



2021-2022

Physician Learning Program

Annual Report

WWW.ALBERTAPLP.CA | PLP@UALBERTA.CA | PLP@UCALGARY.CA

Contents

Introduction	03
Our Associate Deans' Letter	05
Our Team	07
Our Collaborators	09
PLP Achievements	10
Our Partners	11
Covid Response	12
Programs and Projects	16
Family Medicine and Primary Care	16
Cardiology	21
Diabetes and Obesity Care	22
Gastroenterology and Hepatology	26
Infectious Disease and Antimicrobial Stewardship	29
Medicine	30
Obstetrics and Gynecology	37
Surgery	39
Access to Clinical Information for Quality Improvement	42
The Ecosystem To Evolve the Learning Health System	45
Individual and aggregate quality improvement sessions, co-learning webinars, and physician engagement events	46
Presentations	54
Publications, abstracts, and grants	58

Introduction Alberta's Physician Learning Program: Unique and impactful

With ongoing advancements in medicine and technology, there is a strong desire and multiple avenues to advance physician practice and improve patient care. The challenge within our system is to transform raw healthcare data into actionable information that physicians and their teams can use to improve healthcare in Alberta.

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

- Advanced data analysis techniques convert health data that is difficult to understand into useful information, and significantly reduce the analytic time required to work with huge datasets.
- Human-centred design promotes quick and accurate comprehension through co-creation of material infographics, decision algorithms, provider and patient education resources, and more.
- Stakeholder engagement with patients, healthcare partners, and interdisciplinary healthcare professionals identifies priority issues and 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.
- Data-driven practice reflection and quality improvement sessions, and the Calgary Audit and Feedback Framework (CAFF), facilitate physicians' 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 2017, 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 medical problems. Unique to Alberta, the PLP's 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, and 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 with significant impact on evidence-based clinical practice, using a variety of techniques to analyze data and bridge the gap between knowledge and 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 practice gaps across 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, teams, and key stakeholders during and after the COVID-19 crisis.

Our Associate Deans' Letter



Dr. Denise Campbell-Scherer
Associate Dean, Office of Lifelong Learning & Physician
Learning Program
Co-lead Physician Learning Program, University of Alberta



Dr. Thomas Raedler
Associate Dean, Continuing Medical Education and
Professional Development
Co-lead Physician Learning Program, University of Calgary



Dr. Kelly Burak
Past Associate Dean, Continuing Medical Education and
Professional Development
Past Co-lead Physician Learning Program, University of Calgary

On behalf of our entire team, it is our pleasure to share with you the Physician Learning Program's (PLP) 2021-2022 Annual Report. The PLP continues to help physicians, interdisciplinary health care teams, system partners, patients, and community navigate the complexity of our rapidly evolving clinical and social contexts. In all our efforts we are committed to our mission of creating actionable clinical information and engaging with physicians, teams, partners, and patients to co-create sustainable solutions to advance practice.

A special thank you goes to Dr. Kelly Burak, who completed his 5-year term as Co-lead Physician Learning Program, University of Calgary on December 31, 2021 with distinction. As of January 1, 2022, Dr. Thomas Raedler has joined Dr. Denise Campbell-Scherer in co-leading the PLP. Dr. Raedler is an Associate Professor in the Department of Psychiatry and is the Associate Dean of Continuing Medical Education and Professional Development at the University of Calgary.

With COVID-19 dominating the world stage for two years, our PLP team has continued to undertake projects to support our community and health system response. Projects align with heath system priorities such as appropriateness, laboratory and diagnostic testing, and quality, such as reducing surgical site infections. We take an upstream lens of prevention of health care usage by increasing understanding of the contextual factors or physician practices affecting health outcomes. Examples include partnered work on COVID-19 vaccination interventions through community partnerships and addressing low value endoscopy testing. Sustainable systems are supported through advancing care of people living with chronic diseases, such as diabetes, obesity, heart failure, and cirrhosis. We are looking to the future in our ambitious business plan through 2024 with continued efforts in improving patient care through supporting physicians and teams in data-driven quality improvement, and scaling this through building strategic collaboratives to support health system sustainability across the care continuum. As part of the newly created provincial Continuing Professional Development (CPD) Network, PLP, AHS, and other member organizations are working to support the creation of the learning health system. This includes increasing capacity, skills, and infrastructure for quality improvement, coaching, and enhancing access to data for physicians and teams to integrate improvement into their work.

Recognizing that it will take years until we fully recover from the COVID-19 pandemic, it is important to pause and acknowledge the outstanding work of our team and partners – patients, physicians, interdisciplinary clinicians, and health policy experts – over the past years. The work of PLP was recently acknowledged by receiving the 2021 Outstanding Achievement Award in the Evaluation of Clinical Competence from the Medical Council of Canada. A big thank you goes to all the members of our teams. Thanks to your dedication and creativity we were able to continue our work to improve Alberta's health care system despite ongoing challenges.

Our annual report showcases our work to accelerate improvement in Alberta's health care system. We are grateful for the ongoing support from 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, as well as the Faculty of Medicine & Dentistry at the University of Alberta and the Cumming School of Medicine at the University of Calgary.

6

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

Roseanne Yeung, MD, FRCPC, MPH

Associate Professor, Department of Medicine Senior 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

Thea Luig, PhD

Social Science Lead

Andrea Dawn Schroeder, RN, MPH, PhD

Implementation Scientist (until October 2021)

Melanie Heatherington, MEd

Educational Specialist

Nandini Desai, BSc (Hons), BScPharm, CDE

Clinical Liaison

Katelynn Crick, BSc

Project Manager

Taylor McGuckin, BA, MSc

Project Manager

Jordan Tate, BDes

Human-Centred Designer



Thomas Raedler, MD, FRCPC

Associate Dean, Continuing Medical Education and Professional Development, Co-Lead Physician Learning Program (since January 2022)

Kelly Burak, MD, FRCPC, MSc (Epid)

Associate Dean, Continuing Medical Education and Professional Development, Co-Lead Physician Learning Program (until December 2021)

J. A. Michelle Bailey, MD, FRCPC, MSc

Assistant Dean, PLP Medical Director, Quality and Practice Improvement

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

Maria-Alexandra Restrepo Gonzalez, MSc

Project Coordinator

Aaron Peterson, BSc

Project Manager

Ashi Mehta, MD, MSc

Project Manager (until August, 2021)

Brenna Murray, BA, MPH, PMP

Project Manager

Sampson Law, MSc

Project Manager

Diane Duncan, BSc Pharm, PMP, MEd (c)

Project Manager

Emily-Ann Butler, MSc

Project Manager (until December 2021)

Our Team



Indra Budiyanto, BA, MDes

Human-Centred Designer

Badi Jabbour, BSc

Research Assistant

Jessica Cohen

Administration & Communication Coordinator

Emma Naguib

Administrative Assistant

Brock Setchell

AHS Analytics Senior Data Analyst



Leah Ferrie, MSc

Project Manager

Nathan Solback, BSc, BSc, MSc

Project Manager

Sarah Seymour, BScHK, BScN, RN

Project Manager (started December 2021)

Michelle Chen, BSc

Project Manager (started December 2021)

Johanna Blaak MSc

Human-Centred Design Lead

Ashleigh Metcs, BComm

Human-Centred Designer

Wanning Song, BSc

AHS Analytics Data Analyst (started July 2021)

Charlene Feuffel,

AHS Analytics Health Information Analyst

Our Collaborators



Mohit Bhutani, MD, FRCPC Physician Project Lead, Respirology

Mary Brindle, MD, FRCPC Physician Liaison, Surgery

Eliana Castillo, MD, FRCPC Physician Liaison, Internal Medicine

Cora Constantinescu, MD, FRCPC Physician Project Lead, Pediatrics

Quentin Durand-Moreau, MD, FRCPC Physician Project Lead, Medicine

Jessica Foulds, MD, FRCPC Physician Project Lead, Pediatrics

Mahua Ghosh, MD, FRCPC Physician Project Lead, Metabolic Diseases

Pishoy Gouda, MD, FRCPC Physician Project Lead, Cardiology

Robin Hao, MD, FRCPC Physician Liaison, Endocrinology

Wendy Johnston, MD, FRCPC Physician Liaison, Neurology

Anna Lam, MD, FRCPC Physician Project Lead, Metabolic Diseases

Darren Lau, MD, FRCPC Physician Liaison, General Internal Medicine

Terrence McDonald, MD, CCFP, FCFP Physician Liaison, Primary Care

Laurie Mereu, MD, FRCPC Physician Project Lead, Metabolic Diseases

Kerri Novak, MD, FRCPC Physician Liaison, Gastroenterology

Andrea Opgenorth, MD, FRCPC. Physician Project Lead, Metabolic Diseases



Mike Allan, MD, CFPC, FCFP Family Medicine

Anshula Ambasta, MD, FRCPC Internist

Bill Anderson, MD, FRCPC Radiology

Chris Bond, MD, FRCPC Emergency Medicine

Michael Bow, MD, FRCPC OBGYN

Simrit Brar, MD, FRCPC OBGYN

Sonia Butalia, MD, FRCPC Endocrinology

Cora Constantinescu, MD, FRCPC Pediatrics

Stephanie Cooper, MD, FRCPC OBGYN

Don Dick, MD, FRCPC Surgery, IHOT

Shawn Dowling, MD, FRCPC Emergency Medicine

James Eisner, MD, FRCPC Internist

Rod Elford, MD, CFPC, FCFP Family Medicine

Stewart Hamilton, MD, FRCPC Surgery, Alberta Surgical Initiative

Peter Jamieson, MD, FRCPC Hospitalist

David Johnson, MD, FRCPC Pediatrics

Alec Oskin, MD, FRCPC

Physician Project Lead, Psychiatry

Elizabeth Rosolowsky, MD, FRCPC

Physician Project Lead, Pediatrics

Dan Sadowski, MD, FRCPC

Physician Liaison, Gastroenterology

Sarpreet Sekhon, MD, FRCPC

Physician Project Lead, Metabolic Diseases

Peter Senior, MD, FRCPC

Physician Project Lead, Metabolic Diseases

Petra Smyczek, MD, PhD

Physician Project Lead, Infectious Diseases

Rukia Swaleh, MD, FRCPC

Physician Project Lead, Metabolic Diseases

Sander Veldhuyzen Van Zanten, MD, FRCPC

Physician Liaison, Gastroenterology

Jennifer Walton, MD, FRCPC

Physician Liaison, Pediatrics

Robert Welsch, MD, FRCPC

Medical Liaison, Cardiology

Alice Yeung, MD, FRCPC

Physician Project Lead, Psychiatry

JP Leung, MD, CFPC

Family Medicine

Lindsay Long, MD, FRCPC

Pediatrics

Braden Manns, MD, FRCPC

Nephrologist

Candy Marcet, MD, CFPC

Family Medicine

Carlos Morillo, MD, FRCPC

Cardiology

Maryam Nasr-Esfahani, MD, FRCPC

OBGYN

Chris Naugler, MD, FRCPC

Pathology and Medical Education

Daniel Niven, MD, FRCPC

Intensive Care

Joan Robinson, MD, FRCPC

Pediatrics

Lynora Saxinger, MD, FRCPC

Infectious Diseases

Abdel-Aziz Shaheen, MD, FRCPC

Gastroenterology (GI)

Rhonda Shkrobot

Drug Stewardship Pharmacist

Antonia Stang, MD, FRCPC

Pediatrics

Alena Tse-Chang, MD, FRCPC

Pediatrics

Daina Thomas, MD, FRCPC

Pediatrics

Jennifer Thull-Freedman, MD, FRCPC

Pediatrics

Richard Walker, MD, FRCPC

Radiology

Charles Wong, MD, FRCPC

Emergency Medicine

Dan Zuege, MD, FRCPC

Emergency Medicine

| PLP Achievements

7,430

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

93.1%

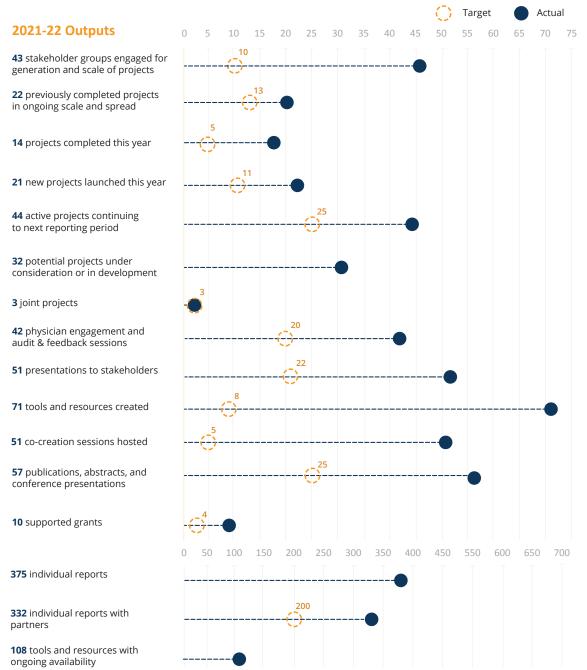
of physicians/health care providers who agree or strongly agree that participation in a PLP audit and feedback project helped them reflect on their practice.

95.7%

of physicians/team members who agreed or strongly agreed that the information in a PLP event was relevant to their practice

97.7%

of physicians/team members who agreed or strongly agreed that, overall, they were satisfied with the PLP event.



Our Partners

The PLP is funded by the Government of Alberta Ministry of Health. Our strategic partnerships help us identify system priorities and understand the context in which the work occurs. We collaborate with partners on diverse projects that improve patient outcomes and reduce unnecessary spending, 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. In addition to our ongoing partnerships with the Primary Care Networks (PCNs), Alberta Health Services (AHS), Covenant Health, Strategic Clinical Networks (SCNs), we also partner with various AHS Zone committees and councils, multiple academic departments and institutes at the University of Alberta and the University of Calgary, as well as other organizations in health care and community groups.





















































COVID-19 Response

The PLP continues to support the COVID-19 pandemic recovery in Alberta as part of our ongoing efforts to respond to the emergent health needs of Albertans. In this second year of the pandemic, important priority topics for PLP have been understanding and mitigating vaccine hesitancy to help improve uptake of the COVID-19 vaccine in the province, and updating COVID care pathway tools to advance care for hospitalized patients. COVID Corner, the webinar series hosted in collaboration with the Office of Continuing Medical Education & Professional Development at the Cumming School of Medicine at the UofC, continued to provide physicians with helpful information and support.

COVID Corner, Developed and delivered in collaboration with the Office of Continuing Medical Education & Professional Development, Cumming School of Medicine at the University of Calgary. Recordings of COVID Corner webinars are available https://example.com/here/.

- Vaccines vs. Variants Pt. 2, Saxinger L (presenter), Burak K (moderator), May 2021
- Management of Acute COVID-19 in the Hospital and Long COVID in the Community, Burak K (moderator), June 2021
- Moving into the Grey: The 4th Wave & Beyond, Burak K, Bailey M (moderators), September 2021
- Update on the Inpatient Management of Covid-19, Burak K (moderator), September 2021
- COVID & Pregnancy: Vaccine Safety and Patient Management, Burak K, Bailey M (moderators),
 September 2021
- The Long Shadow of COVID: Reflecting on Moral Challenges, **Burak K** (moderator), October 2021
- Mental Health in the Pandemic: Early Detection and Intervention, Burak K, Nicholson T (moderators), November 2021
- Keeping COVID Out: Optimizing Outpatient Care to Reduce Hospitalizations, Burak K, Nicholson T (moderators), December 2021
- Bringing Clarity to Omicron Challenges, Nicholson T, Raedler T (moderators), January 2022
- Reflections After Two Years on the COVID Roller Coaster, Bailey M, Nicholson T (moderators), March 2022

Understanding and mitigating the impacts of COVID-19: Vaccine Hesitancy

COVID-19 vaccination continues to play a critical role in the response to the global pandemic, and the urgence of maximizing vaccine uptake can't be underemphasized. In 2020-21, the PLP carried out a major partnered-project that focused on understanding and mitigating the impact of COVID-19 on individuals in vulnerable circumstances in ethnocultural communities in Edmonton. Our community partner, the Multicultural Health Brokers Cooperative (MCHB), sparked a new partnered project this year when they voiced concerns about vaccine access and hesitancy among immigrant and refugee communities. This new project, co-led by PLP Co-Lead **Dr. Denise Campbell-Scherer** and **Dr. Eliana Castillo**, focused on understanding key issues in vaccine hesitancy in order to develop interventions to help improve provincial vaccination rates.

As part of this project, we used a participatory approach to collect and analyze mass qualitative data in real time across a large sample of 278 narratives. Regular engagement and sensemaking sessions with the MCHB were carried out to understand causes of vaccine hesitancy, and to identify the most effective communication channels to reach different ethnocultural communities. This project's preliminary findings highlight the vital role of cultural brokers as trusted intermediaries who play a crucial role understanding barriers to vaccine uptake in the community, mitigating barriers to access, bridging information gaps through cultural and language interpretation, and acting as a trusted conduit for information through their long-standing relationships within the different ethnocultural communities.

In this work, we have conducted numerous engagement meetings with community groups and religious organizations, and provided information support for vaccination clinics and Primary Care Networks. In September, this project supported four pop-up COVID-19 vaccination clinics in Edmonton sponsored by AHS and the MCHB, to provide accurate information to individuals making a decision about vaccination. Ten short vaccine education videos in eight languages were developed and were featured as an information resource at the vaccine clinics. Discussions with people attending the clinics led to a greater understanding of concerns and misinformation about vaccines and identified a number of barriers to access that people were encountering. Additional collaborators on this work include the Edmonton COVID-19 Rapid Response Collaborative and Alberta International Medical Graduates Association (AIMGA)

"Since the start of the COVID-19 pandemic two years ago, our work as community-embedded Community Health Workers within Edmonton's ethnocultural communities has become unprecedentedly complex and challenging.

As the trusted intermediaries between our communities and formal systems, and companions for families in addressing their unique social economic determinants of health, we felt lost in the volume of quickly changing information and the confusion of the pandemic's unfolding.

Being so context-based in our work, we felt alone in figuring out how to keep our communities well-informed and supported regarding their health & safety, while addressing the negative impact the pandemic has brought to them: deepened poverty, mental health deterioration, family relationship disintegration, higher incidents of COVID-19.

Our physician/researcher/educator colleagues from PLP became our trusted companions:

- supporting us in our learning about COVID, and gleaning the most essentials, up-to-date and salient information for us to share within our communities to address deep misinformation.
- working alongside the MCHB to support our work in the preparation & implementation
 of the four highly successful pop-up vaccination clinics specifically for the most marginalized communities in collaboration with Alberta Health Services, resulting in over 250
 individuals getting vaccinated, including people living in vulnerable circumstances.
- carrying out participatory action research to help us reveal more explicitly the realities within communities' realities, analyze/reflect and adjust our actions and interventions using real time data.

And most importantly, joining us in bridging the gap between marginalized population and the system during this critical time."

Multicultural Health Brokers' Cooperative, April 2022



This project provided insights into vaccination hesitancy concerns and co-created culturally informed resources to increase vaccine uptake in immigrant and refugee communities in Edmonton.

Understanding & mitigating the effects of COVID-19: Vaccine hesitancy webinar

As part of our engagement sessions on COVID-19 vaccine hesitancy, we identified a need for physician education on vaccination during pregnancy, and launched a fast-response project for a webinar on COVID-19 vaccination and pregnancy. Physician liaisons **Dr. Eliana Castillo** and **Dr. Cora Constantinescu** developed and delivered an interactive educational webinar in September 2021. In addition to summarizing the effectiveness and safety data supporting COVID-19 vaccination prior, during, and after pregnancy, and presenting a framework to support effective promotion of COVID-19 vaccination during pregnancy, the webinar also featured a demonstration of communication principles to engage in COVID-19 vaccination dialogue with patients and on social media. The event was attended by 130 physicians and team members, and the recording has been viewed a further 210 times. Feedback from participants indicated that, following the education event, 92% felt more confident about discussing COVID-19 vaccination with their patients.

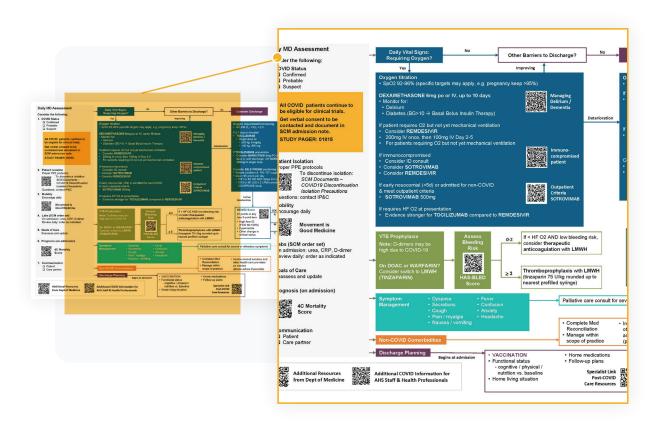




This event helped physicians communicate about COVID-19 vaccination uptake before, during, and after pregnancy more effectively.

Inpatient COVID Care - Bedside tool

Working in concert with a team in the Calgary Zone Department of Medicine, the PLP updated a critical bedside tool for physicians caring for patients at the front line. This knowledge translation tool effectively supports physicians to employ best treatment practices as they emerge in the rapidly evolving science about COVID-19 care. This tool was designed to strengthen confidence and ease decision making ability while managing this complex multi-facetted illness in overwhelmed hospital wards. As COVID best practices have evolved, the Inpatient COVID Care pathway has been adapted. Three different versions have been published in 2021-2022. This tool is now widely distributed across the system and acts as a way for physicians and teams engaged in inpatient COVID care to keep their care practices current.





This tool helps improve care for patients with COVID-19

Understanding and mitigating the effects of COVID-19: Resilience of ethnocultural and visible minority families during COVID-19

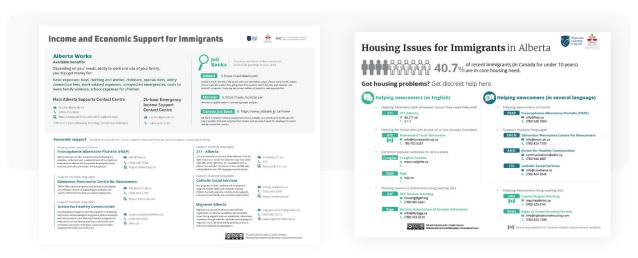
A project currently being explored would study the ways in which ethnocultural and visible minority families are demonstrating resilience during the COVID-19 pandemic and recovery in Edmonton. Using a tool to collect mass qualitative data, this project would examine, for example, children's development, mental health impacts, and impacts on seniors and youth, etc. Project aims and scope are being co-designed with our community partner, the Multicultural Health Brokers Cooperative. As with our other work on COVID-19, the goal is to understand and mitigate the effects of the pandemic. Findings from the project would provide insights into the strengths of families and communities that can be leveraged for support during the COVID-19 pandemic and recovery.



This project supports COVID-19 pandemic recovery efforts in Alberta, with a focus on community outreach.

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 PLP Co-Lead **Dr. Denise Campbell-Scherer**, has been gathering information on eligibility and scope of services for various programs. Building on previous work carried out in partnership with the Multicultural Health Brokers Cooperative to validate and expand this information and to create a knowledge tool for community brokers, the PLP human centred design team led several co-creation sessions with multiple stakeholders, including social workers from the Rundle Health Centre, primary care physicians, nursing faculty at the U of A, and MCHB brokers to test and refine the tool's useability for physicians and health care teams. The finished tools for resources for income and economic insecurity and housing insecurity were presented at the U of A Faculty of Medicine & Dentistry Grand Rounds in December, and spread and scale activities are ongoing.





These tools for health care providers serve as a quick reference guide for income and housing supports for newcomers to Canada and support recovery for Albertans.

| Programs and Projects

Supporting Family Medicine and Primary Care

With approximately 4,500 family physicians in Alberta, we are proud of the broad program of work in our Family Medicine and Primary Care pillar. In addition to ongoing outreach and events hosted with a number of Primary Care Networks, we have a number of projects that focus on managing chronic disease in primary care, such as preventing second heart attacks and managing high cholesterol, as well as advancing care for patients living with obesity, and managing attention deficit disorders across the lifespan. We also have multiple ongoing projects that promote appropriate testing, imaging, and prescribing.

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. In partnership with the Northern Alberta Primary Care Research Network (NAPCReN) and PLP Medical Director **Dr. Donna Manca**, this project supports appropriate prescribing, and provides primary care physicians with individualized feedback reports about the proportion of older patients with polypharmacy and prescriptions for sedatives in their patient panel. Using data from the Canadian Primary Care Sentinel Surveillance Network (CPCSSN), we distributed 93 reports in March 2021, with follow up reports with updated data sent to 83 physicians in December 2021. In addition to individualized data and benchmark comparisons, these reports connect physicians with resources to support optimized prescribing (e.g. deprescribing and managing insomnia). These follow up reports assist physicians in carrying out data-driven evaluations of the impact of their practice changes, with the goal of improving patient outcomes.



Family physicians received data and resources on prescribing sedative medications to advance practice and improve health outcomes for Alberta seniors.

Prescribing sedating medications to seniors in community

As a result of the COVID-19 pandemic, older adults in the community may be feeling increased social isolation, loneliness, anxiety, and have early dementia concerns. Furthermore, many assisted living (SL) and long-term care (LTC) facilities have not been accepting new residents. As a result, older adults who would have met the criteria for transition to SL or LTC have continued to live in the community with their families. These factors may have contributed to changes in prescribing patterns in sedating medications by family physicians.

Choosing Wisely Canada (CWC) has identified de-prescribing of antipsychotics and sedative medications in seniors over the age of 65 years with no clinical indications for use as a priority area for improvement. The Geriatrics Update took place on September 23, 2021 and the PLP worked with the Geriatrics Planning



Committee to facilitate an audit and feedback session. The purpose of the session was to review primary care physicians' prescribing patterns of sedating medications to older adults (>65 years) in the community during the COVID-19 pandemic. Approximately 100 healthcare prescribers attended the session and through small breakout room discussion developed innovative solutions to manage response behaviors in dementia. The PLP is in the process of updating and generating individual feedback reports for 11 consenting physicians who attended the 2021 Geriatrics Update. We continue to collaborate with the Geriatrics Planning Committee and plan to be involved in the delivery of another audit and feedback session this fall at the 2022 Geriatrics Update. This project is led by PLP Medical Director Dr. Doug Woodhouse, with physician lead Dr. Heidi Schmaltz.



Physicians reviewed data to support appriopriate prescribing for patients living with dementia in Alberta.

Physician reports for use of asthma medications

Approximately 12% of Albertans have asthma, a condition which requires long term control as well as immediate treatment of acute exacerbations. In partnership with NAPCReN, and led by PLP Medical Director **Dr. Donna Manca**, this project involves developing and distributing basic feedback reports for individual primary care physicians on the use of various asthma medications. As part of this project, our partners at NAPCReN developed and tested a new asthma case-definition for CPCSSN, and distributed 83 individualized physician reports, with benchmark comparisons, in Spring 2022. The reports provided links to helpful resources on asthma, including two PLP webinars presented by **Dr. Mohit Bhutani** in 2021 (webinar 1, webinar 2). This project supports physicians in advancing their care for patients, providing baseline data this year, with repeat data and follow up reports to be provided next year.



This project makes it easier for family physicians to identify patients with asthma in their CPCSSN data, and provided timely resources and prescribing pattern reporting to optimize their care.

Pulmonary function test ordering in primary care

Studies show there are persistent issues with misdiagnosis of respiratory conditions in Canada: 20 - 70% of patients with asthma and 70% of patients with chronic obstructive pulmonary disease (COPD) living in the community are going undiagnosed. This project provides clinically actionable data and education resources to assist primary care providers to select the most appropriate lung test for diagnosing common respiratory conditions. PLP Medical Director **Dr. Katrina Nicholson** is leading this project, with support from physician leads **Dr. JP Leung** and **Dr. Candy Marcet.**

With our partners, the PLP designed a new metric for primary care physicians in the 2021 HQCA Panel Reports. Physicians can now review and filter records for their patients with a confirmed asthma diagnosis and see whether they have had pulmonary function tests ordered in the past 10 years. Asthma can be diagnosed with a spirometry test alone, and the full pulmonary function test (PFT) is not usually required. This new metric allows physicians to reflect on their test ordering patterns and, if warranted, engage in further investigations to confirm whether their patients with asthma or suspected asthma have had appropriate testing. To address knowledge gaps, we developed four short education videos in which Alberta respirologists answer physicians' frequently asked questions about decisions on lung test orders for diagnosing asthma.

Expert recommendations on which tests to order to diagnose asthma and other common respiratory conditions, as well as an introduction to the Panel Report were presented at the April 2021 Clinical Connections Conference. Two continuing professional development events were delivered to primary care audiences (Pearls for Practice and Rural Videoconference Series session hosted by the University of Calgary Office of CME). Plans are under way to deliver an integrated CME and audit and feedback event for primary care physicians featuring the Panel Reports. The addition of the new metric to the Panel Reports for COPD has been paused until 2023 due to reorganization within HQCA.



These findings help primary care physicians select the most appropriate lung tests for diagnosing common respiratory conditions.

Understanding contextual factors for secondary prevention of myocardial infarction in primary care

This new project on secondary prevention of myocardial infarction (heart attack) in primary care focuses on continuity of care and health care utilization. It aims to understand the contextual factors that may affect secondary prevention of myocardial infarction, in the primary care setting, for patients discharged from the Mazankowski Alberta Heart Institute. The goals of the project are to characterize the social factors related to continuity of care among patients after a heart attack, and to assess healthcare utilization of patients who are adherent and non-adherent to secondary MI prevention guidelines, after their discharge from hospital following a heart attack.

Findings from this project, led by PLP Physician Liaison **Dr. Terrence McDonald**, will provide insight on patient engagement, and support the development of patient education and resources, clinician tools and resources, and data driven quality improvement.



This project is helping reduce the risk of future heart attacks in those with known heart disease.

Cardiovascular risk reduction in primary care

Cardiovascular disease is endemic in Canada and is the leading cause of death of women. High cholesterol (i.e., dyslipidemia) affects one in three Canadian adults. Dyslipidemia can be modified with effective, safe, and inexpensive cholesterol lowering medications such as statins. Unfortunately, statins are widely under prescribed by physicians and poorly adhered to by patients.

PLP Medical Director **Dr. Doug Woodhouse**, physician lead **Dr. Carlos A. Morillo**, and the PLP team are working in close collaboration with the MyHealth Alberta team. Together, we have created a semi-structured interview guide to gain insight into what users would want to see in an online cholesterol management tool including content and uptake. A total of 15 participants were interviewed (ten patients, four family physicians, and one pharmacist) to develop an online cholesterol pathway. This pathway will allow patients and providers to access shared decision-making resources including a cardiovascular disease risk calculator, information on cholesterol, statins, and lifestyle changes, and additional external resources. Following the pathway's implementation, we will work with the HQCA to develop an enhanced report on cardiovascular risk as part of the HQCA Primary Care Panel Reports. This report will further support physicians in identifying high-risk patients and show practice data compared to their colleagues.



This work will enable family physicians to identify and advance care for patients at high cardiovascular risk.

Attention deficit hyperactivity disorder across the lifespan

Attention deficit hyperactivity disorder (ADHD) is one of the three most common chronic disorders seen in primary care settings. Physicians in primary care have identified a need for more education and information on ADHD diagnosis and management. With **Dr. Alice Yeung** and **Dr. Alec Oskin**, and in partnership with the Edmonton Southside PCN, we are co-developing a 3-part interactive webinar and quality improvement workshop series, for delivery in the fall of 2022. Early planning and development is underway. The webinar and workshop series will address:

- Workshop 1: ADHD in pediatric population
- Workshop 2: ADHD in adolescent population
- Workshop 3: ADHD in adults



We are creating interactive programs to enable medical teams to obtain new knowledge and improve care for people living with attention deficit hyperactivity disorder.

Primary care laboratory services utilization

Alberta spends approximately \$700 million annually on laboratory services - close to 60% of those costs are associated with lab tests ordered by family physicians. However, studies find that approximately 35% of all lab testing is of little value. To help family physicians optimize the value of laboratory tests, the PLP led a group of organizations in developing a lab utilization dashboard and online learning environment, hosted within the Health Quality Council of Alberta (HQCA) Primary Care Panel report. Once complete, this dashboard will be available to all 4,500 family physicians in Alberta. In addition to promoting dissemination of the dashboard, the PLP will offer virtual audit and feedback sessions for individual physicians working with their own lab reports. This project is led by PLP Medical Director **Dr. Doug Woodhouse** with physician **Dr. Anshula Ambasta**.



These reports promote health care system sustainability by providing physicians with comparative data to review and optimize their laboratory testing orders.

Utilization of diagnostic imaging services

Alberta spends \$457 million annually on 2.9 million diagnostic imaging (DI) procedures. However, wait times for diagnostic imaging are significantly higher than in other provinces which can lead to delays in needed surgery or treatment. At the same time, the Canadian Association of Radiologists estimates that up to 30% of these procedures are of low-value and Choosing Wisely Canada recommends improving the value of diagnostic imaging. The PLP is working with partners including AHS and HQCA to improve DI utilization with two initiatives:

- Primary Care Ordering of CT and MRI: Primary care panel reports are being developed with learning content and evidence-based practice suggestions to help family physicians understand their ordering practices compared to colleagues for CT & MRI.
- Create Practice Reports for Radiologists: PLP is working with radiologists to develop reports and support facilitated feedback to address variation in the prioritization of diagnostic imaging referrals.

In response to the Auditor General's report on the use of publicly funded CT and MRI services, the work with radiologists will focus on variation in prioritization. The evaluation will be based on AHS CT and MRI prioritization guidelines. Assigning the appropriate prioritization to imaging referrals should help address health system capacities and patient wait times, as few quality improvement studies have engaged with radiologists to identify opportunities for practice improvement on prioritization of diagnostic imaging referrals. The findings of a prospective chart review of musculoskeletal imaging referrals will be summarized in an evidence-based practice improvement report for Calgary radiologists, and knowledge transfer activities will follow. This project is led by PLP Medical Director **Dr. J.A. Michelle Bailey** and physician lead **Dr. Richard Walker**.



This project informs an evidence-based practice improvement report and knowledge transfer activities for Calgary radiologists, to increase efficient use of health care resources.

Supporting Cardiology

We are pleased to share updates on several PLP partnered projects in our growing cardiology pillar. In addition to new projects that will help prevent second heart attacks, we are also working on a clinical decision aid to improve the appropriateness of ECG orders, and audit and feedback reports to help prevent kidney injury in patients undergoing cardiac catheterization procedures.

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

Led by PLP Physician Project Lead **Dr. Robert Welsh**, with support from **Dr. Pishoy Gouda**, this project is part of our program of work to prevent secondary myocardial infarction (i.e. heart attacks). We are evaluating whether or not patients discharged from hospital following a myocardial infarction are following care guidelines for prevention of a secondary event, including dispensing of medications and assessment of key laboratory results. Findings from this project will provide insight on patient engagement and support the development of patient education and resources, clinician tools and resources, and data driven quality improvement activities. This project is one of two projects that seek to increase understanding of factors that may contribute to adherence and non-adherence to guidelines to prevent a secondary MI.



This project will help reduce the risk of a second heart attack.

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

Alberta Health Services has identified province-wide overuse of many cardiovascular screening, monitoring, and diagnostic investigations, including expensive items such as coronary catheterization. The provincial vision is to systematically implement Choosing Wisely Canada recommendations and its principles to guide how every adult Albertan is screened, monitored, and/or treated for cardiovascular disease.

This project, led by PLP Medical Director **Dr. Doug Woodhouse** and physician leads **Dr. Carlos Morillo** and **Dr. Sonia Butalia**, modified and implemented a bedside clinical decision aid to help healthcare workers in outpatient cardiology clinics determine when an ECG should or should not be ordered. The PLP worked with the cardiac data analytics team to develop and review a Tableau dashboard that reports ECG ordering trends and outcomes for each cardiologist in the Calgary zone. Initially intended for use in audit and feedback interventions, after analyzing the data, it was determined that the project would benefit more from peer coaching, as the data showed that only a few Cardiologists were responsible for over 70% of the ECG utilization. The project has since branched to focus on community ECG utilization in the Calgary Zone, where approximately 120,000 ECGs are completed every year. This community ECG project is currently in the planning and discovery phase.



This project will help advance decision making for outpatient ECG orders.

Contrast induced acute kidney injury prevention

The PLP has produced audit and feedback reports for 27 practicing cardiologists in Alberta's cardiac catheterization centres at the Libin Cardiovascular Institute at Foothills Medical Centre, the Mazankowski Alberta Heart Institute at the University of Alberta Hospital and the CK Hui Heart Centre at the Royal Alexandra Hospital. Reports help identify high-risk patients and patients at increased risk of contrast induced acute kidney injury. Of those at increased risk, the reports further identify patients who exceed safe contrast volumes and those that are below optimal IV fluid volumes when undergoing cardiac catheterization procedures. Individual physician level data is presented with benchmark comparisons to the physician's site and the province. Strategies to reduce contrast volume and optimize IV fluids are presented within the report. These reports will be used internally as an audit and feedback tool for practice improvement at each site. This project is being led by PLP Medical Director **Dr. Selena Au**, with physician leads **Dr. Matthew James** and **Dr. Michelle Graham**.



This report provides physician with individualized data to help lower the risk of contrast-induced acute kidney injury and improve health outcomes for Albertans.

Supporting Diabetes and Obesity Care

The PLP benefits from significant in-house expertise in diabetes and obesity management. With PLP Co-Lead **Dr. Denise Campbell-Scherer** and Senior Medical Director **Dr. Rose Yeung,** supported by **Dr. Rukia Swaleh**, the PLP has developed an extensive program of work to advance care for people living with diabetes and obesity, including a four-part educational webinar series on diabetes. We have completed phase data projects on obesity and diabetes, and have provided family physicians with individual practice data and resources to improve care for patients living with these conditions.

Physician reports for diabetes management

Last year, the PLP began a longitudinal collaboration with NAPCReN, and PLP Medical Director **Dr. Donna Manca**, to develop and distribute basic diabetes feedback reports to individual primary care physicians, with individualized data and benchmark comparisons. The first round of reports, drawing data from the CPCSSN, was distributed to 93 physicians in March 2021, and follow-up reports with updated data, were distributed in December, 2021. As part of this project, enhanced diabetes feedback reports and management resources were shared with physicians, including links to our spring 2021 diabetes webinar series, the <u>Diabetes Updates</u>.



These reports provide individualized practice data to family physicians to advance care for people living with obesity or diabetes.

Increasing organ-protective medication uptake in type 2 diabetes

Given the importance of new diabetes medications like sodium glucose luminal transport inhibitors (SGLT2) and glucagon-like peptide receptor agonists (GLP-1RA) to reduce complications in people living with diabetes, PLP is working on two projects to increase their uptake.

The first project focuses on increasing the use of two newer diabetes medications - SGLT2 inhibitors and glucagon-like peptide receptor agonists - which known to reduce worsening complications and mortality in those with diabetes and established heart or kidney disease. In a project led by University of Alberta **Drs. Donna**Manca, Darren Lau, Robin Hao, and Rose Yeung, PLP has recently shown the uptake of these medications remains low in primary care. Along with University of Calgary PLP Medical Director, **Dr. Tina Nicholson** and the Medicine SCN, the PLP is now working to engage multiple stakeholders across the province to optimize prescribing for people living with type 2 diabetes, and will carry out audit and feedback in June 2022.

The second project focuses on kidney disease prevention in people living with diabetes. Sodium glucose luminal transport inhibitors (SGLT2s) medications are used for glucose control in diabetes. Recent and evolving evidence from randomized clinical trials have shown that these medications are also useful for other indications, and have beneficial effects on clinical and patient cardiovascular and kidney outcomes. These organ-preserving effects can reduce hospitalization and help keep patients off dialysis, resulting in improved patient outcomes and reducing health care expenses. To support and promote the use of SGLT2s, this project, led by PLP Medical Director **Dr. Katrina Nicholson** in collaboration with the Kidney Health section of the Medicine SCN, is creating a clinical decision support tool/pathway, developing audit and feedback tools for primary care providers (i.e., HQCA panel reports), and supporting knowledge translation at conferences. This work is intended to increase the uptake of SGLT2is for people living with Diabetic Kidney Disease, which will result in prolonging kidney life and improving an individual's quality of life.



These projects will increase uptake of medications that protect organs and reduce complications for people living with diabetes

Development of resources to guide treatment for diabetes using Continuous Glucose Monitoring in adults with type 2 diabetes

Adults with type 2 diabetes who are not on insulin therapy are known to have improved lifestyle and fewer events of hyperglycemia when they self-monitor their capillary blood glucose levels. An increasingly popular alternative to capillary blood glucose monitoring is the use of continuous glucose monitoring (CGM) via a wearable sensor that continuously samples interstitial fluid glucose. However, there is a paucity of well-accepted educational materials developed with patient and provider engagement to help patients make the best use of CGM, and to guide clinicians on how best to train or advise patients. Many existing materials are manufacturer-authored and designed for adults on basal-bolus insulin therapy or who have type 1 diabetes, who have distinctly different learning and support needs than persons with type 2 diabetes not on insulin, or on fixed dose basal insulin only.

With the ultimate aim of improving glycemic control to align with Diabetes Canada's standards of care, this new project, led by Senior Medical Director **Dr. Rose Yeung**, Medical Director **Dr. Donna Manca**, and Medical Liaison, **Dr. Darren Lau**, is using human centred design approaches to develop and test tailored support materials. These resources will support patient education for using CGM and understanding the data, help patients make and sustain dietary and physical activity measures that will help in managing their condition. In addition, these resources will help health care providers use CGM data to initiate timely and appropriate medication adjustments.



We are co-creating improved patient education resources to help Albertans living with diabetes use advanced glucose monitoring technology.

Moving towards specialist diabetes quality improvement in the Edmonton Zone

A previous PLP project, Diabetes management in five regional diabetes clinics in Edmonton, led by PLP Senior Medical Director **Dr. Rose Yeung** with **Dr. Peter Senior** (Director, Alberta Diabetes Institute) and **Dr. Anna Lam**, established a baseline understanding of the types of patients and services provided across each diabetes clinic in the Edmonton Zone. In partnership with the Edmonton Zone Diabetes Quality Council, this follow-on project, which builds on our earlier work and focuses on knowledge transfer and quality improvement, will share the data and results with participating regional diabetes clinics and will include providing site-level data reports to advance diabetes quality improvement efforts within Edmonton Zone.



This work supports quality improvement work across five diabetes clinics in the Edmonton Zone.

Using electronic medical record and administrative health data to understand the burden of type 1 diabetes in Edmonton, Alberta

People living with Type 1 diabetes require daily insulin injections to survive, and are prone to rapid changes in blood sugar that make eating, exercising, and partaking in life's various activities challenging. This study is analyzing the information captured in the electronic medical record to better understand the health of people living with type 1 diabetes in Edmonton. Along with statistical analysis of quantitative data, a qualitative approach will be used to examine patients' lived experiences and the professional knowledge of the health care team members. Findings from this study, led by PLP Senior Medical Director **Dr. Rose Yeung**, and in collaboration with the Division of Endocrinology & Metabolism at the University of Alberta, will be shared with diabetes specialty care clinics in Alberta to improve patient outcomes, and to support quality improvement projects.



This project will advance care for Albertans living with type 1 diabetes

Continuity of care in diabetes

Many people with diabetes receive ongoing care from primary care physicians. This project, led by PLP Physician Liaison **Dr. Terrence McDonald**, seeks to understand healthcare utilization and continuity of care in the primary care setting for people living with diabetes. The project will examine the processes for admission to hospital from the community, transfer between hospital wards or inpatient departments, and discharge from hospital into the community, and may also examine hospital readmissions. Utilizing a unique data repository, geospatial characteristics such as distance to clinic can be analyzed. Findings from this project will inform future project development.



This project examines health care utilization by people living with diabetes in Alberta, and will help support a sustainable health care system.

Physician reports for EOSS dashboard

The Canadian Primary Care Sentinel Surveillance Network (CPCSSN) is a multi-disease surveillance system of electronic medical records. It features the Edmonton Obesity Staging System in a dashboard tool (EOSS-DPT) that supports primary care physicians in caring for patients with obesity. This project, led by PLP Medical Director **Dr. Donna Manca** in partnership with NAPCReN, launched last year, and developed and distributed individual physician reports regarding use of EOSS-DPT with comparison data and resources to 93 physician sentinels. After updating the data, we distributed follow-up reports to 83 physicians in December 2021. It included resources to assist and inform primary care providers on obesity management, and aims to support physicians in caring for their patients living with obesity.



These reports provide individualized practice data to family physicians to advance care for people living with obesity.

5AsT virtual obesity management training workshop

Obesity has been declared a chronic disease by national and international medical associations. Despite the urgency to improve healthcare provider education and training in obesity management, no widely recognized programs have been implemented to date. Many providers have reported feeling ill-prepared and that they have insufficient knowledge and confidence to effectively address weight concerns with their patients. Complicating this issue further, misinformation regarding the chronicity and complexity of obesity has led to negative attitudes and unrealistic expectations on the part of both the healthcare provider and patient. As a result, providers are not routinely discussing weight and many patients feel uncomfortable raising the issue. In partnership with the Edmonton Southside PCN, we are developing a condensed, virtual, version of the 5AsT obesity management training workshop, to be offered as a 2-part pan-PCN workshop series in the spring of 2022. The workshops, which will be delivered by PLP Co-Lead **Dr. Denise Campbell-Scherer**, will include a didactic education session with case-based discussions, and quality improvement sessions with PCN improvement facilitators. Our presenters also include Dr. Andrea Milne-Epp, Dr. Tasneem Sajwani,

- Managing Obesity in Primary Care: Screening & Assessment
- · Managing Obesity in Primary Care: A Collaborative Approach to Management & Therapeutic Options



We are expanding our ongoing program of work to help physicians provide holistic care for Albertans living with obesity

Supporting Gastroenterology and Hepatology

PLP has significant expertise in gastroenterology and hepatology with Medical Director **Dr. Puneeta Tandon** and past PLP Co-Lead **Dr. Kelly Burak**. PLP continues to work 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 an extensive program of work that supports improved care for people living with cirrhosis and other Gl diseases.

User testing to improve applied human-centred designed online tools and resources for cirrhosis

Cirrhosis, a chronic illness involving the liver, is a major cause of health complications and premature death. The Partnership for Research and Innovation in the Health System (PRHIS) sponsored a research team led by PLP Medical Director **Dr. Puneeta Tandon** to develop a website for physicians and patients about cirrhosis care. Last year, the PLP created the hierarchies and algorithm layouts for four decision algorithm tools and tables on the symptom management pages of the website (including varices, ascites, hepatic encephalopathy, spontaneous bacterial peritonitis). Now that the site has launched, we are undertaking scenario-based user testing, using human centred-design approaches to collect, understand, and address physician feedback on these decision algorithms, and to validate the content and its accuracy, and identify opportunities to improve the usefulness of the online resource.



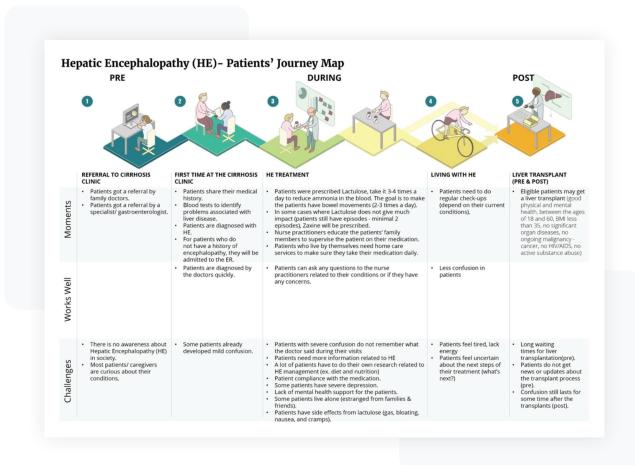


This project will improve the useability of recently developed online resources to support optimal cirrhosis care.

Patient journey map for hepatic encephalopathy

People with liver failure due to chronic liver disease can experience a deterioration in brain function called hepatic encephalopathy (HE), which can cause personality changes, alterations in level of consciousness, and can leave patients unable to care for themselves. This condition often results in hospitalization, and imposes financial and social burdens on patients, caregivers, and the health system, which could potentially be reduced by improved management of HE.

The PLP has been working with Medical Director **Dr. Puneeta Tandon** and members of the Cirrhosis Care Clinic, as part of a broader program of work on cirrhosis care. This project developed a patient journey map, using human-centred design approaches and co-creation with patients, family, and health practitioners. Finalized this year, the tool supports quality improvement efforts by helping health practitioners in the circle of care understand the patients' and providers' experience of HE, and identified aspects of management of the disease and treatment that were challenging or worked well.





The information collected in this patient journey map supports quality improvement projects for managing and treating hepatic encephalopathy.

Implementation evaluation of patient and physician tools for cirrhosis

Last year, the Cirrhosis Care Alberta Program launched a comprehensive website, <u>CirrhosisCare.ca</u>, and developed a cirrhosis care bundle (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 is led by principal investigator **Dr. Puneeta Tandon**, principal investigator for this project. The PLP Implementation Science Team, including **Dr. Denise Campbell-Scherer**, is working with **Dr. Tandon** to evaluate the implementation of the Cirrhosis Care Alberta care bundle 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.



This project helps support optimal cirrhosis care by identifying barriers and facilitators for the implementation of a new care bundle.

Improving care for people living with liver disease

The PLP has two projects to improve care for people with liver disease. led by PLP Medical Directors **Dr. J. A. Michelle Bailey** and **Dr. Kelly Burak**, with Physician Lead **Dr. Abdel-Aziz Shaheen**. The first focuses on complex care management of variceal bleeding, which is a potentially life-threatening complication of cirrhosis. In Calgary, hospital readmission rates for patients with this condition are double those in the USA. The PLP is working with multidisciplinary stakeholders from primary and acute care to help understand and address problems to improve care and reduce readmission rates.

A summary report developed by PLP identifies key opportunities to improve care for patients admitted to Calgary hospitals with variceal bleeding. Key stakeholders from various departments including emergency medicine, internal medicine, gastroenterology (GI), hepatology, and primary care have been identified to form a working group to develop joint solutions. Areas of focus will include finding ways to shorten the time for patients to receive a consult from GI and/or hepatology, reducing low value blood transfusions, booking follow up endoscopy before patients leave the hospital, and improving communication with family physicians. Results were shared at the 2021 Choosing Wisely Canada National Meeting, and we continue to engage with interested departments to align other aspects of care for patients presenting to hospitals with variceal bleeding.

A second project focuses on cancer screening and prevention, as patients with cirrhosis, and certain populations of non-cirrhotic patients with chronic Hepatitis B virus infection, are at an increased risk of developing hepatocellular carcinoma. The PLP is helping physicians to increase screening of this population for earlier cancer detection.



These projects will improve care for people living with liver disease, by promoting cancer screening and advancing care for patients with variceal bleeding.

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

A large partnered project is underway in the Edmonton Zone, in collaboration with the Digestive Health SCN and Choosing Wisely, with the aim of reducing the proportion of low-value gastroscopies being performed in the Edmonton region, which will improve wait times for more urgent cases and will reduce costs. This project, led by **Dr. Dan Sadowski**, **Dr. Sander Veldhuyzen Van Zanten**, and **Dr. Kerri Novak**, is examining the proportion of gastroscopies performed in Edmonton for the indication of dyspepsia (i.e., indigestion) in patients that are low risk and have no appropriate indications for this test, as well as the proportion of gastroscopies with clinically actionable findings, such as malignancies. Building on an earlier phase of this project carried out in the Calgary zone, the Edmonton zone results will be used to create aggregate data reports for audit and feedback sessions at multiple sites.

Preliminary findings were presented at the Choosing Wisely Alberta conference, and an abstract was submitted to Digestive Disease Week. Preliminary findings suggest that the percentage of low-yield endoscopies for dyspepsia increased in 2021 (compared to 2019), and that there is considerable opportunity for improvement in the Edmonton area, as approximately 30% of endoscopies could have been avoided based on absence of alarm symptoms or other appropriate indications. Among endoscopies where the patient had no alarm symptoms, a clinically actionable finding was exceedingly rare (<4%) and no cases of cancer were found, indicating that these scopes could have been safely avoided. The study's findings will be presented an audit and feedback sessions with the Edmonton Zone Gastrointestinal Town Hall, and a provincial meeting for gastrointestinal specialists in spring 2022. Dyspepsia key performance indicators will be added to the GI dashboard in Connect Care, and an indication code will be added to the ConnectCare data collection, to support ongoing efforts to increase appropriateness of endoscopy testing.



This spread and scale project will help reduce the number of low-value endoscopies, in support of a sustainable health care system.

Understanding referral decisions for endoscopy

Preliminary findings in our project Optimizing the use of gastroscopy for dyspepsia in low-risk patients in the Edmonton Zone indicated that the volume of low-value endoscopies for dyspepsia without alarm symptoms in the Northern Zone exceeded the target threshold of <20% low yield endoscopies. Most tests ordered without appropriate indications or alarm symptoms (>90%) had no significant findings and did not alter the patient treatment or outcomes. To better understand when and why physicians refer patients for endoscopy, we have launched a project that uses cognitive task analysis (CTA) to examine their decision making and mental models for endoscopy referrals. We will compare family physicians' mental models around referral for endoscopy with specialists' mental models that lead to the decision to perform the test. Findings will inform the development of an effective intervention to help reduce the number of low value endoscopies being ordered. This project is being led by **Dr. Dan Sadowski**, **Dr. Sander Veldhuyzen Van Zanten**, and **Dr. Kerri Novak**, and is being carried out in partnership with the Digestive Health SCN.



By improving our understanding of when and why physicians order endoscopies, this project will help promote appropriate testing and reduce the number of low-value endoscopies.

Supporting Infectious Disease and Antimicrobial Stewardship

One of the biggest challenges to global public health is antimicrobial resistance. If unchecked, not only will people die of currently treatable infections, other life-saving treatments such as chemotherapy and transplantation will be rendered unsafe. PLP is dedicated to an ongoing program of work 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.

Appropriateness and stewardship in asymptomatic bacteriuria: diagnosis and management of urinary tract infection in long term care

Inappropriate use of antimicrobials in the treatment of asymptomatic bacteriuria (ASB) is a commonly recognized issue across health care. PLP continues to collaborate with the AHS Antimicrobial Stewardship group to support decision making for appropriate urine testing, having previously developed algorithms for adult and pediatric patients, as well as patient education resources. This new project extends the work to long term care, and involves updating the Long Term Care UTI care and management checklist developed by Towards Optimized Practice (TOP). With PLP Medical Director **Dr. Lynora Saxinger**, the Physician Learning Program human centered design team will revise and update the existing tool to match the design and utility of the previously designed suite of tools used for pediatric and adult Diagnosis and Management of Urinary Tract Infection.

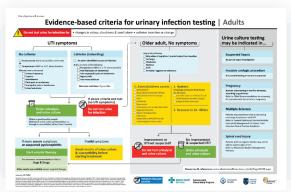


This project supports appropriate testing and interventions, and will advance care for people living in long term care facilities.

Antimicrobial stewardship for UTI infections in emergency departments

The PLP has two projects in this area, led by PLP Assistant Dean **Dr. J. A. Michelle Bailey**, with physician leads **Dr. Cora Constantinescu**, **Dr. Joan Robinson**, and **Dr. Alena Tse-Chang**. The first project iexamining antibiotic use for pediatric ER visits for urinary tract infections (UTIs), and will carry out interventions to promote appropriate prescribing practices using the Calgary Audit and Feedback Framework (CAFF). Data analysis is currently underway, and will support development of a summary report that will be populated with individual physician data to support practice change.

Second, the PLP office in Calgary is helping implement a decision algorithm for testing for urinary tract infections in adult ER departments developed by the Edmonton PLP office. This tool was previously implemented at the Calgary Foothills Hospital, resulting in a 17% reduction in low-value testing. Full implementation of the UTI testing algorithm at the Rockyview General Hospital will proceed when the COVID-19 pandemic subsides.





These projects support appropriate testing and antibiotic prescribing for urinary tract infections in adult emergency departments.

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, emergency medicine, critical care, and neonatal intensive care. Other projects in diagnostic imaging and optimizing laboratory testing are crucial to sustaining the healthcare system.

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 University of Alberta 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. Preliminary findings indicate that 92 patients with ALS were seen at the ALS Clinic in Edmonton between Sept 2019 and June 2021. The average time from symptom onset to their first ALS clinic visit was 1.25 years. 77% of patients were eligible for one of the new medications, and 33% were eligible for the other new medication. 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. Preliminary findings were shared with ALS Canada and the Canadian ALS Research Network (CALS) in November 2021.



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

Diagnosing amyotophic lateral sclerosis (ALS) often involves lengthy referrals to multiple medical specialties. In addition to the ALS dashboard project being developed with **Dr. Wendy Johnston** at the University of Alberta, we are also collaborating on a project to identify barriers and facilitators of the referral pathway, to support quality improvement activities that would increase the number of patients arriving 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. Patients, community-based physicians, and specialists and their teams are being 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.

Improving quality and value in critical care

Critical care is a resource intense environment where expensive drugs, complex technologies, and highly specialized care contribute to a large component of our health care expenditures. Building on the PLP's work to improve the value of albumin use across 16 adult 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. These activities will be in partnership with PRHIS funded projects. We have identified priority areas and a prototype data dashboard has been created by partners within the Critical Care SCN. We will develop three provincial projects from these activities.

The PLP has engaged with the project leads for the Dialyzing Wisely initiative to develop a project charter, build stakeholder relationships, and plan the roll out. Furthermore, the program has been accredited, and participating physicians will received CPD eligible credits. The PLP is in early stages of planning for the Don't Misuse My Blood initiative, which will launch in Fall 2022. Additionally, the PLP will be a member of the Steering Committee, which includes provincial representation from a broad group of stakeholders who use blood transfusions throughout the health system.



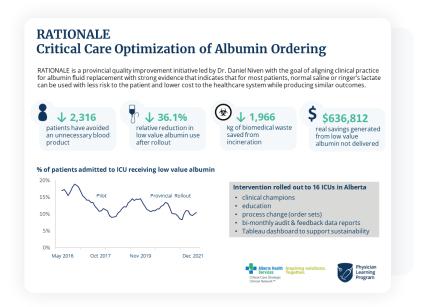
These projects will provide physicians with practice data to help advance care for patients in critical care units.

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

Albumin is a protein made by the liver that helps to keep fluid in the bloodstream, and should only be used for fluid resuscitation in limited clinical settings. This project, led by PLP Medical Director **Dr. Selena Au**, with physician lead **Dr. Daniel Niven**, is helping to reduce the use of low-value albumin in adults at 16 ICUs in Alberta. Individual and comparator aggregate data is shared with attending physicians through audit and feedback sessions using the CAFF. So far, PLP support for this project has contributed to a significant reduction in low value albumin use in ICUs. Since the project began, there has been a 32% reduction in albumin use – this means that 647 patients avoided a potentially unnecessary blood product, and 1,419 kg of biomedical waste were avoided. Annual savings resulting from this project are estimated to be between \$150,000 and \$175,000 per year and are expected to be sustained into the future.

The PLP has delivered 965 audit and feedback reports to ICU physicians and other healthcare workers at 16 sites across Alberta, and 256 health professionals have attended PLP-facilitated educational sessions. Additionally, we developed individualized prescriber reports for the ICU in Alberta with the highest rate of low-value albumin use. These reports will be delivered to both physician and nurse practitioners directly responsible for

ordering albumin. The PLP has collaborated with the Critical Care SCN to co-develop a data dashboard with prescriber metrics that will launch in Spring 2022. The dashboard will be utilized by the SCN and ICU sites to monitor albumin use and ensure long-term sustainability of these successes. Additionally, the PLP is collaborating with the AHS Benefits Realization Group to conduct a more thorough economic analysis of the impact of this project.

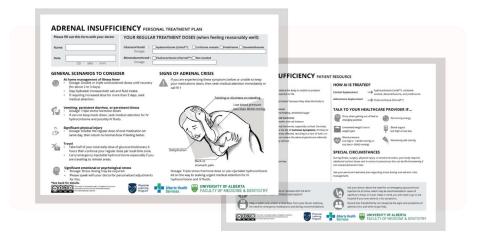




This project promotes optimal use of albumin in critical care units to advance patient care and support a sustainable health care system.

User testing of adrenal insufficiency education tools

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. The Quality Improvement working group within the Division of Endocrinology & Metabolism at the University of Alberta, including **Dr. Rose Yeung**, **Dr. Anna Lam**, **Dr. Mahua Ghosh**, **Dr. Andrea Opgenorth**, and **Dr. Laurie Mereu**, and the PLP's human-centred designers co-developed a toolkit for people living with adrenal insufficiency. This tool addresses an important practice gap, as 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, we are undertaking user-testing of the AI tools. Findings will inform revisions and improvements to the tools before their dissemination, and quality improvement evaluations will be used to assess their impact on Divisional practice and patient care.





We are testing and refining our patient education toolkit that guides people on how to prevent adrenal crisis.

Calgary zone emergency department physician performance dashboard

Since 2018, PLP has used audit and feedback to help emergency department physicians review individual performance reports designed by AHS. All 242 Calgary ED physicians have access to an individual dashboard and 70 have attended audit and feedback sessions. These sessions review measures of flow and practice performance and address barriers to making practice change. Led by PLP Assistant Dean Dr. J.A. Michelle Bailey, with physician leads **Dr. Shawn Dowling**, **Dr. Charles Wong**, and **Dr. Chris Bond**, the aims of the project are to improve physicians' receptiveness to their practice data, and to encourage physicians to both identify and employ opportunities for practice change.

While emergency physicians have been busy with the COVID-19 pandemic, PLP has worked with AHS analysts to prepare the Calgary ED Dashboard to transition from the Sunrise Clinical Manager to the Connect-Care electronic medical records as various sites come online. The dashboard has been redesigned, presenting metrics more clearly and intuitively, and replacing the printable PDF format with completely virtual delivery. In March 2022, a proof of concept dashboard was completed and is currently being reviewed by other AHS analysts, the Emergency SCN, and emergency department leadership. Once ConnectCare is fully implemented in Calgary, Calgary urgent care physicians will be added and will be able to attend PLP audit and feedback sessions.



This dashboard provides emergency department physicians in Calgary with information that supports practice change

RHEUM4U: Patient and physician dashboard

It is estimated that one million Canadians live with inflammatory arthritis. As the most common form of inflammatory arthritis, rheumatoid arthritis affects approximately 1% of Canadians. As the prevalence of arthritis is projected to increase by 1.4%, the total cost of arthritis care in Canada is projected to reach \$257 billion by 2040. The Rheum4U Precision Health Registry Platform (Rheum4U) is a virtual, longitudinal data collection platform integrated in two Calgary Rheumatology clinics that captures data from patients with inflammatory arthritis, including disease progression, medication use, and patient-reported outcome measures (PROMs). The PLP is supporting this project by providing human centred design expertise to effectively translate the research registry and design a data dashboard suitable for physician-patient communication, clinical decision making, monitoring of disease, and patient education. The project is led by PLP Medical Director **Dr. J.A.**Michelle Bailey, with physician lead **Dr. Diane Mosher**. Physician engagement and user testing activities are underway, and include carrying out a heuristic evaluation to ensure that the tool is consistent with common design-use guidelines.



This dashboard will provide rheumatology physicians with practice data to advance care for patients living with inflammatory arthritis.

Supporting Pediatrics

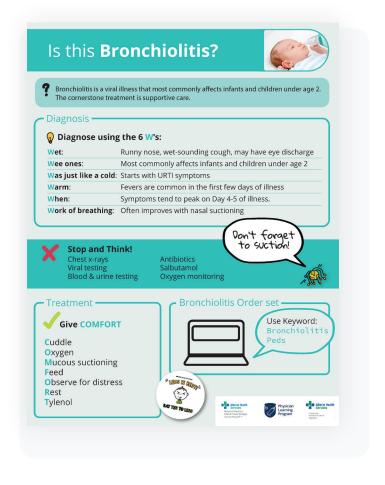
Our pediatrics pillar is supporting a dashboard for pediatric emergency physicians, and is continuing work on a substantial, province-wide project to improve the appropriateness of interventions and medications for bronchiolitis.

Acute care bronchiolitis management in Alberta

For infants under 12 months, bronchiolitis is the most common respiratory infection and most common cause of hospitalization. Using audit and feedback (the Calgary Audit and Feedback Framework) and quality improvement strategies, this project aims to reduce low-value testing and medications for bronchiolitis in 16 emergency departments and eight inpatient pediatric units across Alberta. The project is already achieving success at the Alberta Children's Hospital in Calgary, and has the potential to generate cost savings while improving bronchiolitis management. This project is led by PLP Assistant Dean **Dr. J.A. Michelle Bailey**, with physician leads **Dr. Daina Thomas** (Stollery), **Dr. David W Johnson** (Provincial), and **Dr. Lindsay Long** (Alberta Children's Hospital), in collaboration the AHS Maternal Newborn Child and Youth SCN, and the AHS Improving Health Outcomes Together (iHOT).

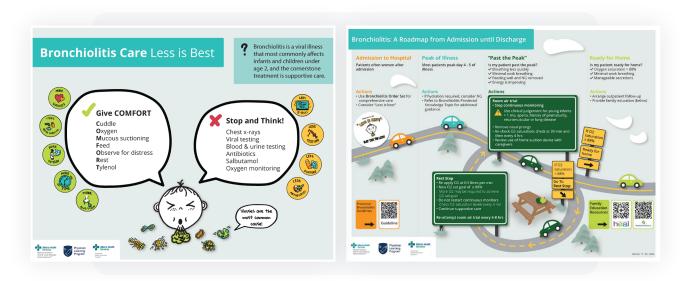
Through the course of the COVID-19 pandemic, Alberta has observed a decrease in the number of respiratory syncytial virus (RSV) infections, the primary cause of bronchiolitis. This temporary reduction in cases provided a window of opportunity to plan and prepare our implementation and analysis strategies. Based on bronchiolitis case numbers in Australia, the United Kingdom, and the United States, we anticipated a resurgence of RSV infections in the upcoming bronchiolitis season (November - April), a time when managing bronchiolitis will coincide with addressing other pandemic-related health care needs. Thus, the study will help to prioritize health system capacity within emergency departments and inpatient units, and strengthen physicians' ability to differentially diagnose respiratory problems and manage them appropriately

Six audit and feedback sessions have been completed (four emergency departments and two inpatient sites). The sessions were co-facilitated by site champions and clinical implementation leads, and were followed by distribution of aggregate reports and site session summaries. Preliminary findings on the provincial spread and scale initiative were presented at the AHS Emergency Strategic Clinical Network



Quality Improvement and Innovation Forum in February 2022, and abstracts from the forum were published in the Canadian Journal of Emergency Nursing. Qualitative interviews have been completed with five site champions to help understand site-specific barriers and enablers of bronchiolitis initiative sustainability. These interviews will help highlight what is needed for facilities to be efficient and effective in their response to future bronchiolitis management needs.

Next steps for this initiative include engaging site champions at all five regional centres in Alberta, one teaching centre, two urban sites and four rural sites. For sites that have completed audit and feedback sessions in the past year, engagement will be ongoing and will include follow-up with updated practice data provided at mid-season (January) and end-of-season (April). Clinical dashboards and order set integration will continue as the implementation of Connect Care continues across the province.





Findings from this project will help improve appropriateness of care for infants with bronchiolitis.

Calgary zone pediatric emergency department physician performance dashboard

The PLP is developing a physician dashboard for pediatric ED services in the Calgary Zone, which has been incorporated in the adult ED dashboard redesign, and adapted to pull data from the ConnectCare electronic medical records instead of the Sunrise Clinical Manager electronic medical records. In March 2022, a proof of concept dashboard was completed and is currently being reviewed by AHS Analysts, the Emergency SCN, and emergency department leadership.

Once completed, this pediatric dashboard will allow pediatric emergency physicians to access and filter their performance metrics in support of advancing their practice. Using the Calgary Audit and Feedback Framework, ED physicians will have the opportunity to reflect on their practice and, ultimately, improve patient care by strengthening adherence to evidence-based practice, improving efficiency of care, and reducing inappropriate testing and treatments.



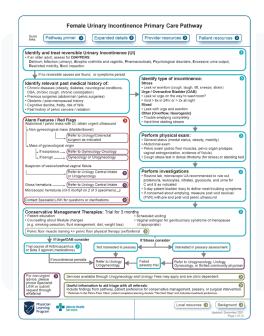
This dashboard will provide pediatric emergency department physicians in Calgary with information that supports practice change

Supporting Obstetrics and Gynecology

To advance care in obstetrics and gynecology, PLP has collaborated to develop and disseminate care pathways for uterine bleeding and to improve women's access to care for incontinence in their medical home. Other projects are helping to reduce operative interventions during birth, and help optimize five common hormone tests to promote effective use of health care resources.

OBGYN pathway development

The PLP is working with partnersincluding AHS Calgary Zone Pelvic Floor Clinic, Calgary and Area PCNs (Specialist Link), and colleagues in the Calgary Zone Urology and Calgary Zone Gynecology Divisions to develop pathways to support appropriate care in the medical home, freeing up specialists for more complicated patients. These projects are being led by PLP Medical Director Dr. Katrina Nicholson, with physician lead Dr. Shunaha Kim-Fine. In Spring 2020, the PLP collaborated with colleagues in gynecology and primary care to design three new pathways to support persons with abnormal uterine bleeding and bleeding after pregnancy loss. As many aspects of managing abnormal uterine bleeding can be safely handled in primary care, the pathway guides physicians through clinical management in the medical home, and clarifies when patients should be referred to specialty care. These pathways are available on Specialist Link and are regularly downloaded. To raise awareness and enhance uptake, the pathways were introduced to a primary care audience at a Pearls for Practice webinar hosted



by the PLP and the University of Calgary CME office in September 2020.

Following on that work, the PLP and colleagues from the Calgary Pelvic Floor Clinic, urology, and primary care collaborated on a primary care pathway to support women with urinary incontinence. As wait times for accessing treatment for urinary care can exceed 12 months, the Pelvic Floor Clinic approached the PLP to create a care pathway for women with incontinence, to support effective symptoms management by the primary care physician in the patient's medical home. The finished care pathway was uploaded to the Specialist Link website in December 2021, and has been downloaded an average of 65-85 time per month since then. Early findings from the Pelvic Floor Clinic show that the quality of referrals for female urinary incontinence are improving, which helps them to triage their patients more effectively at admission.



These care pathway tools support primary care physicians in caring for patients with abnormal uterine bleeding, bleeding after pregnancy loss, and urinary incontinence.

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. In 2018 and 2019, between 13.1% and 29.6% of births in Calgary hospitals were via OVD. This project assesses variation in rates between Calgary hospitals, and provides physicians with individual data reports paired with opportunities to discuss their OVD practices, OVD guidelines, and opportunities for improvement. This past year, the PLP held audit and feedback sessions for the OBGYN department physicians at the South Health Campus, Foothills Medical Center, and Rockyview General Hospital. To date, 90% of the Calgary OBGYN department has attended one of our sessions and used the dashboard to review their practice. We continue to monitor outcomes and are seeing a favourable downward trend in rates of operative interventions during delivery in the Calgary Zone. Findings from this project, led by Medical Director **Dr. Jackie Thurston** and physican lead **Dr. Maryam Nasr-Esfahani**, will be disseminated as a virtual poster presentation in the OBS patient safety stream at the 2022 ACSC conference in June.



This project provides obstetricians with opportunities to reflect on individual practice data and improve the appropriateness of operative interventions during childbirth

Addressing the value of hormone testing

Alberta is spending about \$2.1 million each year on approximately 370,000 tests of common hormones. While the testing can provide valuable insights in certain situations, clinicians agree that a significant proportion of hormone testing is of low value. Using Choosing Wisely Canada recommendations and other guidelines, a PLP project led by PLP Medical Director **Dr. Katrina Nicholson** with physician lead **Dr. Simrit Brar** is examining utilization of five common hormone tests in Alberta, with the aim of reducing low-value hormone testing. Preliminary data is currently being analyzed to identify trends and areas for improvement.



Findings from this project will help reduce low value testing for five common hormone tests in Alberta.

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 patient outcomes through appropriate antimicrobial prophylaxis and the use of tranexamic acid. Our new collaborations on the new central referral system for surgical consultation and addressing the post-COVID surgical wait list crisis are of major system importance.

Patient and provider experiences with the integrated province-wide central referral system for surgical consultation

The aim of this project is to understand the experiences of health care providers and their teams, patients, and families using the new central referral system for surgical consultation in order to inform the work of the roll-out committee. This PLP-partnered project involves collaboration with a number of partners, including the Surgery SCN, and AHS Implementation team and Operations team, and The Illuminate Lab at the University of Alberta, and is being led by **Dr. Mary Brindle, Dr. Sanjay Beesoon**, and PLP co-lead **Dr. Denise Campbell-Scherer**. Based on discussions with partners, the project will focus on one component of the larger AHS project, and will evaluate the patient and provider impacts of implementing the province-wide central referral system for surgical consultation, and will begin with a pilot study group in the Edmonton Zone. In addition to a number of stakeholder engagement discussions within AHS this year to ensure that the project is aligned with AHS system needs, the data collection tool for health care providers was co-created with surgeons. We have also established a patient advisory group with 11 patients representing diverse communities including ethnocultural immigrant and refugee, Indigenous, and LGBTQ communities, and are working with them to co-design the patient data collection tools. This project uses anthrocomplexity approaches to collect and make sense of mass qualitative data.



PLP is collaborating with AHS and the AHS Surgery SCN to help reduce wait times for surgeries in Alberta.

Understanding mental models of referral to surgery to support implementation of central referral system for surgical consultation

The implementation of Central Access & Triage across Alberta requires teams across the health care system to change the way they process referrals to surgery. This project uses Cognitive Task Analysis to understand mental models of the referral decision and processes of providers and teams to identify where challenges may emerge for the Central Access implementation. Findings will inform recommendations for effective implementation of the central referral system for surgical consultation. Led by **Dr. Mary Brindle**, this is another PLP-partnered project with the AHS Surgery SCN, in the early stages of design and onboarding.



Findings from this study will improve our understanding of decision making with respect to surgical referrals, and will help improve surgery wait times in Alberta.

Alberta surgical initiative (AHS performance review recommendation)

Approximately 70,000 people in Alberta were waiting for surgery at the time of the Alberta Health Service Review (2019), and 50% were considered to be waiting longer than clinically appropriate. At the same time, acute care facilities continue to perform surgical procedures that are of low value. These low-value cases require detailed review and consensus measures to ensure surgical time and expertise is focused on the most appropriate cases. The PLP is using its expertise in data analytics, human-centred design, and audit and feedback to support the Reduction in Clinical Variation (RCV) aspect of the Alberta Surgical Initiative (ASI). The project is led by PLP Medical Director **Dr. J.A. Michelle Bailey**, with physician leads **Dr. Don Dick** (AHS IHOT) and **Dr. Stewart Hamilton** (AHS – ASI Team).

The PLP has been working closely with AHS (ASI team and IHOT) to conduct three working group meetings with subject matter experts and surgical leadership across the province to determine clinical indications for panniculectomy surgery. Using a human-centred design approach, we met privately with individual surgeons to collect their feedback on the surgical indications. The clinical indications for panniculectomy surgery will be finalized at the last working group meeting, and will subsequently be disseminated to surgical leadership across the province and implemented in practice.

Acting in a consultative role with the ABJHI, the variability of hip and knee revision surgery across Alberta has been summarized in a preliminary report, and is undergoing further investigation by the ABJHI. Tonsillectomy and adnoidectomy will be the next surgical procedure to be examined - in collaboration with the ASI and IHOT teams, preliminary analysis for tonsillectomy and adenoidectomy has identified variability across the province, and will inform future work.



Findings from this study will help reduce surgical wait times in Alberta by reducing low-value procedures based on clarification of clinical indications for panniculectomy, hip and knee revision, and tonsillectomy and adenoidectomy surgeries.

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

As part of our antimicrobial stewardship program, PLP undertook a substantial project that examined beta-lactam allergy and surgical antimicrobial prophylaxis (SAP), led by PLP Medical Director **Dr. Lynora Saxinger** at the University of Alberta, 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. The PLP also co-developed a suite of <u>decision algorithms</u> and <u>information resources</u> to support appropriate use of cefazolin in accordance with the new guidelines.

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

Improving the use of tranexamic acid for hip fractures

Medications which lower the need for blood transfusions, like tranexamic acid (TXA), may improve outcomes for hip fracture patients. Using audit and feedback (CAFF) with Calgary anesthesiologists and orthopedic surgeons, the PLP previously demonstrated that increased use of TXA for knee and hip arthroplasty corresponded with a decrease in red blood cell transfusions at the South Health Campus.Building on this previous work, a PLP project led by PLP Medical Director **Dr. Doug Woodhouse** with physician lead **Dr. Richard Ng,** is examining TXA use in hip fracture procedures.



This project will help improve outcomes for patient undergoing surgery for hip fractures.

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 projects that improve physicians' access to practice data in support of data-driven practice reflection.

Developing rapid cycle clinical projects using Connect Care data for quality improvement

Alberta Health Services is continuing to roll out the ConnectCare electronic medical record system. The PLP is working with the system partners to understand clinical projects that address learning how to use ConnectCare as a resource for quality improvement. Both PLP offices are actively working together with a provincial scope to develop shared expertise in optimally using ConnectCare for data projects. Learnings from this collaboration will inform future PLP projects.



These findings will inform future PLP projects using data from the ConnectCare electronic medical records

Medicine Strategic Clinical Network - Know your data

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 PLP is aiming to improve quality of care while also ensuring efficient use of health-care resources. 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 data-driven practice improvement. The initial focus is on length of stay and 30-day readmissions (as a balancing and safety measure), with other metrics of relevance to physicians and patients added as the project progresses. The PLP is providing consultative support on this work.

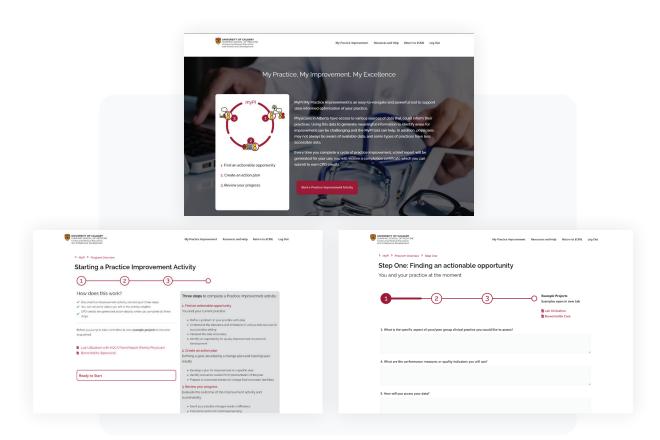
Know Your Data has been successfully piloted at Foothills Medical Centre (Calgary) and Chinook Regional Hospital (Lethbridge), following the principles outlined in the Calgary Audit & Feedback Framework. Based on feedback from the initial pilot sites, the team has expanded to prepare for implementation of individual data reports for physicians at the Royal Alexandra Hospital (Edmonton) and the Peter Lougheed Centre (Calgary), with launch scheduled for April 2022. If successful, it is anticipated that Know Your Data will continue to roll out to the busiest adult acute centres across Alberta. With Medical Director **Dr. J.A. Michelle Bailey** and physician leads **Dr. Peter Jamieson**, **Dr. Braden Manns**, and **Dr. Jim Eisner**, the PLP continues to provide consultative support in guiding the project development and was instrumental in supporting the successful application for Continual Medical Education accreditation for the Know Your Data annual cycle.



This projects provides physicians with individualized data for length of hospital stay and 30-day readmissions to support data-driven practice reflection.

My practice improvement (MYPI) digital learning environment development

The PLP, in collaboration with CME&PD at the University of Calgary, is developing a digital learning environment to facilitate the process of Physician Practice Improvement (PPI), which is required by College of Physicians and Surgeons of Alberta over a 5-year-period. Physicians will receive credits for the activities they complete with their respective college. The project launched in late Fall 2020, with an extensive discovery phase to understand physicians' needs to effectively complete data driven PPI activities independently. Fifteen physicians willing to participate in user-engagement on a recurrent basis were recruited as pathfinders, and 33 sessions were conducted over the last year (2020 – 2021). In spring and summer 2021, design and development of the tool began, with ongoing development of content and interface iterations. Internal beta-testing has been completed, and the tool is ready for external beta testing with other PLP project participants. The platform will be available to all Alberta physicians in winter 2022.

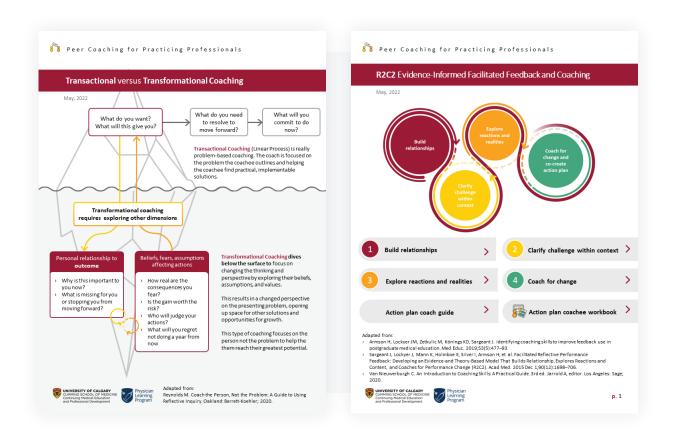




This tool will support physicians in completing quality improvement cycles to advance their practice.

Peer coaching for practicing professionals

The PLP, in collaboration with CME&PD at the University of Calgary, is developing a blended course that will advance physicians' skills to create a coaching for change culture, and support the development of a community of practice for coaching. The course content has been developed and includes two self-directed online educational modules, to interactive online workshops, and nine educational resources. The content for a specialized module is in development, and will be piloted with a group of participants.





This course will help physicians develop their coaching skills and support a culture of coaching for change.

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

To transform CPD in Alberta, a new CPD Provincial Network is being launched following two years of planning and development. The initiative is led through the Office of Lifelong Learning at the University of Alberta (L3), and the Office of Continuing Medical Education/Professional Development at the University of Calgary (CME/PD), with support from many system stakeholders, including the PLP.

The Provincial CPD Network will shape the implementation of practice improvement in Alberta, and focus on providing support for primary care physicians and specialists in this process. As a system stakeholder with expertise on data and quality improvement, PLP representatives attended Steering Committee meetings in January, March, and September to discuss the opportunity and scope, align mental models, and move forward the CPD Network.

The CPD Provincial Network Launch event is scheduled for April 28th, 2022 where multiple stakeholders will gather and two working groups (Data/Information and Coaching/Quality Improvement) will focus on leveraging and aligning with already existing structures, successful provincial activities, and provincial champions, as well as strengthening alignment of provincial organizations with the vision for CPD and promoting organizational activities in support of the CPD framework.





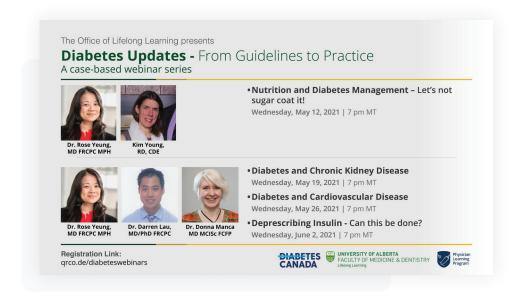
PLP is collaborating with other system stakeholders in the Provincial CPD Network, which will support physicians in data- driven continuous quality improvement.

Individual and aggregate quality improvement sessions, co-learning webinars, and physician engagement events

As the COVID-19 pandemic continued through its second year, the PLP has carried on with our program of physician and interdisciplinary healthcare provider engagement events. We partnered in this endeavour with a number of different organizations and professionals. In addition to greater geographic reach across the province, and ongoing spread and scale through event recordings, the use of virtual modalities supports broader access, and supports other instructional designs, such as the flipped classroom events that we launched this year with our webinar series Managing Alcohol Use Disorder in Liver Disease. Based on the success of virtual delivery over the past two years, PLP will continue using these approaches in our future work, and will expand options for physicians to undertake data-driven practice reflection and quality improvement with our accredited and self-paced educational tools.

Diabetes webinar series for primary care: The diabetes updates - from guidelines to practice

Family doctors care for many patients with diabetes. As part of our broader diabetes program, PLP Senior Medical Director **Dr. Rose Yeung**, and Clinical Liaison **Nandini Desai** planned and delivered a multi-event webinar series on managing diabetes in primary care. The Diabetes Updates – From Guidelines to Practice webinar series included four case-based webinars that were developed and delivered during the spring of 2021. While the first webinar focused on nutrition, the other three addressed newer medications for diabetes (SGLT2 inhibitors and the GLP-1 agonists) from the perspectives of an endocrinologist, an internist and a family doctor. The projects were well attended, and the recordings are available on the PLP website to support ongoing spread and scale.



- **Nutrition and Diabetes Management** Let's not sugar coat it! (May 12, 2021 341 registrants, 178 attendees, 272 website downloads). The webinar focused on the evidence behind various diets that impact blood sugar control, and covered the principles of good nutrition for people with diabetes.
- **Diabetes and Chronic Kidney Disease** (May 19, 2021 294 registrants, 114 attendees, 125 website downloads). The webinar reviewed the latest evidence for managing patients who have diabetes and chronic kidney disease, focusing on the benefits and practical considerations of some newer medications (SGLT2 inhibitors), to improve patient outcomes.
- **Diabetes and Cardiovascular Disease** (May 26, 2021- 286 registrants, 113 attendees, 64 website downloads). The webinar reviewed the latest evidence for managing patients who have diabetes and cardiovascular disease, focusing on the benefits and practical considerations of some newer medications (GLP-1 and SGLT2 inhibitors), to improve patient outcomes.
- **Deprescribing Insulin** Can this be done? (June 2, 2021 284 registrants, 99 attendees, 87 website downloads. The webinar reviewed current prescribing patterns of insulin using provincial aggregate data, and provided information why and when insulin prescribing is appropriate as well as key considerations in de-prescribing insulin.

Diabetes Update - From Guidelines to Practice 504 Participants





Chronic heart failure quality improvement workshop series

Most patients with heart failure are managed by primary care physicians - approximately 10% of patients attend a specialist clinic. A common issue is that many patients are not optimized on all medical therapies, leading to poorer patient outcomes, as measured by quality of life, frequency of ER visits and hospitalizations, or earlier mortality. Last year, PLP launched a new, accredited, quality improvement workshop series on chronic heart failure, in partnership with the **Edmonton Southside PCN** and the **Mazankowski Heart Institute**. It features two workshops that will establish quality improvement initiatives using clinic data and tools developed with the project partners.

The spring 2021 pan-PCN workshop cohort completed the second workshop "Heart Failure in Primary Management and Referral), led by **Dr. Justin Ezekowitz**, in April 2021. At that event, 93 participants learned how to initiate and optimize the disease modifying medications for patients with Heart Failure with reduced ejection fraction, when and how to refer appropriate patients to the Cardiac rehab or palliative care services. The participants then worked with their QI teams to develop a team based clinic approach for these patients.

Based on the program's success and ongoing demand, we offered the workshops again in the spring of 2022. In this spread and scale activity, participants viewed the recording of the webinars, followed by a live, online, team-based quality improvement workshop, facilitated by the project's quality improvement team in collaboration with our partners. Fourteen PCNs and AHS were represented in the workshop, where participants, had the opportunity to work in teams, using resources created by the project quality improvement team, to improve processes in the clinics to better manage patients with chronic heart failure.

- Heart Failure in Primary Care: Screening and Prevention (Feb 15, 2022): 104 participants, and 121 website downloads)
- Heart Failure in Primary Care: Management and Referral (March 1, 2022): 69 participants, and 59 website downloads)





Syphilis: Responding to the crisis in primary care webinar + workshop

Alberta Health Services declared a syphilis outbreak in the province in 2019, and the primary care networks identified this as a high priority topic for responding to the emergent needs of Albertans. Congenital syphilis is a severe and life threatening illness that occurs when the disease is transmitted to babies when the mother has a syphilis infection during pregnancy. In addition to causing birth defects, congenital syphilis has a high rate of fetal death, with approximately 40% of infected mothers having stillborn babies. Despite advances in health care and the fact that syphilis can be treated with antibiotics, the number of syphilis infections is skyrocketing across Alberta, reaching their highest levels in about 70 years. This outbreak is province-wide, affecting all genders and socioeconomic groups.

At the request of the Edmonton Southside PCN, we collaborated to develop a pan-PCN educational webinar and quality improvement workshop for family physicians and their teams in November 2021, led by **Dr. Petra Smyczek**. This webinar and facilitated quality improvement workshop presented information on syphilis, testing, and treatment. Participants then had an opportunity to work on improving processes within their clinic by working with quality improvement facilitators in breakout rooms, and the PCNs followed up with physicians six weeks later to review their QI cycle progress.



138 physicians, allied health, and PCN personnel attended, with engagement from 10 PCNs. Resources, including a summary reference sheet were distributed to all registrants. The <u>webinar recording</u> has been viewed 83 times this year.



Webinar: Debunking Myths Around Work-Related Mental Health

Physicians play an important role for Albertans experiencing work-related health problems, including mental health problems. To support physicians, PLP partnered with the Office of Lifelong Learning at the University of Alberta, and **Dr. Quentin Durand-Moreau**, an occupational health medicine specialist who developed and

delivered a webinar and discussion in February, 2022. Participating physicians learned about the clinical management of work-related mental conditions and appropriate reporting to the Workers' Compensation Board, and reviewed the use of mindfulness methods in the work-place using the ethical and conceptual frameworks from Occupational Health. (122 registered, 67 attended, 28 website downloads)



Debunking Myths Around Work-Related Mental Health 67 Participants

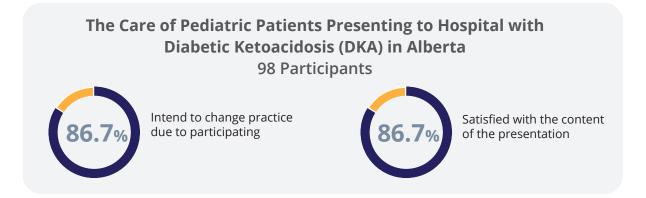


Appropriateness of care for pediatric diabetic ketoacidosis in emergency departments study and dissemination webinar

One of the most common endocrine disorders and chronic conditions in the pediatric population is Type I diabetes. 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, and address 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 Figure Time to correction of DKA based on severity of DKA at presentation study from British Columbia Children's Hospital after the release of the guidelines found that variation in practice still exists.

PLP partnered with **Dr. Jennifer Walton**, **Dr. Elizabeth Rosolowsky**, and **Dr. Jessica Foulds** of the Department of Pediatrics at the University of Alberta on a project that assessed adherence to these guidelines, including the administration of electrolytes, fluids, and insulin, and laboratory monitoring, and focused on emergency departments. In June 2021, Dr. Jennifer Walton and Dr. Elizabeth Rosolowsky hosted a virtual webinar "The Care of Pediatric Patients Presenting to Hospital with Diabetic Ketoacidosis (DKA) in Alberta: A Physician Learning Program Collaboration" . 98 physicians and team members attended the webinar, which included a review of the pathophysiology and clinical features of diabetic ketoacidosis in the pediatric population and the current guidelines for managing DKA in this population. The project data and findings were presented, and with discussion on how participants could use the project results to improve patient care. The recording of the webinar has been downloaded 83 times. A possible follow-on project in this pediatric DKA series is under consideration.





Management of alcohol use disorder in liver disease - workshop series

The prevalence of <u>Alcohol Use Disorder</u> (AUD) and <u>Alcohol-Associated Liver Disease</u> (ALD) is on the rise, and alcohol-related hospital admissions in Alberta have increased during the COVID-19 pandemic in comparison with previous years. AUD is known to contribute to development of cirrhosis, and it contributes to the progression and complications of disease. At the same time, attitudes about individuals with substance use disorder have also been found to impact clinicians' perspectives of patients with AUD and the care they provide. Since early detection is critical to reverse these trends, supporting health providers with education around substance use management and routine screening for alcohol misuse is beneficial.

Led by PLP Medical Director **Dr. Puneeta Tandon**, PLP developed and delivered a three part workshop series for specialists, family physicians, and their teams, addressing:

- Alcohol Use Disorder 101 January 20, 2022 (183 registrants, 92 attendees, 428 website downloads)
- Screening, brief intervention (motivational interviewing), and setting patient-centered goals
 January 27, 2022 (188 registrants, 65 attendees, 291 website downloads)
- Pharmacotherapy and Behavioural Therapy February 3, 2022 (201 registrants, 75 attendees, 318 website downloads)



Accredited with both colleges, these workshops used a flipped-classroom model, where participants viewed a pre-recorded webinar and various resources, and then participated in a live, interactive session. Our presenters and panelists included **Dr. Monty Ghosh**, **Dr. Jessica Kirkwood**, **Dr. Jessica Mellinger**, **Dr. Gerald Winder**, **Dr. Eddy Lang**, and **Dr. Anne Fernandez**, with planning support from **Dr. Cathy Scrimshaw**. As part of our ongoing scale and spread, this workshop series is available on the PLP website. This workshop series complements previous work in our cirrhosis program, and inspired a new project to be undertaken next year, focusing on alcohol use disorder in primary care. Family physicians often encounter patients with alcohol use disorder, and our needs assessment shows that they are interested in increasing their knowledge of how to manage AUD at any stage, how to prescribe medications to manage AUD, and how to prevent AUD complications, particularly with screening and brief interventions.



Publications, abstracts, and grants

Publications

Barber T, Toon L, **Tandon P**, Green L. (2021). Eliciting and understanding primary care and specialist mental models of cirrhosis care: A cognitive task analysis study. Canadian Journal of Gastroenterology and Hepatology, June 15: :5582297. doi: 10.1155/2021/5582297.

Campbell-Scherer D, Ofosu NN, Hunter KH, Jabbour B, Luig T, Farooq S, Mahdi A, Gayawira A, Awasis F, Olokude F, Goa H, Syed H, Sillito J, Yip L, Belle L, Akot M, Nutter M, Farhat N, Wang Y, Jalal N, Khalif S, Chapagain S, Fernandez S, Azarcon S, Hama Z. (2021). Illuminating and mitigating the evolving impacts of COVID-19 on ethnocultural communities: A participatory action mixed methods study. CMAJ August 09, 193(31): E1203-E1212. doi.org/10.1503/cmaj.210131

Chen JZ, Hoang HL, **Crick KC**, Fryters SR, Chandran AU, Williams DC, **Myroniuk T**, **Yeung RO**, **Campbell-Scherer D**, **Saxinger LM**. (2021). Review of surgical antibiotic prophylaxis practice in adult urology procedures: Opportunities for antimicrobial stewardship collaboration. Impact of a reported beta-lactam allergy on cefazolin administration in surgical prophylaxis: Cefazolin is still best, but is it given? Official Journal of the Association of Medical Microbiology and Infectious Disease Canada July, 6(1):1-85. doi:10.3138/jammi.6.s1.abst

Dahiya M, Eboreime E, Hyde A, Rahman S, Sebastianski M, Carbonneau M, Tapper EB, **Tandon P**. (2021). International Classification of Diseases Codes are Useful in Identifying Cirrhosis in Administrative Databases. Digestive Diseases and Science, Jun 6. doi: 10.1007/s10620-021-07076-1. Epub ahead of print.

Fryters SR, Chen JZ, Chandran AU, Hoang HL, **Saxinger LM**, **Crick KC**, **Myroniuk TW**, **Williams DC**, **Yeung RO**, **Campbell-Scherer D**. (2021). Audit of surgical antibiotic prophylaxis in obstetrical and gynecological surgery. Official Journal of the Association of Medical Microbiology and Infectious Disease Canada July, 6(1): 1-85. doi:10.3138/jammi.6.s1.abst

Fryters SR, Chen JZ, Chandran AU, Hoang HL, **Saxinger LM**, **Crick KC**, **Myroniuk TW**, Williams DC, **Yeung RO**, **Campbell-Scherer D**, Tse-Chang AW. (2021). Audit of surgical antibiotic prophylaxis in orthopedic surgery with particular focus on duration of prophylaxis. Official Journal of the Association of Medical Microbiology and Infectious Disease Canada July, 6(1): 1-85. doi:10.3138/jammi.6.s1.abst

Gjata I, Olivieri L, Baghirzada L, Endersby RVW, **Solbak NM**, Weaver CGW, **Law S**, Cooke LJ, **Burak KW**, Dowling SK. (In press). The Effectiveness of a Multi-faceted Group Facilitated Audit and Feedback Intervention to Increase Tranexamic Acid Use During Total Joint Arthroplasty, Canadian Journal of Anesthesia, January 22, 2022.

Halasz JB, **Burak KW**, Dowling SK, **Murray B**, Williams J, Misra T, Veldhuyzen van Zante SJ, Kaplan GG, Swain M, Novak KL. (2021). Do Low-Risk Patients With Dyspepsia Need a Gastroscopy? Use of Gastroscopy for Otherwise Healthy Patients With Dyspepsia. Journal of the Canadian Association of Gastroenterology. doi.org/10.1093/JCAG/GWAB017

Herrara MA, **Campbell-Scherer DL**, Bell RC, Chan CB. (2021). Contextually appropriate tools and solutions to facilitate healthy eating identified by people with type 2 diabetes. Nutrients, 13, 2301. doi.org/10.3390/nu13072301

Hoang HL, **Crick KC**, Chen JZ, Fryters SR, Chandran AU, Tse-Chang AW, Williams DC, **Myroniuk TW**, **Yeung RO**, **Campbell-Scherer DC**, **Saxinger LM**. (2021). Impact of a reported beta-lactam allergy on cefazolin administration in surgical prophylaxis: Cefazolin is still best, but is it given? Official Journal of the Association of Medical Microbiology and Infectious Disease Canada July, 6(1): 1-85. doi:10.3138/jammi.6.s1.abst

Hoang HL, Winkelaar GB, **Crick KC**, Chen JZ, Fryters SR, Chandran AU, Williams DC, **Myroniuk TW**, **Yeung RO**, **Campbell-Scherer D**, **Saxinger LM**. (2021). Examination of selection, timing, and duration of surgical prophylaxis for vascular procedures at a major Canadian vascular surgery centre. Official Journal of the Association of Medical Microbiology and Infectious Disease Canada July, 6(1): 1-85. doi:10.3138/jammi.6.s1.abst

Hyde AM, Watt M, Carbonneau M, Eboreime EA, Abraldes JG, **Tandon P**. (2022). Understanding preferences toward virtual care: A pre-COVID mixed methods study exploring the perspectives of patients with chronic liver disease. Telemedicine Journal and E-Health, Mar, 28(3):407-414. doi: 10.1089/tmj.2021.0099.

Johnson E, Ghosh SM, Daniels VJ, Wild TC, **Tandon P**, Hyde A. (2022) Clinicians' perspectives and perceived barriers to caring for patients with alcohol use disorder and cirrhosis. Addiction Science & Clinical Practice, Feb 9;17(1):9. doi: 10.1186/s13722-022-00292-8.

McGuckin T, Crick K, Myroniuk TW, Setchell B, Yeung RO, Campbell-Scherer D. (2022) Understanding Challenges of Using Routinely Collected Health Data to Address Clinical Care Gaps: A case study in Alberta, Canada. BMC Open Quality, 11:e001491. doi: 10.1136/bmjoq-2021-001491

Noel G, Pasay D, **Campbell-Scherer D**, **Saxinger L**. (2021). Co-designing to Improve Practice in Treating Urinary Tract Infections: a case study of reducing inappropriate antibiotic treatment. Visible Language, 55(1): 67-96. doi. org/10.34314/vl.v55i1.4605

Ofosu NN, **Luig T**, Chiu Y, Mumtaz N, **Yeung RO**, Lee KK, Wang N, Omar N, Yip L, Aleba S, Maragang K, Ali M, Dormitorio I, **Campbell-Scherer D**. (2022). Understanding the bigger picture: Syndemic interactions of immigrants and refugee context with the lived experience of diabetes and obesity. BMC Public Health, 22, 345. doi. org/10.1186/s12889-021-12305-3

Peterson A, Rose S, **Solbak NM**, Dowling SK. (2021). Virtual grand rounds in the Calgary Emergency Medicine Department. Winnipeg: Poster presented at Canadian Association of Emergency Physicians Conference, June 2021. doi.org/10.1007/s43678-020-00035-1

Saxinger LM, Williams DC, **Crick KC**, Chen JZ, Hoang HL, Fryters SR, Chandran AU, **Myroniuk TW**, **Yeung RO**, **Campbell-Scherer DL**. (2021). Quality audit of surgical antibiotic prophylaxis timing, redosing, and post-operative dosing practices at five hospital sites: The devil is in the details. Official Journal of the Association of Medical Microbiology and Infectious Disease Canada, July, 6 (1): 1-85. doi:10.3138/jammi.6.s1.abst

Schroeder D, Luig T, Beesoon S, Robert J, **Campbell-Scherer D**, Brindle M. (2021). What work is required to implement and sustain the National Surgical Quality Improvement Programme (NSQIP)? A qualitative study of NSQIP implementation in Alberta, Canada. BMJ Open, September, 11:e044720. doi:10.1136/bmjopen-2020-044720

Schroeder D, Luig T, Finch T, Beesoon S, **Campbell-Scherer D.** (2021). Understanding implementation context and social processes through integrating Normalization Process Theory (NPT) and the Consolidated Framework for Implementation research (CFIR). Implementation Science Communications, 11:e044720. doi: 10.1136/bmjopen-2020-044720

Sekhon S, **Crick K**, **Myroniuk T**, Ghosh M, **Yeung R**, **Campbell-Scherer D**. (2021). Adrenal Insufficiency: Investigating its Prevalence and Healthcare Utilization Using Administrative Data. Journal of the Endocrine Society, December, bvab184. doi.org/10.1210/jendso/bvab184

Swaleh R, **McGuckin T**, **Myroniuk TW**, **Manca D**, Lee K, Sharma AM, **Campbell-Scherer D**, **Yeung RO**. (2021). Using the Edmonton Obesity Staging System in the real world: A feasibility study. CMAJ Open, 9(4): E1141-E1148. doi.org/10.9778/cmajo.20200231

Tse-Chang AW, Crick KC, Fryters SR, Chandran AU, Williams DC, **Myroniuk TW**, **Yeung RO**, **Campbell-Scherer D**, **Saxinger LM**. (2021). Assessment of surgical antibiotic prophylaxis practices at a Canadian tertiary pediatric centre. Official Journal of the Association of Medical Microbiology and Infectious Disease Canada July, 6(1): 1-85. doi:10.3138/jammi.6.s1.abst

Woodhouse DC, Frolkis AD, **Murray BJ**, **Solbak NM**, **Samardzic N**, **Burak KW**. (2021). The Impact of Comorbidities on Calgary Hospital Utilization in Patients With Chronic Obstructive Pulmonary Disease and Heart Failure. Cureus, 13(8). doi.org/10.7759/CUREUS.17303

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

Burak K (presenter), **Campbell-Scherer DL** (moderator). The Long Shadow of COVID: Reflecting on Moral Challenges. Virtual presentation at COVID Corner, Cumming School of Medicine, University of Calgary, Calgary, Alberta, October 2021.

Burak K, Law S, Rice C, Hu J, Fung CI, Woo AKH, Fonseca K, Lang ALS, Kanji JN, Meatherall BL. COVID-19 outbreak among physicians at a Canadian curling bonspiel: A descriptive observational study. Poster presented virtually at the Conference of the Association of Medical Microbiology and Infectious Disease Canada (AMMI), April 2021.

Burak K, Law S, Setchell B, Enns E, Swain M, Shaheen AA. Are we Using Blood Wisely in patients with cirrhosis and GI bleeding in Calgary hospitals? Oral presentation delivered virtually at the Choosing Wisely Canada National Meeting, Ottawa, ON, May 2021.

Burak K, **Woodhouse D**, **Nicholson K**. Advancing audit and feedback in primary care. Oral presentation delivered virtually at the Choosing Wisely Canada National Meeting, Ottawa, ON, May 2021.

Burnett C, Young D, Villalobos Gonzalez R, Ryan C, Wall A, Limongiello S, Chow Baker E, **Burak KW**. COVID Corner – Changing Continuing Professional Development in Response to Crisis. Canadian Medical Education Conference (CCME), April 2021.

Campbell-Scherer DL. Implementing Canada's CPG's in Primary Care Practice. Oral presentation delivered virtually at the Canadian Obesity Summit, May 2021.

Campbell-Scherer DL. Making Sense of the Personal Narrative. Personalizing Obesity Management Webinar: Who, When, and How. Oral presentation delivered virtually at The Obesity Society, March 2022.

Campbell-Scherer DL, **Heatherington M**, Kucera M, Jay M, McPherson A, Lee-Baggley D, Vallis M, Pramyothin P, Al-Najim W, Rodrigguez FM, Cardoso E, Abraham J, Sajwani T. Building an international community of practice for obesity education. Oral presented delivered virtually at the Canadian Obesity Summit, May 2021.

Chen JZ, Hoang HL, **Crick KC**, Fryters SR, Chandran AU, Williams DC, **Myroniuk T**, **Yeung RO**, **Campbell-Scherer D**, **Saxinger LM**. Review of surgical antibiotic prophylaxis practice in adult urology procedures: Opportunities for antimicrobial stewardship collaboration. Poster presented virtually at the Conference of the Association of Medical Microbiology and Infectious Disease Canada (AMMI), April 2021.

Chen J, Hoang H, Tse-Chang A, **Saxinger L**, Fryters S, Chandran U, **Crick K, Myroniuk T**, Williams D, **Yeung R**, **Campbell-Scherer D**. A Multicentre Review of Adherence to Surgical Antibiotic Prophylaxis Recommendations in Adult Urologic Procedures. Poster presented virtually at the Conference of the Association of Medical Microbiology and Infectious Disease Canada (AMMI), April 2021.

Cooke L, **Burak K**, Duncan D, Rivera L, Armson H, **Bailey M**, Christal N. Outcomes Harvesting: A rigorous approach to evaluating the outcomes of a complex educational intervention. Presented at the OHMES Health & Medical Education Symposium, February, 2022.

Dowling S, Peterson A, Saxinger L, Shkrobot R, Pasay D, Nickonchuk T. Reducing overuse of urine cultures in the emergency department. Oral presentation delivered virtually at the Canadian Association of Emergency Physicians Conference, June 2021.

Dowling S, Peterson A, Saxinger L, Shkrobot R, Pasay D, Nickonchuk T. Urine culture in the emergency department. Poster presented virtually at the Canadian Association of Emergency Physicians Conference, June 2021.

Dowling S, Rose S, Zaver F, **Peterson A**, **Solbak N**. Virtual grand rounds in the Calgary emergency medicine department. Poster presented virtually at the Canadian Association of Emergency Physicians Conference, June 2021.

Fryters SR, Chen JZ, Chandran AU, Hoang HL, **Saxinger LM**, **Crick KC**, **Myroniuk TW**, Williams DC, **Yeung RO**, **Campbell-Scherer D**. Audit of surgical antibiotic prophylaxis in obstetrical and gynecological surgery. Poster presented virtually at the Conference of the Association of Medical Microbiology and Infectious Disease Canada (AMMI), April 2021.

Fryters S, Chen J, Chandran U, Hoang H, **Saxinger L**, **Crick K**, **Myroniuk T**, Williams D, **Yeung R**, **Campbell-Scherer D**. An Audit of Surgical Antibiotic Prophylaxis in Orthopedic Surgery with a Particular Focus on Duration of Prophylaxis. Poster presented virtually at the Conference of the Association of Medical Microbiology and Infectious Disease Canada (AMMI), April 2021.

Hao R. Underuse of Cardiorenal Protective Agents in High-Risk Diabetes Patients in Primary Care. Oral presentation delivered at the Family Medicine Research Day at the University of Alberta, June 2021.

Hoang HL, **Crick KC**, Chen JZ, Fryters SR, Chandran AU, Tse-Chang AW, Williams DC, **Myroniuk TW**, **Yeung RO**, **Campbell-Scherer DC**, **Saxinger LM**. Impact of a reported beta-lactam allergy on cefazolin administration in surgical prophylaxis: Cefazolin is still best, but is it given? Poster presented virtually at the Conference of the Association of Medical Microbiology and Infectious Disease Canada (AMMI), April 2021.

Hoang HL, Winkelaar GB, **Crick KC**, Chen JZ, Fryters SR, Chandran AU, Williams DC, **Myroniuk TW**, **Yeung RO**, **Campbell-Scherer D**, **Saxinger LM**. Examination of selection, timing, and duration of surgical prophylaxis for vascular procedures at a major Canadian vascular surgery centre. Poster presented virtually at the Conference of the Association of Medical Microbiology and Infectious Disease Canada (AMMI), April 2021.

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. Invited presentation delivered virtually at the Canadian Obesity Summit, May 2021.

Luig T, Chiu Y, **Ofosu NN**, **Campbell-Scherer DL**. Mutuality, narratives, and complexity: Moving from understanding entanglements to action during a pandemic. Oral presentation delivered virtually 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. Oral presentation delivered virtually at the 6th International Conference on Salutogenesis, June 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. Poster delivered virtually at the European Congress on Obesity, May 2021.

Marcet C, Damant R, **Nicholson K**. Lung testing: choosing the right test for the right patient. Oral presentation delivered virtually at the ACFP Clinical Connections Conference, April 2021.

Nicholson K, Naugler C, Oliver D, **Burak K**, **Mehta A**, Pow J, Lahtinen M, **Metcs A**. Utilization of data in education opportunities- A model for promoting sustained practice improvement: Lab Utilization. Oral presentation at Choosing Wisely Canada National Meeting, Ottawa, May 2021.

Novak K. 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. Oral presentation delivered virtually at the Choosing Wisely Alberta: Forum of the Future, December 2021.

Ofosu, NN, Luig, T, Chiu Y, Mumtaz, N, **Yeung RO**, Lee, KK, **Campbell-Scherer, DL**. Understanding the bigger picture: Lived experiences of immigrants and refugees with obesity and diabetes. Poster delivered virtually at the European Congress on Obesity, May 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 Post-Operative Dosing Practices in 5 Hospital Sites: The Devil is in the Details. Poster presented virtually at the Conference of the Association of Medical Microbiology and Infectious Disease Canada (AMMI), April 2021.

Schroeder D, Luig T, Beesoon B, **Campbell-Scherer DL**. Integrating a process theory and a determinant framework to understand how contextual factors, cognitive work and social processes interact to drive implementation: Methodological insights. Oral presentation delivered virutally at the 4th UK Implementation Science Research Conference, July 2021. Received award for Best Oral Presentation.

Solbak NM, Thompson E, Long L, **Bailey JAM**, Thomas D, Johnson DW. Scale and spread of quality improvement initiatives for bronchiolitis management in Alberta emergency departments. Oral presentation delivered virtually at the AHS Emergency SCN Quality Improvement and Innovation Forum, February 22, 2022. Abstract submitted to the Canadian Journal of Emergency Nursing.

Tandon P. Be a liver not a fighter - coordinating cirrhosis care in the community. Oral presentation delivered at the GI for GPs course, Edmonton, AB, May 2021.

Tandon P. State of the art in nutrition and exercise: comprehensive evaluation and therapeutic management of the cirrhotic patient. Oral presentation delivered at the 15th Journee Andre Viallet, Montreal QP, September 2021.

Tandon P. Introduction to <u>cirrhosiscare.ca</u>. Oral presentation delivered at the American Association for the Study of the Liver | the Liver Meeting 2021, Anaheim CA, November 2021.

Tandon P. Cirrhosis care - gaps and opportunities for whole person care. Oral presentation delivered at the Puerto Rico Association of Gastroenterology conference, San Juan, PR, February 2022.

Tse-Chang A, **Saxinger L**, Fryters S, Chen J, Chandran U, Hoang H, **Crick K**, **Myroniuk T**, Williams D, **Yeung R**, **Campbell-Scherer D**. An Assessment of Surgical Antimicrobial Prophylaxis at a Canadian Tertiary Pediatric Centre. Poster presented virtually at the Conference of the Association of Medical Microbiology and Infectious Disease Canada (AMMI), April 2021.

Woodhouse D, Ferrie L, Omodon O, Duncan D, **Mehta A**, Ambasta A. Virtual Audit and Feedback for Inpatient Lab Utilization. Presented at the 2022 Choosing Wisely National Meeting, May 2022.

Woodhouse D, Ferrie L. Prescribing Sedating Medications to Seniors in Community. Presented at the Geriatrics Update: Clinical Pearls Course, September 2021.

Yeung RO. Starting the Process of Quality Improvement in Edmonton's Tertiary Diabetes Clinics: Getting our Data Ducks in a Row. Oral presentation delivered virtually at the Diabetes Canada Professional Conference, November 2021.

Awards and Recognition



Outstanding Achievement Award in the Evaluation of Clinical Competence, Medical Council of Canada 2021 Recipients

Dr. Kelly Burak, Dr. Lara Cooke, and the Physician Learning Program (PLP) team

Schroeder D, Luig T, Beesoon B, **Campbell-Scherer DL**. Integrating a process theory and a determinant framework to understand how contextual factors, cognitive work and social processes interact to drive implementation: Methodological insights. Awarded Best Oral Presentation at the 4th UK Implementation Science Research Conference, July 2021.

Abstracts accepted for upcoming conferences

Campbell-Scherer DL. Making Sense of the Personal Narrative. Abstract accepted for a virtual presentation at the Diabetes Kongress, Berlin, Germany, May, 2022.

Campbell-Scherer DL, **Yeung RO**, Myroniuk T, **Mathe N**, **Hunter KH**. Embracing complexity, advancing medical practice, and the need for Wicked Teams. Abstract accepted for a workshop at EBMLive 2022, Oxford, UK, July 2022.

Thurston J, Nasr-Esfahani M, **Peterson A**. Using the Calgary audit and feedback framework to address operative vaginal delivery rates at four community hospitals. Abstract accepted at Society of Obstetricians and Gynaecologists of Canada - 2022 Annual Clinical and Scientific Conference, Quebec City, QP, June 2022.

Veldhuyzan van Zanten S, Novak K, Maracle B, **Campbell-Scherer D**, **Crick K**, Sadowski D. Choosing Wisely: Gastroscopy for Upper Gastrointestinal Symptoms in Patients <65 Years has a Low Yield of Clinically Important Findings. Abstract submitted to Digestive Disease Week, May 2022.

System Impacting Grants Supported by PLP

PLP is well positioned to support and amplify the dissemination and knowledge translation that results from large, system impacting research grants, as well as aligned Choosing Wisely 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.

"Alberta Back Pain Pathway (ABCp)", a Choosing Wisely Alberta grant led by Dr. Greg Kawchuk at the University of Alberta.

"Building on Existing Tools To Improve Chronic Disease Prevention and Screening in Primary Care Virtually: The Virtual BETTER Study", a CIHR Project Grant - CMA Foundation - Virtual Care Grant led by Dr. Kris Aubrey-Bassler.

"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.

"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.

"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.

"Alberta SPOR SUPPORT Unit (AbSPORU) phase 2", an Alberta Innovates Grant led by Dr. Finlay McAllister 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.

"Improving the delivery of acute dialysis to critically ill patients in Alberta – DIALYZING WISELY", an Alberta Innovates, PRIHS 6 grant led by Dr. Oleksa Rewa at the University of Alberta.

"Don't Misuse My Blood: Reducing Avoidable Blood Tests and Avoidable Blood Transfusions in Patients admitted to Critical Care and High-risk Surgical Units in Alberta", an Alberta Innovates, PRIHS 5 grant led by Dr. Dan Niven at the University of Calgary.

Community and stakeholder engagement presentations

Gastroenterology groups:

- AHS Digestive Health SCN divisional clinical research meeting: Prevention of SSI Surgical Antibiotic Prophylaxis The Antibiotic Stewardship Viewpoint - review of principles, opportunities, local data, next steps, van Zanten S, January 2022
- University of Alberta Gastroenterology Noon Rounds: Alcohol, pushups and meditation, **Tandon P**,
 March 2022

Medical Groups

- University of Alberta Faculty of Medicine & Dentistry Grand Rounds: Order sets in ConnectCare: Are they
 worth it? Tandon P, March 2022
- Misericordia Hospital Multidisciplinary Grand Rounds: Top tips you need to know for cirrhosis care,
 Tandon P, November 2021

Neurology groups:

 Canadian Amyotrophic Lateral Sclerosis Research Network (CALS): Preliminary results of ALS dashboard project, Johnston W, November 2021

Pediatric groups:

 Aggregate audit & feedback: The Care of Pediatric Patients Presenting to Hospital with Diabetic Ketoacidosis (DKA) in Alberta: A Physician Learning Program Collaboration, June 22, 2021

Surgery groups:

- Calgary Zone Surgical Quality Council: Beta-Lactam Allergy and Surgical Prophylaxis What you need to know.
 Saxinger L, April 2021
- AHS Surgery SCN CAT Implementation Team: Using sensemaker methodology for qualitative evaluation of Central Access and Triage to AHS/Surgery SCN Evaluation team, Luig T, July 2021
- AHS Surgery SCN CAT Implementation Team: Qualitative evaluation of patients and provider experience of Central Access and Triage using Sensemaker, Luig T, October 2021
- AHS Surgery SCN CAT Implementation Team: Making sense of change in complexity: provider & patient experience. The Surgical Central Access Project, Campbell-Scherer D, October 2021
- Surgery ZDEC: Surgical wait list project Overview and discussion, Campbell-Scherer D, November 2021
- AHS Surgery SCN: Prevention of SSI Surgical Antibiotic Prophylaxis The Antibiotic Stewardship Viewpoint review
 of principles, opportunities, local data, next steps, Saxinger L, March 2022

Other groups:

- Royal Danish Embassy: NOVAD Alberta Innovation Panel Discussion: Secondary Uses of Health Data and related Economic impact (government, industry, international audience). The Illuminate Project 2020: A story of radical adaptation, Campbell-Scherer D, invited speaker, June 2021
- First Mile Health Panel Biome Summit on cardiovascular disease healthcare transformation, **Campbell-Scherer D**, invited panelist, September 2021
- Alberta Health CME Working Group: Enabling the Learning Health Systems -The Provincial CPD Network, Campbell-Scherer D, Burak K, October 2021
- Alberta CPD Network Steering Committee: CPD Network update, Campbell-Scherer D, Burak K, October 2021
- Faculty of Medicine & Dentistry, University of Alberta Grand Rounds: Care for patients from ethnocultural migrant communities: considerations and resources, **Luig T, Chiu Y**, December 2021. Featured PLP Housing and Income Insecurity Resource Tools.
- Chilean and Irish Teams working on adaptation of Adult Obesity CPGs: Obesity Assessment in Primary Care,
 Campbell-Scherer D, December 2021
- AbSPORU Learning Health System Team: What work is required to implement and sustain the NSQIP A qualitative study of NSQIP implementation in Alberta, Canada, **Schroeder D**, January 2022

