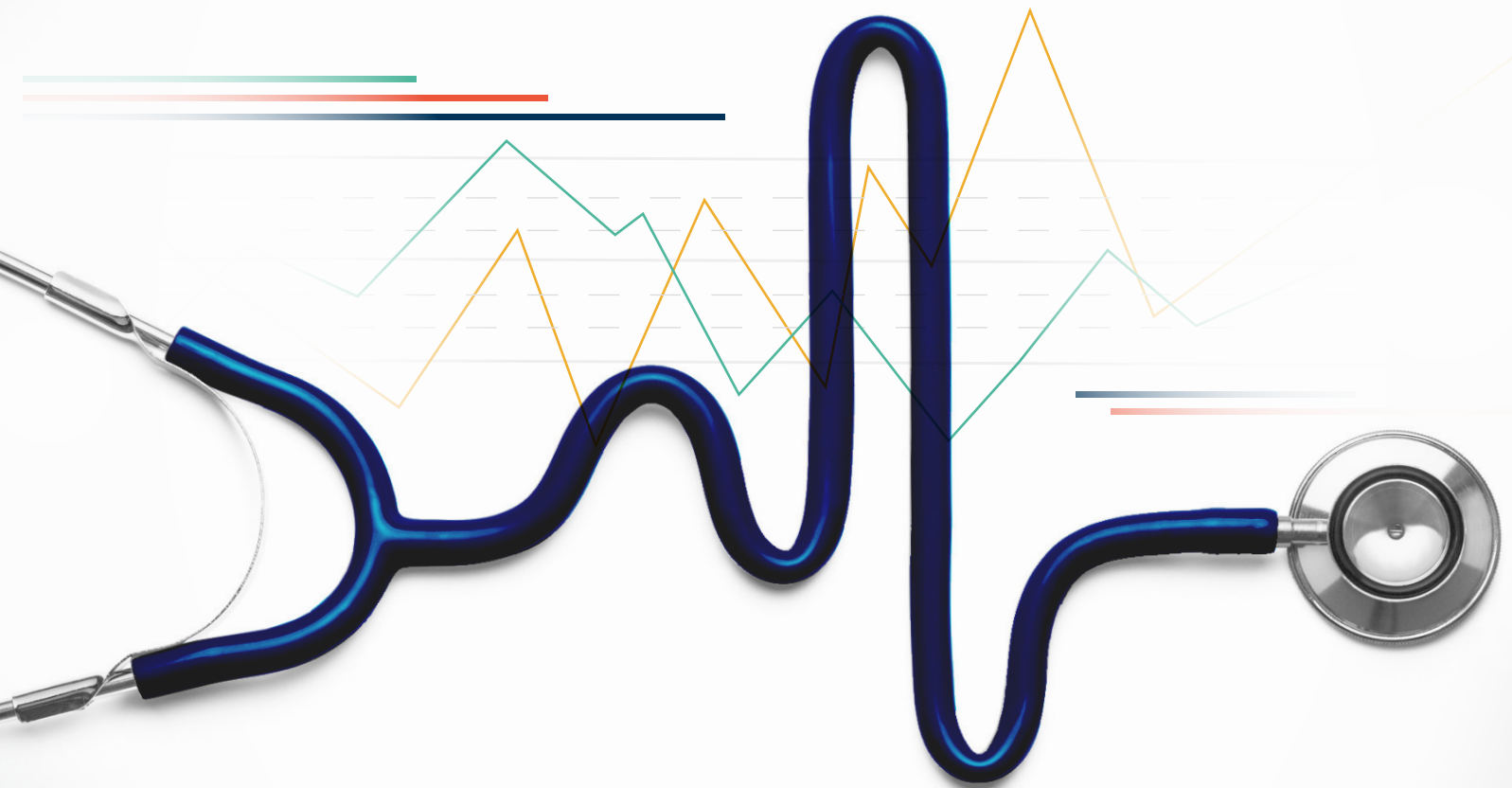




Physician
Learning
Program

Annual Report

2019
2020



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Introduction

PLP's mandate, vision, and mission

Alberta's Physician Learning Program: Unique and impactful

For ten years, the Physician Learning Program (PLP) has fulfilled its mandate to support physician learning by providing practice data and feedback to physicians. To further facilitate the dissemination and uptake of this information, PLP has developed innovative approaches and resources to help physicians and their teams advance practice. These quality improvement initiatives were recognized for having “measurable quality gains” by the Auditor General in 2017¹, attracting attention from across the nation, notably by the Ontario Ministry of Health, the Auditor General of Ontario, and the Ontario Medical Association.

Using advanced data analytics, human-centred design, and audit and feedback, PLP transforms highly disjointed administrative healthcare data into clinically actionable information. Unlike any other group in Alberta, our comprehensive access to otherwise disparate healthcare data, and expertise with qualitative inquiry and implementation science allow us to provide meaningful feedback and contextualized information to physicians using a supportive, evidence-based approach.

PLP's Vision

By 2025, all Alberta physicians will care for patients in a supportive culture, driven by evidence-informed, reflective practice improvement.

PLP's Mission

PLP creates actionable clinical information and engages with physicians, teams, partners, and patients to co-create sustainable solutions to advance practice.

^[1] Auditor General Report-Better Healthcare for Albertans (May 2017) Executive Summary, p.4

Our Associate Deans' Letter

At the time of writing, we find ourselves facing a global pandemic of the COVID-19 virus. This new reality highlights our concerted effort to support our healthcare system to manage this generational health challenge. The novel coronavirus is driving a need for on-the-fly innovation and planning, as well as an unprecedented demand for rapid change to new modes of providing care, and supporting existing healthcare delivery needs in acute and chronic disease management. While this new reality will dominate the coming year, it is important to pause and acknowledge the outstanding work of our team and system partners at a key PLP milestone. This year marks 10 years of fulfilling PLP's mandate to provide physicians and teams with clinically meaningful information and support to advance practice.

We are so pleased to be able to share this annual report with you. Our team has partnered with patients, front line physicians and interdisciplinary clinical experts, and policy and health system partners to conduct diverse projects that support evidence translation and advancement of care for Albertans. PLP has helped support the data infrastructure by collaborating with partners, evaluating the implementation of the National Surgical Quality Improvement Program, developing a dashboard and resources to improve primary care lab utilization, and creating an emergency room dashboard. We have shown that our facilitated audit and feedback framework can reduce the use of low yield endoscopy for patients with dyspepsia. Our projects on antimicrobial stewardship, including a major project on pre-surgical antibiotic prophylaxis, support improved outcomes for patients. We have co-created decision solutions to patient problems such as emergency management cards, resources for people living with adrenal insufficiency, and penicillin allergy assessment. These projects address real-world problems that matter, and support improved patient care and system optimization.

We celebrate the role of the Physician Learning Program in accelerating change and advancing practice in Alberta. Our collaborative focus on increasing appropriateness and co-creating innovative solutions is making a real difference in achieving the promise of evidence-based medicine. We are grateful to our sponsors Alberta Health and the Alberta Medical Association and our partners, with special thanks to Alberta Health Services, including the Strategic Clinical Networks, the Primary Care Networks, Health Quality Council of Alberta, and the Faculties of Medicine at the Universities of Alberta and Calgary for their support.



Dr. Kelly Burak
*Associate Dean, Continuing Medical
Education and Professional
Development*



Dr. Denise Campbell-Scherer
*Associate Dean, Office of Lifelong
Learning & Physician Learning
Program*

Our Team

Denise Campbell-Scherer, MD, PhD, CCFP, FCFP

Associate Dean, Office of Lifelong Learning, Co-Lead Physician Learning Program

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Project Manager

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Research Associate

Emily-Ann Butler, MSc

Research Associate

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Knowledge Translation Specialist

Ashleigh Metcs, BComm

Knowledge Translation Designer

PLP Achievements

95%

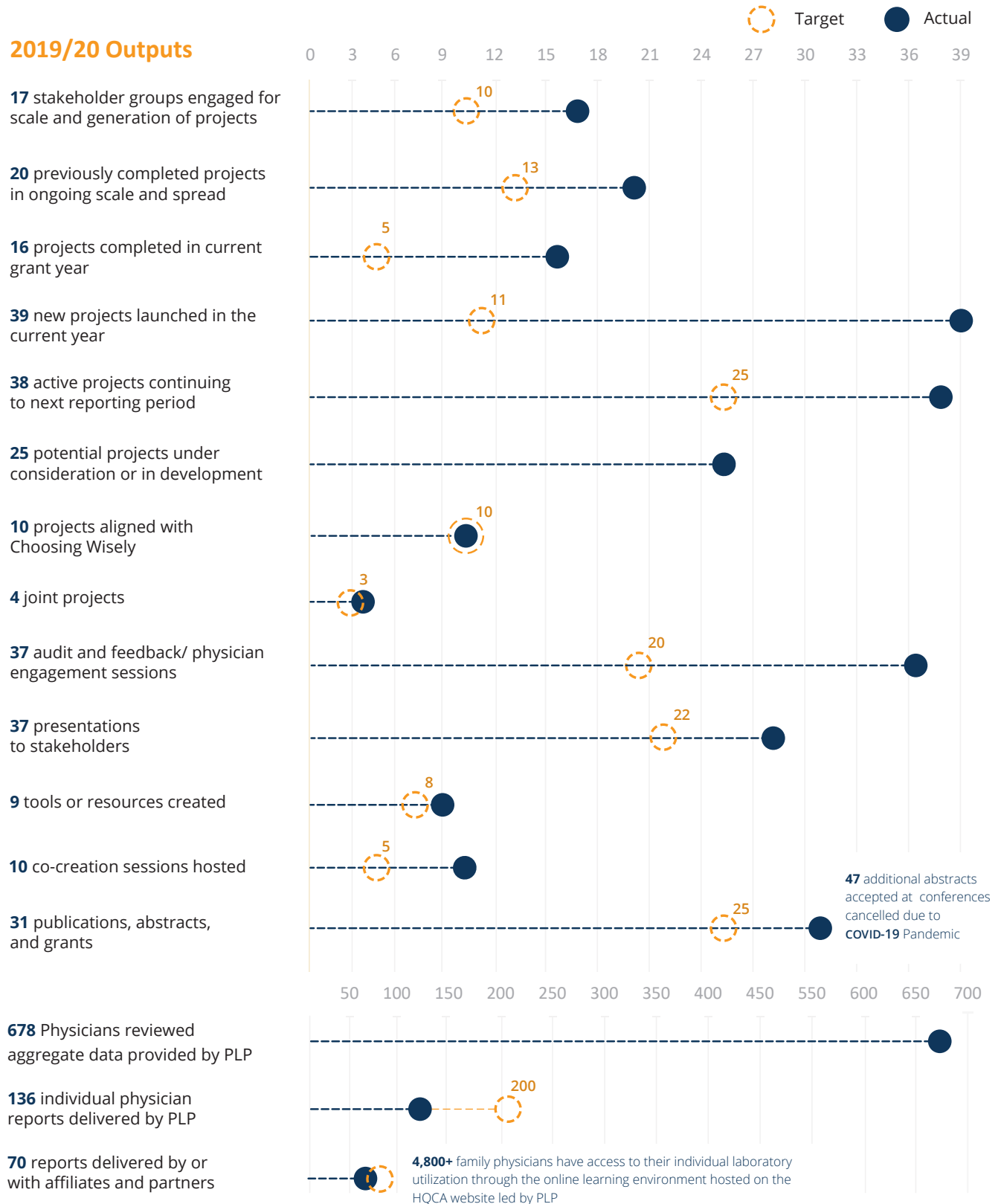
of physicians/health care providers who agree or strongly agree that participation in a PLP audit and feedback project helped them reflect on their practice.

96%

of physicians/health care providers who agree or strongly agree that participation in a PLP educational event helped them advance their practice.

678 Physicians and **506** staff/team members received aggregate reports, worked with aggregate data, or reflected on new data presented in feedback/engagement sessions.

2019/20 Outputs



Our partners



Completed Projects

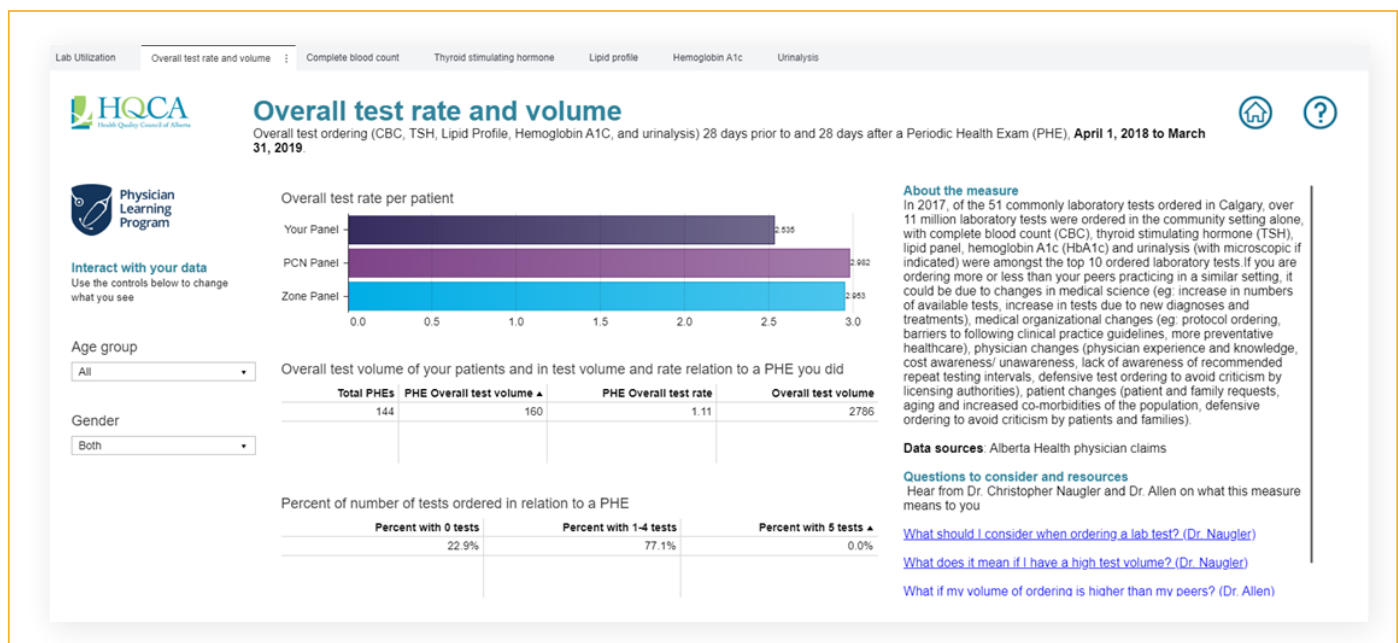
My Practice: Primary care laboratory utilization

Alberta spends approximately \$700 million annually on laboratory services, and approximately 60% of laboratory tests are ordered by family physicians. Although it is important to test for screening and diagnostic purposes, studies find that approximately 35% of all lab testing is low value given the patient's condition. Reducing low value testing lowers the risk of patient harm through triggering unnecessary diagnostic testing, and decreases unnecessary health care costs.

PLP has partnered with the Health Quality Council of Alberta (HQCA), Alberta Precision Labs, Patients Experience Evidence Research (PEER), and AHS to create a platform that will give individual family physicians information about their own use of laboratory testing compared with colleagues and advice from peer experts, in an integrated online learning environment. Canadian experts were consulted to determine which measures would be most useful and what clinical considerations physicians should be aware of when ordering tests. We used human centred design processes, including experiential mapping with a group of physicians, to better understand their mindset at the point of care when lab ordering decisions are made.

The online learning environment, which is available to 4,800 family physicians in Alberta, went live in March 2020 on the HQCA website. It is a first in Canada to address lab utilization in a comprehensive manner with individual reports. In addition to the online learning environment, PLP will host in-person and/or online audit and feedback sessions for family physicians, to review the data and identify strategies to reduce low value laboratory testing. Low value laboratory testing is a complex issue with numerous factors, both internal and external to physicians. Rather than advising physicians on what should or should not be done, PLP is facilitating discussions with physicians and providing an environment to reflect on clinical practice and promote appropriate care for their patients while improving the value of lab services in Alberta.

HQCA Dashboard

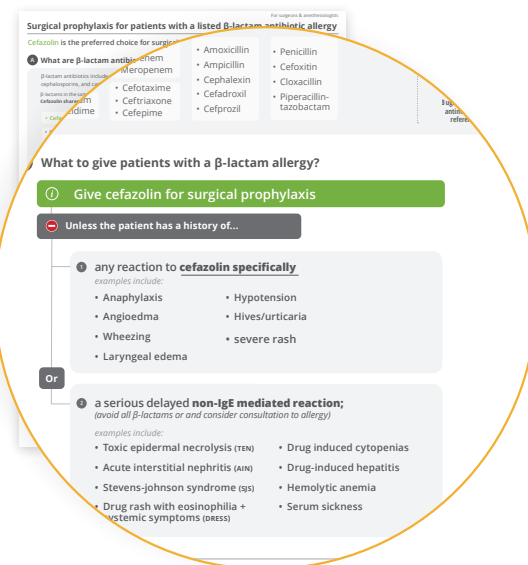


Understanding current practice with beta-lactam allergy and surgical antimicrobial prophylaxis, Edmonton Zone

Patients that receive suboptimal surgical antimicrobial prophylaxis (SAP) have a considerably higher risk of postoperative infection compared to those receiving optimal SAP. In 2018, guidelines changed to recommend cefazolin as the drug of choice for patients with a beta-lactam allergy (often referred to as penicillin allergy). Appropriate prescribing of SAP is one of the key factors in reducing surgical site infection; however, this involves a combination of factors, including the right indication, antibiotic, dosage, route, timing of administration, and duration. A recent pilot study at the Sturgeon Hospital revealed an ongoing under-prescribing of cefazolin for patients with a beta-lactam allergy, suggesting that a deeper understanding of surgical teams and their SAP process was needed. Recognizing this as an area of clinical importance to patients and the health system, PLP partnered with the Edmonton Zone members of AHS's Antimicrobial Stewardship Committee and the Zone Clinical Directors Executive Committee for Surgery and Anesthesiology to assess the appropriateness of antimicrobial surgical prophylaxis.

With PLP Physician Liaison Dr. Lynora Saxinger, and the clinical project team which included Drs. Holly Hoang, Justin Chen, Alena Tse-Chang, Uma Chandran, and Susan Fryters, the PLP team conducted a chart audit at five hospital sites in Edmonton to determine whether cefazolin was underprescribed for SAP in patients with a beta-lactam allergy, and to explore the extent of inappropriate or suboptimal prophylaxis for all patients undergoing surgery. Our study found that, despite changes to guidelines in 2018, cefazolin is still being under-prescribed in SAP for surgical patients with beta-lactam allergy, and there are large variances in SAP practices across sites and specialties in the Edmonton Zone.

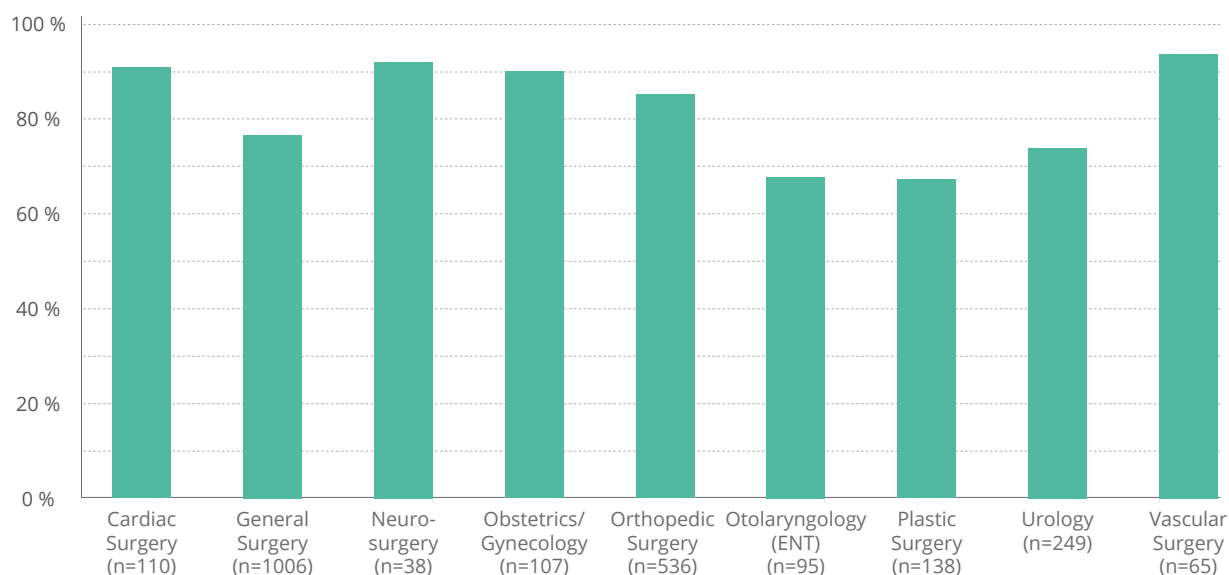
Surgical beta-lactam algorithm



Tools for beta-lactam allergy created to support different user groups

Resource	Resource aim	User groups
Surgical algorithm	Quick point based decision algorithm	Surgical teams
Extended surgical algorithm	Detailed decision algorithm	Surgical teams and stewardship teams
Infographic	Illustrate key surgical messaging	Surgical teams and stewardship teams
Primary care algorithm	Appropriate assessment of beta-lactam allergies and allergy histories.	Primary care physicians

Overall appropriateness of cefazolin surgical antibiotic prophylaxis procedural prescriptions, by specialty

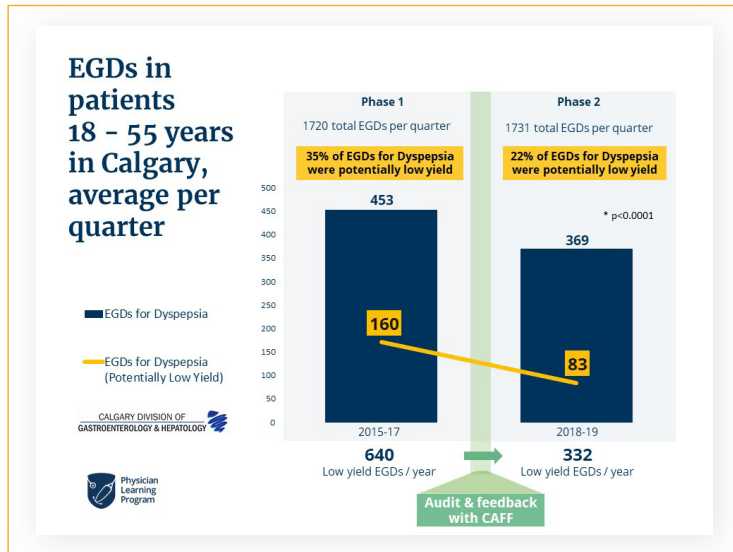


Across all surgeries, cefazolin was administered inappropriately 20% of the time.

With our project partners, we have hosted six events to present results to key stakeholder groups in the Edmonton area, including the Anesthesiology Grand Rounds at the University of Alberta. Plans for additional and ongoing spread and scale are in development.

Optimizing the use of gastroscopy for otherwise healthy adults with dyspepsia < 55 years of age in the Calgary Zone

Change in esophagogastroduodenoscopy (EGD) use in the Calgary Zone



Dyspepsia, more commonly known as indigestion, occurs in 20% of the population and often results in referrals to Gastroenterology. Gastroscopy is often used to investigate dyspepsia; however, clinically significant findings are very rare in patients < 55 years of age. PLP collaborated with Dr. Kerri Novak, from the Division of Gastroenterology and Hepatology at the University of Calgary, to examine the use and appropriateness of gastroscopy procedures for patients with dyspepsia. Reducing the volume of low-value tests being performed will improve access to gastroscopy in the Calgary Zone, and will decrease costs and improve the sustainability of the healthcare system.

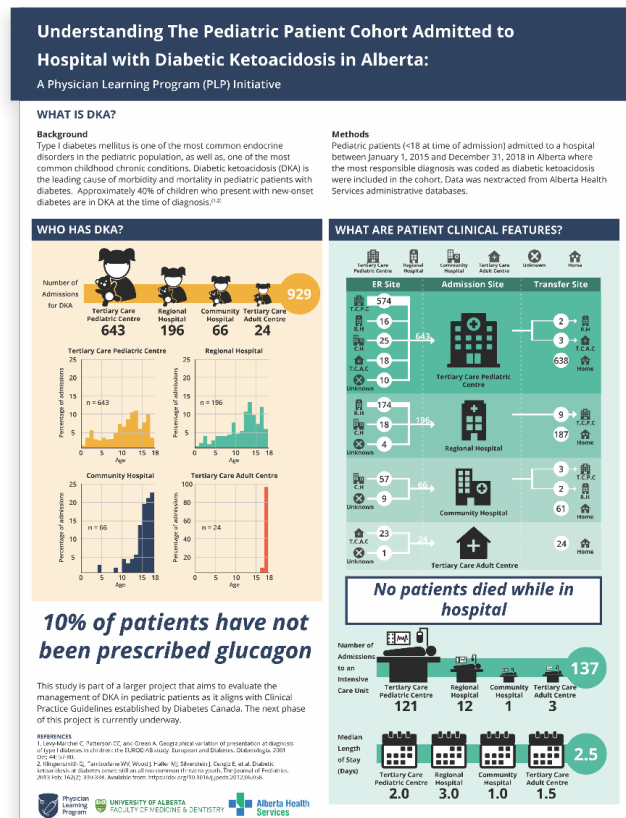
After reviewing gastroscopy reports from administrative databases for 2015-17, PLP found that approximately 35% of gastroscopies performed on healthy adults with dyspepsia <55 years of age were of low value, and could have been avoided. Forty physicians participated in an audit and feedback session in March 2018, using the Calgary Audit Feedback Framework, where they received their individualized practice data report for volumes of gastroscopies on adults with dyspepsia < 55 years of age, benchmarked with their peers, hospital site group, and Calgary Zone aggregate data for the same period. In addition to reviewing their practice data, physicians identified strategies to help reduce the number of low-value gastroscopies being ordered. When PLP later examined the same data for the 2018-19 period, we found that only 22% of the gastroscopies were low yield, which represents ~ 300 fewer low yield gastroscopies in Calgary each year.

Our facilitated discussions of strategies to change practice identified strong interest in developing tools for clinicians and patients to discuss the management of dyspepsia and explain why a gastroscopy is not appropriate in most cases. To fill this gap, PLP launched a human centred design project in 2019. We hosted a series of one-on-one and group interviews with patients, primary care physicians, and gastroenterologists to identify each group's experiences with patient-physician interactions for dyspepsia, and to understand the diagnosis and management of symptoms. Early prototypes of patient-focused posters and a symptom management tool (journal) are currently being shared with patients and clinicians for feedback. PLP is also working with the AHS Digestive Health Strategic Clinical Network to design a patient-facing primary care pathway for managing dyspepsia, which may also serve as a template model for other primary care pathways. This project has been selected for presentation at the virtual Choosing Wisely Canada conference in May 2020.

Understanding and evaluating the pediatric patient cohort in Alberta presenting to hospital with diabetic ketoacidosis (Phase 1)

Type 1 diabetes mellitus (T1DM) is one of the most common childhood chronic conditions, as well as one of the most common endocrine disorders in the pediatric population. Approximately 40% of children with new-onset T1DM will present in diabetic ketoacidosis (DKA), which is a serious complication of diabetes that occurs when blood sugar levels are very high. DKA is the greatest contributor to morbidity and mortality of T1DM in the pediatric population. The most severe consequences of DKA in children with Type 1 diabetes are cerebral edema and acute kidney injury.

In an effort to ensure that pediatric patients with T1DM are managed according to current, evidence-informed best practices, Diabetes Canada published a comprehensive Clinical Practice Guideline (CPG) that includes recommendations for the appropriate treatment of pediatric DKA. Patients treated after implementation of a pediatric DKA CPG have been found to experience significantly shorter lengths of hospital stay, reduced duration of intensive care unit stay, fewer episodes of hypokalemia and administration of bicarbonate, and decreased incidence of cerebral edema. Studies in other provinces have found that despite these CPGs, large variations in practice persist.



Pediatric DKA infographic

A standardized admission order set for pediatric DKA was developed and implemented at the Stollery Children's Hospital in 2017, with the aim of optimizing care for this high-risk patient population. PLP physician liaison Dr. Jennifer Walton, and Drs. Jessica Foulds and Elizabeth Rosolowsky, at the University of Alberta partnered with the PLP on a pediatric diabetes program, which includes several projects. The purpose of this first project was to determine the prevalence of pediatric DKA across the province, and to establish the demographic and clinical characteristics of patients.

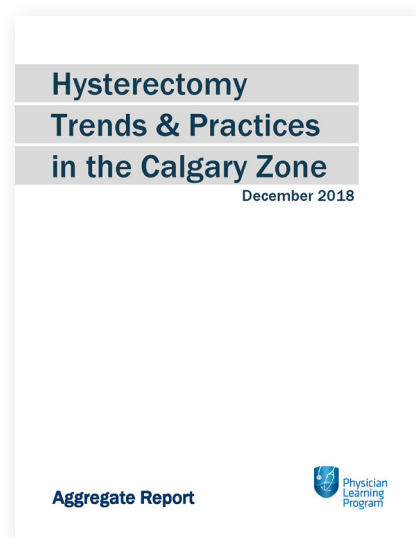
Administrative data from multiple databases were extracted, consolidated, and analyzed to establish the prevalence of pediatric DKA across Alberta. The data show that the majority of patients are admitted to one of Alberta's two specialized pediatric hospitals, and that no patients who were admitted for DKA died while in hospital. However, we also found that not all patients were dispensed glucagon, a medication that pediatric diabetics should have on hand in the event that their blood sugar drops too low. We are developing engagement and dissemination events, where physicians will review data and reflect on their practice and care pathways for pediatric patients with DKA who present to hospital. The second project in this pediatric diabetes program is examining guideline concordance for caring for patients admitted for pediatric DKA.

Hysterectomy Trends and Practices in the Calgary Zone

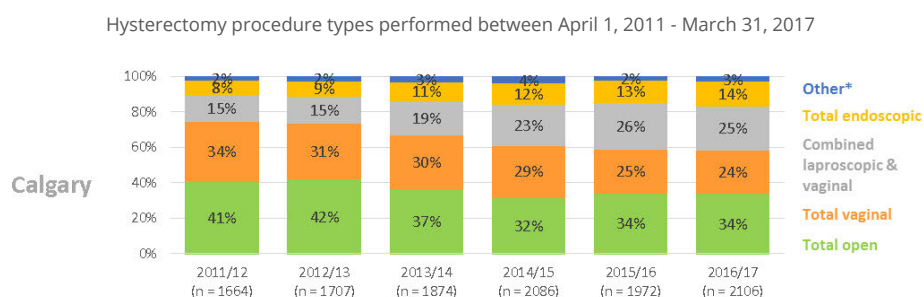
Hysterectomy is the sixth most common surgery performed in Canada. In 2016-17, there were 41,841 hysterectomy procedures performed. Although Canadian hysterectomy rates have declined since the 1980s, the disparity of rates in different areas can't be explained by patient population or geographic factors alone, which suggests that the rate disparity may be due, in part, to inappropriate use (or lack of use) of hysterectomy as a surgical treatment.

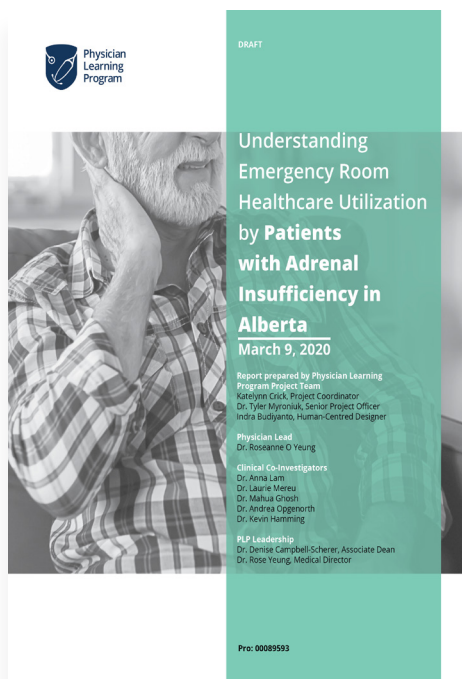
Current guidelines do not provide a benchmark rate for hysterectomies; however, they do provide recommendations on how best to treat benign gynecological conditions with hysterectomy being one option. For non-cancerous gynecological conditions, vaginal hysterectomies are recommended, and when a vaginal approach is not possible, laparoscopic hysterectomies should be used.

This PLP project, led by Drs. Pamela Chu and Wynne Leung, assessed hysterectomies to determine whether rates increased during the 2012-2017 period, and to describe medical and surgical practices used by physicians. Our study found that 56% of non-cancerous hysterectomies were being performed abdominally, 32% vaginally, and 11% laparoscopically. Summary reports with aggregate data and results were distributed to the leads at each Calgary site, and 41/92 (45%) of the physicians who perform hysterectomies in Calgary registered for their personal practice reports in November 2018. The project, along with aggregate reports, was presented to 39 physicians attending the Obstetrics and Gynecology Department retreat in May 2019. In addition to providing physicians with clinically actionable information regarding hysterectomy use, this project has catalyzed the development of two new PLP projects with the department.



Hysterectomy procedure type





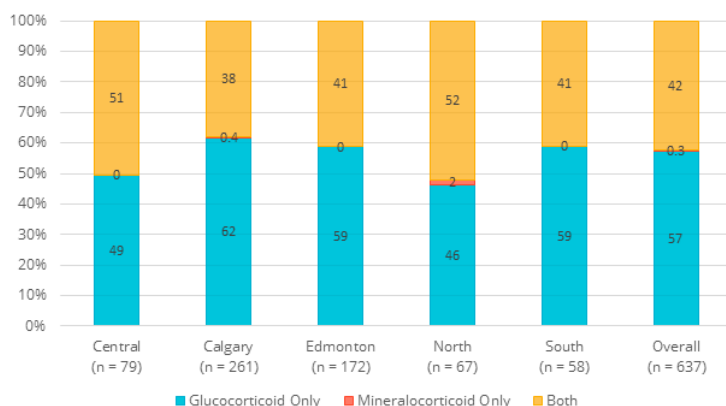
Understanding the Patient Cohort with Adrenal Insufficiency in Alberta

Adrenal insufficiency (AI) is a rare, life-threatening hormonal disorder. AI requires lifelong treatment with steroid replacement therapy, and special education and instructions for medication adjustment in times of illness or surgery, which is known as stress dosing. In severe circumstances, individuals with AI can face life-threatening low blood pressure, adrenal crisis, and require hospitalization. Patients with AI have an increased comorbidity burden and higher rates of hospital admission compared to matched controls.

Little is known about the nature and burden of AI patients on healthcare utilization in Alberta. A baseline understanding of the prevalence of AI, treatments, service utilization, and differences across zones in Alberta is needed to engage physicians across the province in identifying areas for improvement. PLP partnered with the University of Alberta's Division of Endocrinology and Metabolism academic faculty members including Drs. Rose Yeung, Anna Lam, Laurie Mereu, Mahua Ghosh, Andrea Opgenorth, and Kevin Hamming.

The results of this project suggest that patients do not appear to be over-utilizing Emergency Department (ED) services for AI. Our findings highlight the need for improved outpatient coding practices in order to identify patients with AI in the Alberta administrative data and understand the size of this patient population in the province. We observed considerable variability in coding practices throughout the province, and have recommended revising coding practices for outpatient follow-up visits to make the condition code for AI mandatory. This would improve the information available for resource allocation, budgeting, and tracking trends over time. It would support evidence based practice reflection for endocrinologists, drawing on province-wide administrative healthcare data as a supplement to their practice-level electronic medical records. The project and its preliminary findings were presented to endocrinologists from the Edmonton zone in November 2019. The completed project findings and recommendations were presented to approximately 20 Edmonton Zone endocrinologists and a representative from the Canadian Addisonian Society in January 2020.

Medications by zone



The majority of patients seen in ER over five years were prescribed glucocorticoid alone (57.2%)

Most patients (90.9%) made between one and three emergency room visits related to adrenal insufficiency over the five year period.

Co-creating educational materials for patients living with adrenal insufficiency

Without adequate hormone replacement, individuals with AI face hypotension, which can result in life-threatening adrenal crisis and hospitalization. Patients must manage their own dosing, taking into account the stressors they experience from day to day, and adjusting their amount of medication when they experience illness, physical injury, emotional stress, strenuous exercise, and high environmental temperatures. More substantial adjustments are needed when patients experience pregnancy or undergo dental, medical, and surgical procedures.

In collaboration with the University of Alberta Department of Endocrinology, PLP's human centred designers developed a collection of patient resources and tools for AI. Patients can review these aids with their endocrinologist to develop and record their personal treatment plan for stress dosing as well as regular management and treatment. These tools support patient education, and improve the interaction between patients and endocrinologists, in support of better patient outcomes.

Adrenal insufficiency patient treatment plan

ADRENAL INSUFFICIENCY PERSONAL TREATMENT PLAN

Please fill out this form with your doctor

YOUR REGULAR TREATMENT DOSES (when feeling reasonably well):

Name: _____ Date: ____/____/____

Glucocorticoid Dose: ☐ Hydrocortisone (Cortef) ☐ Cortisone ☐ Prednisone ☐ Dexamethasone

Mineralocorticoid Dose: ☐ Fludrocortisone (Florinef) ☐ Not needed

GENERAL SCENARIOS TO CONSIDER

At home management of illness fever:

- Design the plan to increase the dose and recovery for up to 3 days
- Stay hydrated, increase both salt and fluid intake

Vomiting, persistent diarrhea, or other severe illness:

- At all times, keep a kit on hand and be able to use it

Significant illness: ☐ Yes (Florinef) ☐ Not needed

SIGNS OF ADRENAL CRISIS

Fainting or dizziness on standing or loss of consciousness

Low blood pressure

Dehydration

Back or abdomen pain

2019 Family Medicine Summit poster

Evaluation of low value prenatal TSH testing in Alberta

Authors: Patricia L. Dr. Norma Spence, Dr. Monica Sargious, Christopher Rios, Dr. Katrina Nicholson, Dr. Antonia Stang

Has a lack of a clear guideline led to the over ordering of low value prenatal TSH tests?

Objectives

1. Evaluate the value of prenatal TSH tests performed in Alberta on women who have no prior personal history of thyroid disease.
2. Support physicians to identify unmet learning needs by providing personalized data reports on current TSH testing practice in this population with a suitable peer comparison.
3. Development of facilitated group learning sessions utilizing the Calgary Audit and Feedback Framework (CAAF) model to embed current best evidence and promote a reduction in low value TSH testing through informed practice change.

Recommendations

1. Development of a clear guideline for the use of prenatal TSH testing.
2. Development of a low value prenatal TSH testing pathway.
3. Development of low value prenatal TSH testing through informed practice.

Evaluation of low value prenatal Thyroid Stimulating Hormone testing in Alberta

A number of PLP projects focus on appropriateness of testing. This project, led by Drs. Norma Spence and Monica Sargious with input from Dr. Lois Donovan, aimed to quantify the number of unnecessary/ low-value prenatal thyroid stimulating hormone (TSH) tests being ordered, with the goal of reducing low value tests going forward. Our analysis found that 115,480 prenatal TSH tests were ordered in Alberta between August 2015 and March 2018. About 73% of those tests were ordered for women with no personal history of thyroid disease or past abnormal TSH tests. Notably, fewer than 0.2% of low value TSH tests returned a result outside the normal range. We also found that the majority of low value TSH tests were being ordered in the first 12 weeks of pregnancy, suggesting they were being ordered by primary care physicians. These results confirm that a considerable number of prenatal TSH tests are low-value and could be eliminated.

The project's results were presented to Alberta family physicians at the 2019 Family Medicine Summit, where discussions exposed contradictory guidelines that could contribute to the over-ordering of low value prenatal TSH tests. Following the conference, Dr. Monica Sargious helped develop a prenatal TSH testing pathway, which will be presented to physicians at a future conference, and may also be incorporated into an ongoing PLP project on laboratory test utilization.

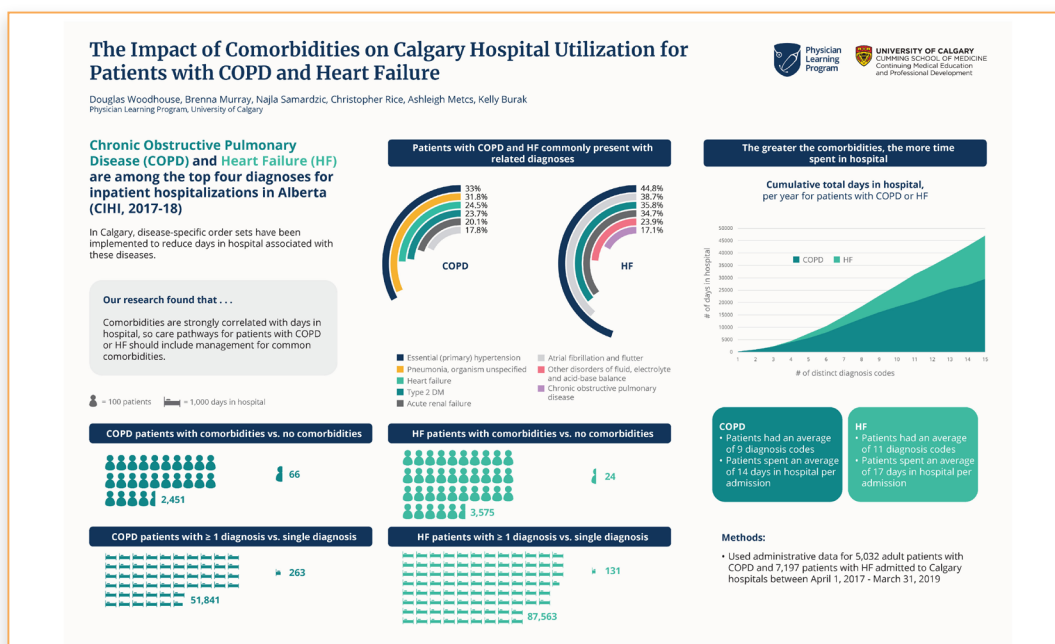
Assessing the prevalence of co-morbidities with chronic obstructive pulmonary disease and heart failure in Calgary Zone hospitals

Chronic obstructive pulmonary disease (COPD) and heart failure (HF) are chronic conditions with high morbidity and acute care utilization. They are among the top four diagnoses for inpatient hospitalizations in Alberta. Evidence-based care pathways have been developed for COPD and HF. These pathways are currently being implemented in Calgary hospitals, with plans for implementation at hospitals across the province and in community care in, due course.

Studies show that >95% of patients with COPD have at least one comorbidity (e.g., hypertension, acute myocardial infarction, atrial fibrillation, heart failure, and diabetes mellitus). These comorbidities make the diagnosis and management of COPD more difficult, and can result in longer hospital stays. This project, led by PLP Medical Director Dr. Doug Woodhouse, examined the frequency of comorbidities among patients with either COPD or HF admitted to acute care in Calgary hospitals. In addition to identifying the most common comorbidities, we also investigated whether the length of hospital stay differed for patients with a single diagnosis compared to those with comorbidities.

Looking at 2017-2019 administrative health data, this project found that 97% of patients with COPD and 99% of patients with HF had at least one comorbidity. Furthermore, patients with at least one comorbidity spent considerably more days in hospital, on average, than patients without comorbidities during the study period. In an average year, there were 66 patients with 263 hospital days for patients with COPD only, compared with 2,451 patients and 51,841 hospital days for patients with comorbidities. On average per year, there were 24 patients with 131 hospital days for patients with HF only, compared with 3,575 patients and 87,563 hospital days for patients with comorbidities. Understanding how comorbidities of COPD and HF increase the complexity of care and length of hospital stay highlights the importance of care pathways for hospitalists, as well as the important role that the patient's medical home can play in ongoing care.

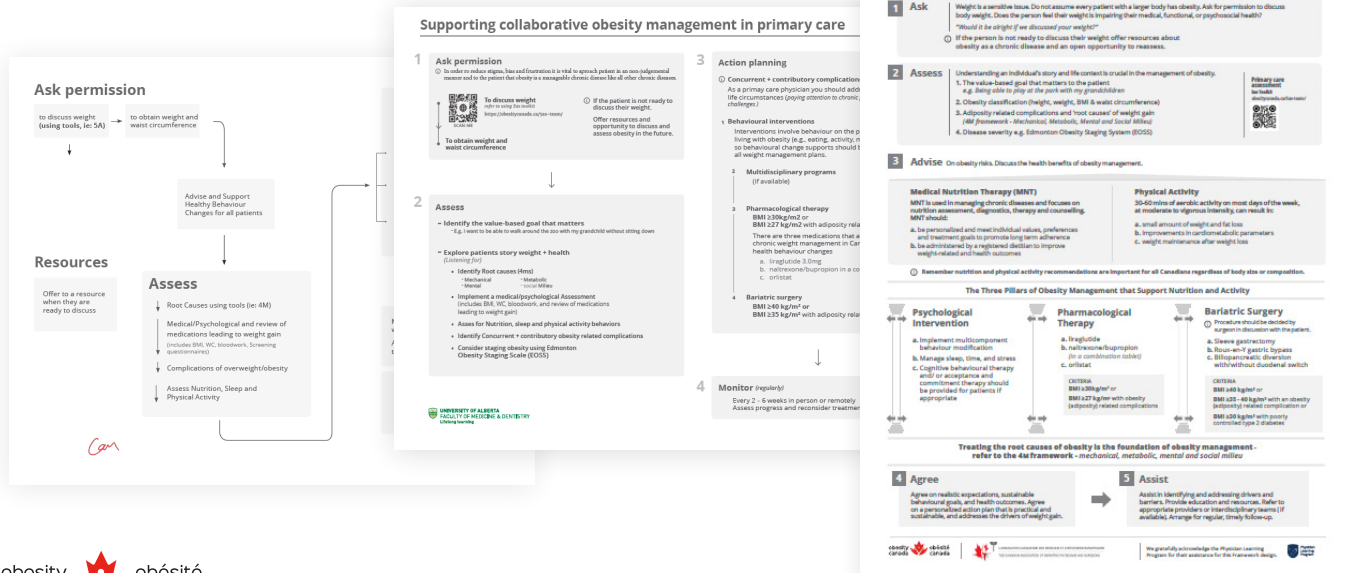
COPD Poster for the ACFP Family Medicine Summit, recipient of the 2nd place Reviewers' Choice Award Poster Display Category



Developing a comprehensive one-page framework tool for obesity management in adults

The Canadian Clinical Practice Guidelines for adult obesity have undergone a substantial revision, and will soon be published. In partnership with Obesity Canada, PLP used human centred design approaches to create a one page visual algorithm summarizing the essence of the revised guidelines, which are complex and more than 400 pages long. The design process was geared towards making an algorithm more accessible and usable for family physicians, primary care interdisciplinary team members, individuals living with obesity and those who support their care, and policymakers.

Successive iterations illustrate the process of developing the obesity framework tool



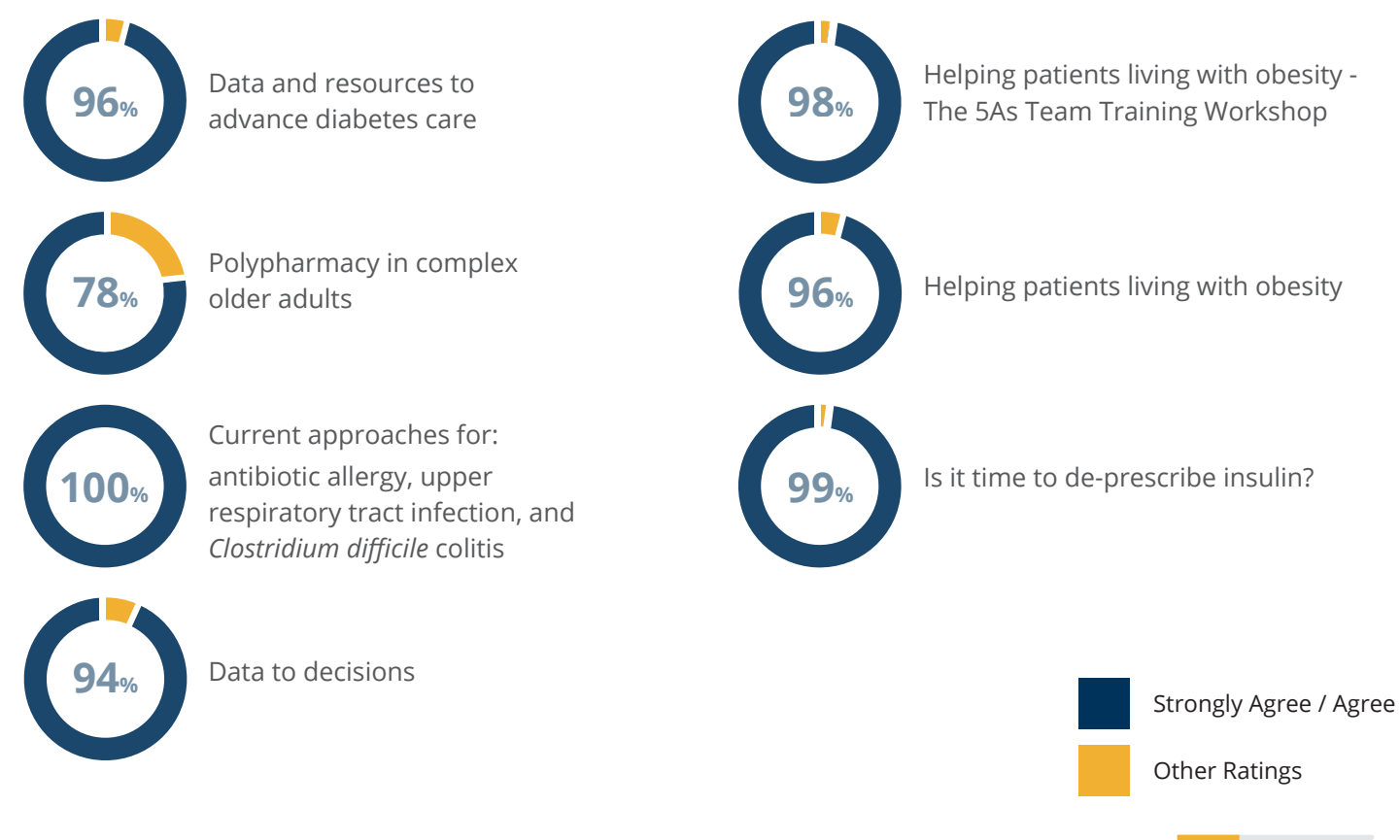
PLP-PCN Initiative Events

Increasing PLP’s engagement with primary care is an important strategic priority. Our primary care strategy strives to increase family physicians’, and their teams’, awareness of resources available from PLP and our partner Primary Care Networks (PCNs), including their quality improvement infrastructure. Through such partnerships, we are increasing awareness of practice-based quality improvement as a feasible enterprise in primary care. PLP has hosted several larger, pan-PCN engagement events that provide an introduction to areas of clinical importance and opportunities to increase literacy in quality improvement. In addition to the administrative health data which are presented and reviewed to anchor these events, PLP tools and resources are also distributed. After reflecting on data and participating in small group discussions on quality improvement, participants identify actions for next steps and summarize them on an action card. Improvement facilitators receive the action cards and follow up with contacts and activities, at the clinic level, to help physicians and teams advance their practice.

In aggregate, 283 physicians and 213 allied health and team members have attended four pan-PCN events in Edmonton, two workshops in Edmonton, and three PCN events in Calgary. Participants report high levels of satisfaction with the events and overwhelmingly agree that the information presented will help them advance their practice. In addition to the large events highlighted below, brief details on 16 smaller events are listed later in the report.

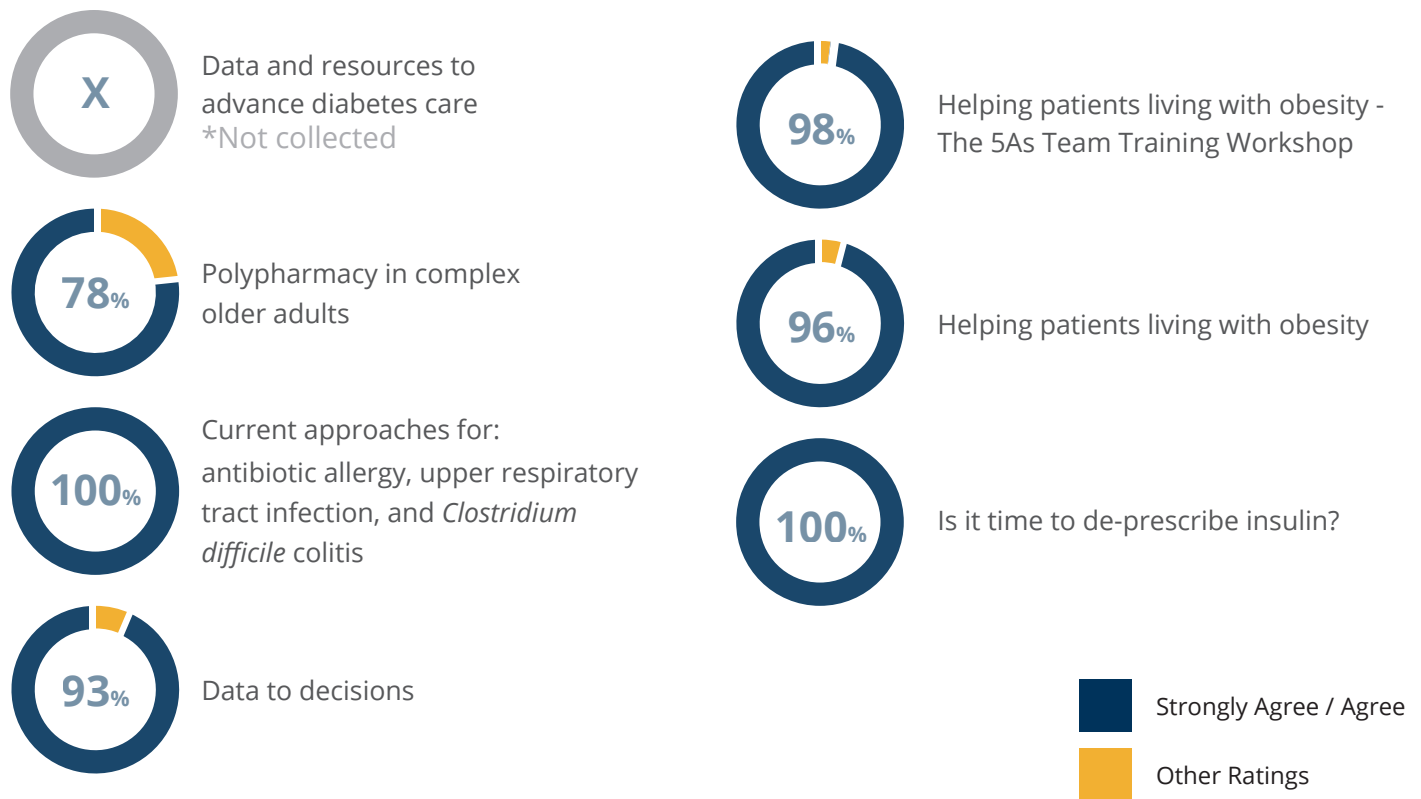
Primary Care Network Event Evaluations:

“I will use the information I learned to advance my practice”



PCN event satisfaction ratings:

"Overall, I was satisfied with this program"



Primary care: Using data and resources to advance diabetes care in the community

Family physicians have a strong interest in diabetes management, as approximately one million Albertans are living with diabetes or prediabetes. A relatively newer class of diabetes medications, SGLT2 inhibitors, has been found to offer cardiovascular benefits, as well as weight loss and less hypoglycemia. These medications are recommended in the Diabetes Canada Clinical Practice Guidelines for the higher risk patients that have diabetes and cardiovascular disease, and are covered on the Alberta formulary. Despite the many benefits and the recommendations from the guidelines, there has been poor uptake of these medications.

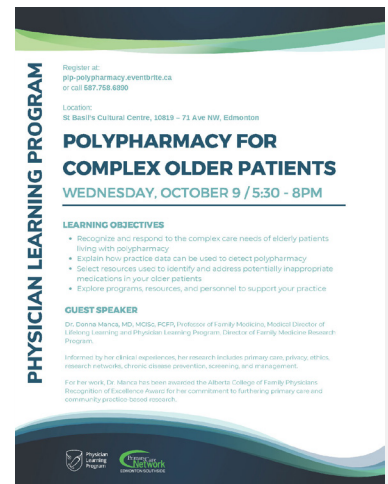
To support family physicians' knowledge of these medications and enhance their ability to address this topic and improve care, PLP developed and delivered two workshops for family physicians at the 25th Annual Update in Adult Medicine Conference in Edmonton, in April 2019. PLP Medical Director Dr. Rose Yeung, and PLP clinical liaison, Nandini Desai partnered with NAPCRen to demonstrate the Diabetes Dashboard in the CPCSSN database. Forty participants learned about these new medications, reviewed primary health care data on diabetes, and learned how to use quality improvement tools to advance their practice.

Primary care: Polypharmacy in complex older patients

Many elderly patients use ten or more medications simultaneously, referred to as polypharmacy. The increasing prevalence of polypharmacy brings negative consequences for our elderly populations. It increases patients' risk for falls and is associated with poorer health and lower overall quality of life. In addition, polypharmacy is associated with increased hospitalizations related to adverse drug reactions, which increases the costs for the healthcare system.

Building on the SPIDER project (Structured Process Informed by Data, Evidence and Research) and in partnership with NAPCReN (The Northern Alberta Primary Care Research Network) and the Edmonton Southside PCN, PLP held a pan-PCN event in October 2019. The event, attended by 56 participants including physicians and team members, focused on introducing quality improvement processes and tools to support physicians in reflecting on their practice and identifying opportunities for polypharmacy related change. Resources for de-prescribing four groups of medication were provided, and improvement facilitators at PCNs engaged with participants for subsequent follow up.

In addition, a clinic-level follow-up event on polypharmacy was held in Edmonton in July 2019. This small event, with three practice physicians, two pharmacists, and PLP and CPCSSN team members, focused on data-driven practice based quality improvement.



PHYSICIAN LEARNING PROGRAM

Register at:
plp-polypharmacy.eventbrite.ca
or call 587.758.6890

LOCATION:
St Basil's Cultural Centre, 10819 - 71 Ave NW, Edmonton

**POLYPHARMACY FOR
COMPLEX OLDER PATIENTS**

WEDNESDAY, OCTOBER 9 / 5:30 - 8PM

LEARNING OBJECTIVES

- Recognize and respond to the complex care needs of elderly patients living with polypharmacy
- Explain how practice data can be used to detect polypharmacy
- Select resources used to identify and address potentially inappropriate medications in your older patients
- Explore programs, resources, and personnel to support your practice

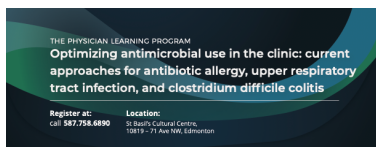
GUEST SPEAKER

Dr. Diana Mancoske, MD, MSc, FRCPC, Professor of Family Medicine, Medical Director of Learning, Training and Physician Learning Program, Director of Family Medicine Research Program

Informed by her clinical experience, her research includes primary care, privacy, ethics, research networks, chronic disease prevention, screening, and intervention.

For her work, Dr. Mancoske has been awarded the Alberta College of Family Physicians' Recognition of Excellence Award for her commitment to advancing primary care and community practice based research.

Physician Learning Program logo and St Basil's Cultural Centre logo are at the bottom.



THE PHYSICIAN LEARNING PROGRAM

Optimizing antimicrobial use in the clinic: current approaches for antibiotic allergy, upper respiratory tract infection, and Clostridium difficile colitis

Register at:
call 587.758.6890

Location:
St Basil's Cultural Centre,
10819 - 71 Ave NW, Edmonton

The Physician Learning Program presents an evening of facilitated workshops and interactive content featuring a fully catered dinner. This event is open to member physicians and multidisciplinary team members from any of the Edmonton Zone Primary Care Networks.

LEARNING OBJECTIVES

1. Develop a practical and safe approach to prescribing antibiotic penicillin allergy labelled patients
2. Review new management guidelines for Clostridium difficile colitis
3. Develop a patient centered and team oriented approach to responsible antibiotic prescribing in "odd and far" season

GUEST SPEAKERS

Dr. Lynora Saxinger is an academic infectious diseases specialist, whose professional career outside patient care is focused on antimicrobial stewardship and antimicrobial resistance, with involvement in hospital, health system and national collaborations to improve antibiotic stewardship practice, and surveillance of antimicrobial resistance and utilization. Her current role is Associate Professor of Medicine, University of Alberta, and Medical Lead of AHS Antimicrobial Stewardship for Northern Alberta.

Dr. Holly Hoang is the Medical Director of the Coan Health Antimicrobial Stewardship Program, and an Associate Clinical Professor based in Infectious Diseases at the Grey Nuns Hospital. She specializes in evidence based approaches to early antibiotic resistance through education.

Dr. Justin Chen is the Site Medical Director for the Antimicrobial Stewardship Program at the University of Alberta Hospital, Mazankowski Alberta Heart Institute, and the Kape Edmonton Clinic, and is an Assistant Clinical Professor in the Division of Infectious Diseases. He is expanding the site Stewardship program, and developing quality initiatives to apply best practices.



Primary Care: Current approaches for antibiotic allergy, upper respiratory tract infection, and Clostridium difficile colitis

In partnership with the Edmonton Southside PCN, PLP held a pan-PCN event on antimicrobial stewardship in the primary care clinic in November 2019. Sixty-six physicians and team members attended this event, led by Infectious Disease specialists from the Antimicrobial Stewardship Group Northern Zone, including Drs. Lynora Saxinger, Holly Hoang, and Justin Chen. Aggregate data, interactive case studies, and updates on current approaches were presented to support physicians' reflections on their practice. Topics included assessing and delabeling penicillin allergy, antibiotic use and *C. difficile* colitis, and management of upper respiratory tract infection.

Primary Care: Data to decisions

The Mosaic PCN and PLP held two Data to Decisions events, in October and November 2019, that focused on supporting physicians in understanding, accessing, and using data to drive decision-making and practice improvements as they work towards the implementation of the Patient's Medical Home. A key part of the Data to Decisions events was to create an action plan for the next steps in physicians' work on patient paneling and screening. Most physicians agreed that having their personalized HQCA report to review supported their learning and ability to create action. They also reported that it was helpful to learn how the PCN can support them and that after the PLP session they would be better able to identify patients who should be on their panel.

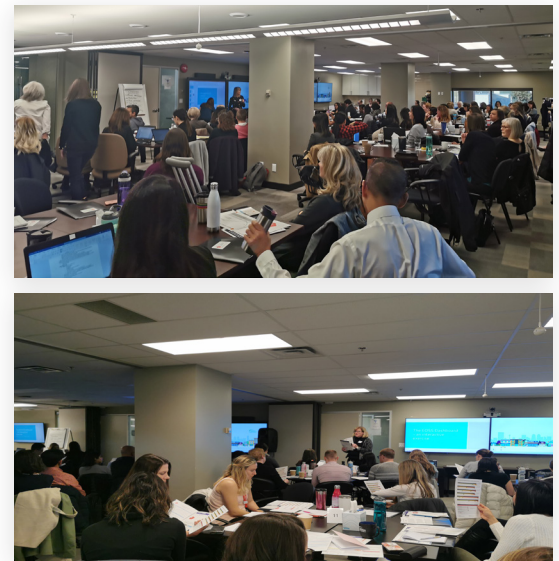
Primary Care: Learn how to help your patients living with obesity: The 5As Team Training Workshop

30% of Canadians live with obesity, leading national and international medical associations to declare obesity a chronic disease, and one that often requires medical support². Many healthcare providers feel ill-prepared and often lack the knowledge and confidence to effectively address weight concerns with their patients, since no widely recognized programs have been implemented to date. As a result, obesity management tends to be limited to “diet and exercise” which can lead to negative attitudes and unrealistic expectations for both the healthcare provider and patient, as well as detrimental patient health outcomes.

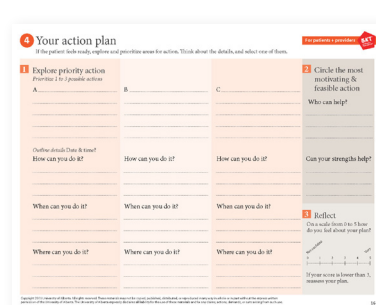
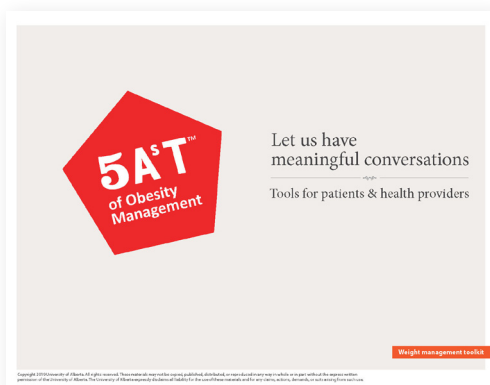
The 5As Team training workshop is a comprehensive educational program that provides care providers with knowledge and training in obesity prevention and management. The course combines interactive lectures with experiential learning and opportunities for reflection on their practice.

In November 2019, PLP hosted a full day 5As Training Workshop for the Calgary Foothills PCN (CFPCN) led by a team of experts in the field, including: Dr. Denise Campbell-Scherer; Dr. Sonja Wicklum, a family physician with the CFPCN and University of Calgary; Dr. Celine Koryzma, a psychologist with Alberta Health Services (AHS) in Calgary; and, Dr. Roshan Abraham, a family physician at the University of Alberta. Attended by 93 interdisciplinary healthcare providers, the event included interactive lectures about the pathophysiology, drivers, and measurement of obesity. The presentations included Alberta primary care data from the Edmonton Obesity Staging System (EOSS) dashboard, which was jointly created by PLP and NAPCReN. Additional interactive lectures were given on therapeutic approaches, including the 5As Team Approach. The afternoon included a mock demonstration of the 5As Team approach using the 5AsT toolkit and large group discussions.

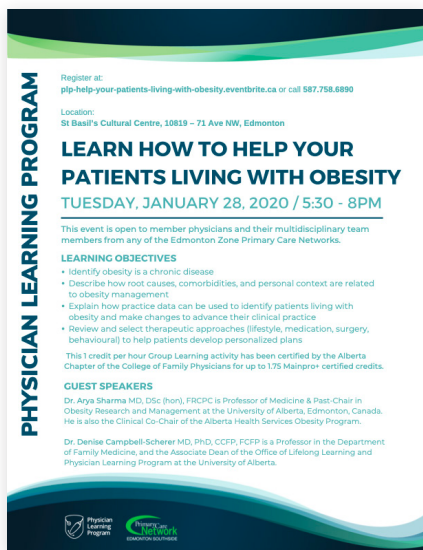
Calgary Foothills PCN obesity workshop event



5AsT obesity toolkit



[2] <https://obesitycanada.ca/obesity-in-canada/>



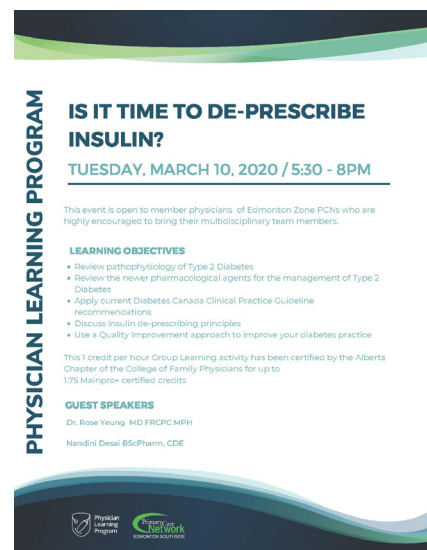
Primary care: Learn how to help your patients living with obesity

Increasing health care providers' comfort with helping patients living with obesity supports improved patient outcomes. In January 2020, PLP hosted a Pan-PCN workshop for health care providers on helping patients living with obesity, in partnership with the Edmonton Southside PCN. Drs. Arya Sharma and Denise Campbell-Scherer, from the University of Alberta, delivered their presentation to 75 attendees, including 50 family physicians. The workshop included case-based learning around obesity pathophysiology, drivers, measurement, and management. The presentation included Alberta primary care data from the EOSS dashboard, which highlighted the impact of comorbidities and the benefits of early intervention on obesity.

Primary care: Is it time to de-prescribe insulin?

Newer medications for diabetes are now available to patients. These medications have many benefits over traditional medications, including less hypoglycemia, weight loss, and improved ability to prevent heart and kidney disease. These medications are covered by the Alberta formulary and are recommended in the Diabetes Canada Clinical Practice Guidelines for the higher risk patients that have diabetes and cardiovascular disease. Despite accessibility and recommendations from the guidelines, feedback to PLP from family physicians suggests that there has been poor uptake of these newer agents.

To help enhance family physicians' ability to address this topic and improve quality of care, we partnered with the Edmonton Southside Primary Care Network for a pan-PCN event in March 2020, which hosted 101 physicians and team members. The event was led by PLP medical director and endocrinologist Dr. Rose Yeung, and PLP clinical liaison Nandini Desai. Administrative primary care health data from NAPCReN was presented to support practice reflection, and participants used quality improvement tools to review cases and apply new learning.



Active Projects

Beta-Lactam allergy and surgical antimicrobial prophylaxis: Site-based results

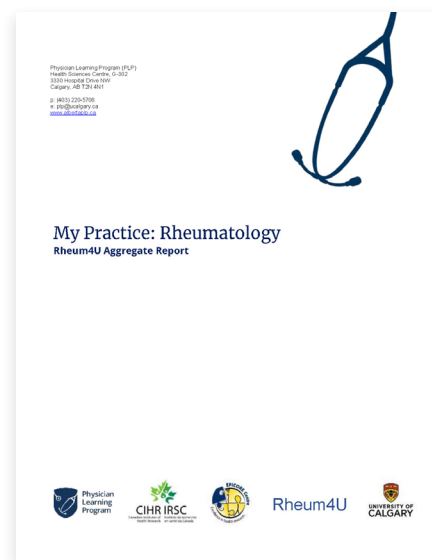
A substantial PLP project this past year examined beta-lactam allergy and surgical antimicrobial prophylaxis, in partnership with Edmonton Zone members of AHS' Antimicrobial Stewardship Committee and the Zone Clinical Directors Executive Committee for Surgery and Anesthesiology. The project demonstrated that, despite changes to guidelines in 2018, cefazolin is still being under-prescribed as SAP for surgical patients with beta-lactam allergy, and there are large variances in SAP practices across sites and specialties in the Edmonton Zone.

Building on the Edmonton zone results, PLP is completing follow-up projects that provide site based reporting for each of the facilities participating in the study. These findings will assist the hospitals' antimicrobial stewardship working groups in setting priorities and objectives for surgical antimicrobial prophylaxis, and will also support quality improvement cycles at each site.

My Practice: Rheumatology

Rheumatoid arthritis is the most common form of arthritis and affects approximately 1% of the Albertan population. Providing quality care for chronic diseases like rheumatoid arthritis is important, as early identification and treatment can potentially lead to remission. Targeted approaches to treating rheumatoid arthritis depend on consistent documentation of clinical variables in order to identify gaps in care. Most electronic medical records are not designed to capture information on disease activity tracking for rheumatology patients. Rheum4U is a custom electronic platform designed to capture data in a more efficient manner to facilitate quality improvement initiatives.

In collaboration with Dr. Claire Barber and the Department of Rheumatology at the University of Calgary, PLP examined adherence to clinical practice guidelines in rheumatology care, and provided physicians with reports that included their individual practice data, in comparison with aggregate data. The clinical data focused on the frequency of follow-up, the number of patient encounters where disease activity scores were assessed, and remission target achievement. At a PLP audit and feedback session in October 2019, physicians were able to discuss their practice data with their peers, using the Calgary Audit Feedback Framework in a socially constructed learning environment. Baseline data on rheumatology patient care metrics were established at the group feedback session in October 2019. Follow up measurement planned for 2020 will examine whether adherence to rheumatology practice guidelines can be sustained.



Assessing barriers and opportunities for National Surgical Quality Improvement Program implementation in Alberta

Numerous studies have shown that the National Surgical Quality Improvement Program (NSQIP) is associated with positive surgical outcomes. However, there is a limited understanding of how healthcare organizations successfully integrate and sustain NSQIP. To support and sustain the use of NSQIP in Alberta, PLP partnered with the Surgery Strategic Clinical Network (SCN) to evaluate the implementation of NSQIP across five hospital sites. Drs. Mary Brindle and Sanjay Beesoon from the Surgery SCN collaborated with PLP team members, including Drs. Dawn Schroeder, Thea Luig, and Denise Campbell-Scherer, to design and execute the study, and facilitate support from AHS leadership.

Successful adoption of NSQIP in Alberta depends on many factors within the environment, such as having an understanding of the cultural environment, readiness for change, and group dynamics. Data analysis for this qualitative study is nearing completion. This evaluation project will provide insights into the ways in which these and other factors influence the implementation of NSQIP. The findings and recommendations from this project will help the Surgery SCN in their efforts to achieve the full value of NSQIP and will provide insights for other health systems considering adopting NSQIP.

NSQIP study locations



Building a common vision: Quality improvement across five diabetes centers in the Edmonton Zone

The evidence for optimizing care for people living with diabetes to reduce morbidity, mortality, and cost is well known yet application is inconsistent in practice. Our Edmonton Zone diabetes clinics and Edmonton Zone Diabetes Quality Council are looking to change this. For the first time, PLP has carried out a detailed examination of the types of diabetic patients and service provisions within every Edmonton diabetes clinic. Compiling and interpreting this information is required to stimulate reflection and identify priorities for advancing practice. Our next step involves collaboratively creating interventions with the stakeholders to engage in audit and feedback and practice-based quality improvement based on their priorities. Information derived from this project will influence several levels of care, including individual patient and site level care, as well as broader policy.

Understanding the nature of the obesity patients in Alberta

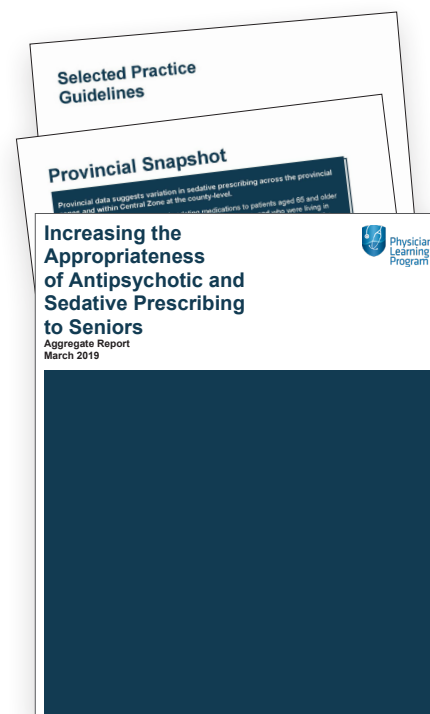
Over 14 million Canadians live with obesity or are overweight, which are major drivers of chronic diseases with a significant burden. There are concerning signs that this trend is worsening, and one-third of youth are affected. There is a pressing need for effective, scalable interventions to improve prevention and management of obesity and related comorbidities.

However, developing these effective and scalable interventions requires an understanding of the nature of the obesity patients in Alberta. Currently, PLP is using a population lens to explore how to strategize for appropriate interventions. Led by Drs. Denise Campbell-Scherer, Donna Manca, Karen Lee, and Rose Yeung, this project examines primary care health data to provide insight into how the Edmonton Obesity Staging System (EOSS) dashboard created by PLP and NAPCReN can be used as an assessment tool for people living with, or who are at risk of, obesity. This information will help physicians provide better care for their patients.

Evaluating the effects of audit and feedback interventions on the use of antipsychotics and sedatives in seniors admitted to Calgary hospitals

The use of antipsychotic, sedative, and anxiolytic medications in seniors is common, even without a solid justification for their efficacy and safety. The American Geriatrics Society updated Beers Criteria for potentially inappropriate medication use in older adults provides evidence-based recommendations to avoid a number of these medications. Despite these guidelines, elderly patients admitted to hospitals under the care of dedicated hospitalists are often prescribed multiple medications based on their complex medical history.

As part of this PLP project, hospitalists received a summary of their clinical performance data on prescribing patterns for antipsychotics, antidepressants, and sedatives to identify areas for practice change. Hospitalists participated in four audit and feedback sessions at Calgary Zone hospitals. Follow-up data analysis revealed that after the audit and feedback sessions, the proportion of patients who received at least one medication in the 24 hours prior to discharge decreased, while hospital length of stay and 30-day readmission rates remained unchanged. Providing hospitalists with their individual practice data supported a reduction in the use of potentially inappropriate medications for seniors.



ER Dashboard audit and feedback sessions

This project, led by PLP Assistant Dean Dr. Shawn Dowling, provides peer-facilitated audit and feedback to Calgary emergency physicians. The aims of the project are to improve physicians' receptiveness to their practice data, and to encourage physicians to both identify opportunities for practice change and create action plans.

While the adult ER dashboard has existed for years, its use by emergency physicians has been low. PLP found that establishing the meaning and credibility of the data is a necessary precursor to reflection and action planning. The ER dashboard reports various metrics, including three each for flow, quality of care, and resource stewardship, as well as one balancing metric. Physician's individual data is presented in comparison with that of their peers.

In Calgary, 63/180 emergency physicians have now attended at least one of the eight sessions. Participants reported that examples of changes made by the peer facilitators were particularly helpful. Evaluations demonstrate wide-spread agreement or strong agreement among physicians that the peer comparison was valuable, that the reports helped them reflect on their practice, and that the session helped them identify learning opportunities and strategies to change. This PLP project will carry over into the coming year, giving more Calgary ER physicians the opportunity to participate in an ER dashboard audit and feedback session.

My Practice: Pediatric ER dashboard

A dashboard of individual performance metrics for the adult emergency room physicians in Calgary has been available for years. Drawing on lessons learned while developing the adult ER dashboard and another PLP project on bronchiolitis management, this new PLP project will create a useful and effective dashboard for the emergency physicians at the Alberta Children's Hospital and South Health Campus in Calgary. The dashboard will cover general physician flow statistics, management practices around testing rates, use of diagnostic imaging, and medication prescriptions for appendicitis, asthma, pain, febrile neonates, and gastroenteritis. The objectives of this project are to improve patient care by strengthening adherence with evidence-based practice, improving efficiency of care processes, and reducing inappropriate testing and treatments.

This project will continue through 2020-21, to build the back-end structure, and pull and map the data that populates the dashboard. With the help of physician leads Dr. Jennifer Thull-Freedman and Dr. Shawn Dowling, and Pediatric Emergency Medicine section chief Dr. Antonia Stang, the project will be ready for group audit and feedback sessions with physicians in the fall of 2020.

Understanding and evaluating the pediatric patient cohort in Alberta presenting to hospital with diabetic ketoacidosis (Phase 2)

Type I diabetes mellitus (T1DM) is one of the most common endocrine disorders in the pediatric population, as well as one of the most common childhood chronic conditions. Approximately 40% of children with new-onset T1DM will present in diabetic keto-acidosis (DKA). Details of our recently completed phase 1 project are provided earlier in this report.

The purpose of this second phase of the project, led by PLP physician liaison Dr. Jennifer Walton and Drs. Jessica Foulds and Elizabeth Rosolowsky at the University of Alberta, is to assess whether pediatric patients with DKA are being treated in accordance with the Clinical Practice Guidelines in Alberta hospitals. This information will be used to identify clinically actionable information which will assist physicians in advancing their practice. The results and recommendations will support the development of engagement sessions that aim to reduce practice variation across sites. For hospital sites not included in this phase, the project's findings will help to promote broader practice reflection.

My Practice: Inpatient laboratory utilization

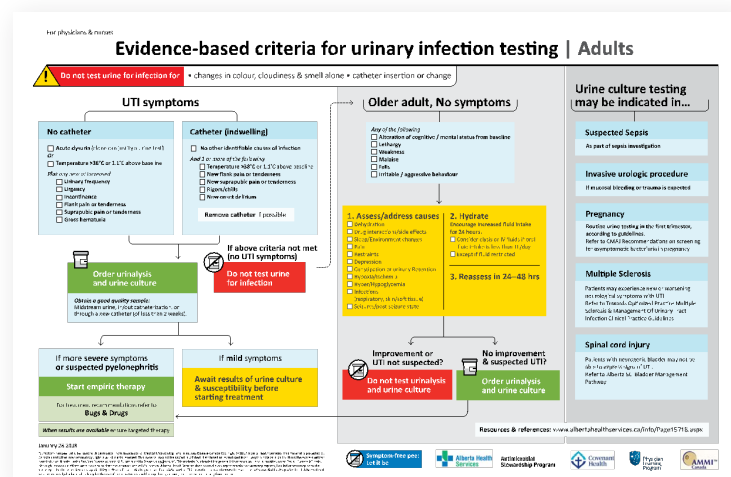
Repeated laboratory tests for hospitalized patients may not be necessary, and studies suggest that approximately 20% of these tests are not useful. The evidence suggests that Canadians may receive over one million unnecessary tests each year. Choosing Wisely Canada (CWC) recommendations from Internal Medicine and Pathology advise against ordering repeated blood counts and chemistry testing for stable inpatients.

PLP has partnered with the Calgary Zone AHS to support Dr. Anshula Ambasta in a project funded by Choosing Wisely Alberta. In Calgary, the annual expenditure on in-patient laboratory testing on internal medicine units is over \$2.8 million, and the increase in test volumes continues to outpace population growth. This project builds on a pilot study that demonstrated a 20% decrease in laboratory utilization after emailing physicians a report on their individual usage of laboratory tests. This project will involve all hospital sites in Calgary, and will include online clinical case studies, a tableau dashboard, and information sharing at audit and feedback sessions with physicians. Optimizing inpatient laboratory testing has the potential to improve patient care and reduce waste in health care.

Antimicrobial stewardship in asymptomatic bacteriuria initiative: Implementing the urinary tract infection testing decision algorithm in Calgary emergency departments.

The inappropriate use of antimicrobials in the treatment of asymptomatic bacteriuria is a commonly recognized issue in healthcare. To reduce the overuse of urine tests and unnecessary antibiotic treatment, last year PLP's human centred design team in Edmonton partnered with the AHS Antimicrobial Stewardship Committee to develop a decision making algorithm that would support a consistent testing process. Treating the urine, instead of the patient, is a significant driver of unnecessary antibiotic use, costs to the health care system, and antibiotic risks to patients. In the second phase of this project, led by Drs. Lynora Saxinger and Shawn Dowling, PLP's algorithm was implemented at one Calgary ED, to replace routine urine testing with targeted testing of patients with a reasonable clinical suspicion of UTI.

Adult UTI testing algorithm



The asymptomatic bacteriuria initiative's rationale and the decision making tool were presented to physicians, pharmacists, and nursing staff at the Foothills Medical Center (FMC) ED. Antimicrobial stewardship pharmacists, with the support of PLP, met individually with staff and physicians in the ED for two days in June 2019. The tools were introduced as part of the "short and snappy" individualized education and the team followed up on unanswered questions. During the site visit, nursing order sets that mandate urine testing were identified, and were revised to make urine testing optional, according to patient presentation. After the ASAB initiative intervention, the mean number of urine cultures/100 ED presentations at the FMD decreased by 17.1%. This reflects the elimination of 142 low-value urine cultures/month, and has a projected annual cost savings of greater than \$25,000. In addition to continued monitoring of urine testing rates at FMC, this initiative will be introduced to other Calgary EDs in the coming year.

Antimicrobial stewardship in asymptomatic bacteriuria initiative: Development of pediatric tools

Routine ordering of urinalysis and urine cultures is associated with the notion that positive test results are always indicative of urinary tract infections (UTIs). In patients with positive urine test results, starting antibiotic treatment without critically assessing the context of patients' symptoms is common practice. However, for patients who are asymptomatic, this routine treatment may reflect inappropriate use of resources and antibiotic therapy.

Previously, PLP used human centred design approaches to develop a decision algorithm to support antimicrobial stewardship in adults with asymptomatic bacteriuria. Implementing the algorithm for adults at one Calgary ED resulted in a 17% reduction in urine testing. This project, led by PLP physician liaison Dr. Lynora Saxinger, with AHS pharmacist Darren Passay, focuses on adapting this tool for use with pediatric patients, with the goal of reducing the overuse of urine testing and necessary antibiotic therapy. This will help improve the appropriateness of care and the sustainability of the health care system.

Advancing the management of chronic heart failure in primary care

In collaboration with the Edmonton Southside PCN (ESPCN) and the Mazankowski Alberta Heart Institute, PLP is developing a program on chronic heart failure for primary care physicians and their teams, in collaboration with Edmonton cardiologists Drs. Justin Ezekowitz, Bibiana Cujec, and Gavin Oudit, and pharmacist Dr. Sheri Koshman. Drawing on the most recent evidence-based guidelines for the management of heart failure, this program includes a pan-PCN event, which features an interactive and educational background on heart failure, and focuses on new advances, diagnosis, and updates on medications.

In addition, a series of follow-up workshops with the ESPCN will focus on screening, diagnosis, and prevention of heart failure, and later, on management of heart failure and referrals to the Mazankowski Institute. Participating clinics will use the data from their own electronic medical records to identify patients with heart failure and improve/optimize their care with support from the Mazankowski team.

Early Stage Projects

My Practice: Bronchiolitis management in Edmonton emergency departments

Bronchiolitis is the most common respiratory tract viral infection and the leading cause of hospitalization in infants under 12 months of age in Canada. The Canadian Pediatric Society recommends using hydration and oxygenation to support bronchiolitis patients. They do not recommend certain tests, like chest x-rays, or medications like steroids, antibiotics, and antivirals. However, prior studies suggest that low-value interventions are commonly administered to bronchiolitis patients in the ED. This year, we are building on a previous PLP audit and feedback study in the Calgary Zone which demonstrated a reduction in low-value interventions like chest x-rays, respiratory viral tests, and steroid use, in the six month period after a facilitated feedback session where physicians reviewed their own practice data and identified strategies to reduce low-value interventions.

This project will use administrative health databases and physician questionnaires to analyze the management of infants with a discharge diagnosis of bronchiolitis in Edmonton EDs, based on 3,197 cases of first-time bronchiolitis at the Stollery Children's Hospital between 2013 and 2019. The project has the potential to generate savings in health expenditures, by reducing low-value tests and medications in the Edmonton Zone.

My Practice: Cirrhosis care

About 10,000 Albertans have cirrhosis, a liver disease characterized by tissue scarring and decreased liver function. One potentially life-threatening complication of cirrhosis is variceal bleeding, from dilated blood vessels in the esophagus. Preliminary data has shown that cirrhosis patients in Calgary are being readmitted to the hospital for variceal bleeding at twice the rate observed in the United States.

PLP is collaborating with Dr. Puneeta Tandon, and the Gastroenterology Divisions at the Universities of Alberta and Calgary, on a project that aims to improve the management of patients with variceal bleeding. Caring for these patients is very complex, and involves medications and endoscopic procedures to find and band the bleeding varices. Patients in Calgary are managed by general internists, gastroenterologists, hepatologists, and nurse practitioners. Given the number of transitions of care, there are several potential opportunities for gaps in practice. This project will examine relevant data, and provide physicians with their individual practice data benchmarked with aggregate data for their peers during facilitated audit and feedback sessions, with the goal of reducing readmissions for variceal bleeding.

Optimizing safe and effective use of human albumin solutions in critical care in Alberta

Albumin is a protein made by the liver that helps keep fluid in the bloodstream. Robust evidence suggests that human albumin solutions should not be used for fluid resuscitation, except for special treatments for plasmapheresis and patients with liver cirrhosis. However, audit data for Alberta Intensive Care Units (ICUs) for 2016 demonstrated that a considerable amount of albumin was being administered, without evidence-based indications for its use. On average, 14% of patients admitted to ICU received albumin at least once, and there were several ICUs administering albumin to between 20% and 35% of admitted patients.

PLP is working with physician lead Dr. Daniel Niven, in partnership with the Critical Care SCN, and the Intensive Care Unit at the University of Calgary, on a new project that aims to increase the appropriateness of albumin use by ICU physicians in Alberta. This study will examine albumin use for all adult ICU admissions in Alberta's 16 ICUs during a one year period, and will share individual and comparator aggregate data with the >100 attending physicians through audit and feedback sessions. In addition to preventing unnecessary exposure to a blood product for thousands of patients, reducing the use of albumin when not indicated could reduce health care expenses by approximately \$350,000 per year

Assessment of patients at risk of developing hepatocellular carcinoma in Alberta and use of multi-faceted educational workshops to improve patient outcomes

Since 1970, the incidence of liver cancer has doubled in women and tripled in men. Mortality rates from liver cancer in Canada increased by 30% between 2002 and 2012. The risk of developing liver cancer is increased for patients with chronic hepatitis B virus (HBV) infection; however, with early detection, curative therapies are available. Current guidelines, therefore, recommend that patients at risk of developing liver cancer receive an abdominal ultrasound every six months. Identifying liver cancer at an earlier stage, using an automated surveillance program, offers a chance for a cure or prolonged survival, reducing the burden of liver cancer on patients and the health care system.

Presently, it is estimated that over 10,000 patients in Alberta are living with HBV. An automated surveillance program was developed in Calgary in 2013 to support these individuals. This PLP project, led by Dr. Stephen Congly, is being carried out in partnership with AHS, the Divisions of Gastroenterology and Hepatology at the University of Calgary and the University of Alberta, and EFW Radiology. This project will determine how well the population of at-risk patients in Alberta are served by the liver cancer surveillance program, and whether patients in the program are receiving screening at the recommended intervals. This project seeks to confirm that the diagnosis of liver cancer is found earlier in patients undergoing regular surveillance. Following data analysis, physicians and ultrasonographers will be invited to audit and feedback sessions where they will receive practice reports for their individual practice data as well as aggregate comparator data from their peers, and will participate in facilitated discussions to identify strategies for advancing their practice.

Patient and physician tools for cirrhosis

Through its connection with researchers and physicians, PLP can support and amplify the knowledge transfer of findings that result from large health care research grants. PLP is partnering with Dr. Puneeta Tandon, a hepatologist at the University of Alberta funded through a PRIHS Alberta Innovates - Cirrhosis Care Alberta Program grant. Using human centred design methods, PLP will help develop specific educational materials and tools for patients living with cirrhosis. Physicians will be able to use these resources at the point of care, which will help improve patient outcomes. PLP has expertise in improvement science, and has also been working with Dr. Tandon's team to support the design and evaluation of their intervention.

Breast cancer surgery postoperative information card

Edmonton Zone breast cancer surgeons, Drs. Lashan Peiris, Kamran Fathimani, and Farah Ladak, in partnership with the Comprehensive Breast Care Program, are working with PLP to develop a set of patient tools for breast cancer patients. The surgeons have identified a need for postoperative information cards for breast-cancer surgery patients and their primary care physicians during the recovery period. Drawing on PLP's expertise in human centred design, this project will use co-creations with surgeons and patients to optimize the content and design of the information cards, with the objective of improving patient outcomes and supporting postoperative recovery in primary care.

Breast cancer patient journey mapping

PLP is launching a new project, in partnership with the Cancer SCN, to develop and refine a journey map for patients with breast cancer. Journey mapping is used to understand the emotional, social, and mental experiences of individuals and patient groups as they interact with a complex health care system. Journey maps help patients understand how to navigate the healthcare system and process. Using qualitative approaches, the Cancer SCN has been working with patients with cancer to understand the patient experience. PLP's human centred design team will continue working with these patients and will co-create and revise the patient journey map.

Overuse of laboratory testing orders

Appropriateness of testing, and the reduction of low value testing, remain important priorities for PLP, as they contribute to the sustainability of our healthcare system. A new PLP project focuses on appropriateness of urea testing. This project is being carried out in collaboration with AHS, with Dr. Narmin Kassam at the University of Alberta and Pam Mathura at AHS, and is aligned with Choosing Wisely Alberta. This project will analyze administrative health data from several hospitals in AHS North, Central, and South Zones, as part of an audit and feedback project. This will be followed by quality-improvement focused educational events for family physicians and their teams.

Choosing Wisely: Reducing low value cardiovascular investigations to provide higher quality care at lower costs

Approximately 25% of commonly ordered cardiovascular investigations, including laboratory tests, echocardiography, and electrocardiograms (ECGs) are low-value or inappropriate. Although clinical guidelines advise against routine ECGs in low-risk, asymptomatic individuals, they are still regularly performed - including approximately 500,000 in the Calgary region every year.

PLP is collaborating with the Cardiovascular Health and Stroke SCN and Choosing Wisely Alberta on a new project, led by Dr. Sonia Butalia, that aims to reduce the use of low-value ECGs in Calgary outpatient cardiology and preoperative clinics. The targeted audience includes practicing cardiologists in the Calgary region at four hospital sites with multiple outpatient cardiology clinics. Audit and feedback sessions will provide cardiologists with their individual practice data, along with aggregate peer data for comparison. The physician-facilitated discussions will focus on identifying strategies to reduce the use of low-value ECGs.

Presentations

Physician engagement, audit and feedback, and stakeholder presentations

Primary care: Edmonton pan PLP-PCN events

- PCN Improvement Facilitators' event: Polypharmacy for complex older patients, September 2019
- Polypharmacy in the complex older patient, October 2019
- Optimizing antimicrobial use in the community, November 2019
- Learn how to help your patients living with obesity, January 2020
- Is it time to de-prescribe insulin? March 2020

Primary care: Edmonton Southside PLP-PCN events

- Dementia PaCT workshop, May 2019
- PEER Best Practice opioid use disorder in primary care, June 2019
- Introduction to PLP and better outcomes in diabetes care, June 2019
- EMR Events, April, September, October, December 2019, and January 2020
- Dementia in primary care - Part 1, September 2019
- Dementia in primary care - Part 3, September 2019
- Edmonton Zone opioid workshop, October 2019
- Dementia in primary care - Part 2, November 2019
- Screening and diagnosing Chronic Obstructive Pulmonary Disorder in primary care, January 2020
- Dementia in primary care Part 3, January 2020
- Webinar: Alcohol use disorder, February 2020
- Webinar: Chronic Obstructive Pulmonary Disorder, March 2020
- Webinar: Proactive and responsive clinic processes to COVID-19, March 2020

Primary Care: Calgary Mosaic PCN PLP events

- Data to Decisions: Understanding, accessing, and using information to drive decision-making and practice improvements, October 2019
- Data to Decisions: Understanding, accessing, and using information to drive decision-making and practice improvements, November 2019

Primary care, various locations

- SPIDER: A research and quality improvement collaboration supporting practices in improving care for complex elderly patients, July 2019
- Calgary Foothills PCN: Learn how to help your patients living with obesity, November 2019
- PLP Outreach, Edmonton North PCN, December 2019
- PLP Outreach, Edmonton Oliver PCN, January 2020
- PLP Outreach, Edmonton West PCN, January 2020
- PLP Outreach, Wolf Creek PCN, February 2020
- PLP Outreach, St. Albert and Sturgeon PCN, February 2020

Adult Medicine groups:

- 25th Annual Update in Adult Medicine - Using data and resources to advance diabetes care in the community, two workshops for primary care physicians, April 2019
- Choosing Wisely: Appropriate prescribing and deprescribing of proton pump inhibitors (course) - Annual Calgary Therapeutics Course, April 2019
- Department of Medicine Grand Rounds, Cumming School of Medicine, University of Calgary - Transforming health care delivery through continuing professional development, March 2020

Antimicrobial stewardship groups:

- Royal Alexandra Hospital Antimicrobial Stewardship Working Group - Beta-lactam project preliminary results, September 2019
- Edmonton Zone Antimicrobial Stewardship Working Group - Beta-lactam project preliminary results, October 2019
- Covenant Health Quality Council - Misericordia Community Hospital and Grey Nuns Hospital beta-lactam project preliminary results, October 2019
- AHS Surgery & Anesthesia Zone Department Executive Committee - Beta-lactam project preliminary results, December 2019
- Anesthesiology Grand Rounds, University of Alberta - Antimicrobial prophylaxis in surgery 2019: What anesthesiologists should know, January 2020
- Surgery Strategic Clinical Network - Introduction to beta-lactam project and potential knowledge translation, March 2020

Cardiology and Pulmonology groups:

- AHS Chronic Obstructive Pulmonary Disease and Heart Failure Working Group: PLP Chronic Obstructive Pulmonary Disease and Chronic Heart Failure utilization study, November 2019

Diabetes groups:

- Edmonton Zone Diabetes Quality Council - Building a common vision: quality improvement across five diabetes centers in the Edmonton Zone - A Physician Learning Program Initiative, October and December 2019
- Edmonton Zone Diabetes Managers - Building a common vision: quality improvement across five diabetes centers in the Edmonton Zone - A Physician Learning Program Initiative, January 2020

Endocrinology groups:

- Edmonton Zone Endocrinology Group: Adrenal insufficiency data project: Project progress and preliminary findings, November 2019
- Edmonton Endocrinology Division: Adrenal insufficiency data project update and results, and patient resource material co-creation, January 2020

Emergency Medicine groups:

- Podcast - Emergency Strategic Clinical Network: Reducing low value care for bronchiolitis patients, April 2019.
- Choosing Wisely Canada Webinar - Knowledge to action: Why we need quality improvement in the Emergency Department, January 2020.
- Emergency Room Dashboard audit and feedback sessions: October, November and December 2019
- Emergency Room Dashboard audit and feedback sessions: February (two sessions) and March 2020

Gastroenterology groups:

- Annual Endoscopy Skills Day for practicing endoscopists and their teams - How to improve your endoscopy practice through performance feedback, January 2020.
- Dyspepsia phase two audit and feedback, March 2020

Neuroscience groups:

- Department of Clinical Neurosciences Grand Rounds, Cumming School of Medicine, University of Calgary - Transforming health care delivery through continuing professional development, February 2020.

Rheumatology groups:

- Audit and feedback session: Rheumatology results from Rheum4U data platform to improve quality of care patients with Rheumatoid Arthritis receive, October 2019

Other groups:

- CPSA Specialist Consultation Working Group, Edmonton - Enabling physician practice improvement in Alberta, June 2019
- Lab utilization journey mapping interviews with physicians, July and August 2019
- HQCA Subject Area Working Group - Provincial primary patient panel reporting initiative (Sedative Prescribing to Seniors), September 2019
- Dean's Advisory Committee, Cummings School of Medicine, University of Calgary - Transforming health care delivery through continuing professional development, October 2019
- Appropriate Prescribing Medication Use Strategy for Older Adults Working Group - Presentation on the ICHOM older person measurement set, November 2019
- Zone Medical Administrative Committee - How can physicians continue to improve their work? The Physician Learning, January, 2020.

Public presentations:

- University of Alberta Alumni Day - Co-creating change in medicine, September, 2019
- Calgary Health Trust Board of Directors - Transforming health care delivery through continuing professional development, October 2019

Publications, abstracts, and grants

Publications

Cheng A, Chartier L, **Dowling SK**, et al. Rowe B. (2019). Choosing Wisely Canada's emergency medicine recommendations: Time for a revision. *Canadian Journal of Emergency Medicine*, 21(6):710.

Dowling SK, Hair H, Boudreau D, et al. (2019). A patient-focused information design intervention to support the minor traumatic brain injuries (mTBI) Choosing Wisely Canada recommendation. *Cureus*, 11(10):e5877.

Grimshaw J, Patey A, Kirkham K, Hall A, **Dowling S**, Rodondi N, Ellen M, Kool T, Dulmen S, Kerr E, Linklater S, Levinson W, Bhatia S. (2020). De-implementing wisely: Developing the evidence base to reduce low-value care. *BMJ Quality & Safety*, Published online first, February 6, 2020.

Khan D, **Luig T**, Mosher D, **Campbell-Scherer DL**. (2020). Lessons from international experience with biosimilar implementation: An application of the Diffusion of Innovations model. *Health Policy*, 15(3):16-27.

Luig T, Keenan L & **Campbell-Scherer DL**. (2019). Transforming health experience and action through shifting the narrative on obesity in primary care encounters. *Qualitative Health Research*, pp.30(5):1-15.

Luig T, Elwyn G, Campbell-Scherer DL. (2019). Facing obesity: adapting the collaborative deliberation model to deal with a complex long-term problem. *Patient Education and Counseling*, 102(2):291-300.

Luig T. (In press, 2019). Life transformation and volunteerism in Teet'it Zheh (Fort McPherson, N.T.): Pathway to community well-being. In: Wisdom engaged: Traditional knowledge for northern community well-being. Ed. Leslie Main Johnson.

Luig T, Wicklum S, **Heatherington M**, Vu A, Cameron E, Klein D, Sharma AM, Campbell-Scherer DL. (2020). The 5AsT-MD pilot course: Improving obesity management training in family medicine. *BMC Medical Education*, 20(1):1-11.

Rashid M, Hodgson CS, **Luig T**. (2019). Ten tips for conducting focused ethnography in medical education research. *Medical Education Online*, 24:1-7.

Sturgiss E, **Luig T**, **Campbell-Scherer DL**, Lewanczuk R, Green LA (2019). Using concept maps to compare obesity knowledge between policy makers and primary care researchers in Canada. *BMC Research Notes*, 12:23.

Symonds C, Kline G, **Gjata I**, Rose M S, **Cooke L**, Naugler C. (in press). Increased levothyroxine prescribing and laboratory test use after a minor change in the TSH reference range. *Canadian Medical Association Journal*.

Woodhouse D. (2019). Choosing Wisely Canada recommendations. *Canadian Family Physician*, August, 6(8):555.

Conference presentations, posters, abstracts, and system impacting grants

Burak KW. (2020). "How To Improve Your Endoscopy Practice Through Performance Feedback" (PLP Dyspepsia Project). Oral presentation delivered at the 10th Annual Endoscopy Skills Day for Practicing Endoscopists and their Teams, January 2020, Banff, AB.

Burak K, Campbell C. (2019). Creating learning or practice improvement plans: opportunities for implementation. Oral presentation delivered at the 11th National Accreditation Conference, October 2019, Ottawa, ON.

Dowling S, Bond C, Wong C, Cooke L, Peterson A. (2020). Using the Calgary audit and feedback framework to get the most out of physician practice reports. Oral presentation delivered at OHMES Symposium, March 2020, Calgary AB.

Dowling S, Rice C. (2019). Audit and Feedback: The continuing professional development of the future. Oral presentation delivered at the Emergency Department Administration Conference (EDAC), November, 2019, Toronto, ON.

Crick K, Tate J, Saxinger L, Hoang H, Chen J, Tse-Chang A, Chandran U, Fryters S, Myroniuk T, Yeung R, Campbell-Scherer D. (2020). The consequences of Beta-Lactam allergy labelling for surgical antimicrobial prophylaxis in Edmonton. Poster presented at the ACFP Family Medicine Summit, March 2020, Banff, AB.

Kennedy W, Patocka C, **Dowling SK.** (2020). Mixed Methods Analysis of an automated email audit and feedback intervention for fostering (emergency) physician reflection. Oral presentation delivered at the Emergency Strategic Clinical Network Quality Improvement Summit, February 2020, Red Deer, AB.

Ofosu N, **Luig T, Chiu Y, Yeung R, Islam K, Lee K, Campbell-Scherer DL.** (2020). Contextualizing obesity and diabetes care for vulnerable immigrant populations: A participatory multidisciplinary approach. Poster presented at the ACFP Family Medicine Summit, March 2020, Banff, AB.

Schroeder D, Luig T, Beesoon S, Robert J, Brindle M, Campbell-Scherer D. (2019). Introduction of the National Surgical Quality Improvement Program in Alberta: A qualitative exploration of factors that facilitate and/or impede implementation. Poster presented at the Normalization Process Theory Workshop, September 2019, Edmonton, AB.

Saxinger L, Dowling S, Peterson A, Pasay D, Guirguis M, Kulkarni S, Shkrobot R, Jonk Y. (2020). Reducing overuse of urine culture testing and improving care: The appropriateness and stewardship in asymptomatic bacteriuria (ASAB) initiative – Foothills Medical Centre (FMC) Emergency Department (ED). Poster presented at the Emergency SCN Quality and Innovation Forum, February 2020, Red Deer AB.

Woodhouse D, Gjata I, Solbak N, Weaver C, Cooke L. (2020). Evaluating the effects of audit and feedback on the use of antipsychotics and sedatives in patients admitted to Calgary hospitals. Oral presentation delivered at the ACFP Family Medicine Summit, March 2020, Banff, AB.

Woodhouse D, Murray B, Rice C, Samardzic N, Burak K. (2020). Assessing the impact of co-morbidities for patients with chronic obstructive pulmonary disease (COPD) and heart failure (HF) in Calgary Zone Hospitals. Poster presented at the ACFP Family Medicine Summit, March 2020, Banff, AB.

The following abstracts were submitted to, and accepted by, the conferences noted below. However, the conferences were cancelled due to the COVID-19 global pandemic.

Accepted Abstracts - Physician Learning Program 2020 Summit, April 2, 2020, Edmonton, AB

Ambasta A, Ma I, Taylor S, Tam C, Liu L, **Woodhouse D**, Herring A, Lonergan K (2020). Optimization of laboratory test utilization among medical inpatients.

Bailey JAM, Long L, Vetere P, Libbey S, **Dowling S**, Stang A, Andrews C, Lu D, Michelin D, Seefried T, Dudyk T, Johnston D, Ragan L, Krom S. (2020). Joining forces to improve acute bronchiolitis care at the ACH: A QI collaborative.

Budiyanto I, Myroniuk TM, Hunter KH, Ghosh M, Mereu L, Opgenorth A, Lam A, Sinclair A, **Campbell-Scherer D, Yeung R**. (2020). Co-creating educational materials for patients living with adrenal insufficiency.

Burak K, Murray B, Halasz J, Dowling S, Misra T, Williams J, Novak, K. (2020). Optimizing the use of gastroscopy in healthy adults with dyspepsia through audit and feedback.

Butalia S, Quinn R, Butler E, **Gjata I, Rice C, MacGillivray J, Dowling S**, Anderson T, Wasylak T, Morillos C. (2020). Development of a clinical decision aid for out-patient electrocardiograms (ECGs): Reducing low-value ECGs.

Campbell-Scherer D, Luig T, Heatherington M, Ofosu N, Sharma AM. (2020). The 5As Team Program: Improving person-centered obesity assessment and management in primary care.

Chen J, Hoang H, **Crick K**, Fryters SR, Chandran U, Williams DC, **Myroniuk TW, Yeung RO, Campbell-Scherer D, Saxinger L**. (2020). A review of surgical prophylaxis practice in adult urology procedures: Opportunities for antimicrobial stewardship collaboration.

Crick K, Hamming K, Lam A, Mereu L, Ghosh M, Opgenorth A, **Myroniuk TM, Hunter KH, Campbell-Scherer D, Yeung R**. (2020). Understanding the patient cohort with adrenal insufficiency in Alberta: A cross-sectional study using administrative health data.

Crick K, Saxinger L, Hoang H, Chen J, Tse-Chang A, Chandran U, Fryters S, **Myroniuk T, Hunter K, Yeung R, Campbell-Scherer D**. (2020). An audit of guideline concordant Cefazolin use for surgical antibiotic prophylaxis at five hospitals in the Edmonton Zone.

Crick K, Tate JA, Saxinger L, Hoang H, Chen J, Tse-Chang A, Chandran U, Fryters S, **Myroniuk TM, Hunter KH, Yeung R, Campbell-Scherer D**. (2020). Co-creation of a tool for primary care to help de-label beta-lactam allergy in preparation for surgical procedures.

Crick K, Tate JA, Saxinger L, Hoang H, Chen J, Tse-Chang A, Chandran U, Fryters S, **Myroniuk TM, Hunter KH, Yeung R, Campbell-Scherer D**. (2020). Supporting surgical antibiotic prophylaxis decision making in patients with a reported beta-lactam allergy: Decision-making tool and infographic in acute care.

Desai N, Roland H, **Heatherington M, Yeung R, Campbell-Scherer D**. (2020). Building strong partnerships and engagement with primary care: An initiative of the Physician Learning Program and the Edmonton Southside Primary Care Network.

Dowling S, Bond C, Morris R, Lonergan K, Wong C, Lang E, Wang D, **Peterson A**. (2020). Improving physician performance using optimized data and facilitated feedback.

Hoang HL, **Crick KC**, Chen JZ, Fryters SR, Chandran AU, Tse AW, Williams DC, **Myroniuk TM, Yeung RO, Campbell-Scherer D, Saxinger L**. (2020). The impact of a reported beta-lactam allergy on cefazolin administration in surgical prophylaxis: Cefazolin is still best, but is it given?

Hoang HL, Winkelaar GB, **Crick KC**, Chen JZ, Fryters SR, Chandran AU, Williams DC, **Myroniuk TW, Yeung RO, Campbell-Scherer D, Saxinger LM**. (2020). An examination of selection, timing and duration of surgical prophylaxis for vascular procedures in Edmonton, Alberta.

Jhetam-Jana N, Rymkiewicz P, **Woodhouse D, Nicholson K, Mehta A**, Cullingham C. (2020). From data to decisions: A CME series empowering family physicians to lead practice level quality improvement and support the implementation of the Patient's Medical Home.

Naugler C, Allan M, **Nicholson K, Woodhouse D**, Elford R, **Campbell-Scherer D, MacGillivray J**, Elyas B, **Mehta A, Rice C, Heatherington M**, Ma I. (2020). Targeting value: primary care laboratory testing in Alberta.

Niven DJ, Shariff K, Kupsch S, Duquette D, Bagshaw S, Zuege DJ, Clement F, Sidhu D, Soo A, **Burak K**, Fiest KM, Fraser N, Kashuba, Spers E, Stelfox T. (2020). RED blood cell utilization in critical care (REDUCE): A registry-based, stepped wedge quality improvement intervention implementation trial.

Saxinger L, Dowling S, Peterson A, Pasay D, Guirguis M, Kulkarni S, Shkrobot R, Jonk Y. (2020). Reducing overuse of urine culture testing and improving care: The appropriateness and stewardship in asymptomatic bacteriuria (ASAB) initiative – Foothills Medical Centre (FMC) Emergency Department (ED).

Saxinger L, Williams D, **Crick K**, Chen J, Hoang H, Fryters S, Chandran U, Tse-Chang A, **Myroniuk T, Yeung R, Campbell-Scherer D**. (2020). A quality audit of surgical antibiotic prophylaxis timing, redosing, and postoperative dosing practices in 5 hospital sites: The devil is in the details.

Schroeder D, Luig T, Beesoon S, Robert J, Campbell-Scherer D, Brindle M. Using the normalization process theory and the consolidated framework for implementation research to understand factors impacting the implementation of a surgical quality improvement program in Alberta, Canada

Tate JA, Crick K, Saxinger L, Myroniuk TM, Hunter KH, Yeung R, Campbell-Scherer D. (2020). Co-creating tools to enforce appropriate surgical antibiotic prophylaxis prescribing involving patients with Beta-lactam allergies.

Tate JA, Crick K, Saxinger L, Myroniuk TM, Hunter KH, Yeung R, Campbell-Scherer, D. (2020). Developing a Beta-lactam allergy information flyer and patient advisory tool for use in primary care.

Tate JA, Saxinger L, Pasay D, **Myroniuk TM, Hunter KH, Yeung R, Campbell-Scherer D**. (2020). Development of a pediatric urinary tract infection (UTI) testing decision algorithm to optimize utilisation of urinalysis and urine cultures.

Tate JA, Wharton S, Lau D, Vallis M, Sharma AM, Biertho L, Sherfali D, **Yeung R, Campbell-Scherer D**. (2020). Developing a comprehensive one-page framework tool for obesity management in adults.

Thurston JL, Leyland N. (2020). Quality of imaging of uterine fibroids.

Tse-Chang AW, **Crick KC**, Fryters SR, Chandran U, Williams D, **Myroniuk TW, Yeung RO, Campbell-Scherer D, Saxinger LM**. (2020). An assessment of surgical antibiotic prophylaxis practices at a Canadian tertiary pediatric centre.

Van Zanten S, Jelinski S, Pow J, **Mehta A, Burak K, Nicholson K**, Morrin L. (2020). Appropriate prescribing of proton pump inhibitors in Alberta.

Walton J, McGuckin T, Myroniuk T, Budiyo I, Campbell-Scherer D, Yeung RO, Samardzic N. (2020). Understanding the pediatric patient cohort admitted to hospital with diabetic ketoacidosis in Alberta: A Physician Learning Program (PLP) initiative.

Woodhouse D, Murray B, Rice C, Samardzic N, Burak K. (2020). Assessing the impact of co-morbidities for patients with chronic obstructive pulmonary disease (COPD) and heart failure (HF) in Calgary Zone Hospitals.

Yeung RO, McGuckin T, Myroniuk TW, Campbell-Scherer D, Setchell B, Sarnecki L, Lam A, Senior P. (2020). Building a common vision: Quality improvement across 5 diabetes centers in the Edmonton Zone.

Accepted Abstracts - Association of Medical Microbiology and Infectious Disease Canada, 2020 Conference, April 29-May 2, Vancouver, BC

Chen J, Hoang H, Tse-Chang A, **Saxinger L**, Fryters S, Chandran U, **Crick K, Myroniuk T**, Williams D, **Yeung R, Campbell-Scherer D.** (2020). A multicentre review of adherence to surgical antibiotic prophylaxis recommendations in adult urologic procedures.

Hoang H, Tse-Chang A, **Saxinger L**, Fryters S, Chen J, Chandran U, **Crick K, Myroniuk T**, Williams D, **Yeung R, Campbell-Scherer D.** (2020). An examination of selection, timing, and duration of surgical prophylaxis for vascular procedures at a major Canadian vascular surgery centre.

Hoang H, Tse-Chang A, **Saxinger L**, Fryters S, Chen J, Chandran U, **Crick K, Myroniuk T**, Williams D, **Yeung R, Campbell-Scherer D.** (2020). The impact of a reported Beta-Lactam Allergy on Cefazolin administration for surgical prophylaxis: Cefazolin is still best, but is it given?

Fryters S, Chen J, Chandran U, Hoang H, **Saxinger L, Crick K, Myroniuk TM**, Williams D, **Yeung R, Campbell-Scherer D.** (2020). An audit of surgical antibiotic prophylaxis in obstetrical/gynecological surgery.

Fryters S, Chen J, Chandran U, Hoang H, **Saxinger L, Crick K, Myroniuk TM**, Williams D, **Yeung R, Campbell-Scherer D.** (2020). An audit of surgical antibiotic prophylaxis in orthopedic surgery with a particular focus on duration of prophylaxis.

Saxinger L, Fryters S, Chen J, Chandran U, Hoang H, Tse-Chang A, **Crick K, Myroniuk T**, Williams D, **Yeung R, Campbell-Scherer D.** (2020). A quality audit of surgical antibiotic prophylaxis timing, redosing, and postoperative dosing practices in 5 hospital sites: The devil is in the details.

Tse-Chang A, **Saxinger L**, Fryters S, Chen J, Chandran U, Hoang H, **Crick K, Myroniuk T**, Williams D, **Yeung R, Campbell-Scherer D.** (2020). An assessment of surgical antimicrobial prophylaxis at a Canadian tertiary pediatric centre.

Accepted Abstract - The Canadian Conference on Medical Education, April 18-20, Vancouver, BC

Campbell-Scherer DL, Heatherington M, Lee-Baggley D, **Luig T, Noel G**, Wicklum S, Hong A, Cameron E. (2020). Using experiential learning to train physicians and teams in obesity prevention and management: 5As Team Multidisciplinary Training Program.

Accepted Abstracts - Choosing Wisely Canada National Meeting, 2020 Conference, May 27, Ottawa, ON

Burak K, Dowling S. (2020). Optimizing the use of endoscopy in otherwise healthy adults with dyspepsia through audit and feedback. Selected for presentation at the virtual conference in May 2020.

Burak K, Murray B, Halasz J, Dowling S, Misra T, Williams J, Swain M, Kaplan G, Slocombe L, Novak K. (2020). Optimizing the use of gastroscopy for young, otherwise healthy patients with dyspepsia. Selected as 1 of 8 oral presentations for the Virtual CWC Meeting being held on May 27, 2020

Jasau Y, Mortazhejri S, Patey AM, Mrklas K, Ruzycki SM, **Dowling S.** (2020). Barriers and facilitators influencing pre-operative test ordering in low-risk procedures in Alberta.

Ruzycki SM, Doherty H, Mrklas K, Jasau Y, Patey AM, Kirkham K, **Dowling S.** (2020). Comparative process mapping to identify systems-level factors associated with low value perioperative testing in Alberta, Canada.

Accepted Abstract - 2020 Clinical Connections Conference, May 30, 2020, Calgary, AB

Morrin L, Van Zanten S, **Nicholson T, Burak K.** (2020). Deprescribing of proton pump inhibitors (PPIs) In Alberta

Accepted Abstract - Canadian Association of Emergency Physicians Conference, June 2020, Ottawa, ON

Dowling S, Bond C, Wong C, **Cooke L, Peterson A.** (2020). Using the Calgary audit and feedback framework to get the most out of physician practice reports.

Accepted Abstract - American College of Surgeons Quality and Safety Conference, July 24-27, 2020 Minneapolis, MN

Schroeder D, Luig T, Beesoon S, Robert J, Brindle M, **Campbell-Scherer DL.** (2020). Expanding the implementation of the American College of Surgeons National Surgical Quality Improvement Program (NSQIP) across a Canadian province: Successes and challenges.

Accepted Abstract - North American Primary Care Research Group, November 20-24 2020, Toronto, ON

Campbell-Scherer DL, Luig T, Noel G, Anderson R. (2020). Co-creating a new approach to primary care obesity counselling.

System impacting grants supported by PLP

PLP is well positioned to support and amplify the dissemination and knowledge translation that results from large, system impacting research grants, as well as aligned Choosing Wisely grants. Some of our academic PLP faculty serve as principal or co-investigators on grants, and PLP also provides in-kind support for selected system impacting grants aligned with the PLP mandate.

- “Cirrhosis Care Alberta Program”, an Alberta Innovates/PRIHS grant led by Dr. Puneeta Tandon at the University of Alberta.
- “SPIDER-NET, A structured process informed by data, evidence, and research-network: An approach to support primary care practices in optimizing the management of patients with complex needs”, a CIHR/SPOR PIHCl Network Programmatic grant led by Dr. Michelle Griever.
- “De-implementing low value care: a research program of the Choosing Wisely Canada Implementation Research Network”, a CIHR / SPOR Innovative Clinical Trial Multi-Year grant led by Dr. Jeremy Grimshaw.
- “Addressing clinical and social determinants of health to advance obesity and diabetes prevention and management in vulnerable newcomer ethnocultural communities”, a NOVAD: Novo Nordisk Alberta Diabetes Fund grant led by Dr. Denise Campbell-Scherer at the University of Alberta.
- “REDUCE (RED Blood Cell Utilization in Critical care): An integrated knowledge translation initiative to reduce unnecessary red blood cell (RBC) transfusions among non-bleeding critically ill patients in Alberta”, a Choosing Wisely grant led by Dr. Daniel J. Niven at the University of Calgary.
- “Can we improve the use of gastroscopy to investigate dyspepsia in otherwise healthy adults in Alberta? Sharing Choosing Wisely Canada guidelines, current practice patterns and resources to optimize appropriate use”, a Choosing Wisely grant led by Dr. Kerri Novak at the University of Calgary.
- “Optimization of routine laboratory test utilization on inpatient medical units”, a Choosing Wisely grant led by Dr. Anshula Ambasta at the University of Calgary.
- “The Effectiveness of a Sequenced Multicomponent Intervention: Reducing Urea Utilization and Laboratory Test Order Frequency on Alberta Medicine Hospital Wards”, a Choosing Wisely grant led by Dr. Narmin Kassam at AHS, University of Alberta.
- “Reducing low value ECG ordering in Calgary hospitals and outpatient cardiology clinics. Appropriate use of cardiovascular investigations and improved patient experience and quality of care”, a Choosing Wisely grant led by Dr. Sonia Butalia at the University of Calgary.



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