of the PMH.

**Research Question(s):** What is the gap between the absolute numbers of family physicians in Saskatoon and their contribution to comprehensive family practice and what are the implications on access for patients?

**Methods/Methodology:** This project will update a literature review on access to primary care, conduct an environmental scan of family physicians practicing in the city and complete two surveys- one for family doctors (by fax) and their clinic staff (by phone) regarding access to family medicine in Saskatoon. The study has been approved the University of Saskatchewan Research Ethics Board.

**Results/Findings:** This Dean's Project will replicate elements of the Models and Access Atlas of Primary Care (MAAP) study by Emily Marshall, PhD. More information on the MAAP study can be found at: <https://www.dal.ca/sites/maapstudy/contact-us.html>.

**Discussion and Conclusions:** N/A (Not Applicable – Not Available at this Time.)

**Recommendations:** N/A (Not Applicable – Not Available at this Time.)

# Assessing Outcomes of a Provincial Practice Enhancement Program

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## ABSTRACT

**Background:** This paper synthesizes the outcomes of Saskatchewan's Practice Enhancement Program (PEP) over the last 24 years. PEP is designed to provide physicians with patient and peer feedback on their clinical practice. In doing so, the program serves as an important means of promoting reflection and continued medical education. While PEP has been delivering this service since 1994, a comprehensive program evaluation has never been done.

**Research Question(s):** What areas need improvement? Is there any other information that results from the data?

**Methods/Methodology:** The research team conducted a retrospective review of 825 practice assessment reports and over 4241 individual recommendations over the last 23 years, from 1997 to 2020, following the structure of PEP's assessments. While PEP evaluates the practices of various medical specialties, this project focused on the evaluations of family physicians. The research team used an inductive approach with thematic analysis to create subcategories to group the 4241 recommendations.

**Results/Findings:** The top recommendation was around documentation. Other recommendations that made the top ten list were: chronic disease management, cumulative patient profiles, medications, emergency preparedness, laboratory investigations, objective measure of pulmonary function, patient privacy, patient safety and depression counselling and care.

**Discussion:** While EMR adoption has aided in documentation quality, improvements in the medical record account for two of the three most common recommendations made by PEP. A physician's practice profile influenced their PEP assessment performance, with teaching or faculty positions and group involvement improving outcomes, on average.

**Conclusions:** Saskatchewan's primary care is generally very good, and most physicians assessed by the program either met or exceeded practice standards.

**Recommendations:** Continuing medical education could potentially be developed to improve skills in some of the identified deficient areas.

## Improving Long Term Care

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### ABSTRACT

**Background:** Three Summer Dean’s Research Projects were proposed prior to COVID-19. With the pandemic’s arrival, these planned quality improvement projects pivoted to Rapid Reviews to allow ongoing student involvement. As part of the project, knowledge translation for the residents, families, and staff at Samaritan Place (the Long Term Care [LTC] facility involved) is the final step in closing the research loop. The poster presented at this event is written with the goal of knowledge translation, using accessible language so that residents, families, and staff at Samaritan Place are able to understand the aims, process, and outcomes of this work.

**Research Question(s):** 1) What are the strengths and opportunities for change within long-term care facilities? 2) What is the current evidence for team-based strategies to assist LTC administrative leaders and health-care providers in improving patient-centred care? 3) What evidence and best practices go into co-creating advance care directives that are meaningful to individuals living in long term care facilities and their families?

**Methods/Methodology:** English-limited PubMed searches for publications within the past 10 years were undertaken. Review articles were prioritized and supplemented by individual studies. Students reviewed the initial abstracts, reviewed them with a supervisor/mentor, assessed the articles for quality, and synthesized major themes.

**Results/Findings:** A total of 52 publications were evaluated for the final synthesis of all three projects. Relevant information was retrieved for all three areas, suitable for local evaluation/intervention at micro, meso, and macro policy levels.

**Discussion:** The knowledge generated by these rapid reviews is twofold. The research group was able to redirect the projects to a COVID-compliant, resource non-intensive approach that exposed learners to the research process while producing multiple evidence-based insights appropriate for clinical practice consideration in the facility.

**Conclusions:** Rapid reviews of issue-specific, long-term care literature are low resource avenues towards coordinated care improvement. They may also serve as rapid means for regular policy updates while providing next-generation care providers with improved LTC perspectives.

**Recommendations:** Rapid reviews should be utilized as a practical, feasible means to better understanding the literature around specific clinical concerns, which can in turn ground context-specific quality improvement assessment/efforts.

# Providing Feedback to Learners in Virtual Visits Using a Standardized Direct Observation Assessment Form

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## ABSTRACT

**Background:** During the COVID-19 pandemic, a rapid pivot to virtual visits was required in the clinical environment of the family medicine training program. This was a novel approach to care at the start of the pandemic in the academic teaching unit at West Winds Primary Health Centre (WWPHC). Faculty are required by accreditation standards to provide direct observation of residents but no standardized form for direct observation of virtual visits existed in the training program. This immediate need, coupled with the burgeoning recommendations of best practices and guidelines for engaging in effective virtual care, resulted in this collaboration to create and implement a new form for this purpose with feedback from faculty and residents.

**Research Question(s):** What elements for competencies and related skills should be included in a direct observation assessment form for virtual visits for the family medicine training program?

**Methods/Methodology:** We did a review of the current Canadian recommendations through the College of Family Physicians of Canada and other resources to garner best practices in virtual care that could be integrated into a direct observation form to use with residents. We piloted the form and gathered feedback from both faculty and residents on the usability and content of the direct observation form using an iterative approach.

**Results/Findings:** A fillable version of the form was created that could be easily disseminated and incorporated into the EMR and used at other sites. Supplementary information was provided with the form as an educational tool for both faculty and residents. The form was shared beyond WWPHC.

**Discussion and Conclusions:** This was a rapidly evolving area at the start of the pandemic. However, it is clear virtual visits will remain as an option for health services delivery in family practice and it is incumbent on faculty and residents to learn and implement virtual care best practices. The form is a tool for documenting feedback on key competencies and can act as a springboard for feedback conversations and an opportunity for learning.

**Recommendations:** Further research is needed on the effectiveness of the form as well as to determine uptake and future faculty development in virtual care delivery.