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Introduction

Alberta’s Physician Learning Program: Unique and impactful

We live and work within an ever-present pressure to advance physician practice and improve patient care. The challenge within our system is to transform raw healthcare data, inevitably disjointed if even collected, into information that physicians and their teams can use.

The Physician Learning Program (PLP) employs advanced data analytics, human-centred design, stakeholder engagement, and improvement science techniques like audit and feedback.

- Advanced data analytics techniques convert health data that is difficult to understand – often borderline impossible – into a format that can be used.
- Human-centred design promotes quick and accurate comprehension through co-creation of material – decision algorithms, infographics, patient education resources, and more.
- Stakeholder engagement with patients, healthcare partners, and interdisciplinary healthcare professionals provides the contextual insight needed to ensure usefulness.
- Physician engagement sessions and webinars present helpful information on topics of interest to physicians, and provide opportunities to engage with data in a meaningful way.
- The Calgary Audit and Feedback Framework (CAFF) and data-driven Quality Improvement sessions facilitate physician reflection on performance data around important clinical topics, and coaches them to create plans for change.

Using these techniques, the PLP supports physicians to use practice data to inform their decisions, to explore clinical questions, and to implement solutions for improved patient outcomes and a more sustainable health system. These quality improvement initiatives were recognized for having “measurable quality gains” by the Auditor General in 2017¹, and have attracted attention from across Canada, notably by the Ontario Ministry of Health, the Auditor General of Ontario, the Ontario Medical Association and the Centre for Health Innovation in Manitoba.

The PLP is housed in two locations - the University of Alberta and the University of Calgary - and works with physicians, patients, and health system partners to tackle pressing problems, using innovative and multifaceted approaches, and developing resources to help physicians advance their practice. 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.

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

Our Strategic Priorities
The Physician Learning Program (PLP) is uniquely positioned to help physicians and their teams move evidence into practice. Working together with our strategic partners, we contribute to the delivery of a high quality, efficient, sustainable health-care system that benefits Albertans.

• Improving the delivery of patient care by supporting physicians and teams in data-driven quality improvement. The PLP works with its partners to support systems thinking on projects of significant impact, using a variety of techniques to analyze data and bridge the gap between knowledge and clinical practice.

• Improving and supporting health system sustainability through partnerships across the care continuum. We work with partners on projects and collaborations that span the continuum of care, thus facilitating a comprehensive approach to address clinical gaps in both primary and specialist care.

• Responding to the health needs of Albertans as they arise. The PLP supports Alberta’s health system to address emerging health needs, and will continue to build on our work to support physicians and teams during and after the COVID-19 crisis.
Our Associate Deans’ Letter

It is our pleasure to share with you, on behalf of our entire team, the Physician Learning Program’s 2020-21 Annual Report. At the time of this writing, COVID-19 continues to dominate the world stage. In March 2020, as COVID-19 first hit our province, the PLP team moved swiftly to provide physicians, allied health professionals, and community partners with the information needed to navigate this emergency. We did this by creating, evaluating, and sharing scientific knowledge, developing training protocols, disseminating clinical tools to front-line clinicians, and supporting community partners’ assessment of the impacts on people in vulnerable circumstances. Although you may already be familiar with the many high-profile contributions of our team and system partners, we invite you to read more about our efforts in the pages of this report.

Recognizing that it will be at least two years until we emerge and recover from the COVID-19 pandemic, it is important to pause and acknowledge the other outstanding work of our team and partners – patients, physicians, interdisciplinary clinicians, and health policy experts – over the past year.

Our projects cover multiple aspects of medical practice across the care continuum. Of special note are projects that were completed this year, including those that have the potential to advance care for patients with diabetes, obesity, cirrhosis, and children presenting with asymptomatic bacteriuria. Many other projects focused on health system priorities, including reducing unnecessary lab and diagnostic testing, as well as supporting AHS efforts to reduce surgical site infections and surgical wait times. Several impactful completed projects from previous years are in ongoing spread and scale provincially to continue reducing low yield testing for bronchiolitis, reducing low value endoscopy testing, and improving dyspepsia management. With the COVID-19 pivot, our team rapidly advanced PLP’s digital engagement capability, launching new webinars this past year on topics including COVID-19, obesity, asthma, heart failure, cirrhosis, use of proton pump inhibitors, lab test utilization, a new primary care pathway for women’s health, and adherence to clinical practice guidelines for variceal bleeding. These events received extraordinarily strong reviews with participants saying the webinar content was relevant and would positively impact their practice.

In all our efforts, we are committed to improving patient care by supporting physicians and teams with clinical information, tools and resources to support data-driven quality improvement; improving and supporting health system sustainability; and responding to the health needs of Albertans as they arise. Our annual report showcases our work to accelerate improvement in Alberta’s health care system.

We are grateful to our sponsor Alberta Health and our partners, with special thanks to Alberta Health Services, including the Strategic Clinical Networks, the Primary Care Networks, the Health Quality Council of Alberta, and the Faculty of Medicine & Dentistry at the Universities of Alberta and the Cumming School of Medicine at the University of Calgary for their support.
**Our Team**

**Denise Campbell-Scherer, MD, PhD, CCFP, FCFP**  
Professor, Department of Family Medicine  
Associate Dean, Office of Lifelong Learning,  
Co-Lead Physician Learning Program

**Karen Hunter, BSc, BMgt, MBA, PhD**  
Managing Director

**Rose Yeung, MD, FRCPC, MPH**  
Associate Professor, Department of Medicine  
Medical Director, Specialty Linkages

**Donna Manca, MD, CCFP, FCFP, MCISc**  
Professor, Department of Family Medicine,  
Medical Director, Family Medicine

**Lynora Saxinger, MD, FRCPC**  
Associate Professor, Department of Medicine  
Medical Director, Infectious Diseases

**Puneeta Tandon, MD, FRCPC**  
Associate Professor, Department of Medicine  
Medical Director, Gastroenterology

**Nonsikelelo Mathe, PhD**  
Senior Project Officer (started January 2021)

**Tyler Myroniuk, PhD**  
Senior Project Officer (until August 2020)

**Thea Luig, PhD**  
Social Science Lead

**Andrea Dawn Schroeder, RN, MPH, PhD**  
Implementation Scientist

**Nicole Ofusu, PhD**  
Research Associate (started March 2021)

**Melanie Heatherington, MEd**  
Educational Specialist

**Kelly Burak, MD, FRCPC, MSc (Epid)**  
Associate Dean, Continuing Medical Education  
and Professional Development,  
Co-Lead Physician Learning Program

**J. A. Michelle Bailey, MD, FRCPC, MSc**  
Assistant Dean, PLP (started November 2020)  
Medical Director, Quality and Practice Improvement

**Shawn Dowling, MD, FRCPC**  
Assistant Dean, PLP (until July 2020)

**Joe MacGillivray, BA, MHSA, CHE**  
Managing Director

**Douglas Woodhouse, MD, BScEng, CCFP**  
Medical Director

**Tina Nicholson, MD, ChB, CCFP**  
Medical Director

**Selena Au, MD, FRCPC, MSc**  
Medical Director

**Jackie Thurston, MD, FRCPC, MSc**  
Medical Director (until November 2020)

**Maria-Alexandra Restrepo Gonzalez, MSc**  
Project Coordinator

**Aaron Peterson, BSc**  
Project Manager

**Ashi Mehta, MD, MSc**  
Project Manager

**Brenna Murray, BA, MPH, PMP**  
Project Manager

**Sampson Law, MSc**  
Project Manager
Nandini Desai, BSc (Hons), BScPharm, CDE  
Clinical Liaison

Taylor McGuckin, BA, MSc  
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Katelynn Crick, BSc  
Project Manager

Indra Budiyanto, BA, MDes  
Human-Centred Designer

Jordan Tate, BDes  
Human-Centred Designer

Badi Jabbour, BSc  
Research Assistant (started March 2021)

Jessica Cohen  
Administration & Communication Coordinator

Emma Naguib  
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Brock Setchell  
AHS Analytics Senior Data Analyst

Diane Duncan, BSc Pharm, PMP, MEd (c)  
Project Manager (started December 2020)

Emily-Ann Butler, MSc  
Project Manager

Leah Ferrie, MSc  
Project Manager (started November 2020)

Nathan Sloback, BSc, BSc, MSc  
Project Manager

Christopher Rice, BComm, MDes  
Human-Centred Design Lead (until September 2020)

Johanna Blaak, MSc  
Human-Centred Design Lead (started April 2021)

Ashleigh Metcs, BComm  
Human-Centred Designer

Najla Samardzic, CHIM  
AHS Analytics Data Analyst (until December 2020)

Charlene Feuffel  
AHS Analytics Health Information Analyst
PLP Achievements

Physicians and team members participated in engagement sessions, webinars, and audit & feedback to review aggregate data, or reflect on new information to advance practice in feedback/engagement sessions.

11,721
Physicians and team members who agreed or strongly agreed that participating in a PLP event helped them reflect on their practice or would lead them to change their practice.

95.0%
96.7%
96.9%
of physicians/team members who agreed or strongly agreed that the information in a PLP event was relevant to their practice.
of physicians/team members who agreed or strongly agreed that overall, they were satisfied with the PLP event.

2020/21 Outputs

42 stakeholder groups engaged for scale and generation of projects
12 previously completed projects in ongoing scale and spread
13 projects completed in current grant year
17 new projects launched in the current year
47 active projects continuing to next reporting period
16 potential projects under consideration or in development
26 projects aligned with Choosing Wisely
4 joint projects
117 audit and feedback/physician engagement sessions
23 projects with potential for scalability
16 presentations to stakeholders
30 tools or resources created
35 co-creation sessions hosted
77 publications, abstracts, and conference presentations
11 grants

328 individual reports
780 aggregate reports
1,500 individual reports with partners

Family physicians have access to individual laboratory utilization reports, with HQCA.

200

Our partners

The PLP relies on strategic partnerships to carry out and implement our work. We collaborate with partners on diverse projects that reduce unnecessary spending and advance physician care, including the appropriate use of testing and diagnostics, interventions, and prescriptions. Partners also play a key role in supporting the spread and scale of our projects. The PLP has partnered with Primary Care Networks (PCNs), Alberta Health Services (AHS), Covenant Health, Strategic Clinical Networks (SCNs), various AHS Zone committees and councils, multiple academic departments and institutes at the Universities of Alberta and Calgary, as well other organizations in health care.
COVID-19 Response

Responding to the health needs of Albertans is a key strategic priority for the PLP. To help support health professionals during the COVID-19 pandemic, the PLP created webinars, tools and resources, and carried out several projects to help understand the impacts of the pandemic on Albertans.

PLP COVID-19 Related Activities 2020-21

- 35 Webinars
- 16 Projects
- 22 COVID Corner Webinars (w/ CME&PD)
- 208 Presenters
- 8206 Downloads Views
- 13510 Attendees
- 9 COVID Webinars (w/ L3)
- 18 Presenters
- 3015 Downloads Views
- 5904 Attendees
- 4 COVID webinars (Southside PCN)
- 229 Attendees
- 8 COVID Presentations
- 27 Ethnocultural Communities Supported
- 3 Articles
- 13 Algorithms/ tools
- 3 Active Projects
- 9 Completed Projects
COVID-19 Webinar Series

The PLP partnered with both the Office of Continuing Medical Education and Professional Development (CME&PD) at UofC and the Office of Lifelong Learning (L3) at UofA to develop and host COVID-19 webinars on a range of topics, including emerging information on basic science, clinical care, and community impact.

PLP - CME&PD COVID Corner

The PLP team, working with the Office of CME&PD (UofC), developed a wide spectrum of supports to foster the care of patients and promote the safety of our frontline healthcare workers. Most importantly, our COVID Corner webinar series brought together 208 local and national experts as speakers, panelists, and moderators to provide the latest, trusted COVID-19 information to our healthcare providers. This included the “In the Corner with...” segment which invited Dr. Lynora Saxinger and Dr. Branden Manns, Co-Chairs of the AHS Scientific Advisory Group, to highlight recent rapid reviews on the emerging evidence. Held on Wednesday evenings (initially weekly during the first wave of the pandemic), the webinar series continued to support clinicians with trusted information throughout the second wave and in preparation for the third wave. In total, 22 sessions (44 hours of accredited CPD) were provided free of charge to 13,510 attendees. This enduring content is available on the eCME website and has been viewed 8,206 times.

![COVID Corner Attendance vs Confirmed COVID-19 Cases in Alberta](image)

Covid Corner
13,510 attendees

- 71.6% Intend to change practice due to participating
- Average 4.4 The content enhanced my knowledge
COVID Corner became an important event for many physicians across Alberta:

“Just wanted to write quickly to say how impressed I have been with the effort put into, and the impact of, the COVID Corner series.... You and your team successfully pivoted to deliver an absolutely critical resource to our physician community (and to others). It was seen as a source of truth. I firmly believe this effort helped people cope, feel more confident in their practices, and provide correct information to their patients...When all is said and done, and we look back on the efforts undertaken during COVID to manage the crisis, I trust that COVID Corner will be seen as a critically important cog in the wheel. Thanks for your leadership and the efforts of all the team! Congratulations. Kind regards, Eric

Eric Wasylenko MD, CCFP(PC), BSc, MHSc(bioethics)
[unsolicited feedback received on December 17, 2020, shared with permission]
PLP - L3 COVID-19 webinar series

The PLP, in collaboration with the Office of Lifelong Learning at the UofA, delivered three COVID-19 webinar series, with nine events in total. The first science series featured Alberta Precision Laboratories (APL) and their work to rapidly develop, implement, and refine COVID-19 testing. In addition, academic physicians at the UofA, including 2021 Nobel Laureate Dr. Micheal Houghton and Dr. Lorne Tyrrell discussed emergent antiviral therapeutics and vaccine prospects. Our COVID-19 Kids webinar series addressed pediatric issues, including pediatric presentation, and multisystem inflammatory syndrome, presented by Dr. Joan Robinson, Dr. Ashley Humber, and Dr. Daniel Garros. Our fall COVID-19 science update webinar series highlighted Alberta Public Laboratories’ ongoing efforts to support and improve testing in Alberta. In addition, Dr. Lynora Saxinger and Dr. Lorne Tyrrell discussed long term complications of COVID-19, and updated information on securing vaccines. There were 5,904 registrants for the live webinars, and a further 2,445 viewings of the recorded webinars, which are available on the PLP website.

PLP-L3 COVID series.
5,904 registrants total for the 9 webinars

Intend to change practice due to participating: 98.5%
Agree/strongly agree that info is relevant to their practice: 98.5%

PLP and Edmonton Southside PCN COVID-19 Webinars

The PLP, in collaboration with the Edmonton Southside PCN, delivered four webinars to support family physicians in caring for patients with COVID-19 in the earliest days of the pandemic. 229 physicians and team members attended the webinars. Topics included developing proactive and responsive clinic processes for COVID-19 and implementing infection prevention control for COVID-19 in primary care clinics.

PLP and Edmonton Southside PCN COVID-19 Webinars
229 attendees in total for the 4 webinars

Intend to change practice due to participating: 80.6%
Agree/strongly agree that overall, they were satisfied with the program: 71.0%
Tools and Training for Frontline Providers

The pandemic dramatically changed the requirements for Infection Prevention and Control (IP&C), and added complexity to everyday clinical practices and processes to prevent further spread. PLP co-developed several tools and training courses to support clinicians on the front-lines.

• **Personal Protective Equipment (PPE) Course** - PLP Medical Director Dr. Doug Woodhouse and members of the Department of Medicine at the UofC partnered with the Office of CME&PD to rapidly develop an online training program about proper donning and doffing of PPE (completed by 1,651 participants). Additionally, we partnered with the Advanced Technical Skills Simulation Laboratory (ATSSL) at the UofC to host simulation PPE bootcamps, attended by 221 physicians, during the first wave of COVID-19.

![Image](image1.png)

This accredited online course helped protect healthcare workers on the frontlines and was recognized with the [CME&PD Innovation Award in 2020](#).

• **PPE Training at the Alberta Children’s Hospital (ACH)** - PLP Assistant Dean Dr. Michelle Bailey partnered with colleagues in Quality and Safety, Department of Pediatrics and IP&C at the ACH to develop and deliver in-person PPE training sessions for pediatricians and trainees. Videos and visual tools were also created to allow clinicians to later recall the critical steps.

![Image](image2.png)

The PLP was recognized, along with its partners, in the [Department of Pediatrics 2020 Annual Report](#), page 7.

• **Posters on proper cleaning of stethoscopes and eye protection** were co-created by our human centered designers with Dr. Michelle Bailey, other clinicians and members of ACH IP&C, to guide clinicians before entering and after exiting patient rooms.

![Image](image3.png)

Following revisions requested by the AHS IP&C team, these posters were spread to acute care facilities across the province.
• **A Code Blue Card** and a *poster* that provide visual reminders of key steps to take when executing aerosol generating medical procedures (AGMPs) during resuscitation of a critically ill patient were created. This information was reformatted into a visual pathway to improve staff engagement. Dr. Shawn Dowling and the PLP also created a video to demonstrate the safe intubation of a patient with suspected COVID-19.

These tools helped keep our critical care and emergency department teams safe when caring for critically ill patients with COVID-19.

• **A MIS-C Infographic**, including the signs, symptoms, and actionable steps needed in the event of a patient presenting with potential multi-system inflammatory syndrome in children (MIS-C) was developed. This infographic was co-created by PLP human centered designer with PLP Assistant Dean Dr. Michelle Bailey and other pediatrics experts, the Maternal and Newborn, Children and Youth (MNCY) SCN, and rural physician leadership, to help clinicians recognize this rare but serious complication of COVID-19 in children.
• **A COVID-19 Inpatient Manangement Infographic** was co-created by our human centred designers, Dr. Kelly Burak and members of the Department of Medicine at the UofC during the first wave of the pandemic, and was updated late in 2020 as we prepared for the second wave.

The infographic has been distributed to all wards caring for patients with COVID-19 at four adult hospitals in Calgary and is available for others on our PLP website.

• **A Zoom Virtual Visit Patient Manual** to aid physicians and patients with virtual care during the pandemic was developed. Drawing on the expertise PLP acquired by hosting virtual webinars in the early days of the pandemic, we developed and implemented this resource to support physicians, their teams, and patients in using Zoom™ for virtual patient visits.

COVID-19 Projects

The Illuminate Project: Understanding and mitigating through cultural brokering the impact of COVID-19 on individuals in vulnerable circumstances in ethnocultural communities in Edmonton

COVID-19 has magnified inequities and disproportionately affected families from ethnocultural immigrant and refugee communities who live in vulnerable circumstances. Community health workers caring for families as cultural brokers are observing detrimental effects on child and youth mental health, seniors health, and family stability.
This partnered research project focused on understanding the COVID-19 impact in ethnocultural communities and improving care and equity for all Albertans. Led by Dr. Denise Campbell-Scherer and supported by Dr. Nicole Ofosu, Dr. Karen Hunter, and Dr. Thea Luig, we collaborated with Yvonne Chiu and the Multicultural Health Brokers Cooperative (MCHB), and the Illuminate Lab to collect and analyze mass qualitative data in real-time across a large sample using a participatory approach. The project examined challenges experienced in these communities, and identified high degrees of entanglement among issues such as income, food, and housing insecurity, domestic violence, and barriers to understanding and managing COVID-19 testing, quarantining, and treatment. Findings were reported to the Government of Alberta and the MCHB to inform ongoing efforts to support people in vulnerable circumstances, and will also be disseminated as an academic manuscript. In doing so, it will inform the practice of community health workers and healthcare providers, while optimizing recovery and helping to address health inequities. A follow on project will explore resilience among ethnocultural and visible minority families during the pandemic recovery to inform policy and practice and assist those who support these communities.

Findings from this project provided insights into the experiences of families and communities that can be leveraged for support during the COVID-19 pandemic and recovery.

Study of Alberta’s first significant super-spreader event

In March 2020, an outbreak of COVID-19 occurred following the 63rd Annual Medical Bonspiel in Edmonton. Led by PLP Co-Lead Dr. Kelly Burak, the PLP assisted in creating a survey tool to analyze the outbreak and carefully document the symptoms experienced by those in this transmission cluster. The PLP helped with the data analysis and visualization, and the lessons learned from the bonspiel outbreak were disseminated at COVID Corner. The publication in CMAJ Open 2021, during Canada’s second wave of COVID-19, garnered significant media attention (e.g. featured on CBC’s As It Happens, February 10, 2021) and reinforced to the public the high transmissibility of the virus, especially when eating and drinking together indoors.

Findings from this study guided our public health officials in expanding Alberta’s clinical symptom definitions of COVID-19.
Measuring health outcomes following hospitalization for COVID-19

PLP Medical Director Dr. Doug Woodhouse assumed an international leadership role as one of two Canadian members on an expert panel representing 14 countries on the International Consortium for Healthcare Outcome Measurement’s (ICHOM) Standard Set for COVID-19 Working Group, allowing patient care outcomes to be compared across international jurisdictions, facilitating collaboration, and speeding uptake of best practices in patient care. In collaboration with the Conference Board of Canada, Dr. Woodhouse hosted a webinar in April 2020 entitled “Optimizing Outcomes during COVID-19: The Urgent Need for Data Sharing”. He represented the PLP as a member of the provincial Post-COVID-19 Rehabilitation Taskforce, which develop evidence-based systematic criteria for initial identification of patients with rehabilitation issues after COVID-19, and is currently a member of the Provincial Implementation Committee which has been tasked with implementing these recommendations and measurement of patient reported outcome measures (PROMs) after COVID-19.

This work is supporting our healthcare system’s response to COVID-19.

Income and housing insecurity resources

Public health responses and reduced economic activity associated with the COVID-19 pandemic are affecting the housing and income security of ethnocultural communities in Edmonton. Local, provincial, and national programs and services can provide support, but information about them is fragmented and challenging to navigate. A coalition of organizations serving immigrants and refugees, including AHS, City of Edmonton, and the PLP team, represented by Dr. Denise Campbell-Scherer, has been gathering information on eligibility and scope of services for various programs. The PLP is partnering with the Multicultural Health Brokers Cooperative to validate and expand the information and to create a knowledge tool, with the goal of making it available to community brokers and interdisciplinary clinicians.

This project will help address housing and income insecurity issues experienced by vulnerable ethnocultural communities, which have been amplified by COVID-19.
Programs and Projects

Supporting diabetes and obesity care

The PLP benefits from significant in-house expertise in diabetes and obesity. With PLP Co-Lead Dr. Denise Campbell-Scherer and Medical Director Dr. Rose Yeung, we have developed a program of work to advance care for people living with diabetes and obesity. We are excited this year to have ongoing provincial scale and spread of the obesity dashboard project and the 2020 Canadian Adult Obesity Guideline Tool. We have completed phase data projects on obesity, gestational, type 1 and type 2 diabetes, as well as pediatric diabetes ketoacidosis in the Emergency Department.

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

Championed by Obesity Canada and the Canadian Association of Bariatric Physicians and Surgeons, the 2020 Canadian Adult Obesity Guidelines were substantially revised and published in the Canadian Medical Association Journal in August 2020, followed by publication of the French version in December 2020. PLP co-lead Dr. Denise Campbell-Scherer, served on the Executive Committee of the Canadian 2020 Adult Obesity Guidelines and was lead author of the Primary Care and Primary Healthcare chapter. In partnership with Obesity Canada, the 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. This publication was the most read article in CMAJ in 2020, and it received over 81 million earned media impressions in the first month with international coverage including CNN and the Guardian, and national coverage with front page stories in the Globe and Mail, Toronto Star, and National Post, and all major TV news outlet services in Alberta.
Obesity Guidelines Knowledge Transfer Webinars

To support broader knowledge transfer of the new adult obesity guidelines, in partnership with Obesity Canada and the Office of Lifelong Learning at the UofA, the PLP hosted three webinar series featuring national speakers in the summer and fall of 2020. The 18 webinars (see appendix for details) drew a global audience (with participants in 34 countries) and received positive evaluations from participants.

Obesity Guidelines Knowledge Transfer Webinars
3,368 registrants total for the 18 webinars

94.7% Intend to change practice due to participating
98.2% Agree/strongly agree info is relevant to their practice

This content complements our PLP partnered obesity dashboard work and will support our clinic-based quality improvement initiatives.
Addressing clinical and social determinants of health to advance diabetes and obesity prevention and management in vulnerable ethnocultural newcomer communities

The PLP has partnered on a research project funded by Novo Nordisk Alberta Diabetes Fund (NOVAD) to develop appropriate interventions for people living with obesity and type 2 diabetes in vulnerable ethnocultural newcomer communities. The grant project seeks to understand care gaps through a mixed-methods approach that integrates population-level data with the perspectives of people with obesity and diabetes and of providers of interdisciplinary primary healthcare.

The project is led by Dr. Denise Campbell-Scherer and Dr. Thea Luig. Other partners at the UofA include Dr. Rose Yeung, Dr. Karen Lee, and Dr. Donna Manca, as well as Yvonne Chiu of the Multicultural Health Brokers Co-operative, and Jessica Schaub of the Edmonton Southside PCN. The project relies on a coalition of community health workers, primary care providers, newcomer patients with obesity and diabetes, public health professionals, policy makers, and researchers.

This project will develop obesity/diabetes care and training for primary care providers that is based on a whole-person, culturally responsive, and multi-sectoral approach. Outputs in the partnered PLP portion will include a prototype of an individual physician dashboard in the Canadian Primary Care Sentinel Surveillance Network (CPCSSN) with patient-level information on obesity, diabetes, and material on social deprivation to help address poverty and social determinants of health. The project will create a map of existing and missing resources in the built environment and in community programs. As well, the project will create a primary care resource kit for addressing obesity and diabetes in Edmonton’s vulnerable newcomer population.

Obesity risks understood through primary care electronic medical records in Northern Alberta

Over 14 million Canadians are overweight or living with obesity, a chronic disease that requires intervention to prevent its comorbidities. The Edmonton Obesity Staging System (EOSS), used with Body Mass Index (BMI), facilitates prognosis of comorbidities, where a higher EOSS score indicates greater risk. Clinical tools are needed to support the use of EOSS in practice.

The PLP previously collaborated with the Northern Alberta Primary Care Research Network (NAPCReN) to build a dashboard using the Canadian Primary Care Sentinel Surveillance Network (CPCSSN) data presentation tool. Physicians can use this dashboard in their practices to help manage their patient panels. In addition to identifying patients with missing data, and supporting decision making on testing, this interactive tool helps physicians identify the subset of patients who would benefit from clinical interventions, as one of the best ways to manage obesity is to help patients avoid moving into higher EOSS categories.
Working with Dr. Arya Sharma, Dr. Denise Campbell-Scherer, Dr. Roseanne O Yeung, Dr. Rukia Swaleh, Dr. Donna Manca, and Dr. Karen Lee, at the UofA, the PLP recently completed phase three of a project in its obesity program, focusing specifically on obesity information included in EMRs. They examined missing data and prevalence of EOSS scores in the sample. For example, in the CPCSSN database, of the 86.3% of records with BMI measures, most patients had obesity class I (54%), and an EOSS score of 2 (53%). The range of missing comorbidity data spanned from 11.1% for hypertension to 17.8% for dyslipidemia. Results from this study were presented at the 2021 Family Medicine Summit, and a manuscript is currently under review.

To increase physician awareness of the EOSS dashboard and support physicians in caring for their patients with obesity, individual dashboard reports were disseminated to 93 Northern Alberta Physicians in the NAPCReN network for use in their panel management in March 2021. Follow up reports are planned for March 2022. These reports share resources that will assist and inform primary care providers on obesity management. In addition to sharing individual-level reports with physicians, this project may also include quality improvement workshops/seminars on the use of the EOSS-DPT report and resources.

Northern Alberta doctors received personalized feedback on their efforts to manage obesity in patients, and additional information that promotes the effective use of electronic medical records for tracking and treating obesity.

**Physician reports for diabetes care and management**

The PLP has partnered with NAPCReN and PLP Medical Director Dr. Donna Manca, to develop and distribute basic diabetes feedback reports to individual primary care physicians, with benchmark comparisons. The first round of reports, drawing data from the CPCSSN, was distributed to 93 physicians in March 2021, and follow-up reports will be sent in March 2022. As part of this project, enhanced diabetes feedback reports and management resources (renal function and medications) will be developed for distribution through physician engagement webinars and quality improvement workshops/seminars.

This project provides physicians with individualized practice data, which will support quality improvement efforts in diabetes care and management in Edmonton and Northern Alberta.
Building a common vision: Quality improvement across five diabetes clinics in the Edmonton Zone

Although optimal care for people living with diabetes reduces morbidity, mortality, and costs, its application in practice is incomplete. The PLP has carried out a first-ever examination of the types of diabetic patients and service provisions within every Edmonton diabetes clinic. The project team, led by PLP Medical Director Dr. Rose Yeung, found that the electronic medical record (EMR) system is being used inconsistently across clinics. For example, 23% of patients had multiple types of diabetes recorded in their EMR (e.g., Type 1 and Type 2 diabetes recorded) and although all patients have their blood pressure taken at appointments, only 58.7% of visit records included a blood pressure reading.

Information from this project will influence several levels of care, including individual patient and site level care, as well as broader policy. These findings were presented to the Edmonton Zone Diabetes Quality Council, which was also attended by members of the Diabetes and Obesity SCN. An academic manuscript is being developed to disseminate this information to a broader audience, and a project report has been developed to inform the subsequent intervention phases of this project. With phase one complete, the next involves meeting with clinic managers from each site to determine how to support quality improvement initiatives based on their priorities.

To best track and treat patients with diabetes, this project promoted the consistent use of electronic medical records in support of improving patient outcomes and data quality.
Communication of diabetes management data with five regional diabetes clinics

This project, led by Dr. Rose Yeung, builds on an earlier PLP project (Diabetes management in five regional diabetes clinics), which established a baseline understanding of the types of patients and services provided across each diabetes clinic in the Edmonton Zone. Those project findings are intended to support the Edmonton Zone Diabetes Quality Council in prioritizing quality improvement efforts and promote more rational service delivery. This new phase of the project communicates the data and results with participating regional diabetes clinics and may include preparing site-level data reports to advance their quality improvement efforts.

Diabetes prescribing in primary care

Newer medications for diabetes are now available, offering weight loss, less hypoglycemia, and improved ability to prevent heart and kidney disease, but the extent of their use in primary care is unknown. In partnership with the NAPCReN, this project is evaluating the prescribing patterns for patients with primary diabetes in northern Alberta to explore practice variability and identify educational interventions that may be appropriate.

This project will support educational interventions and inform future work in the PLP diabetes quality improvement program.

Appropriateness of care for pediatric diabetic ketoacidosis

Type I diabetes is one of the most common endocrine disorders and chronic conditions in the pediatric population. Diabetic ketoacidosis (DKA), a complication of diabetes, is the greatest contributor to morbidity and mortality of Type 1 diabetes in pediatric patients. Approximately 40% of children with new-onset Type 1 Diabetes present in DKA. In 2018, Diabetes Canada released new clinical practice guidelines that outline optimal care for patients presenting with DKA. They cover monitoring, careful management of fluids and electrolytes, and insulin administration. These guidelines have been shown to improve patient outcomes, including reduced duration of stays in intensive care units, reduced overall length of stay, and reduced incidence of cerebral edema, a severe adverse outcome of DKA. However, a study from British Columbia Children's Hospital after the release of the guidelines found that variation in practice still exists.

Figure: Time to correction of DKA based on severity of DKA at presentation
Dr. Jennifer Walton, Dr. Elizabeth Rosolowsky, and Dr. Jessica Foulds of the Department of Pediatrics at the UofA are working with the PLP to assess adherence to these guidelines, including the administration of electrolytes, fluids, and insulin, and laboratory monitoring. Findings will be used to optimize care for children presenting to hospitals in Alberta with DKA. A webinar will highlight key findings, and academic manuscripts will be developed to disseminate this information more broadly.

This project will improve care for children presenting with diabetic ketoacidosis.

Supporting Gastroenterology and Hepatology

With significant expertise in gastroenterology and hepatology with PLP Co-Lead Dr. Kelly Burak and Medical Director Dr. Puneeta Tandon, the PLP has worked in close partnership with the Digestive Health SCN on topics with significant care burden for patients and the health care system. We are excited this year to have ongoing provincial scale and spread of the dyspepsia and low value endoscopy projects, as well as a newly completed and ongoing series of projects to improve care for people living with cirrhosis and other GI diseases.

Cirrhosis Care Alberta website development, layout, and design

The website Cirrhosis Care Alberta provides many resources to support physicians and patients. Developed by PLP Medical Director Dr. Puneeta Tandon and her PRIHS-funded (Partnership for Research and Innovation in the Health System) research team, with the support of the AHS Digestive Health SCN, the website launched in March 2021 and is already attracting interest across the country and outside of Canada. The research team created the content for four decision algorithm tools for physicians for varices, ascites, hepatic encephalopathy, and spontaneous bacterial peritonitis and spontaneous bacterial pleuritis. The PLP designed and created the hierarchies and algorithm layouts for these four tools and tables on the symptom management pages of the website. PLP Co-Lead, Dr. Kelly Burak, and other clinicians, developed resources on the diagnosis and management of primary liver cancer. In addition to designing icons and artwork, the PLP human-centred designer completed the graphic design for a series of downloadable handouts and booklets available on the website.
This project will give physicians access to comprehensive and accurate information about cirrhosis.
Patient journey map for hepatic encephalopathy

Hepatic encephalopathy (HE) is a deterioration in brain function observed in people with liver failure due to chronic liver disease. It can cause personality changes, alterations in level of consciousness, and can leave patients unable to care for themselves. Improved management of HE, which can be supported by developing education materials for patients and caregivers, can reduce hospital stays and the financial and social burdens of this illness for patients, caregivers, and the health system.

The PLP is working with Medical Director Dr. Puneeta Tandon and members of the Cirrhosis Care Clinic on this human-centred design project, as part of a broader program of work on cirrhosis care. The goal of this project is to develop a patient journey map. This is a human-centred design tool developed through co-creation with patients, family, and health practitioners. It supports quality improvement efforts by helping health practitioners in the circle of care understand the patients’ and providers’ experience of the HE as well as discover potential problems with the management of the disease and treatment.

### Hepatic Encephalopathy (HE) - Patients’ Journey Map

<table>
<thead>
<tr>
<th>PRE</th>
<th>DURING</th>
<th>POST</th>
<th>LIVER TRANSPLANT (PRE &amp; POST)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>REFFERAL TO CIRRHOSIS CLINIC</strong></td>
<td><strong>FIRST TIME AT THE CIRRHOSIS CLINIC</strong></td>
<td><strong>HE TREATMENT</strong></td>
<td><strong>LIVING WITH HE</strong></td>
</tr>
<tr>
<td>- Patients get referred by family doctors.</td>
<td>- Patients share their medical history.</td>
<td>- Patients were prescribed lactulose, take it 3-4 times a day to reduce ammonia in the blood. The goal is to make the patients have bowel movements (2-3 times a day).</td>
<td>- Patients need to do regular check-ups (based on their current conditions).</td>
</tr>
<tr>
<td>- Patients get referred by a specialist/gastroenterologist.</td>
<td>- Blood tests to identify problems associated with liver disease.</td>
<td>- In some cases where lactulose does not give much impact (patients still have episodes – minimal 2 episodes), Janin will be prescribed.</td>
<td>- Eligible patients may get a liver transplant (good physical and mental health, between the ages of 18 and 60, 0% world liver disease, no significant organ damage, no previous liver transplant, etc.).</td>
</tr>
<tr>
<td>- Patients are diagnosed with HE.</td>
<td>- Patients are diagnosed by the doctors quickly.</td>
<td>- Nurse practitioners educate the patients' family about the disease.</td>
<td>- Patients who had a liver transplant will need to take medication for the rest of their lives.</td>
</tr>
<tr>
<td>- Patients who do not have a history of encephalopathy, they will be admitted to the ER.</td>
<td>- Patients can ask any questions to the nurses or practitioners related to their conditions or if they have any concerns.</td>
<td>- Patients who had a liver transplant will need to take medication for the rest of their lives.</td>
<td>- Patients who had a liver transplant will need to take medication for the rest of their lives.</td>
</tr>
</tbody>
</table>

### Challenges

- There is no awareness about hepatic encephalopathy (HE) in society.
- Many patients/caregivers are anxious about their condition.
- Some patients already developed mild confusion.
- Patients with severe confusion do not remember what the doctor said during their visit.
- Patients need more information related to HE.
- A lot of patients have to do their own research related to HE management (no diet and sunbed).
- Some patients have severe depression.
- Lack of mental health support for the patient.
- Some patients live alone (strangers from families & friends).
- Patients have side effects from lactulose (gas, bloating, nausea, and cramps).
- Patients feel tired, lack energy.
- Patients feel uncertain about the next steps of their treatment (what's next?).
- Long waiting times for liver transplantation.
- Patients do not get news or updates about the transplant process.
- Confusion still lasts for someone after the transplant.

This patient journey map will contribute to a greater understanding of hepatic encephalopathy – management, treatment, and the patient experience.
Implementation evaluation of patient and physician tools for cirrhosis

The Cirrhosis Care Alberta Program recently launched a cirrhosis best practice guidance tool (with order sets and decision algorithms) that supports clinicians caring for patients living with cirrhosis, with the aim of improving health and reducing the cumulative length of stay in hospital. This PRHIS-funded project was led by Dr. Puneeta Tandon, a hepatologist at the UofA and principal investigator for this project. The PLP Implementation Science Team, including Dr. Dawn Schroeder, Dr. Thea Luig and Dr. Denise Campbell-Scherer, is working with Dr. Tandon to evaluate the implementation of the Cirrhosis Care Alberta best practice guidance tool to understand how clinicians are using it and the factors that help or hinder its use in daily practice. Knowledge from this study may be used to develop strategies and/or changes to the guidance tool to optimize its use.

As part of our PLP implementation program, this project uses innovative methods and will contribute to optimal cirrhosis care and the advancement of implementation science.

Improving adherence to clinical practice guidelines for the management of variceal bleeding

The natural history of cirrhosis is dramatically changed by the development of portal hypertension and its complications of ascites, encephalopathy, and variceal bleeding. An analysis of data from the USA found one-quarter of patients with cirrhosis are readmitted to hospital within 90 days, with 9% readmission rates after variceal bleeding. An audit of data from Calgary’s four adult hospitals has demonstrated readmission rates higher than expected, with readmission after variceal bleeding being twice that in the USA. Working with Dr. Aziz Shaheen, the PLP created an A&F report on the adherence to clinical practice guidelines related to the management of variceal bleeding in Calgary hospitals. This data was shared with quality improvement leads for the emergency department, medical teaching units, gastroenterology, and interventional radiology during a facilitated A&F session held at the Calgary Liver Disease Course in November 2020. Further site specific A&F is planned to facilitate improved inter-professional care of these complex patients. We will also acquire prescribing data to determine compliance with recommendations to start non-selective beta-blockers following discharge. The blood utilization aspect of this project will be presented at the National Choosing Wisely Canada conference in May 2021.
As part of our PLP implementation program, this project uses innovative methods and will contribute to optimal cirrhosis care and the advancement of implementation science.

Improving hepatocellular carcinoma surveillance in patients with chronic hepatitis B virus

Patients with cirrhosis, and certain populations of non-cirrhotic patients with chronic hepatitis B virus (HBV), are at an increased risk of developing hepatocellular carcinoma (HCC). However, data shows that less than 20% of patients followed in primary care and less than 50% of those followed by gastroenterologists have regular surveillance ultrasounds. The PLP is partnering with Dr. Aziz Shaheen, members of the Calgary Liver Unit, and EFW Radiology to evaluate the impact of an automated ultrasound surveillance system in Calgary on enhancing compliance with HCC surveillance, specifically in chronic carriers of HBV. A&F is planned for hepatologists, radiologists, and ultrasound technicians as part of ongoing quality improvement.

Improved adherence to HCC surveillance should lead to earlier detection of HCC where curative options are available.
Dyspepsia management: Using co-design to create patient-centred tools

This project was part of a larger quality improvement initiative led by the PLP and the Calgary Division of Gastroenterology & Hepatology. Through co-design, physicians, and patients helped develop useful point-of-care resources that empower patients to manage their condition and facilitate clear communication with primary care providers. The PLP anticipates these resources will support the optimal use of endoscopy for younger adults with dyspepsia.

Resources included two patient-facing posters and a patient journal designed to empower patients to track lifestyle factors such as diet, sleep, and stress, all of which may influence gut health. A summary page gives providers a quick overview of which symptoms and potential triggers are the most problematic for the patient. Evaluation of these resources in practice will provide insight into how effectively they meet the needs of patients and providers. Next steps include partnering with the Digestive Health SCN to spread and scale these resources.

Optimizing the use of gastroscopy for dyspepsia in low-risk patients in the Edmonton Zone

Gastroscopies are expensive procedures and are in high demand. Evidence suggests that gastroscopy to investigate symptoms of dyspepsia (indigestion and other upper abdominal symptoms) is overused. The PLP is working with Dr. Dan Sadowski, Dr. Sander Veldhuyzen Van Zanten, and Dr. Kerri Novak (Choosing Wisely Alberta grant recipient), in partnership with the Digestive Health SCN, on a scale and spread of a similar project that was completed in Calgary last year.

This project will determine the proportion of gastroscopies performed in Edmonton for the indication of dyspepsia in young patients (<65) that are low risk and have no appropriate indications for this test. It will
also identify the proportion of gastroscopies with clinically actionable findings, such as malignancies. Data collection from chart reviews is currently underway, and data analysis will begin shortly. Once complete, the study results will be used to create individual and aggregate data reports for A&F sessions, as were held in the Calgary Zone last year. The goal is to reduce the proportion of low-value gastroscopies being performed in the Edmonton Zone, which will improve wait times for more urgent cases and will reduce costs.

Supporting Antimicrobial Stewardship

Antimicrobial resistance is recognized as one of the biggest challenges to public health, with profound health and macroeconomic global risks. If unchecked, not only will people die of currently treatable infections, it will lead to other life-saving treatment, for example chemotherapy and transplantation, being rendered unsafe. PLP is dedicated to our ongoing program of work with collaboration with Dr. Lynora Saxinger, PLP Medical Director and medical lead for AHS Antimicrobial Stewardship for Northern Alberta, and colleagues. We are excited to see that two of these initiatives, on reducing inappropriate antibiotic use in bronchiolitis and in urinary tract infection, are in the spread and scale phase.

Antimicrobial stewardship in asymptomatic bacteriuria initiative: Implementing the urinary tract infection (UTI) 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, the PLP’s human-centered 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, the PLP’s algorithm has been implemented at two Calgary EDs, to replace routine urine testing with targeted testing of patients with a reasonable clinical suspicion of an UTI. After the decision-making tool was presented at the Foothills Medical Center in 2019 the mean number of urine cultures/100 presentations decreased by 17.1%. This reflects the elimination of 142 low-value urine cultures per month and has a projected annual cost savings of greater than $25,000. In October 2020, the tool was introduced to physicians, pharmacists, and nursing staff at the South Health Campus. Results are pending but a similar decrease in urine cultures is expected. The tool will be introduced at the Rockyview General Hospital before the end of the year.

The decision algorithm has reduced the number of unnecessary urine tests and antibiotic treatment.
Acute care bronchiolitis management in Alberta

Bronchiolitis is the most common respiratory tract viral infection and the leading cause of ED visits and hospitalization in infants under 12 months old in Canada. Supportive care is the mainstay of treatment while laboratory tests, chest radiographs, and medications are generally not helpful in diagnosing or managing the illness. The PLP has successfully collaborated with the Alberta Children’s Hospital to reduce unnecessary testing and treatment in the ED and inpatient units.

Plans are now underway for province wide implementation at 17 sites. The PLP hosted an A&F session at the UofA’s Pediatric Grand Rounds on November 12, 2020, with 40 in attendance. A provincial steering committee has been established with representation from the PLP, MNCY SCN, Stollery Children’s Hospital – Sustainability Program Office, Alberta Children’s Hospital – Pharmacy, Respiratory Therapy, Diagnostic Imaging, and AHS Analytics. First phase of the provincial initiative is scheduled for Fall 2021.

Developing an algorithm to Improve assessment of beta-lactam allergy

Patients who have inaccurate beta-lactam (i.e., penicillin) allergy labels receive suboptimal antibiotic therapy, which is associated with poorer patient outcomes and higher system costs. Although there is new evidence regarding penicillin allergy and cross-reactivity to certain classes of antibiotics, this information has not been widely disseminated.

Led by PLP Medical Director Dr. Lynora Saxinger and primary care physician Dr. Helene Cuiddihy, this project focused on developing and testing a decision algorithm that supports primary care physicians in identifying patients with true beta-lactam allergies. Developed to improve the shared understanding and management of true allergic reactions, it is available on the PLP website, ready for implementation. This complements the ongoing knowledge transfer work for the larger surgical site infection project.

To help physicians identify true beta-lactam allergies, a decision algorithm tool was developed.
Appropriateness of care initiative: Antimicrobial stewardship in asymptomatic bacteriuria (pediatric)

For bacteriuria patients who are asymptomatic, routine urinalysis and use of antimicrobial medications may be inappropriate. The context of patient symptoms must be assessed. Building on past success with a decision algorithm to support antimicrobial stewardship in adults with asymptomatic bacteriuria, our human-centred design team worked with PLP Medical Director Dr. Lynora Saxinger and AHS pharmacist Darren Passay to develop a tool for use with pediatric patients. This decision algorithm for pediatric patients is available on the PLP website as well as the AHS webpage (appropriateness of care for asymptomatic bacteriuria).

This decision tool helps physicians determine appropriate care for pediatric patients with asymptomatic bacteriuria, and will reduce unnecessary use of testing and antibiotics.

Management of pediatric urinary tract infections in emergency departments

Pediatric urinary tract infections (UTI) are a common reason for children to visit the ED, accounting for over 500 visits to each of the pediatric ED in Alberta in 2018. The PLP is currently collecting data on how individual physicians order urinalysis and urine cultures and their subsequent treatments of suspected pediatric UTIs in ED. Physicians will be presented with their data and the data from their department with suggested improvements. The same data will be collected six months later to determine whether improvements have been made. If these improvements are deemed inadequate, physicians will have the opportunity to attend PLP facilitated A&F sessions where they can determine ways to improve performance.

ED physicians will be better able to treat children presenting with UTIs.

Supporting Surgery

PLP has worked in close partnership with the Surgical SCN on topics to improve access to data for quality improvement, as well as initiatives to improve care of patients. We are excited this year to have ongoing provincial scale and spread of projects that improve surgical site infection rates through appropriate antimicrobial prophylaxis and the use of tranexamic acid. Our new collaborations around addressing the surgical wait list crisis post-COVID are of major system importance. Additionally, our work to advance the appropriate use of opioids following surgery is important, and will help prevent dependence and its attendant patient and system problems.
Supporting implementation of the National Surgical Quality Improvement Program in Alberta

The National Surgical Quality Improvement Program (NSQIP) data tool tracks surgical outcomes and helps identify areas for improvement. NSQIP represents a major investment by AHS to improve surgical care, thus successful implementation leading to optimized, sustained use is of great importance. To help healthcare organizations successfully adopt NSQIP, the PLP partnered with the Surgery SCN to study implementation and adoption across five hospital sites. Dr. Mary Brindle and Dr. Sanjay Beesoon from the Surgery SCN collaborated with the PLP Implementation Science team members, Dr. Dawn Schroeder, Dr. Thea Luig, and Dr. Denise Campbell-Scherer, to design and execute the study, and facilitate support from AHS leadership.

Through an innovative use of Normalization Process Theory and the Consolidated Framework for Implementation Research, we ascertained the positive impact of the provincial implementation team collaboratives, leadership support, and resources, which were especially in building trust in NSQIP. Strategies to build trust included: holding public forums to voice concerns, asking for feedback, and using a grassroots approach to improve surgical care.

In addition to stakeholder presentations to the AHS Surgery SCN and the AHS Surgical Core Provincial Network, the completed project was presented virtually at the American College of Surgeons 2020 Quality and Safety Conference and its findings will be disseminated through two peer-reviewed publications.

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 (SAP), led by PLP Medical Director Dr. Lynora Saxinger at the UofA, in partnership with Edmonton Zone members of the AHS IP&C 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 for surgical patients with beta-lactam allergy, and there are large variances in SAP practices across sites and specialties in the Edmonton Zone.

This project provided insights and practical strategies to support implementation of the National Surgical Quality Improvement Program within AHS
Building on the Edmonton Zone results, the PLP is exploring potential 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 SAP, and they will support quality improvement cycles at each site.

This project will help reduce Surgical Site Infections while promoting more appropriate use of antibiotics in accordance with guidelines.

Increasing the use of tranexamic acid for hip fractures

Tranexamic acid (TXA) can be used to reduce blood loss and the need for blood transfusion in several types of surgeries. Previously, the PLP collaborated with Calgary anesthesiologists and orthopedic surgeons on increasing TXA use during total knee arthroplasty (TKA) or total hip arthroplasty (THA) at South Health Campus. Following A&F using CAFF, rates of TXA use increased 20% for TKA and 7.9% for THA. This project will now expand to include hip fracture procedures at the four main tertiary hospitals in Calgary.

The PLP presented to UofC Orthopedic Grand Rounds in September 2020 and have ongoing plans for an A&F session with individual practice reports for orthopedic surgeons compared to peers at site and zone level (expected summer 2021).

By promoting the appropriate use of TXA for hip fractures, this project will help reduce the need for blood transfusions.

Opioid use after thoracic surgery

Opioid-related harm in Canada is an ongoing public health crisis that has significant personal, societal, and systemic costs. In 2016 to 2018, over 9,000 deaths were reported due to opioid poisoning, and hospitalization rates increased by 27% over 5 years prior to 2018. Illicit opioids certainly cause harm, but it is important to recognize that prescription medications also contribute to the problem. An Alberta report found that most people who died of an opioid overdose (excluding fentanyl) had encountered the health care system or had an opioid dispensed from a community pharmacy within 30 days prior to death.

This project is designed to understand opioid prescribing habits for patients undergoing thoracic surgery, and more specifically, lobectomies. An A&F session was held with 8 Calgary thoracic surgeons on June 26, 2020 to review data, introduce a dashboard, and create plans for change. This project will be used to help inform the development of opioid prescribing guidelines locally, which should also inform prescribing following other major surgeries.

Surgeons were supported to examine their opioid prescriptions after thoracic surgery with an aim to reduce opioid-related harm for Albertans.
Reducing Alberta surgical backlog: Provider and patient perspectives to evaluate the provincial strategy to elective surgery waitlist

Due to the COVID-19 pandemic, AHS made a policy decision to cancel most non-essential surgeries to limit the spread of the virus within facilities and to ensure that Alberta hospitals would have the capacity to care for severely ill COVID-19 patients. Currently, the problem of clearing the backlog created by COVID-19 has become a significant and complex challenge. As part of a larger evaluation of the proposed strategies to address the surgical backlog, the Surgery SCN is partnering with PLP and the Illuminate Lab to assess patient and healthcare workers’ perspectives. In particular, the evaluation will consider perceived barriers, values, implications in patients' lives, and healthcare workers' roles. The project uses the Sensemaking approach to collect and quantify real-time qualitative data from a large, representative sample. In doing so, we will gain an understanding of provider and patient perspectives, as well as shifts in their experiences related to the proposed strategies.

Operative vaginal delivery practices in Calgary Zone

Childbirth carries risks regardless of the mode of delivery; however, operative vaginal delivery (OVD) carries with it several perinatal and maternal risks of unfavourable outcomes, plus their associated costs. Birth statistics from Calgary hospitals show highly variable OVD rates of between 13.1% and 29.6% (2018-2019). This project assesses variation in rates between Calgary hospitals and provides individual physician reports paired with opportunities to discuss OVD practices, guidelines, and opportunities for improvement. In November 2020, 14 Obstetrician & Gynecologist (OBGYN) physicians from the Peter Lougheed Centre attended a PLP facilitated A&F session. Using a dashboard of their OVD and cesarean section delivery rates they reflected on their practice and came up with methods to improve their individual practices. All 90 OBGYN physicians in Calgary will have an opportunity to participate in discussions, through A&F sessions, by the end of 2021.

This project supports OBGYN physicians to reflect on their practice data to improve the delivery of care for their patients.
Alberta surgical initiative (AHS performance review recommendation)

Approximately 70,000 people in Alberta were waiting for surgery at the time of the AHS Review (2019), and 50% were found to be waiting longer than clinically appropriate. At the same time, acute care facilities continue to perform surgical procedures that are of limited clinical value. These identified procedures require evidence-informed and expert consensus measures to reduce clinical variation and ensure surgical time and expertise is focused on the most appropriate cases. The PLP will use its expertise in data analytics, human-centred design, and A&F to support the Alberta Surgical Initiative.

The PLP’s support of this initiative will help address the provincial backlog in surgeries.

Supporting Medicine

The PLP has been active in projects to advance care of multiple medical conditions and in initiatives to advance appropriateness of care objectives in the health system. These initiatives span primary care, specialty topics, inpatient medicine, critical care, and neonatal intensive care. Projects in diagnostic imaging and optimizing laboratory testing are crucial to sustaining the healthcare system.

Cardiac Choosing Wisely: Reducing low-value cardiovascular investigations to provide higher quality care at lower cost

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

The PLP is collaborating with the Cardiovascular Health and Stroke SCN and Choosing Wisely Alberta to reduce the number of low-value ECGs in Calgary outpatient
cardiology clinics. It has developed a bedside tool to help cardiologists, nurses, nurse assistants, and clinic staff determine whether or not an ECG should be ordered. The PLP is also working with the cardiac sciences clinical informatics team to develop an interactive Tableau dashboard. It will serve as an A&F tool providing cardiologists with personal practice data regarding their ECG ordering trends, and support discussion focused on reducing the use of low-value ECGs.

This project aims to reduce the number of low-value ECGs in Calgary outpatient cardiology and preoperative clinics, and plans are ongoing to spread and scale provincially.

Developing a decision tool to reduce cardiovascular risk in primary care

Cardiovascular disease (CVD) is the leading cause of death in women and affects one in three Canadian adults. High cholesterol, also known as dyslipidemia, is a leading cause of CVD. It accounts for almost half the population-attributable risk of heart attacks and one-quarter the risk of stroke. Dyslipidemia can be modified with effective, safe, and inexpensive treatment including cholesterol-lowering medications, such as statins. Unfortunately, only about 30% of patients who could benefit from statins are taking them and only 50% of those are adherent. This significant gap in treatment and adherence rates requires population-based solutions. The PLP will: 1) co-design and implement an online clinical decision support tool for patients and their health care providers for dyslipidemia; and 2) develop an enhanced report on CV risk as part of the HQCA Primary Care Panel Reports. A clinical decision support tool provides physicians and other care team members with information to make an informed decision. This tool will provide patients and providers with a risk calculator, statin related information, and everyday resources to manage cholesterol and encourage the use of statins.

This project will help health care teams and patients better manage high cholesterol.

Assessing adherence to secondary prevention guidelines for myocardial infarction for patients discharged from an Alberta hospital

This new project, led by cardiologist Dr. Robert Welsh at the UofA, will evaluate whether patients discharged from hospital following a myocardial infarction are following care guidelines for secondary prevention of heart attacks, including dispensing of medications and assessment of key laboratory results.

The findings from this project will reduce the risk of a second heart attack.
Developing an amyotrophic lateral sclerosis Tableau dashboard

Amyotrophic Lateral Sclerosis (ALS) is a fatal and progressive motor neuron disease with no known cure. The goal of ALS treatment is to improve symptoms, quality of life and, for many, increase life expectancy. Factors that can extend and improve quality of life include receiving the standard of care medications riluzole and edaravone (Radicava ®), nutritional support, non-invasive ventilation, and care delivered by a multidisciplinary team specializing in ALS. Two critical issues that greatly impact ALS care are the timing of diagnosis and access to a multidisciplinary care clinic. Diagnosing ALS can be long and complex - multiple studies and reviews have shown that there is, on average, a delay of 8.0 to 15.6 months from symptom onset to ALS diagnosis. This diagnostic delay has remained unchanged for over a decade.

The PLP is working with Dr. Wendy Johnston and the UofA ALS Multidisciplinary Clinic on a project that will create a Tableau dashboard that continuously monitors the proportion of patients with ALS who are eligible for the two standard of care medications, along with other important patient characteristics such as demographics, scores on the ALS Functional Rating Scale (ALSFRS), and forced vital capacity. Increasing proportions of patients on these medications will indicate that referrals to the clinic are happening earlier in their disease progression. Findings from this project will help address the knowledge-to-action gap for clinicians and support better patient outcomes. This work will occur in tandem with another phase of this project which aims to understand the diagnostic experience of patients from the Kaye Edmonton ALS Clinic and their physicians.

Findings from this project will accelerate the uptake of more effective, but time-sensitive, interventions for those suffering from ALS.

Human-centred design tools for amyotrophic lateral sclerosis

Diagnosis of ALS often involves lengthy referrals to multiple medical specialties. The PLP has partnered with Dr. Wendy Johnston at the UofA to identify areas that prolong the referral pathway and to monitor whether, over time, more patients arrive at specialty clinics earlier in their disease progression.

This project is using qualitative and human-centred design approaches to understand the preconceptions, attitudes, and system-level barriers that need to be addressed for patients with ALS, and to create a patient journey map that will help with patient education. Patients and community-based physicians will be interviewed to identify barriers and opportunities for change, and to ensure that the developed solutions address real, not perceived, problems.

This project aims to reduce the time it takes for patients presenting with ALS to receive specialty care.
“By monitoring ALS patients over the next year, and working with local doctors, Johnston and her team hope to uncover barriers to diagnosis, and improve those odds. They’ll work in partnership with Alberta’s Physician Learning Program to create an education and information-sharing program for doctors and share their findings with the ALS Societies of Alberta and Canada to get the word out among patients.”

Edmonton Journal, April 8, 2021

Acute care lab utilization

It is estimated that Canadians receive over one million unnecessary tests each year. In the inpatient setting, excessive phlebotomy (blood tests) leads to patient discomfort, hospital-acquired anemia, unnecessary transfusions, and prolonged hospitalization. Unnecessary testing also contributes to rising health care expenditures; in 2015, the annual cost of laboratory testing on the Medical Teaching Unit (MTU) at the Peter Lougheed Centre (PLC) in Calgary was over one million dollars. A pilot quality improvement initiative using A&F in 2017 at PLC demonstrated sustained cost savings of $3.00 per patient-day.

Working with Dr. Anshula Ambasta (CWA grant recipient), the PLP is supporting facilitated A&F sessions using CAFF, to spread and scale this initiative to all MTUs and hospitalist inpatient medical units in Calgary. To date, the PLP has held seven virtual A&F sessions at three sites in the Calgary Zone for both hospitalists and general internists. Five sessions remain and will be completed by the summer 2021.

This project aims to reduce routine laboratory testing in Calgary acute care facilities by 15% by the fall of 2022 in the Calgary Zone while enhancing or maintaining patient outcomes.
Optimizing safe and effective use of human albumin in critical care in Alberta

Albumin, a protein made by the liver that helps keep fluid in the bloodstream, should only be used for fluid resuscitation in limited clinical settings. This project aims to reduce the low-value use of albumin in critical care settings by sharing individual and aggregate data with attending physicians. Working with Dr. Daniel Niven, the PLP has delivered six interactive, multi-disciplinary educational and A&F sessions, nine multi-faceted workshops with 256 in attendance, and has provided 776 aggregate data reports to health professionals at 13 ICUs. Over 13 months, there has been a 39% decrease in low-value use of albumin. In addition, 98 kg of biomedical waste has been saved from disposal for an estimated savings of $273,000.

Reducing the use of albumin when not needed has the potential to improve patient safety and save $350,000 per year.

Improving quality and value in critical care

Critical care is a resource intensive environment where expensive drugs, complex technologies, and highly specialized care contribute to a large component of health care expenditure. Building on its work to improve the value of albumin use across 14 adult ICUs and two adult cardiovascular ICUs, the PLP will work with critical care physicians across the province to reflect on practice data that addresses important issues, including utilization of blood transfusions, dialysis, ventilation, and others. Specifically, the PLP has created a list of potential quality metrics for critical care physicians and established a working group to refine, select, and disseminate the metrics. In addition, the PLP has created an interdisciplinary working group with project champions and opinion leaders to increase engagement and create a provincially scalable project.

This project will define quality metrics for critical care physicians, including those related to blood transfusions, dialysis, and ventilation.
Provincial acute care utilization (AHS Performance Review Recommendation)

Acute care length of stay in Alberta is almost one day longer than the national average and is considered a key cost driver in the system. The project team includes PLP Medical Director Dr. Doug Woodhouse, and colleagues Drs. Peter Jamieson, James Eisner, Braden Manns, and Jeffrey Schaefer. Recognizing that many physicians do not have routine access to metrics about the care they provide, this project offers access to relevant care metrics, and provides opportunities for reflective practice improvement. The initial focus will be on length of stay and 30-day readmission rates (as a balancing and safety measure). There will be other metrics of relevance to physicians and patients added as the project progresses.

The aim of the project is to improve quality of care while also ensuring efficient use of health-care resources by reducing acute care length of stay.

Reducing practice variability in Calgary Neonatal Intensive Care Units (NICU)

Alberta NICU clinical outcomes have been noted to have variation when compared to other NICUs in Canada. Using Alberta NICU data, the PLP aims to assess practice variation across the five NICU sites in Calgary to inform reflection and optimization of site and zone practices to improve patient outcomes. The initial subproject is anticipated to look at blood transfusion in Calgary NICUs, an area that aligns with Choosing Wisely priorities.

This project aims to improve outcomes and appropriateness of care for neonates in Calgary NICUs.

Contrast induced acute kidney injury prevention (CI-AKI)

Damage to the kidneys, a condition called CI-AKI, is a common and costly complication following exposure to X-ray dyes used for heart procedures. Fortunately, there are accurate ways to identify patients at high risk for this complication and effective ways to minimize it. This initiative has introduced a system for risk stratification and prevention of AKI in cardiac catheterization laboratories in Alberta. Performance reports for CI-AKI prevention and incidence have been shared with physicians across the province, and A&F reports have been produced for all cardiologists working in catheterization labs. The PLP will continue to produce and disseminate provincial aggregate, site aggregate, and individual physician data reports.

Reports help identify high-risk patients, thus reducing the risk of CI-AKI following cardiac catheterization procedures.
Addressing the value of hormone testing

In Alberta, approximately 370,000 common hormone tests cost Albertans $2.1 million each year. While the testing can provide valuable insights in certain situations, clinicians agree that a significant amount of hormone testing is of low value. By focusing on five commonly ordered hormone tests for ovarian function in the female population in Alberta, the PLP aims to raise awareness of appropriate hormone testing and, in doing so, support practice change. Using Alberta data, the PLP will explore current utilization in relation to Choosing Wisely Canada and other guidelines.

This project aims to reduce low-value hormone testing.

Physician reports for polypharmacy and sedative medication use in seniors

Polypharmacy, when a patient is on ten or more medications, is associated with poorer patient outcomes. This partnered project, with Dr. Donna Manca and NAPCreN, will develop and distribute feedback reports to individual primary care physicians about the proportion of their older patients with polypharmacy and prescriptions for sedatives, with benchmark comparisons. The first reports were distributed to 93 physicians in March 2021 and follow-up reports are scheduled for March 2022. This project also involves developing and distributing resources to optimize prescribing (including deprescribing and managing insomnia, etc.). Quality improvement workshops/seminars on optimal medication are also planned.

This project optimizes prescribing and deprescribing for seniors by providing individual primary care physicians information on their prescribing practices, and resources to support informed prescribing.
Understanding the burden and healthcare utilization of adrenal insufficiency in Alberta outpatient clinics (AI phase two)

Adrenal insufficiency (AI) is a rare, life-threatening hormonal disorder, requiring lifelong treatment with steroid replacement therapy, as well as special education for medication adjustment in times of stress, illness, or surgery. Little has been known about the nature and burden of AI patients on healthcare utilization in Alberta. Last year, phase one of the project established a baseline understanding of the prevalence of AI, treatments, and service utilization in Alberta emergency departments. It determined that emergency visits by patients with AI have remained stable over time.

Led by Dr. Rose Yeung, Dr. Sarpreet Sekhon, and Dr. Mahua Ghosh at the University of Alberta, phase two focuses on outpatient clinics and emergency departments. While the overall trend for emergency room visits has remained stable, the trend for outpatient visits per patient has been increasing over time, both for the treatment of any reason and for the treatment of AI specifically. The findings from this study can be used as a baseline and can inform resource planning for health care as well. This information will be used to engage with endocrinologists and policy makers across the province to identify quality improvement initiatives. To further support knowledge transfer, an academic manuscript is in development.

Findings from this project will contribute to our understanding of adrenal insufficiency in Alberta, its prevalence, treatment, and service utilization.
Adrenal insufficiency tools: Education and quality improvement (AI phase 2)

Last year, the PLP’s human-centred design team collaborated with a team of physicians in the Division of Endocrinology at the UofA, including Dr. Rose Yeung, Dr. Anna Lam, Dr. Mahua Ghosh, Dr. Constance Chik, Dr. Andrea Opgenorth, and Dr. Laurie Mereu, to develop a toolkit for people living with adrenal insufficiency. Since then, preliminary data collected by the division showed that only 64% of responding endocrinologists provided patients with written instructions for stress dosing of medication.

In this second phase of the project, our AI tools will be provided to patients at the AI clinic. Focus groups with endocrinologists and patients will provide an opportunity to understand the impact of these tools in patients’ daily AI self-management, and whether the tools are helping reduce preventable emergency department visits for adrenal crisis.

A toolkit will be provided to guide people on how to manage adrenal insufficiency

Supporting Access to Clinical Information for Quality Improvement

The PLP is dedicated to improving access to clinically important information to improve care. We have worked in close partnership with AHS Analytics, the HQCA, and project stakeholders to enhance clinicians’ access to information. We are excited this year to have ongoing provincial scale and spread of the primary care laboratory utilization online learning environment and the emergency department physician dashboard.
Primary care laboratory utilization: Online learning environment

Alberta spends approximately $700 million annually on laboratory services, with close to 60% of those costs associated with lab tests ordered by family physicians. Studies find that approximately 35% of all lab tests are of low value, and this can be identified by examining practice variance relative to peers.

In concert with HQCA, APL and AHS, the PLP developed a lab utilization practice report for all primary care physicians in Alberta that went live on the HQCA website in March 2020. This online learning environment, using state-of-the-art teaching vignettes, helps physicians reflect on their practice by showing their lab ordering compared to that of their colleagues. In November 2020, PLP and CME&PD hosted an interactive webinar which promoted the HQCA website and demonstrated how a physician could use their own data for practice improvement.

This project supports AHS’ efforts to reduce unnecessary tests while improving patient safety, experience, and access across Alberta.

Emergency Department physician dashboard and A&F sessions

The adult ED dashboard reports various metrics to physicians, including three each for flow, quality of care, and resource stewardship, as well as one balancing metric. A physician’s individual data is presented in comparison to peers. While the dashboard has existed for years, its use by ED physicians was low. The PLP has found that establishing the meaning and credibility of the data is a necessary precursor to physician use.

This project, led by Dr. Shawn Dowling, provides peer-facilitated A&F to Calgary ED physicians, using the CAFF. In 2020, the PLP successfully transitioned to holding these sessions virtually while maintaining engagement from physicians and positive evaluations. In Calgary, 33% of ED physicians have now attended at least one of the nine A&F sessions. Evaluations demonstrate wide-spread 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 for change. This PLP project will carry over into the coming year, giving more Calgary ED physicians the opportunity to participate.

A reduction in low-value testing ensures patients who need tests can get them as quickly as possible and will contribute to the sustainability of our health system.
Developing rapid cycle clinical projects using Connect Care data for quality improvement

AHS is continuing to roll out the Connect Care electronic medical record system. The PLP is working with Dr. Neesh Pannu at the UofA and the Connect Care Quality Improvement Group on rapid cycle clinical projects that address learning how to use Connect Care as a resource for quality improvement.

The dashboard and A&F sessions have improved physicians’ receptiveness to their practice data, identifying opportunities, and creating action plans for practice change.

Calgary Zone pediatric emergency department physician performance dashboard

The current dashboard of individual performance metrics for the adult emergency department (ED) physicians in Calgary is now being adapted to offer data for pediatric ED physicians as well. Drawing on lessons learned while developing the adult ED dashboard and another PLP project on bronchiolitis management, this PLP project will use data from Connect Care to create a useful and effective dashboard for the emergency physicians at the Alberta Children’s Hospital and South Health Campus in Calgary, as well as the Stollery Children’s Hospital in Edmonton. The Stollery Children's Hospital transitioned to Connect Care in late 2019 and its data is being used to develop the dashboard's initial metrics of 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 dashboard will go live as the Alberta Children’s Hospital transitions to Connect Care in November 2021. The dashboard will be used for A&F using CAFF and continuous quality improvement within the pediatric emergency department.

Learnings from this collaboration will inform future PLP projects.
Supporting The Ecosystem To Evolve the Learning Health System

The PLP is dedicated to improving access to clinically important information to improve care. We have worked in close partnership with AHS Analytics, the HQCA, and project stakeholders to enhance clinicians’ access to information. We are excited this year to have ongoing provincial scale and spread of the primary care laboratory utilization online learning environment and the emergency department physician dashboard.

Building the Alberta Provincial Continuous Professional Development (CPD) Network

In response to the 2019 Future of Medical Education in Canada Continuing Professional Development (FMEC-CPD) report that outlined a vision for a redesigned national CPD system, the PLP worked with our University CPD Offices and other strategic partners (AHS, HQCA, CPSA, AMA, and the ACFP) to establish an Alberta CPD Network. In 2020, despite initial delays due to the pandemic, a CPD Network Work Plan was created with input from a large cross-section of stakeholders during a virtual interactive meeting in July 2020. The completed CPD Network plan outlines a roadmap for Alberta to develop a comprehensive CPD network over the next 5-10 years by aligning current resources and actively building in several areas: Culture and Engagement, Data and Information, Coaching and Quality Improvement, and Credentialing. In early 2021, the key leaders from AHS, AMA, CPSA HQCA, UofA and UofC endorsed the plan.
A new provincial CPD Network will support physicians in data-driven continuous quality improvement.
Webinars and Physician Engagement Events

With the COVID-19 pandemic, our team pivoted quickly to adopt new technologies and continue with our program of physician and interdisciplinary healthcare provider engagement events. We partnered in this endeavour with a number of different organizations and professionals. This serendipitously enhanced our geographic reach and these virtual approaches will continue to be used in our future work.

Obstetrics and Gynecology Pathway Webinar

Abnormal uterine bleeding, bleeding after pregnancy, and post-menopausal bleeding are conditions frequently seen in primary care. In most cases, women experiencing abnormal bleeding can be assessed and started on treatment in the medical home with no referral to specialty care necessary. The three gynecological pathways were co-designed to increase primary care physician confidence to provide care for abnormal bleeding in the medical home, reduce the use of low value testing and interventions, and identify when a patient requires urgent care or referral to specialty. The pathways are hosted on the Specialist Link website.

At CME&PD’s Pearls for Family Practice Webinar: An Approach to Abnormal Uterine Bleeding in Primary Care on September 23, 2020, the PLP introduced the three pathways to a primary care audience using case-based discussion to introduce pathway elements, followed by interactive questions and answers. The session featured 5 guest panelists - 3 primary care physicians, including PLP Medical Director Dr. Tina Nicholson, and 2 gynecologists – representing different areas that support the care of patients with abnormal uterine bleeding. In the 90-minute webinar, participants learned to recognize patterns of abnormal uterine bleeding in pre- and post-menopausal and pregnant women; to use targeted history, examination, and appropriate testing to confirm diagnosis; triage patients to be managed within the medical home; and identify when to engage specialty partners. As a result of this work, the PLP was asked to support the design of another gynecology pathway to manage urinary incontinence.

85.0% Intend to change practice due to participating

68 attendees
Gestational diabetes webinar
Gestational diabetes mellitus (GDM) has become more common, especially in certain ethnic communities, or with increased BMI, or higher maternal age. It is associated with poorer outcomes for both mother and child. Management of GDM focuses heavily on lifestyle changes, as well as prevention.

In November, Dr. Rose Yeung, a PLP Medical Director at the UofA, and Nandini Desai presented at the 2020 Endocrine and Diabetes Update. Their physician engagement event reviewed the epidemiology of GDM in Alberta, highlighted the implications of GDM for mother and child, and discussed the prevention and management of GDM. The PLP will offer the same content in a webinar in spring 2021.

Primary Care Lab Utilization Webinar

At CME&PD’s 45th Annual Pearls for Family Practice Conference, PLP co-hosted a webinar entitled Navigating pandemic resource challenges (Lab Utilization) – Improving access through data. Moderated by Dr. Tina Nicholson, this session described the effect of the current pandemic on access to laboratory and other health care resources. Dr. Oliver David, Medical Lead Mosaic PCN, demonstrated how physicians can access their personal PLP / HQCA laboratory utilization reports on the HQCA website. Throughout the webinar, 160 physician participants engaged in self-reflective exercises and identified potential areas for change. We received overwhelmingly positive feedback, with many confirming a commitment to change, and there was a marked increase in requests for access to HQCA reports in the following week. This work has been accepted for a presentation at the 2021 Choosing Wisely Canada National Conference.
Variceal Bleeding: What the guidelines tell us to do and what we actually do

Cirrhosis represents the end-stage of chronic liver disease, and is a leading cause of mortality, morbidity and economic burden. The natural history of cirrhosis is dramatically changed by the development of portal hypertension and its complications of ascites, encephalopathy and variceal bleeding. An audit of Calgary data has demonstrated readmission rates higher than expected, with readmission after variceal bleeding being twice that in the USA. Therefore, at CME&Pd’s Calgary Liver Disease Course on December 5, 2020, Dr. Kelly Burak, Dr. Aziz Shaheen and Sampson Law presented a workshop on the management of variceal bleeding according to American Association for the Study of the Liver (AASLD) guidelines, the results of an audit from Calgary hospitals, and an interactive debrief to reflect on the findings and identify areas for improvement. The quality improvement leads for emergency medicine, internal medicine, gastroenterology, and interventional radiology participated in the panel discussion, and Mentimeter ™ was used to explore barriers and facilitators for improving care with the 55 attendees. Future site-specific A&F sessions are planned to improve the complex multidisciplinary care of these patients. The blood utilization aspect of this project has been accepted for a presentation at the 2021 Choosing Wisely Canada National Meeting in May 2021.

Liver Disease Course
63 attendees

<table>
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<tr>
<th>Agree/strongly agree info is relevant to their practice</th>
<th>92.0%</th>
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<tbody>
<tr>
<td>The session met the stated objectives</td>
<td>100%</td>
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Heart failure webinar and quality improvement workshop series in primary care

Patients with heart failure are commonly managed by primary care physicians, with approximately 10% of patients attending a specialist clinic. But many patients with heart failure do not have optimal medical therapy. This may be because of either patient, clinician, or system challenges; geographic or temporal difficulties accessing specialty care; or patient complexity and multi-morbidity. Evidence shows that there are methods that can assist physicians
in optimizing care, including creating better links between specialists and primary care physicians, and allowing for polypharmacy in patients with greater absolute risk, where lifesaving and life-improving medications exist.

This spring, the PLP launched an innovative new program over a year in the making, led by Dr. Justin Ezekowitz in partnership with the Edmonton Southside PCN and the Mazankowski Alberta Heart Institute. At the pan-PCN webinar, Heart Failure in Primary Care - Bridging from Guidelines to Practice, in January, Dr. Ezekowitz addressed advances in care for patients with heart failure, illustrated updated methods to diagnose heart failure, and explained the new understanding of disease, including modifying medications for patients with heart failure with reduced ejection fraction.

Heart failure in primary care webinar - Bridging from Guidelines to Practice
96 attendees

- 100% Intend to change practice due to participating
- 100% Agree/strongly agree info is relevant to their practice

Building on the initial webinar, a quality improvement workshop, Heart failure in primary care - screening and prevention, was held in March 2021, led by Dr. Bibiana Cujec and Dr. Sheri Koshman. The goal of the workshop was to implement new learnings and guidelines using the clinic resources. A second, follow up, workshop will occur in April 2021. All three events are accredited. A repeat of this heart failure program is anticipated. Based on the overwhelming success of the webinar plus QI workshop format, we are exploring developing similar programs for other chronic diseases.

Heart failure in primary care - Screening and prevention workshop
97 attendees

- 98.0% Intend to change practice due to participating
- 100% Agree/strongly agree info is relevant to their practice
Cirrhosis webinar series

Liver cirrhosis is a chronic condition that results from vascular and hepatocellular injury, and leads to progressive hepatic fibrosis. It is a major cause of morbidity and premature mortality in patients with digestive disease. Given that 90-day readmission rates are as high as 44% in Alberta, addressing care gaps in hospitalized patients with cirrhosis is important for improved patient outcomes and health system sustainability. Three priority areas include managing cirrhosis complications, advanced care planning and managing broader health needs such as frailty or alcohol use disorder, and preparing for transitions of care into the community with structured education and timely follow-up post discharge.

As part of our support for the cirrhosis care program, the PLP hosted a six-part webinar series in winter 2021, in partnership with Cirrhosis Care Alberta and the Office of Lifelong Learning at the University of Alberta. This project was led by PLP Medical Director Dr. Puneeta Tandon, and featured six speakers from North America. The aim of the cirrhosis webinar series was to provide a range of practitioners (family physicians, internists, and gastroenterologists) with the “why” and “how” of addressing each of these major care gaps. The live webinars drew a national audience, and the recordings have subsequently been viewed 540 times. Topics included diagnosis, alcohol use, treatment, pain, and palliative care, with a focus on practical clinical tips and information.

Cirrhosis webinar series
1,234 attendees in total for the 6 webinars

100% Intend to change practice due to participating

100% Agree/strongly agree that overall, they were satisfied with the program
Asthma webinar series

Patients with asthma are at higher risk of potentially life-threatening exacerbations, regardless of their disease severity. Most rely on rescue short-acting beta agonist (SABA) inhalers for symptom relief and do not take regular anti-inflammatory maintenance therapy. However, new evidence shows that using an anti-inflammatory reliever can improve outcomes. To support family physicians in caring for patients with asthma, Dr. Mohit Bhutani at the UofA worked with the PLP to develop and host two webinars on asthma in January 2021.

The first webinar, Asthma management in 2021: New paradigms and approaches provided an update on current trends in asthma care, reviewed basic principles of approaches to asthma care, and discussed the profound recommendations of the Global Initiative on Asthma on the management of mild asthma, including COVID-19. The second webinar, Approaches to the management of difficult-to-control asthma, reviewed asthma control and barriers to achieving it, and discussed the role and benefits of using biologics to treat asthma, as well as the significant consequences of prednisone bursts. Attending were 52 physicians and team members for the first webinar, and then 46 for the second. The recordings have been viewed 98 and 42 times, respectively.
PPI deprescribing in Alberta webinar

In 2018/19, 494,683 Albertans (or 11% of the population) were prescribed proton pump inhibitors (PPIs) to manage heartburn and other acid-related disorders. Of those, 28% were prescribed at a dose higher than the recommended standard. Estimates suggest that up to 40% of patients in Alberta are over-prescribed PPIs, which increases an avoidable medication burden, as well as system and patient costs. This over-prescribing includes extending treatment beyond eight weeks and dosing twice per day instead of once, both in the absence of a clear indication for the PPI.

Dr. Sander Veldhuyzen Van Zanten, in partnership with the AHS Digestive Health SCN and the PLP, presented the webinar *Bye-Bye PPI: Towards optimal prescribing of PPIs* to a pharmacist stakeholder group in September and at the Clinical Connections Conference in October 2020. He presented a third webinar, *Prescribing and deprescribing PPI in the elderly*, in March 2021.

In February, the PLP hosted the webinar *Deprescribing PPI in Alberta*, attended by 37 physicians and team members. It described the extent of PPI use in Alberta, identified appropriate situations for prescribing and deprescribing PPIs, presented tools (developed with the PLP) that can support patient discussions and decision making about PPI prescribing, and provided physicians with the opportunity to reflect on their own PPI prescribing practices. Electronic copies of all the physician and patient tools for deprescribing PPIs were distributed to all 237 registrants for these events.

### objectives

**February 23, 2021 | 7:00 - 8:00 pm MST**

At the end of the webinar, participants will be able to:
- Describe the extent of PPI utilization in Alberta
- Identify appropriate situations for prescribing and deprescribing PPIs
- Reflect on own PPI prescribing practice
- Use tools to support discussions with patients on appropriate PPI therapy

### Registration

Presented by Dr. Sander van Zanten

qrco.de/ppiwebinar

**The Office of Lifelong Learning Webinar**

**Deprescribing of Proton Pump Inhibitors in Alberta**

**Presented by Dr. Sander van Zanten**

**February 23, 2021 | 7:00 - 8:00 pm MST**

**Objectives**

- Describe the extent of PPI use in Alberta
- Identify appropriate situations for prescribing and deprescribing PPIs
- Reflect on own PPI prescribing practice
- Use tools to support discussions with patients on appropriate PPI therapy

### PPI deprescribing in Alberta

**37 attendees**

100% Intend to change practice due to participating

100% Agree/strongly agree info is relevant to their practice
Presentations

Physician engagement, audit and feedback, and stakeholder presentations

Primary care:

- Adult Obesity Guidelines - First webinar series, with Obesity Canada and the Office of Lifelong Learning,
  2 presentations for each topic
  · Overview, August 2020
  · Weight bias, August 2020
  · Assessment, August 2020
  · Psychology and behaviour, September 2020
  · Pharmacotherapy, September 2020
  · Obesity & Indigenous populations, September 2020
- Gestational Diabetes Mellitus, 2020 Endocrine and Diabetes Update, November 2020
- Adult Obesity Guidelines - Second webinar series, with Obesity Canada and the Office of Lifelong Learning
  · Science of obesity, November 2020
  · Primary care and primary health care in obesity management, November 2020
  · Medical nutrition therapy in obesity, November 2020
  · Physical activity in obesity management, November 2020
  · Bariatric surgery, November
  · Enabling participation in activities of daily living, December 2020
  · Commercial products and programs in obesity management, December 2020
- Department of Family Medicine McGill: Patient engagement in practice: giving attention to narrative and context, January 2021
- Heart failure in primary care - Bridging from Guidelines to Practice, webinar, January 2021
- Asthma management in 2021: New paradigms and approaches, webinar, January 2021
- Asthma management in 2021: Asthma gone wild! Approaches to the management of difficult to control asthma, webinar, January 2021
- Cirrhosis webinar series, with Office of Lifelong Learning
  · Does my patient have cirrhosis? January 2021
  · Don’t see cirrhosis often? Top 10 things you need to know, January 2021
  · Managing alcohol use disorder in cirrhosis, January 2021
  · Practical tips on frailty diagnosis and treatment in cirrhosis, February 2021
  · Palliative care in cirrhosis - it’s not just at end of life, February 2021
  · Tips for managing pain in cirrhosis, February 2021
- Adult Obesity Guidelines - Third webinar series, with Obesity Canada and the Office of Lifelong Learning
  · Prevention and harm reduction of obesity, January 2021
  · Emerging technologies, January 2021
  · Epidemiology, January 2021
  · Methods, February 2021
  · Case study, February 2021
  · Deprescribing PPI in Alberta, webinar, February 2021
  · Prescribing and Deprescribing PPI in the elderly, webinar, March 2021
  · My Practice: Prescribing Sedating Medications to Seniors in Calgary Zone, March 2021
Primary care: Edmonton Southside PLP-PCN events
- Heart failure in primary care - Screening and prevention, workshop, March 2021

Critical Care groups:
- Critical care SCN, Provincial albumin working group: Optimizing safe and effective use of human albumin, Sept 2020
- Edmonton Zone Grand Rounds (Grey Nuns, UofA General Systems): Optimizing safe and effective use of human albumin, November 2020
- Optimizing safe and effective use of human albumin: Audit & feedback
  - QEII Regional Hospital (Grande Prairie), September 2020
  - Northern Lights Regional Hospital (Fort McMurray), September 2020
  - Misericordia Hospital, October 2020
  - Royal Alexandra Hospital, October 2020
  - Mazankowski Cardiovascular ICU, November 2020
  - Sturgeon Community Hospital, January 2021
  - South Zone (Chinook Regional Hospital, Medicine Hat Regional Hospital), February 2021

Diabetes groups:
- Edmonton Zone Diabetes Program Quality Council Meeting: PLP update on diabetes management projects, October 2020

Emergency Medicine groups:
- EY Avoidable Admissions Group: Effective Audit & feedback, May 2020
- Emergency Room Dashboard: Audit & feedback, December 2020

Gastroenterology groups:
- Cirrhosis Care team: Cirrhosis website launch, March 2021

Hospitalists:
- Inpatient Laboratory Utilization: Audit & feedback, January, February, and March 2021

Internal Medicine:
- Inpatient Laboratory Utilization: Audit & feedback, January, February, and March 2021

Obstetrics and gynecology groups:
- Operative vaginal delivery practices in Calgary Zone: Audit & Feedback, November 2020

Pediatric groups:
- Audit & Feedback: Department of Pediatrics, University of Calgary, Grand Rounds, Bronchiolitis Management by Edmonton Pediatric Emergency Physicians, November 2020

Surgery groups:
- Pain management in thoracic surgery in Calgary Zone: Audit & feedback, June 2020
- AHS Surgical SCN: Implementation of the National Surgical Quality Improvement Program: What Matters Most to Surgical Teams? June 2020
- AHS Surgery SCN: Surgical Antimicrobial Prophylaxis (SAP) project update. October 2020
Other groups:
- The Coalition for Physician Learning and Practice Improvement: *Transforming CPD During COVID-19 and beyond*, May 2020
- Choosing Wisely Canada Weekly Virtual Gatherings During COVID-19: *Pivoting During the Pandemic: Challenges and Opportunities for Continuing Professional Development and Choosing Wisely*, webinar, May 2020
- Pharmacist group with Digestive Health SCN: *Bye-Bye PPI: Towards optimal prescribing of PPIs*, Sept 2020
- Novo Nordisk: *PLP overview and collaboration exploration*, August 2020
- Dieticians of Canada panel: *Nutrition Updates from the Canadian Adult Obesity Clinical Practice Guidelines: Time to focus on health, not weight*, October 2020
- University of Manitoba Department of Surgery / Anaesthesia Grand Rounds: *Using facilitated audit and feedback to optimize care*, March 2021
- The Coalition for Physician Learning and Practice Improvement: *Implementation of the FMEC-CPD in Alberta*, March 2021

Public presentations:
- The Conference Board of Canada: *Optimizing Outcomes During COVID-19: The Urgent Need for Data Sharing*, webinar, April 2020

COVID presentations:
**COVID Corner**, with Office of Continuing Medical Education & Professional Development, Cumming School of Medicine, University of Calgary
- *COVID-19 March Update*. **Burak K**, Topps D (co-hosts & moderators), March 2020
- *COVID-19 Clinical Updates*. **Burak K**, Topps D (co-hosts & moderators), April 2020
- *Goals of Care, Palliation, and End of Life Care*. **Burak K**, Topps D (co-hosts & moderators), April 2020
- *Managing Patient Anxiety and Mental Health Decompensation*. **Nicholson T**, Armson H (co-hosts and moderators), April 2020
- *Care of the Hospitalized Patient with COVID19*. **Burak K**, **Woodhouse D** (co-hosts & moderators), April 2020
- *Comprehensive 360 Approach to Care of the COVID-19 Patient in the Community*. **Burak K**, **Nicholson T** (co-hosts & moderators), April 2020
- *The Critically Ill COVID-19 ICU Patient*. **Burak K**, **Au S** (co-hosts & moderators), May 2020
- *From Your Nose to Your Toes: Atypical presentations of COVID-19*. **Burak K**, **Bailey M** (co-hosts and moderators), May 2020
- Lessons Learned from the Last Three Months. Burak K, Topps D (co-hosts & moderators), June 2020
- A Test of System-Level Physician Wellness. Burak K, Campbell-Scherer D (co-hosts & moderators), Co-hosted with Office of Lifelong Learning and WellDoc Alberta, July 2020
- Myth Busting and Medical Breakthroughs. Burak K, Campbell-Scherer D (co-hosts & moderators), Co-hosted with Office of Lifelong Learning, August 2020
- School Openings and the Second Wave. Burak K, Bailey M (co-hosts and moderators), September 2020
- Vaccines versus Variants (Anniversary Edition). Burak K, Woodhouse D (co-hosts & moderators), March 2021

Other COVID CPD, Cumming School of Medicine, University of Calgary
- Care of the Pediatric COVID Patient Webinar. Bailey M (host & moderator), April 2020

COVID-19 Science Webinar Series, with Office of Lifelong Learning, Faculty of Medicine & Dentistry, University of Alberta
- Public health laboratory response to COVID-19, April 2020
- The development and prospects for antivirals for COVID-19, April 2020
- Prospects for a COVID-19 vaccine, May 2020

COVID-19 in Kids Webinar Series, with Office of Lifelong Learning with Office of Lifelong Learning, Faculty of Medicine & Dentistry, University of Alberta
- COVID-19 in kids... where do they catch it?, July 2020
- Multisystem inflammatory syndrome in children with SARS-CoV-2, July 2020
- Pandemic and pediatrics: more than we bargained for, July 2020

COVID-19 Science Update Webinar Series, with Office of Lifelong Learning, Faculty of Medicine & Dentistry, University of Alberta
- Update on COVID-19 lab testing in Alberta, October 2020
- Chronic complications of COVID-19, November 2020
- Securing vaccines for COVID-19, December 2020
Publications, abstracts, and grants

Publications


**Dowling S**, Gjata I, **Solbak N**, Weaver C, Smart K, Buna R, **Stang A**. MP32: Using physician practice reports and feedback sessions to reduce low value care in bronchiolitis. *CJEM*, 22: S54–S54. DOI: 10.1017/cem.2020.180


Conference or webinar presentations, posters, abstracts, awards and system impacting grants

Boisvenue J, Yeung R. Narrative inquiry into understanding the type 1 diabetes lived experience and its motivations in seeking diabetes health services and education in Alberta. Presentation at the Diabetes Action Canada 2020 Virtual Workshop, July 2020.

Burak K. COVID-19 the Patient's Perspective. COVID Corner, Cumming School of Medicine, University of Calgary, April 2020.

Burak K. Lessons Learned from the Bonspiel Outbreak AND Liver Presentations of COVID-19. COVID Corner, Cumming School of Medicine, University of Calgary, May 2020.


Burak K. Introduction to Long-COVID AND Patient Interview. COVID Corner, Cumming School of Medicine, University of Calgary, October 2020.

Burak K. The updated Department of Medicine / Physician Learning Program COVID-19 inpatient management infographic, November 2020.


Burak K. Making the most out of a virtual visit with your physician. Invited speaker at CLF LIVERight Patient Forum, December 2020.


Campbell-Scherer DL. Approach to primary care during COVID-19. COVID Corner, Cumming School of Medicine, University of Calgary, May 2020.


Campbell-Scherer DL. MacMullen P, Delisle M, Jennings J. Panel Discussion. A Comprehensive 360 approach to care of the COVID-19 patient in the community. Webinar, COVID Corner, Cumming School of Medicine, University of Calgary, April 2020.


Campbell-Scherer D, Wicklum S, Brown J. Pearls for Family Practice: Evidence-based obesity management and how to get started in your practice. Webinar presentation at the Pearls for Family Practice Suite, Cumming School of Medicine, University of Calgary, March 2021.


Tandon P. Toward Optimizing Practice: Caring for hospitalized patients with cirrhosis. Invited speaker at Calgary Liver Disease Course, Cumming School of Medicine, University of Calgary, December 2020.


Tandon P. Top tips for the management of cirrhosis with a Primary care lens. Invited speaker at Rural Virtual Conference, Cumming School of Medicine, University of Calgary, March 2021.


Abstracts accepted for upcoming conferences


Luig T. The problem first is what to eat and where to sleep: Social determinants of health in migrants living with obesity and the role of cultural brokering. Abstract accepted for the Obesity Summit, May 2021.

Luig T, Ofosu NN, Chiu Y, Yeung RO, Lee, KK, Campbell-Scherer, DL. The role of cultural brokers in obesity and diabetes care for vulnerable members of immigrant and refugee communities. Abstract accepted at the European Congress on Obesity, May 2021.
Luig T, Chiu Y, Ofosu NN, Campbell-Scherer DL. *Mutuality, narratives, and complexity: Moving from understanding entanglements to action during a pandemic.* Abstract accepted at the Canadian Anthropology Society conference, May 2021.

Luig T, Ofosu NN, Chiu Y, Campbell-Scherer DL. *Cultural brokering during COVID-19: Using a salutogenesis lens to understand how migrant families are impacted and supported through crisis.* Abstract accepted at the 6th International Conference on Salutogenesis, June 2021.


Saxinger L, Fryters S, Chen J, Chandran U, Hoang H, Tse-Chang A, Crick K, Myroniuk T, Williams D, Yeung R, Campbell-Scherer D. *A quality audit of surgical antibiotic prophylaxis timing, redosing, and postoperative dosing practices in 5 hospital sites: The devil is in the details.* Abstract accepted for presentation at the Association of Medical Microbiology and Infectious Disease Canada Conference, April 2021.


Awards and Recognition

**Lynora Saxinger** and **Shawn Dowling**, Top Teacher Awards 2020, CME&PD, Cumming School of Medicine, University of Calgary.

Irene Ma, Ghazwan Altabbaa, **Doug Woodhouse**, Rahim Kachra, Chloe Burnet - Scientific Planning Committee for Personal Protective Equipment Course. CME Innovation Award 2020, CME&PD, Cumming School of Medicine, University of Calgary.


Swaleh R, **McGuirk T, Myroniuk TW, Manca D**, Lee K, Sharma AM, **Campbell-Scherer D, Yeung RO**. *The practical clinical advantages of the Edmonton obesity staging system.* Awarded 2nd place prize at Alberta College of Family Physicians’ (ACFP) 2021 Family Medicine Summit, March 2021.

**Kelly Burak**, Education Leadership Award (nominee), Taylor Institute, University of Calgary, March 2021.
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 Alberta 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 PIHRI 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 Alberta 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 Alberta grant led by Dr. Kerri Novak at the University of Calgary.
- Optimization of routine laboratory test utilization on inpatient medical units”, a Choosing Wisely Alberta 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 Alberta 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 Alberta grant led by Dr. Sonia Butalia at the University of Calgary.
- “ALS-ID: developing a roadmap for early diagnosis and rapid referral of probable ALS cases to the multidisciplinary ALS Clinic at the Kaye Edmonton Clinic”, a Kaye Edmonton Clinic grant led by Dr. Wendy Johnston at the University of Alberta.
- “Audit and Group Feedback: What works for whom and in which context? A realist evaluation of the Calgary Physician Learning Program”, an Office of Health and Medical Education Scholarship (OHMES) grant led by Dr. Lara Cooke at the University of Calgary.