“The goal is to establish a health system that achieves better outcomes and provides more appropriate care for Albertans.”

- Blue Ribbon Panel on Alberta’s Finances

“Protecting the affordability and sustainability of Alberta’s health care system should be an important part of AHS’ purpose and vision.”

- Alberta Health Services Performance Review

“Improving lives is the only end goal and research is only relevant when it has an impact on human lives”...

- The Lancet Manifesto
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Executive Summary

The Physician Learning Program (PLP) is a key health system partner focused on advancing health care to improve outcomes, appropriateness of care, cost effectiveness, and patient and provider experience. Initially established in 2009, as a member benefit program of the Alberta Medical Association (AMA), the PLP has evolved to become a trusted partner for supporting physicians and their teams in using evidence-based clinical information and quality improvement methodologies to co-create solutions that move evidence into practice. We work with key stakeholders, to serve as an implementation hub, using our skills to integrate best available evidence into coordinated action plans for problems of clinical importance.

In the 2017, Better Healthcare for Albertans Report\textsuperscript{1}, the Auditor General recognized the PLP's initiatives as resulting in “measurable quality gains” for Albertans. The PLP is unique in Canada, and the program's mandate, approaches, and impact have attracted national interest, from the Ontario Ministry of Health, the Auditor General of Ontario, the Ontario Medical Association, and Choosing Wisely Canada™.

Recent reports on Alberta's finances and Alberta Health Services (AHS) highlight the challenges that we face in maintaining our publicly funded health care system. Reducing low value care, while increasing the appropriateness of testing and treatment, is essential for sustainability. Through strategic planning and development of critical partnerships, the PLP has positioned itself to be an important part of the solution.

Using advanced data analytics, human centred design, mixed qualitative and quantitative methods, and audit and feedback, PLP transforms disjointed administrative healthcare data into clinically actionable information. We co-create tools and resources that support meaningful change. For example, our projects have resulted in a 20% increase in tranexamic acid usage following hip and knee replacement with corresponding reduction in blood transfusions; a 16% reduction in unnecessary interventions in children with bronchiolitis; a 50% reduction in low yield endoscopies in patients with dyspepsia; and a 17% reduction in urine culture tests for asymptomatic patients in emergency departments. Ongoing funding to support the PLP has allowed us to embark on an ambitious agenda with more than 35 active projects under way.

Through the innovative partnerships between the PLP and the Primary Care Networks (PCNs), we are innovating support of clinical teams in data-driven, practice-based quality improvement. This year saw partnerships focused on polypharmacy, antimicrobial stewardship, and obesity and

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

\textsuperscript{1} Auditor General Report-Better Healthcare for Albertans (May 2017) Executive Summary, p.4
diabetes, with high levels of physician engagement and new linkages with existing quality improvement efforts. We are very excited about our upcoming work in advancing care for complex chronic conditions, including congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD) and cirrhosis. In addition to our work with family physicians through the PCNs, another keystone project this year was the partnership of the PLP with Health Quality Council of Alberta (HQCA), to ensure family physicians have a safe environment to reflect own their own practice data. With the My Practice: Primary Care Laboratory Services project, we are supporting the delivery of high quality data and online resources to support improvements in the appropriate utilization of common laboratory tests.

Our collaborative efforts with the specialist physicians and their teams include continued efforts with Strategic Clinical Networks (SCNs) to enhance utilization of clinical care pathways, define metrics for specialists engaged in practice improvement, and identify priorities for new PLP projects. We actively support groups within AHS, including the Quality Safety & Outcomes (QSO) and Improving Health Outcomes Together (IHOT), in their efforts to improve value in the health system. PLP continues to be an active partner in the implementation of Choosing Wisely™ recommendations across Alberta.

Finally, our continued efforts on strengthening our internal processes, including knowledge translation strategies, will ensure that our staff are equipped with the skills to fulfill our mission and deliver upon our vision:
Vision, Mission & Strategic Priorities

Between the fall of 2018 and the spring of 2019, the Physician Learning Program (PLP) undertook an extensive process to review and renew its vision and mission, allowing us to set five strategic priorities.

**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.

**Strategic Priorities:**
1. PLP partners to improve and support health system sustainability.
2. PLP supports physicians in understanding and participating in data-driven quality improvement.
3. Increase PLP’s engagement and support for primary care physicians.
4. Continue to strengthen PLP’s engagement with Strategic Clinical Networks and Choosing Wisely.
5. Further strengthen internal PLP processes, including knowledge translation.
Overview of Strategic Priorities

Our strategic priorities are the broad objectives that we will continue to pursue in the 2020-21 reporting period and beyond. These strategic priorities connect our PLP projects with our vision and mission, ensuring the fulfillment of our mandate.

1. Partnering to support health system sustainability

The recent *Blue Ribbon Panel on Alberta’s Finances* highlighted the serious challenges facing our province. The first recommendation of this report emphasized the need to engage physicians and other health-care providers with “the goal to establish a health system that achieves better outcomes [and] provides more appropriate care for Albertans”.

This aligns with our first strategic priority; as partnerships are critical for us to deliver projects that reduce the volume of low-value care, thereby increasing appropriateness. Our partnerships with the groups listed below will be essential as we work together to ensure a sustainable health system.

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2. Supporting physicians in data-driven quality improvement

The Future of Medical Education in Canada – Continuing Professional Development (FMEC-CPD) report outlines a future in which “all physicians will be expected to participate in a continuous cycle of practice improvement that is supported by understandable, relevant, and trusted individual or aggregate practice data with facilitated feedback for the benefit of patients”. In addition, the report recommends to “create or strengthen provincial or regional CPD networks” where they do not exist.

Alberta has an unprecedented opportunity with the amount of administrative health data collected in the province. However, there are challenges working with this largely unstructured data that is fragmented into numerous unconnected data sets, requiring advanced analytics to provide clinically actionable information to physicians.

We have been working with a number of stakeholders on improving the access to data for physicians including:

1. Collaborate with the HQCA on their primary care physician panel reports, and with HQCA, AHS (Improving Health Outcomes Together), Alberta Precision Laboratories (APL) and the Alberta College of Family Physicians (ACFP) on the My Practice: Primary Care Laboratory Services project
2. Creating dashboard for ongoing continuous quality improvement in Emergency Department in the Calgary zone
3. Creating the Canadian Primary Care Sentinel Surveillance Network (CPCSSN) Data Presentation Tool Obesity Dashboard, which is being rolled out nationally
4. Partnering with the Surgery Strategic Clinical Network on evaluating the implementation process of the NSQIP (National Surgery Quality Improvement Program) dashboard

My Practice: Primary Care Laboratory Services

Alberta spends approximately $700 million annually on laboratory services, with nearly 60% of costs associated with lab tests being ordered by family physicians. Studies find that approximately 35% of all laboratory testing is of low value. The PLP is leading a collaboration with key stakeholders to launch an online learning environment for family physicians in March 2020 on the HQCA website. This enhancement to the existing panel reports will feature individual practice reports showing overall testing rate and volume, as well as utilization of five commonly ordered lab tests (complete blood count, thyroid stimulating hormone, lipid profile, hemoglobin A1C and urinalysis) with peer comparators, supported by clinical considerations and best practice advice from national recognized experts in Family Medicine.

Available at https://www.fmec-cpd.ca/
Understanding current practice with beta-lactam allergy and surgical antimicrobial prophylaxis, Edmonton Zone

Patients that receive suboptimal surgical antimicrobial prophylaxis (SAP) have a considerably higher risk of postoperative infection compared to those receiving optimal SAP. In 2018, guidelines changed to recommend cefazolin as the drug of choice for patients with a beta-lactam allergy (often referred to as penicillin allergy). Recognizing this as an area of clinical importance to patients and the health system, PLP partnered with the Edmonton Zone members of AHS’s Antimicrobial Stewardship Committee and the Zone Clinical Directors Executive Committee for Surgery and Anesthesiology to assess the appropriateness of antimicrobial surgical prophylaxis with a chart audit at five hospital sites in Edmonton. The project found that, despite changes to guidelines in 2018, cefazolin is still being under-prescribed in SAP for surgical patients with beta-lactam allergy, and there are considerable variances in SAP practices across sites and specialties in the Edmonton Zone. These findings are being shared with physicians and key stakeholders in a variety of channels, and will assist antimicrobial stewardship groups in their work at each site.

To strengthen our access to practice data, PLP will enter into formal Information Management Agreements with Alberta Health (AH) and Alberta Health Services (AHS) under the Health Information Act. PLP will also enter into formal agreements with the HQCA and AHS to further co-develop practice reports and the online learning environments for their dissemination. To maximize our capacity and analytic efficiency with quantitative and qualitative data, we have invested in Python™ training to support our analyst’s work with complex data. PLP is at the forefront of interfacing with the robust computing science and the artificial intelligence knowledge base in Alberta, in order to find elegant and novel solutions.

PLP will continue to work closely with the Office of Continuing Medical Education and Professional Development (CME&PD) at the University of Calgary and the Office of Life Long Learning (L3) at University of Alberta, along with senior leadership of key strategic partners, to establish a new Provincial CPD Network (see figure). The first meeting of this new committee will focus on developing the framework a provincial strategy for implementation of physician practice improvement (PPI).

PLP will work with the CPD offices at both universities to develop tools and training (in quality improvement and peer coaching) to support physicians in participation in reflective practice improvement. This may include the development of a system to track these PPI activities, ensuring that physicians receive appropriate CPD credits, while allowing us to evaluate the impact of this system change.
3. Increasing engagement and support for primary care physicians

The recent *AHS Performance Review* by Ernst and Young recommends, “*AHS should continue to strengthen its integration with primary care through the expansion of community-based and home care programs to care for patients in the most appropriate setting.*”

With approximately 4500 primary care physicians in Alberta, PLP continues to focus on increasing the number of projects in family medicine, and strengthening our relationship with PCNs and the HQCA. Supporting our commitment in this regard, our senior leadership team includes both primary care and specialist physician representation.

**Complex Care in the Community**

Recently, PLP was engaged in a project in Calgary zone seeking to reduce length of stay in acute care for patients with chronic obstructive pulmonary disease (COPD) and congestive heart failure (CHF), with intentions to increase adherence to order sets for these common chronic conditions. Our review of the data highlighted that comorbidities were driving length of stay for these patients and that transitional issues and social factors were key factors. Overall, there are a small number of complex patients (the 5% driving the majority of health care spending), and it is essential for these patients to have continuity and coordination of care between hospitals and their medical home. PLP will continue to use data to identify and better understand these issues, and engage with PCNs and SCNs to improve patient care and outcomes.
Supporting Practice Improvement in Primary Care

PLP will continue to support family physicians and their teams in accessing and reflecting on practice data, to help them provide better care for their patients. PLP will work closely with the HQCA to expand and improve Primary Healthcare Panel Reports. We also have ongoing collaborations with multiple PCNs, including Edmonton Southside, Mosaic, Highland, Foothills, Wolf Creek, and others.

As part of our primary care engagement strategy, PLP partnered with the Edmonton Southside PCN in the spring of 2019, offering 4 pan-PCN events this past year. In aggregate, 165 physicians and 129 allied health and team members, from 8 different PCNs, have attended these four pan-PCN events in Edmonton. Topics included polypharmacy for complex older patients, optimizing antimicrobial use in the clinic, helping patients living with obesity, and de-prescribing insulin. In partnership with the Edmonton Southside PCN, a further 13 PLP-PCN events have been presented this year on opioid use, dementia, alcohol use disorder, COPD, and COVID-19, with 266 physicians and 381 allied health and team members participating. An upcoming program will address heart failure. We are developing strategies to offer events online using webinars and other virtual hosting approaches, which will expand our reach across the province, and facilitate participation for physicians living outside the largest cities.

4. **Strengthen engagement with Strategic Clinical Networks and Choosing Wisely**

The recent *AHS Performance Review* by Ernst and Young recommended, “*AHS should prioritize the further provincial standardization of clinical care pathways and protocols to ensure all Albertans have access to evidence-based, outcomes focused and cost-effective care*”. The report also concluded that “*Alberta Health would likely benefit from the significant expertise of strategic clinical networks in the development of provincial health strategy and policy*”.

There is an abundance of evidence that pathways and protocols do not change practice without dedicated efforts to ensure their implementation. PLP is collaborating with SCNs to improve the utilization and implementation of clinical pathways (e.g. Dyspepsia Project). We will continue to strengthen our relationship with SCNs, as these collaborations will be important to define metrics for physician practice improvement amongst specialists, and to identify priorities for new PLP projects. Building upon our collaborative My Practice: Primary Care Laboratory Services project, we will continue to work with QSO and IHOT on larger scale projects focused on improving appropriateness with both specialists and family physicians.

PLP is collaborating with the Surgery SCN to study the implementation of the National Surgical Quality Improvement Program (NSQIP) at 9 hospitals across Alberta. This project included a theoretically informed, qualitative inquiry into the barriers and facilitators to embedding the NSQIP into existing workflows of surgical teams and quality improvement structures. Findings from this project will assist Zone Surgery Quality Councils, and the Provincial Surgery Quality and Safety committee, to shape and improve the use of NSQIP data, and will drive continuous surgical improvement efforts in Alberta.

The *AHS Performance Review* also recognized that “*AHS has begun to adopt and implement recommendations from the national “Choosing Wisely” appropriateness program*.”

PLP continues to collaborate closely with the recipients of the *Choosing Wisely Alberta* grants to ensure that these projects, focused on increasing appropriateness, will continue to progress over the next year.

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Choosing Wisely Alberta projects with PLP collaboration

<table>
<thead>
<tr>
<th>Lead Investigator</th>
<th>Title of project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Daniel J Niven</td>
<td>Reduce (RED blood cells Utilization in Critical carE) Integrated knowledge translation initiative to reduce unnecessary red blood cell (RBC) transfusion among non-bleeding critically ill patients in Alberta.</td>
</tr>
<tr>
<td>Dr. Kerri Novak</td>
<td>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</td>
</tr>
<tr>
<td>Dr. Anshula Ambasta</td>
<td>Optimization of routine laboratory test utilization on inpatient medical units</td>
</tr>
<tr>
<td>Dr. Narmin Kassam</td>
<td>The effectiveness of a sequenced multicomponent intervention: reducing Urea Utilization and Laboratory test Order Frequency on Alberta medicine wards.</td>
</tr>
<tr>
<td>Dr. Sonia Butalia</td>
<td>Reducing low value cardiovascular investigations to provide higher quality care at lower costs</td>
</tr>
</tbody>
</table>

5. **Strengthen internal PLP processes including knowledge translation**

PLP tackles important problems, and endeavors to develop elegant solutions, relying on multifaceted approaches, strong project management, and a clear arc from project consideration to knowledge translation activities. Our core objective is to translate data into contextually useful information to give physicians, and their teams, insights into their own practice in a safe and effective manner. Our project teams include physicians with key roles in health organizations and physician networks, which helps PLP identify the most pressing problems and facilitates scale and spread of solutions to the medical community.

Our PLP projects start with a clinically important gap in care, for which robust evidence exists about what should be done. We then ensure that we understand the nature of the gap, from the perspective of the relevant stakeholders, using human centred design, cognitive task analysis, literature review, or other methods. The aim is to understand where the best target is for an intervention and what methods will be most appropriate to achieve sustained change, whether the problem is technical or adaptive.

We seek to understand what health system data is available to support deeper understanding of the problem. In rare instances, where the problem is compelling and the data is not available, we support primary audit data collection. We work with the stakeholders to make sense of the emer-
gent information and to interface with the end users to socialize the insights using human centred design, audit and feedback, or quality improvement methods. We work with end users to co-create the interventions and to implement, and disseminate them. This includes the creation of tools, resources, additions to surgical checklists, and other knowledge products.

We continually strive for excellence in our operations and internal processes. Effective project management ensures that our projects are completed in a timely manner.
As an AMA benefits program, PLP supports and promotes continuous professional development of physicians in Alberta. PLP reports quarterly on the program’s expected outcomes, including activities and outputs:

1. **Physicians and teams recognize learning needs**

   PLP identifies potential projects by working with key stakeholders including: SCNs, PCNs, the Primary Health Care Integration Network, Specialty groups, CWA, as well as academic physicians in various departments at the UofA and the UofC. Often, stakeholders and partners have identified perceived learning needs, which can be addressed through PLP projects. In other instances, PLP examines comparative data, research developments, and practice patterns may reveal variability in care and unperceived learning needs, which can subsequently be addressed.

2. **Physicians and teams advance practice by addressing their learning needs**

   We work with physician leaders to co-create projects that address important clinical questions and medical content in areas of strategic priority. We engage with stakeholders to leverage our ability to elucidate problems, potential solutions/interventions, and desired outcomes for each project.

3. **Physicians receive aggregate and individualized reports**

   Within the context of ethics and privacy guidelines, PLP conducts data mapping, extraction, analysis, and visualization of de-identified data for each project to produce aggregate and individual practice reports. We apply principles of human-centered design throughout the process and present actionable information to maximize understanding and clinical relevance.

4. **Contextualized and actionable data is used to advance practice**

   PLP uses a variety of approaches to share clinically actionable information with physicians and their teams. For example, we host facilitated audit and feedback sessions (using the Calgary Audit and Feedback Framework) to advance individual and team practice. In a safe environment, physicians are able to discuss practice with colleagues to identify barriers and facilitators to change and create action plans that engender change. In addition, we develop a variety of tools and resources using human-centred design, which is a participatory approach to understand problems and develop solutions by considering the human perspective, in context, throughout the process. It focuses on the user’s needs, rather than the tools or the knowledge to translate. For example, PLP tools and resources may support decision-making, clarify appropriateness guidelines for prescribing, educate patients and families, and provide physicians with information.

5. **Scale and spread of PLP projects is achieved**

   Our approach to knowledge translation is varied, and includes data driven quality improvement sessions, engagement events, presentations, publications, and networking, across the province. We promote the spread of successful projects with colleagues in SCNs, PCNs, and AHS, and collaborate broadly to enable adoption across our healthcare system. Each successful project includes planning for sustainability, with spread and scale, to ensure maximum benefit and impact are realized.

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Our People

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Knowledge Translation Designer
Office of Lifelong Learning and Physician Learning Program
Associate Dean

Medical Directors:
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- Primary Care

Managing Director

Physician Liaisons
- Antimicrobial stewardship
- Metabolic disorders
- Pediatrics
- Surgery
- Cardiology
- Emergency Medicine

Administration & Communication Coordinator
Education Specialist
Administrative Assistant

Clinical Liaison
Social Sciences Lead
Implementation Scientist

Senior Project Officer
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Project Coordinator

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Human Centered Designer

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CPCSSN Data Analyst
AHS/DIMR Data Analyst 2
Epicore