The Alberta Pain Strategy 2019-2024

Achieving Excellence in Pain Management

Alberta Health Services

PAIN SOCIETY of ALBERTA

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Purpose of this Document

Given the large number of patients, families, and caregivers from across Alberta who are impacted by pain, the continued desire to advance evidence-informed management of pain across the lifecycle and the increased focus due to the opioid crisis we face, this document was created to outline a coordinated approach to assess, treat, and manage pain across Alberta.

We acknowledge and appreciate the amount of work that is currently underway across the province related to pain, particularly in the area of opioid use and harm reduction, and we celebrate the successes we've already had in the effective treatment of pain. The Alberta Pain Strategy "the Strategy" highlights the work underway, while outlining additional prioritized opportunities over the next five years and beyond in order to deliver the best pain outcomes for Albertans.

Throughout this document, we adopt definitions provided by the International Association for the Study of Pain (IASP), including for "pain" itself, which is "an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage" (International Association for the Study of Pain, 1979).

The intended audiences for the Strategy includes Albertans, Alberta Health Services, Primary Healthcare, the Government of Alberta, clinicians, researchers, educators, and our working groups.

"As a patient who has lived with chronic pain for most of my life, I know that severe chronic pain consumes your life. Patients must have support, a treatment plan and the right medications that we need to survive and have some small quality of life. I feel it's very important to have patients at the table for designing the Alberta Pain Strategy as we have real life experiences that we can share and that will help shape this work going forward. I look forward to working with the opioid use working group to ensure the right medications are available for patients in acute and chronic pain, while also developing effective monitoring so that medications are not diverted for other purposes."

- Ryan Magnussen, Alberta Pain Strategy Patient Advisor

Foreword: History of the Alberta Pain Strategy

In 2015, the Pain Society of Alberta (PSA) created a pain strategy document that advocated for accessible, high-quality chronic pain management in our province. Written by Robert Hauptman and edited by Lisa Devos, it was a major step forward in thinking about standards in chronic pain treatment on a provincial scale.

In 2016, Flo Slomp was a task-force planning member for an upcoming International Year of Excellence sponsored by the Pain Education Special Interest Group of the International Association for the Study of Pain. She saw that crucial information would likely never reach clinicians and patients. With her colleague, Keith King, she formed the Alberta Pain Collaborative (APC) that brought together healthcare providers across the province interested in changing clinical practice through pain education.

In October 2017, at the PSA Annual Meeting in Jasper, Alberta, a new provincial pain strategy effort was launched, building on the previous work from 2015. A group of thirty healthcare professionals highlighted key priorities and opportunities for pain management. There was enthusiasm but also uncertainty if this endeavour would gain traction and effectuate large-scale change.

The breakthrough occurred in November 2017, when Tracy Wasylak, Chief Program Officer, Alberta Health Services (AHS) representing the Strategic Clinical Networks™ (SCNs) was consulted for her expertise. She had successfully worked on projects of this scale before and arranged a meeting that brought together all three groups: PSA, APC, and SCNs/AHS. It was this partnership that galvanized the collective interests and efforts to improve pain outcomes for Albertans. With this goal in mind, what would become known as the Alberta Pain Strategy 2019-2024 was born.

The following month, a province-wide Telehealth meeting brought perspectives from a wide range of stakeholders. Thanks to the commitment of resources from AHS, dedicated staff began broad consultation and organized the Strategy into sections. An in-person meeting in Red Deer united seventy healthcare professionals to identify the vision, mission, and goals of the ultimate document.

The Strategy was divided into three key working groups, each with two co-chairs. Acute pain, led by James Green and Nivez Rasic; Chronic pain, led by Danielle Douchet and Lori Montgomery; and Opioid Use in Pain Management, led by Saifee Rashiq and Robert Tanguay. From across Alberta, communities small and large are represented and contributing. The AHS planning team of Shannon Erfle, Tracey Geyer, Nicki Kirlin, and Susan Sobey-Fawcett has inspired everyone by constantly moving this huge project forward.

At the present moment, over one million Albertans are dealing with acute or chronic pain, and the entire province is facing the challenge of the opioid crisis. The Alberta Pain Strategy 2019-2024 is a timely document of critical importance to drive improvements in pain outcomes for Albertans. On behalf of my esteemed Co-Chair, Tracy Wasylak, and the entire team, I thank you for reading it.

John Pereira
Co-Chair, Alberta Pain Strategy
President, Pain Society of Alberta

Contributors

In order to successfully achieve excellence in pain management, we must collaborate across a variety of stakeholder groups. The development of this strategic plan was a joint effort of a large group of stakeholders across Alberta, including but not limited to:

- Alberta Health Services
- Pain Society of Alberta
- Individuals who hold academic appointments at Alberta's academic institutions
- Patient Groups
- Alberta Health
- Health Quality Council of Alberta (HQCA)
- Primary Care Networks (PCNs)
- Alberta Bone & Joint Health Institute
- Alberta College of Family Physicians (ACFP)
- College of Physicians & Surgeons of Alberta (CPSA)
- Alberta Medical Association (AMA)
- Physiotherapy Alberta
- Psychologists Association of Alberta (PAA)
- Health Canada Alberta Region
- College and Association of Registered Nurses of Alberta (CARNA)
- College of Licensed Practical Nurses of Alberta (CLPNA)
- Alberta Pharmacist's Association

In total, 25 patient and family representatives contributed to the development of the Strategy, as both working group members and survey respondents. Special thanks to our five dedicated patient advisors whose invaluable stories have shaped the Strategy, and who have committed to actively participating on our working groups and helping move this important work forward.

Please see Appendix A for a complete list of individual members and representations on our various committees.

Supporting Organizations

The below organizations have all endorsed the Strategy.

Alberta College of Family Physicians

College of Physicians & Surgeons of Alberta

Section of Chronic Pain

Alberta Bone & Joint Health Institute

Alberta Society of Radiologists

HQCA Health Quality Council of Alberta

Campus Alberta Neuroscience

SAOT Society of Alberta Occupational Therapists

College of Licensed Practical Nurses of Alberta

Clinical Neuro Sciences Calgary Canada

University of Alberta Faculty of Pharmacy and Pharmaceutical Sciences

PPAA Psychologists' Association of Alberta — Understanding People Working Together

University of Lethbridge — Faculty of Health Sciences

University of Alberta Faculty of Rehabilitation Medicine

University of Alberta Faculty of Kinesiology, Sport, and Recreation

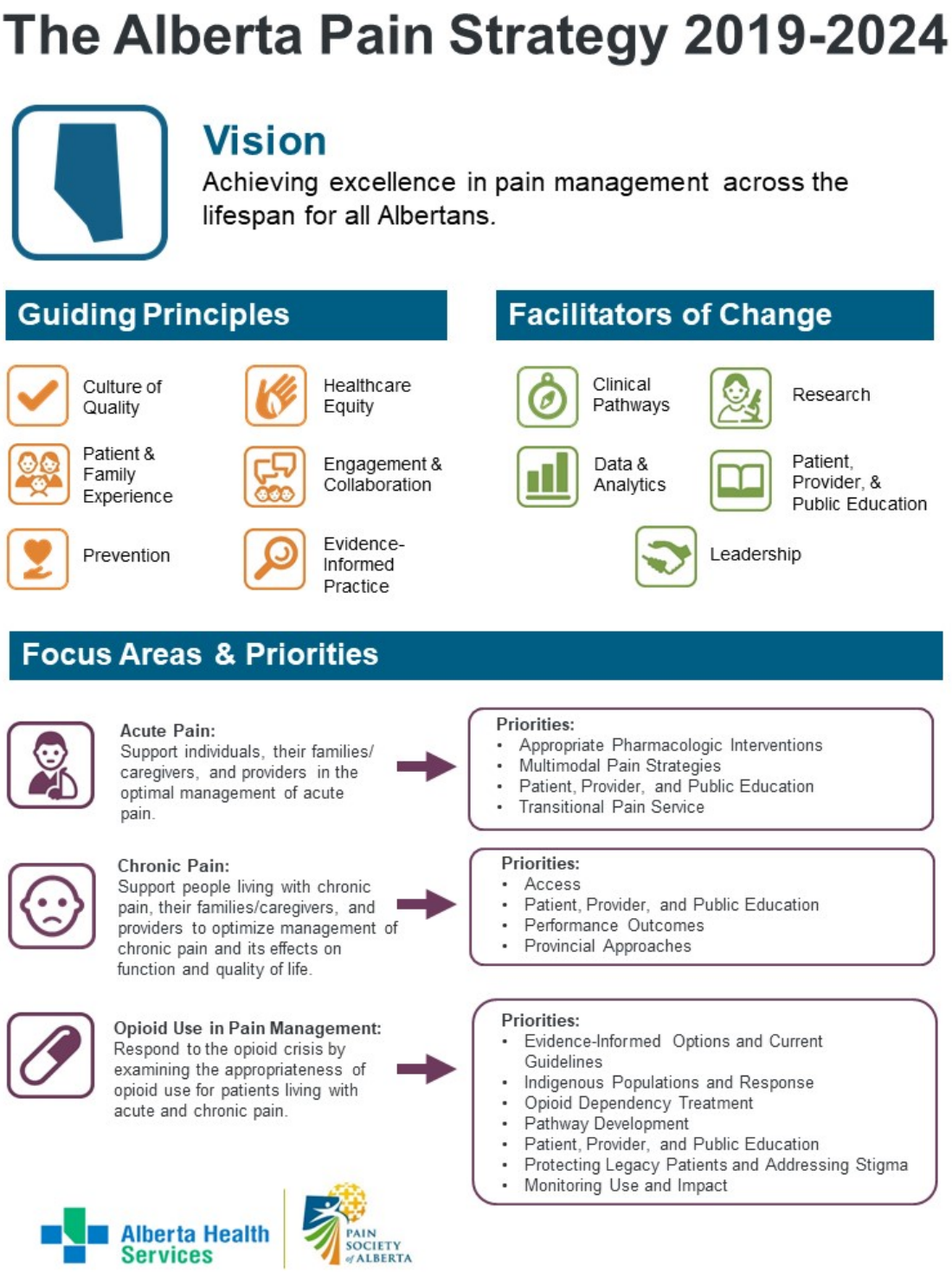
University of Calgary Faculty of Arts Department of Psychology

University of Alberta Integrative Health Institute

University of Calgary Faculty of Nursing

University of Calgary Faculty of Graduate Studies

Strategy Overview



Introduction

Pain is something that most people prefer not to experience. However, at its root, pain serves as a protective mechanism to the person experiencing it. It does this in two ways:

1) Through memory of painful experiences, we are reminded about what harmful things to avoid.
2) The onset of new pain often leads a person to seek healthcare in order to have the cause of the pain diagnosed, and then have the pain and its underlying cause treated.

Apart from those protective purposes, pain can become a problem and deserves expert intervention and the utmost attention of the healthcare system in order to prevent, minimize, or manage it. Pain is considered a problem when:

- Pain intensity or duration results in suffering.
- Acute pain is untreated.
- The source of the pain (exactly where in the body it arises from, and how it is generated) is undiagnosed.
- Pain that is significant to the patient is not adequately treated.
- Acute pain transitions to chronic pain, potentially affecting physical, psychological, and social functioning.
- Pain treatment itself results in further harm.
- Diagnostic tests or medical interventions cause new, predictable acute pain.

Pain places substantial physical, emotional, psychological, and financial burden on individuals living with pain and their families and substantially impacts the health system. Every day, Albertans seek help to deal with their pain, whether it is in emergency departments, inpatient care, primary care offices, specialist clinics, rehabilitation services, pharmacies, or with alternative care providers.

Several national and provincial bodies have started to pay attention to this high demand for pain-related healthcare services. Work completed by Pain Australia including their National Pain Strategy, as well as efforts in both British Columbia and Saskatchewan, suggest that a provincial approach to pain in Alberta is a timely effort. It is apparent that there is important work underway across the province related to pain, and an opportunity to build this into an overarching strategy. To that end, a large multi-stakeholder group of passionate individuals have come together to create the Strategy and outline a coordinated, provincial approach for managing pain across the lifespan in Alberta.

We have oriented this document to be patient and family centred, progressive, and based on a team approach to care. Therefore, patients and their families/caregivers are central to all the work outlined throughout the Strategy. Working collaboratively, we will create an environment where Albertans feel supported as they navigate the healthcare system. At the same time, healthcare providers will be better equipped to diagnose and address the complex needs of their patients.

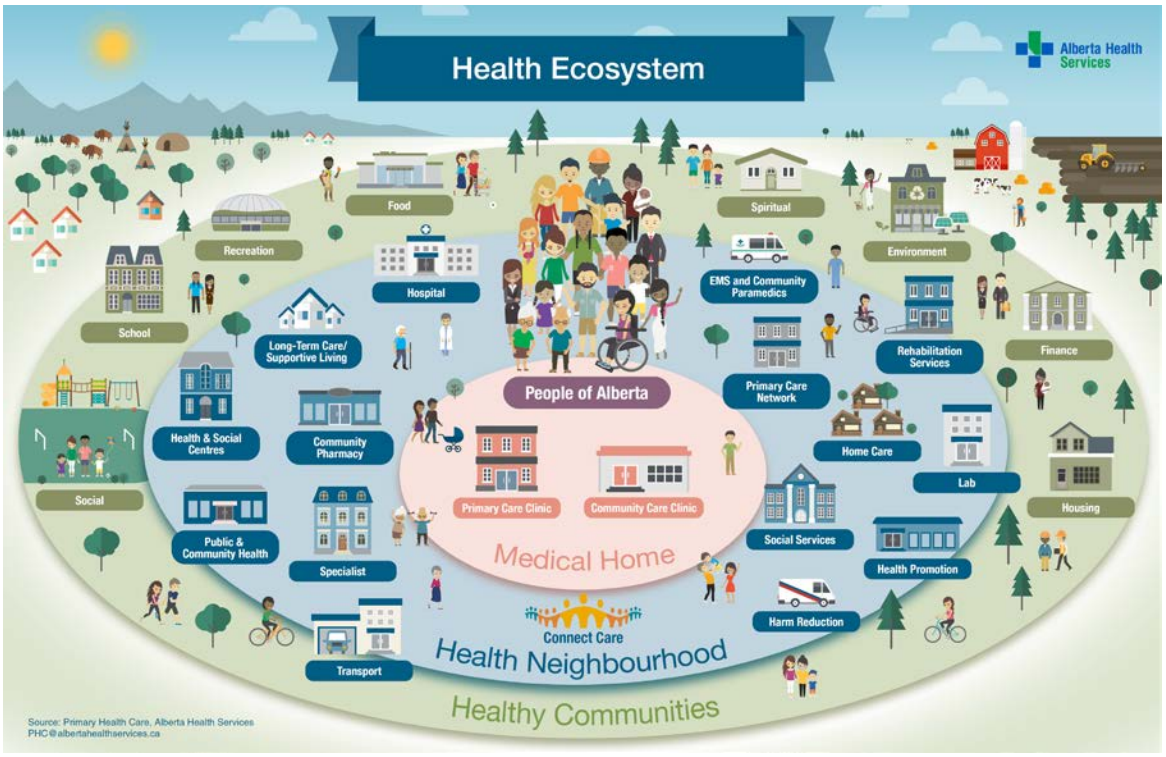


Figure 1: Our ideal health ecosystem demonstrating the concept of the Medical Home at the centre.

We know that continuity of care is provided when the patient's Medical Home (Figure 1), most commonly their family physician's office, is where the patient feels most comfortable to discuss their personal and family health concerns. Primary Care Networks and other family physician clinics across Alberta work to enhance the Medical Home and bring primary healthcare to all Albertans.

There are many benefits of the concept of the Medical Home, such as:

- Providers can take advantage of the subject matter expertise of other healthcare professionals in the effort to create comprehensive medical home environment.
- Patients are active, engaged, and collaborate with their healthcare teams.
- Care is higher quality and more equitable.
- It incorporates a chronic care model that highlights positive effects on chronic disease outcomes.
- Access to information and opportunities for collaboration allows patients to make better and more informed choices.
- There are improved outcomes that lead to:
    - reduced ED visits
    - reduced inpatient admissions
    - increased patient satisfaction
    - better access to services (Toward Optimized Practice, 2017).

With a focus on community-based primary care services, the concept of the Medical Home allows Albertans to be supported to get the care and social supports they need in the communities where they live.

There are a number of other elements embedded within the Strategy (see Figure 2), that we are committed to using throughout the work outlined in this document.

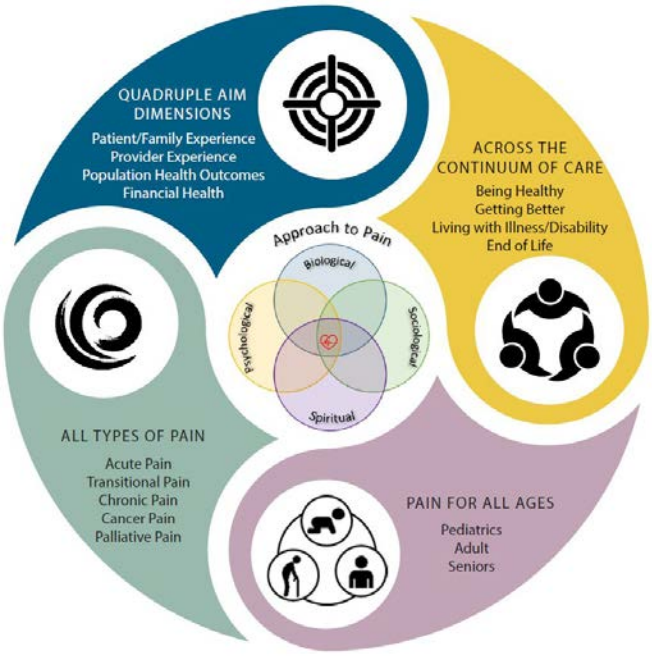


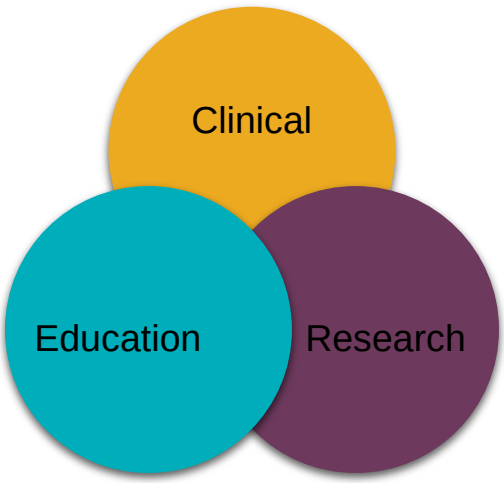
Figure 2: Elements included within the Alberta Pain Strategy.

We are shifting away from the traditional medical model of pain assessment and treatment and instead are looking at the whole-person using a modified biopsychosocial model. This model considers the biological or physiological, the psychological, and sociological aspects of a person's health. While not incorporated within the traditional biopsychosocial model, we also recognize that the spiritual aspect of health is important to many, and as such, we will be incorporating this element into our approach for pain management, and referring to it throughout the Strategy as a modified biopsychosocial model. We understand the complexity of pain and that the approach to pain management will differ based on the type of pain as well as the illness trajectory. As such, we recognize an accurate diagnosis is important, in conjunction with a careful explanation of pain, and the need for an interdisciplinary team approach and evidence-informed treatments.

Figure 2 also shows that we are looking at pain across the lifespan, from birth through to end of life, and covering all types of pain, which are outlined in more detail in the Types of Pain section below. We are also looking at pain across the continuum of care, as defined by the HQCA. This encompasses four areas of need, which divides the range of services provided by the health system into four distinct, but related, categories. These categories are:

- Being Healthy – achieving health and preventing occurrence of injuries, illness, chronic conditions, and resulting disabilities.
- Getting Better – care related to acute illness or injury.
- Living with Illness/Disability – care and support related to chronic or recurrent illness or disability.
- End of Life – care and support that aims to relieve suffering and improve the quality of living with or dying from advanced illness or bereavement.

The Strategy is also built upon the use of the Quadruple Aim approach. The Quadruple Aim (based on the Institute for Healthcare Improvement's (IHI) Triple Aim) has been adopted by AHS and many other healthcare organizations to help us become an innovative, high performing, learning healthcare organization (Institute for Healthcare Improvement (IHI), 2018). While the Triple Aim approach assesses a health system's performance based on three areas: improving the health of populations, enhancing the experiences of patients, and reducing the per capita cost of healthcare, the Quadruple Aim adds a fourth area that captures the importance of provider experience (Bodenheimer & Sinsky, 2014; Sherwood, 2013).



Finally, the Strategy's success needs to consider the relationships among clinical care, education (patient, provider, and public) and research. These elements, outlined in Figure 3, are woven throughout the priorities summarized in the Strategy.

Figure 3: The Strategy requires collaboration between clinical, education, and research.

Figure 4: Almost 70 attendees from across the province participated in a multi-stakeholder meeting for the Alberta Pain Strategy on April 23, 2018 in Red Deer.

Development of the Alberta Pain Strategy

The development of the Alberta Pain Strategy was a joint effort of a multi-stakeholder group from across Alberta. Patient and family representatives from across the province have been involved throughout the process, and their stories have been particularly valuable in helping to shape the relevance and importance of this work. Other contributions include, but are not limited to: chiropractors, community partners, dentists, government, health administrators, nurses, nurse practitioners, occupational therapists, paramedics, pharmacists, physiotherapists, primary care physicians, private clinicians, professors, psychologists, radiologists, regulatory authorities, researchers, specialty care physicians, and surgeons. Overall, more than 360 individuals from across Alberta contributed to the development of the Strategy. An overview of the process taken to develop this document is shown in Figure 5.

Figure 5: Alberta Pain Strategy Strategic Planning Process.

Types of Pain

Throughout the Strategy, we have incorporated all types of pain. This includes:

- Acute pain - pain of recent onset and short duration that is usually due to injury or disease.
- Chronic pain - pain that lasts or recurs for longer than 3-6 months. It is also known as persistent pain. We have chosen to use the term most frequently used in the literature.
- Transitional pain - pain that transitions from acute to chronic.
- Cancer-related pain - a common complication of cancer that may be a result of the disease itself or due to treatment.
- Pain related to a palliative illness, condition, or disease.

Acute Pain

Acute pain is a pain of recent onset and probable limited duration that usually has an identifiable temporal and causal relationship to injury or disease (Ready LB, 1992). Effective management of acute pain requires treatment of the underlying condition causing the pain, and at times also requires symptomatic treatment of the pain using multimodal pain management strategies.

In contrast, chronic pain lasts beyond the ordinary duration of time that an insult or injury to the body needs to heal (Adler, 2000). However, acute and chronic pain are not separate entities, but in fact, exist along a continuum. Both acute and chronic pain often include physical, psychosocial, and spiritual elements that results in each individual's unique pain experience.

"Chronic pain destroys lives, families, relationships, careers, and economic well-being. It took me ten years to go from a life dominated by pain to living a full and productive life.
Some clinicians discounted me, others were supportive but unable to provide treatments and strategies for living a life with chronic pain.
Through pure luck, I found a clinician with deep knowledge and understanding of chronic pain. She set me on a journey to where I am today.
I believe we can do better for Albertans. Hopefully the Alberta Pain Strategy and Action Plan will lead to early identification of people vulnerable to slipping into chronic pain, as well as better treatment and life strategies for people living with chronic pain."

- Miriam Novlan, Alberta Pain Strategy Patient Advisor

Chronic Pain

Definitions of chronic pain vary, but most sources have traditionally described it as pain lasting beyond the expected time for healing (Bonica, 1953), or alternatively, pain that lasts or recurs for more than 3-6 months (Merskey & Bogduk, 1994). This is admittedly a broad definition, and recently, some have argued that the term “persistent pain” may be more meaningful to patients (Kennedy, Roll, Schraudner, Murphy, & McPherson, 2014). There is considerable debate about whether the term “persistent pain” offers a more hopeful perspective to those suffering from the condition, or whether in fact it excludes people who are disabled by pain that is not constant. Pending consensus among pain experts, we have chosen to use the term “chronic pain” throughout the Strategy to refer to those who suffer pain lasting beyond the period of acute injury or illness.

Transitional Pain

Acute pain associated with surgery, trauma and other conditions can result in adverse outcomes, including the risk of progression from acute to chronic pain. Strategies for the improved management of acute pain and early recognition of patients at risk of developing chronic pain offers important opportunities for prevention and decreasing the prevalence of chronic pain. There are considerable improvements to be made through prevention, education, community awareness, early intervention, and better access to pain management services (Breivik & Stubhaug, 2008; Pöpping et al., 2008).

The transition from acute to chronic pain is best understood as a process. It is complex and involves biological, psychological, and social factors. Acute pain is present during the period of tissue healing and is self-limited; whereas, chronic pain is present even when tissue healing is complete. This transition occurs sometime after the initial injury or acute pain event, but is variable depending on the individual. There is a window of opportunity during this transition phase to intervene with appropriate diagnostic and treatment strategies to prevent the transition from acute to chronic pain. In the context of surgery, the following are all used to prevent chronic pain:

- Optimizing patient care preoperatively, including physically, psychologically, and pharmacologically.
- Focusing on patient education pre and postoperatively.
- Multimodal pharmacological strategies.
- Regional anesthesia.
- Procedure-specific postoperative pain management.
- Psychological strategies and early rehabilitation.
- Modified surgical techniques.
- Enhanced postoperative recovery programs (Shipton, 2014b).

Cancer-related Pain

Cancer-related pain is a unique type of pain in that it intersects with all other types of pain. Portenoy and Ahmed (2018) define cancer-related pain in the following categories:

- acute cancer-related pain (e.g. tumour-related, antineoplastic therapy-related, radiation-therapy related, surgery-related)
- chronic cancer-related pain (e.g. tumour-related bone pain, tumour-related soft tissue pain, tumour-related visceral pain, cranial neuralgias, plexopathies, radiculopathies, neuropathies, chemotherapy-related, surgery-related, radiation-related, hormonal-therapy related)
- non-cancer related pain (e.g. acute muscular-skeletal pain syndromes, minor dental or diagnostic procedures, chronic non-malignant pain, nociplastic pain, chronic pain in cancer survivors).

van den Beuken-van et al (2016) found that 38% of all cancer patients experience moderate to severe pain, and these figures increase to over 65% in those with advanced or terminal illness. In a systematic review, Greco et al (2014) showed that approximately one third of cancer patients still do not receive pain medication proportional to their reported pain intensity.

Pain that persists for months or years in patients who are free of cancer after treatment, or who are living with cancer as a chronic illness, must also be appropriately managed. This may require both pharmacological and non-pharmacological modalities, and interdisciplinary team involvement, including but not limited to physical medicine and rehabilitation, integrative therapies, interventional therapies, psychological approaches and neurostimulatory therapies (Paice et al., 2016). The goals of treatment for chronic pain in cancer survivors prioritizes patient functioning over comfort, and limits the long-term adverse effects of pain and its treatment.

Pain Related to a Palliative Illness, Condition, or Disease

Palliative and End-of-Life Care (PEOLC) is a continuum of care from the time of diagnosis of a life-limiting illness through to the time of death and into bereavement. A palliative approach to care can occur simultaneously with a curative approach or during treatment (Alberta Health Services, 2014). Many patients with serious, life limiting illnesses (such as cancer, dementia, heart disease and kidney failure) would benefit from a palliative approach to care that starts at the time of their diagnosis. In Alberta, individuals with a life-limiting and/or life-threatening illness may receive integrated and coordinated PEOLC across the continuum (Alberta Health Services, 2014). Given the evidence that early integration of palliative care into the disease trajectory can result in improvements in quality of life and symptom control (Kaasa et al., 2018), Alberta patients who receive palliative care may present with one or more types of pain, and are not restricted to the end of life.

The Burden of Pain

Overview

Pain is the most common reason for seeking healthcare services. It considerably affects the personal, family, and economic lives of Albertans (Tick et al., 2018). Activities of daily living, quality of life, and productivity are greatly affected, and it is the most common reason for seeking healthcare services. The health system is also impacted as people frequent emergency departments, inpatient care, family physicians, specialists, and rehabilitation therapists looking for answers to understand and manage their pain. For instance, Todd et al. (2007) found it to be the presenting complaint for up to 78% of visits to the emergency department. It is expected to become an increasingly substantial problem, with population demographics related to aging and chronicity continuing to change the health landscape in Alberta and worldwide.

Did you know?

Pain is the most common reason for seeking healthcare and is the presenting complaint in up to 78% of emergency department visits (Todd et al., 2007).

The experience of pain is unique to each person. It involves multiple dimensions, including physical, psychological, social, emotional, and spiritual and is frequently modified by contextual factors. As such, pain is extremely complicated, and this complexity leaves healthcare providers challenged when trying to assess and manage pain in their patients.

Acute Pain

Acute pain is highly prevalent, with many different causes. In a hospital setting, both medical (25%) and surgical (80%) patients will experience at least one episode of moderate to severe pain throughout the course of their treatment (Apfelbaum, Chen, Mehta, & Gan, 2003; Dix, Sandhar, Murdoch, & MacIntyre, 2004). It is widely accepted that acute pain is under recognized and sub-optimally managed for many patients (Fletcher, Fermanian, Mardaye, & Aegerter, 2008; Gan, 2017) and that this can increase the risk of developing chronic pain (Canadian Pain Society, 2010; Lavand'homme, 2011; Reardon, Anger, & Szumita, 2015). Events like trauma, surgery, herpes zoster infection, and back injuries can all be associated with severe acute pain, and a high risk of developing chronic pain (Itz, Geurts, Van Kleef, & Nelemans, 2013; McGreevy, Bottros, & Raja, 2011).

Chronic post-surgical pain is widely reported to occur in 10-30% of surgical patients, depending on the surgical procedure and other physical, psychological, social, and spiritual factors. Incidence has been reported to be as high as 40% in thoracic surgery and as high as 50% following lower limb amputations and cardiac surgery (Kehlet, Jensen, & Woolf, 2006). The incidence of severely disabling chronic pain is less common and reported to be between 2 and 10% (Bruce J & Quinlan J, 2011; Kehlet, Jensen, & Woolf, 2006).

Other surgery-related statistics include:

- Twenty percent of adolescents develop chronic pain following major surgery (Rabbitts, Fisher, Rosenbloom, & Palermo, 2017).
- 1 in 10 patients continue to report pain after cardiac surgery two years later, 4% of whom describe the pain as moderate to severe (Choinière et al., 2014).
- 9.2% of patients on waitlists for treatment at Canadian pain clinics identify surgery as the cause of their chronic pain (Choinière et al., 2010).
- According to Brummett et al. (2017), the incidence of new persistent opioid use after surgical procedures is 5.9 to 6.5% in the adult population (age 18-64) and did not differ between major and minor surgical procedures.

If inadequately treated, pain can have many other harmful effects, including:

- Increased stress and inflammation affecting many body systems, compromised immune function, and impaired healing with increased morbidity and mortality following surgery (Carli F & Schricker T, 2008; Liu & Wu, 2008).
- Poorer psychological function, including anxiety, catastrophizing, and poorer self-efficacy (Hinrichs-Rocker et al., 2009; Theunissen, Peters, Bruce, Gramke, & Marcus, 2012).
- Increased risk of postoperative complications such as infection, hyperglycemia, insulin resistance, and poor patient comfort and satisfaction (Reardon, Anger, & Szumita, 2015).

Uncontrolled acute pain also complicates recovery. Unrelieved pain after surgery or injury results in more complications, longer hospital stays, greater disability, and potentially long-term pain (Canadian Pain Society, 2010). In 2017-2018, Albertans underwent 290,648 surgeries (Alberta Health Services, 2018). With many of these patients experiencing poorly controlled pain, it is essential that pain is appropriately treated to limit these harmful effects and complications.

"As an advocate for chronic pain patients, a patient myself, mother and grandmother, I believe that the future for everyone who suffers with pain can be more secure and hopeful through actions today, like this pain strategy. It is important for me to participate because we are not just talking about a change in the provincial approach to management of this disease, we are talking about the lives and wellbeing of myself, current and future chronic pain patients."

- Tracy Fossum, Patient Advisor, Chronic Pain and Opioid Use in Pain Management Working Groups

Chronic Pain

Chronic pain is considered a leading cause of morbidity and disability across the world, with large recent increases in both the number of individuals affected and years lost to disability (Rice, Smith, & Blyth, 2016). According to results from the 2011-2012 Statistics Canada Canadian Community Health Survey, 22% of Canadians aged 18 or older experience chronic pain (Statistics Canada, 2012). A study by Schopflocher, Taenzer, & Jovey (2011) found similar results, estimating 19% of the Canadian population (approximately six million people) to have chronic pain. The prevalence of chronic pain increases with age, with one in three seniors (age 65+) struggling from chronic pain (Rice, Smith, & Blyth, 2016). It was also higher among people in households where the level of educational attainment was low and among the Aboriginal population (Ramage-Morin & Gilmour, 2010).

Did you know?

Approximately 1 in 5 Canadians suffer from chronic pain, costing over $7 billion/year in direct healthcare costs every year (Hogan, Taddio, Katz, Shah, & Krahn, 2016).

Although progress in the understanding of chronic pain and its management has been made, we do not currently have a standardized approach to care for Albertans who struggle from chronic pain. The above information clearly demonstrates the urgency to address this problem. Chronic pain is also misunderstood, and a public education campaign is essential to promote awareness and understanding of a condition that, while often invisible, is real and widespread.

Financial Burden

Gaskin & Richard (2012) estimated that the total annual cost of chronic pain in adults in the United States is at least $560 billion, which includes both direct healthcare costs ($261-300 billion) and cost of lower worker productivity ($299-335 billion). This total annual cost was found to be more than cancer ($243 billion), heart disease ($309 billion), or diabetes ($188 billion) (Gaskin DJ & Richard P, 2012). Examining the pediatric population, Groenewald, Wright & Palermo (2015) found that in American patient's age 6-17 years old, pediatric pain-related conditions were associated with $11.8 billion in total incremental healthcare expenditures. These costs were comparable to healthcare expenditures associated with attention deficit and hyperactivity disorder ($9.23 billion), but more than those associated with asthma ($5.35 billion) and obesity ($0.73 billion).

A recent study examining the economic burden of chronic pain in Canada estimated the weighted annual direct cost to manage chronic pain across Canada is $7.2 billion (Hogan et al., 2016). The majority of these costs (70%) are attributed to adults aged 18 to 64 years, 28% is spent by older adults aged 65+ years, and 2% by adolescents aged 12 to 17 years. This study examined publicly funded healthcare costs, and this figure does not include out of pocket expenses or indirect costs such as lost productivity (Hogan et al., 2016).

Research Funding

Pain research is also under-funded in Canada. In a 2008 survey of all known pain researchers (both basic science and clinical research), the Canadian Pain Society found that from 2003-2008, Canadian pain researchers received approximately $80.9 million in funding, with 53% being funded by the Canadian Institute for Health Research (CIHR), and the remaining being funded from other sources (provincial, universities, pharmaceuticals, hospitals, etc.). This accounts for approximately 1.1% of all CIHR funding during this time frame (Lynch, Schopflocher, Taenzer, & Sinclair, 2009).

Opioid Use in Treating Pain

In North America, opioid prescribing—including morphine, oxycodone, hydromorphone, and fentanyl—is commonly used to treat both acute and chronic pain. According to the Canadian Institute for Healthcare Information (CIHI), Alberta has one of the highest opioid prescribing rates in the country, so special attention to opioid use within the Strategy is warranted (Canadian Institute for Health Information, 2017b).

What is challenging for clinicians today in the era of heightened awareness of opioid use disorder, is that there may be patients who would benefit from opioid use. These include patients with cancer-related pain and those patients on a palliative approach to care. In both of these cases, after careful weighing of benefits versus risks, it may be appropriate to prescribe opioids due to possible benefits on quality of life and function. However, due to the current opioid crisis, barriers may be placed on opioid prescriptions for these patients, with some Alberta physicians choosing not to prescribe opioids for anyone and others not wanting to continue opioid use for patients who would benefit from the prescription, even if the opioids were started by pain or palliative specialists. Given the high prevalence and significant burden of pain in cancer patients and those on a palliative approach to care, and the large proportion of patients receiving inadequate pain management, it is important to address the barriers to accessing effective pain treatment for those patients who would benefit.

While the use of opioids may be an effective treatment for some (e.g. short term post-surgical pain, cancer-related pain, in some patients on a palliative approach to care, patients who are not responsive to non-pharmacological options, etc), the use of opioids to treat acute pain can also lead to chronic opioid use. Brummett et al (2017) observed persistent opioid use rates ranging between 5.9-6.5% in adults aged 18-64 who underwent surgery and had not used opioids in the year prior to surgery. This risk seems to be lower in the elderly population (Soneji,

Clarke, Ko, & Wijeysundera, 2016), but represents one of the most common complications after elective surgery in the adult population (Brummett CM et al., 2017).

Studies also show overprescribing of opioids post-surgery (Bartels et al., 2016; Hill, McMahon, Stucke, & Barth, 2017; Saini et al., 2018) leads to increased access and diversion of opioids, while clearly not focusing on the individual. Although Sekhri et al. (2018) did not find a correlation between the probability of prescription refills for opioids after surgery to initial prescription quantity at discharge from hospital, they did observe that opioid naïve patients (those who had not filled a prescription for an opioid medication within the 12 months prior) with psychosocial factors such as anxiety, mood, alcohol or substance abuse disorders, and chronic pain conditions were more likely to refill prescriptions post-surgery, suggesting the need to tailor opioid prescriptions to individual patient-specific factors. Access to a modified biopsychosocial approach to pain is as important to acute and perioperative pain as in chronic pain.

Chronic opioid use continues across Canada, despite limited long-term efficacy for many patients, due, in part, to development of tolerance (Garland, 2014). Long-term opioid use can cause many adverse physical effects, such as sedation, constipation, dizziness, nausea, vomiting, physical dependence, respiratory depression, bone density loss, and change in hormone production. While some of these effects are temporary and some go away once the opioid is stopped, some require further treatment, some are irreversible despite treatment, and some can kill (Benyamin et al., 2008).

Due to the increased attention of the current opioid crisis, there is growing awareness of the risks associated with opioids, and the overall amount of opioids Canadians are being prescribed may be slowly decreasing (Canadian Institute for Health Information, 2017b). Nationally, both the number of prescriptions and the amounts of opioids prescribed decreased between 2012 and 2017, and in Alberta in 2017, the defined daily dose (DDD) per 1000 population was 6,964, down 12% from 2016, a sizeable decrease in only a year (Canadian Institute for Health Information, 2018a). Yet in large population data in the U.S., recent reports have found that despite an increased focus on the opioid epidemic, this decrease in opioid use seems to be the result of a small percentage of high-dose opioid users having their dosage decreased, rather than an overall reduction in opioid prescribing (Jeffery et al., 2018). Tehrani, Henke, Ali, Mutter and Mark (2018) found higher dispensing of days' supply for all opioids outside of morphine, with the highest being oxycodone. The concern of the opioid crisis has been placed on the 5% of the population consuming 59% of the opioid supply. This suggests that further education for prescribing of opioids is needed in emergency departments, walk-in clinics, surgery, and primary care as well as with chronic pain providers.

While it is difficult to determine the contribution of prescription opioids compared to illicitly acquired opioids, it is clear that a large number of Canadians are affected. A 2015 Statistics Canada survey found that 3.8 million Canadians over the age of 15 (13% of the total population) reported using opioid pain relievers in the past year, with 2% (83,000 people) reported misusing them, and these statistics have dramatically increased in the past few years (Government of Canada, 2017). According to a 2017 CIHI report, the rate of hospitalizations due to opioid poisoning in Canada increased by 53% between 2007-08 and 2016-17, with a current average of 16 hospitalizations a day (Canadian Institute for Health Information, 2017a). There were 3,987 apparent opioid-related deaths in Canada in 2017; 92% were unintentional (Government of Canada, 2018).

Opioid Crisis at a Glance

- On average, two individuals die every day in Alberta as a result of an apparent accidental opioid overdose (Government of Alberta, 2018a).

- Among apparent accidental poisoning deaths related specifically to fentanyl, some of the most frequently accessed healthcare services within 30 days before the individual's date of death were mental health services (23%), substance abuse services (21%), opioids dispensed from a community pharmacy (18%), emerency department visits related to substance misuse (16%), and pain related services (5%) (Government of Alberta, 2018b).

- Among all confirmed drug and alcohol poisoning deaths (accidental and suicide) in 2017 and the first half of 2018, opioids (fentanyl or non-fentanyl) were directly involved in 78% of deaths (Government of Alberta, 2018b).

- Within 30 days prior to death, 35% of Non-First Nations people had an opioid dispensed from a community pharmacy and died from an apparent accidental opioid toxicity. However, the rate of opioid dispensing from community pharmacies has consistently been approximately two times higher among First Nations people compared to Non-First Nations people (Government of Alberta, 2017).

- The number of opioid poisoning hospitalizations in Canada rose from 3,344 in 2007-08 to 5,670 in 2016-17, with nearly half of that increase occurring over the last three years. This equates to a rate of 15.6 opioid poisoning hospitalizations per 100,000 population in 2016-17. The rate is considerably higher in Alberta at 23.1 and is the third highest in the country after the three territories (grouped together) and British Columbia (Canadian Institute for Health Information, 2017a).

- According to government data on hospitalizations related to opioid use and other substances of misuse, the average rate of hospitalizations among First Nations people was more than 5 times higher than the rate among non-First Nations people (Government of Alberta, 2017).

- The rate of emergency department visits related to opioid use and substance misuse increased by 97.9% from January 1, 2014 to December 31, 2017. From the third quarter of 2017 to the fourth quarter of 2017, the rate decreased by 9.3% (Government of Alberta, 2018b).
- In the first quarter of 2018, there were 2,830 emergency and urgent care visits related to opioids and other substances of misuse by 2,360 unique individuals, of whom 14 per cent had more than one visit (Government of Alberta, 2018a).
- In Alberta, 6,964 defined daily doses per 1,000 population for the top six opioids were prescribed in 2017, representing a 12% decrease from 2016. This represents the first time Canada has seen a decline in overall opioid prescriptions since 2012 (Canadian Institute for Health Information, 2018a).
- The Minister's Opioid Emergency Response Commission (MOERC) was created in Alberta in May 2017 to oversee and implement urgent coordinated actions on the opioid crisis and has developed a number of initiatives which are incorporated in this document.

The substantial impact on people and the burden that opioid misuse has placed on our healthcare system has resulted in focused efforts to identify key factors contributing to the epidemic and address the unmet treatment needs of patients with opioid use disorder. Although reporting rates are low, when studies focus on the diagnosis of opioid use disorder in those on chronic opioid therapy, the numbers significantly increase, with rates as high as 20-25% (Banta-Green, Merrill, Doyle, Boudreau, & Calsyn, 2009; Boscarino et al., 2010). This furthers the difficulty of understanding the opioid crisis and treatment of those with pain and addictions.

As suggested above, the crisis with opioids is two-fold: prescription and illicit usage. Although there is a relationship between them, they require different approaches to the assessment of the problem and the solutions that are applied. The main challenges of the prescription opioid crisis are continued high rates of opioid prescribing and limited pain education for both the public and healthcare professionals. In hospital, we can improve the provision of adequate pain and withdrawal management (evidence-informed tapering practices, multimodal techniques, etc.) to reduce the risk of subsequent addiction and to prevent patients leaving against medical advice and presenting for costly readmissions.

Special Considerations across the Lifespan

Alberta is socially and economically diverse, composed of different cultures, different population structures, and unique health needs requiring tailored approaches to healthcare service delivery. Acknowledging that 'no one size fits all," the Strategy has included special considerations across the lifespan to ensure that complex socioeconomic, cultural, and political factors are considered in the assessment, treatment, and management of pain.

Pediatric Pain

Introduction
Age and developmental stage need to be considered in the management of acute pain. Infants, children, and seniors have needs that are different from an adult population. The application of evidence-informed acute pain standards across the province is fragmented and can result in suboptimal experiences for individual patients.

Optimal management of pain in children is important as early experiences with pain can lead to short- and long-term adverse outcomes. Like adults, children with acute pain are at risk of developing chronic pain, and adolescents with pain are more likely to become adults with chronic pain (Fearon & Hotopf, 2001; King et al., 2011; von Baeyer, 2011). This is an urgent public health concern given that 1 in 4 youth in Canada have chronic pain (Stanford, Chambers, Biesanz, & Chen, 2008), and if left untreated, two thirds of youth with chronic pain will become adults with chronic pain (Walker, Sherman, Bruehl, Garber, & Smith, 2012).
Pain problems in childhood and adolescence are often comorbid with internalizing mental health issues (anxiety, depression, post-traumatic stress, etc.) of youth and their parents (Noel et al., 2016; Vinall, Pavlova, Asmundson, Rasic, & Noel, 2016), which is linked to worse outcomes over time. Moreover, parental anxiety in the context of children undergoing acute procedural pain (e.g., needles, surgeries) is one of the most powerful predictors of pain outcomes in the short- and long-term. These issues can lead to disability and an overall decreased quality of life for the youth, including: difficulty attending school, being physically active, and maintaining social and family relationships (Huguet & Miró, 2008; Palermo, 2000; Ramage-Morin & Gilmour, 2010). Fortunately, early intervention can result in an improved trajectory and better outcomes for the child and adolescent. In turn, this may lead to improved academic performance and self-esteem, increased employment potential, and reduced disability. Learning coping strategies early in life through effective pain management may be helpful when faced with adversity later in life (Pain Australia, 2011). The problem is, many of the effective, evidence-informed treatments for acute and chronic pediatric pain are not implemented in clinical practice nor received by the children (and families) who need it.

Acute Pain

Children suffer daily from acute injury and illness. As previously mentioned, pain is one of the most common reasons for visiting the emergency department and accounts for up to 80% of visits in North America (Todd et al., 2007). Expeditious and effective pain care improves patient and caregiver satisfaction, decreases the 'wind-up' phenomenon of untreated pain, and decreases likelihood of litigation (Drendel & Ali, 2017).

Further, surgeries and medical procedures are known causes of acute pain in children. Surgeries during childhood and adolescence are common. Millions of youth undergo surgery each year. It is estimated that over 20,000 children in Alberta have surgery per year, constituting approximately 7% of all surgeries. For 20-50% of youth, major surgeries (e.g., spinal fusion) can lead to the development of chronic post-surgical pain (Landman, Oswald, Sanders, Diab, & Group, 2011; Pagé, Stinson, Campbell, Isaac, & Katz, 2013). This is alarming because pediatric chronic pain is a growing epidemic (King et al., 2011), often persists into adulthood (Walker et al., 2012), is resistant to treatment (Eccleston et al., 2014), and has considerable economic impacts on patients, families, and the healthcare system. Since pediatric chronic pain most often emerges without warning, it is very difficult to prevent. However, given that every chronic pain was once acute (Katz & Seltzer, 2009), surgery is one context in which we can prospectively understand why this problem develops. It is imperative to prospectively identify psychological factors (e.g., anxiety, memory), of both children and their parents, that underlie the transition from acute to chronic post-surgical pain in youth, given that physical and surgical factors are poor predictors of outcome, yet these psychological factors are predictive of chronic pain development (Noel, Rabbitts, Fales, Chorney, & Palermo, 2017; Rabbitts, Palermo, Zhou, & Mangione-Smith, 2015). Indeed, many children undergoing surgery have an associated deterioration in both physical and psychosocial health (Rabbitts et al., 2015) and approximately 20% of children who underwent surgery show a persistent decline in health-related quality of life at one month, which is associated with continued postsurgical pain (Rabbitts et al., 2015). Physical, psychological, and pharmacological interventions can be employed to minimize pain for children (Drendel & Ali, 2017). Optimal acute pain management is necessary to prevent unnecessary suffering and reduce the likelihood of acute pain becoming chronic pain both in children and adolescents.

Chronic Pain

Pediatric chronic pain is one of the most prevalent, expensive, and debilitating child health problems facing society today. Rates of adolescent chronic pain are rising and this has devastating effects across the lifespan. Approximately 1 in 4 youth in Canada report chronic pain (e.g., headaches, abdominal, or musculoskeletal pain lasting for 3 months or more), which peaks in adolescence and is most prevalent in girls (Stanford et al., 2008). As mentioned above, the economic burden associated with adolescent chronic pain is substantial, far exceeding the costs of childhood asthma and obesity (Groenewald, Wright, & Palermo, 2015). Of utmost concern, pediatric chronic pain is not limited to adolescence, with up to 2/3 of adolescents with chronic pain will become adults with chronic pain (Walker et al., 2012). Given that treatments are effective for only a small proportion of youth (Eccleston et al., 2014), understanding factors

that underlie the development and maintenance of adolescent chronic pain is critical for disrupting the inevitable persistence of pain into adulthood. Given the rising prevalence and debilitating, life-long course of this condition, it is critical to understand how to prevent this problem before it develops and also ensure children suffering from this condition (and their parents) receive the evidence-informed treatments that are available and emerging. Moreover, emerging evidence is pointing to the critical role of mental health of youth and their families and the need to address this in treatment. Youth with chronic pain and their parents report elevated symptoms of anxiety, depression, and post-traumatic stress and these issues are linked to worse pain outcomes, quality of life, and response to treatment (Vinall et al., 2016; Noel et al., 2017). Nearly 50% of parents of youth with chronic pain have chronic pain themselves (Beveridge, Neville, Wilson, & Noel, 2018) and parent chronic pain and mental health are powerful predictors of children's pain and health (Cordts, Stone, Beveridge, Wilson, & Noel, 2019). As such, it is imperative to address parents' own mental and physical health and understand how and why chronic pain is transmitted across the generations.

Did you know?

Up to 2/3 of adolescents with chronic pain will become adults with chronic pain (Walker et al., 2012).

Procedural Pain

Assessment and diagnosis of illness and injury in children often includes many painful procedures. In fact, children indicate that intravenous line insertion, an extremely common procedure in hospitals, is the most painful part of their healthcare experience (Stevens BJ et al., 2011). Common procedures can include intravenous insertion, urinary catheter insertion, bloodwork, vaccination administration, and nasal suctioning. Despite its prevalence, healthcare professionals provide inconsistent and often inadequate pain treatment for children's procedure-related pain (Fein, Zempsky, Cravero, & Medicine, 2012). Addressing the pain and distress associated with common, minor medical procedures is essential to quality healthcare for children. Further, empowering the family and the child to have an active role in pain management allows for greater effectiveness of the interventions. Health professionals should be encouraged to choose minimally invasive approaches and when a painful procedure is unavoidable, to use a combination of physical, psychological, and pharmacologic strategies. This approach will improve the patient, parent, and healthcare provider experience.

Opioid Use and Children

Opioids have long been recommended and used for the effective management of children's moderate to severe pain not otherwise relieved by first-line interventions (World Health Organization, 2012). At the same time, our national opioid crisis is claiming two lives per day in Alberta alone, and is not sparing children and youth (Canadian Institute for Health Information Canadian Centre on Substance Abuse, 2016; Weeks, 2018). Youth aged 15 to 24 years have the highest and fastest-growing rates of emergency department visits related to opioids in Alberta, tripling over the past five years (Canadian Institute for Health Information, 2017a). The current opioid crisis has understandably raised scrutiny regarding opioid use in children, with

significant reluctance or refusal to use opioids on the part of both caregivers and healthcare providers who have serious concerns about the longer-term implications of their use (Ali & Poonai, 2016).

Understanding, reducing, and preventing opioid-related harms is a priority in Alberta, and beyond. Further, just this year, the Chief Public Health Officer of Canada has prioritized the *prevention* of problematic substance use in youth (Tam, 2018). Currently, clinical and public opinions regarding the therapeutic use of opioids in children are polarized, and it is unknown if short-term exposure is associated with later opioid use disorders. There have been urgent calls from prominent child health leaders to identify and synthesize the available evidence with respect to the appropriate uses and safety concerns around the use of opioids for children and youth (Groenewald, Wright, & Palermo, 2015; Gruenwoldt, Finley, Ali, & Townley, 2017; Schechter & Walco, 2016). Without this knowledge, clinicians and families are unable to weigh pain treatment benefit with risk of misuse in an evidence-informed manner, and decision-makers lack concrete facts upon which to decide allocation of limited resources to address a national crisis. It is imperative that we continue to generate new knowledge in this emerging area of healthcare research and use this evidence to inform clinician practice in a dynamic and effective way.

Seniors

Aging is associated with an increasing burden of both acute and chronic pain (Davies, Higginson, & Organization, 2004; Jones & MacFarlane, 2005). The magnitude of this problem is expected to rise with the aging of Alberta's population. Currently, there are approximately 530,000 seniors aged 65 and older (Government of Alberta, 2018c). With advances in medical and surgical techniques, increasingly, older individuals are undergoing major surgery, which is associated with acute pain. In addition, older adults are more likely to have underlying medical conditions prior to surgery such as arthritis, cancer, or heart disease that are associated with pain. Many of these seniors will develop acute pain on a background of existing chronic pain. In fact, the prevalence of chronic pain is as high as 65% in community dwelling seniors, and 80% of older adults living in long-term care facilities (Hadjistavropoulos, Gibson, & Fine, 2011; Hadjistavropoulos et al., 2009). Pain is often under-reported by older people, under-recognized by healthcare professionals, misperceived as a normal part of aging, and undertreated.

Did you know?

The prevalence of chronic pain is as high as 65% in seniors still living at home, and 80% in older adults living in long-term care facilities, and their pain is often under-recognized and under-treated (Hadjistavropoulos, Gibson, & Fine, 2011; Hadjistavropoulos et al., 2009).

Inadequately treated painful conditions in older people may present as mood and behavioural changes. The magnitude of the problem is even greater among individuals with dementia and other forms of cognitive and communication disorders.

Barriers for managing pain in older adults who have acute or chronic pain can include:

- loss of function
- loss of independence
- sensory impairment
- risk of social isolation
- increased risk for falls
- polypharmacy
- altered drug absorption and excretion
- mismanagement of other chronic medical conditions (Makris, Abrams, Gurland, & Reid, 2014)
- physician concerns about the potential for treatment-related harm (Spitz et al., 2011)
- increased risk of opioid related adverse drug events (Oderda, 2012)
- mental health conditions, such as depression and cognitive impairment (Jorm & Jolley, 1998)
- decreased rates of physical activity (McPhee et al., 2016).

In addition, this population often suffer from frail cognitive and physical functioning. Frailty is a state of increased vulnerability to stressors due to accumulation of deficits and decreased physiological reserve (Morley et al., 2013). In a recent systematic review, Stow, Spiers, Matthews & Hanratty (2019) yielded good quality evidence that pain in people with frailty is similar in prevalence to pain in people with cancer. It has also been found that pain in people with frailty causes distress to a similar degree as people with amyotrophic lateral sclerosis (ALS), chronic obstructive pulmonary disease, and end stage renal disease (Chochinov et al., 2016). This reinforces the importance of raising awareness of the pain needs of people with frailty, supporting comprehensive assessment and management that may be addressed by a palliative approach to care, and tailoring frailty services to patient and family needs and preferences at the end of life (Stow, Spiers, Matthews, & Hanratty, 2019).

Opioids may present added challenges for seniors. Seniors are at greater risk for opioid-related harms due to several factors, including age-related changes in drug absorption and metabolism, and cognitive changes that may increase the risk of accidental drug poisoning. In fact, seniors (65 years and older) have consistently had the highest rates of opioid poisonings amongst all age groups (Canadian Institute for Health Information Canadian Centre on Substance Abuse, 2016). Despite this, seniors consistently had the highest rates of opioid prescriptions in Canada between 2011-12 and 2015-16 (Canadian Institute for Health Information, 2017b). More than 20% of Canadian seniors received at least one opioid prescription in 2015-2016, and of adverse drug-related hospital admissions for seniors in the same year, 8.1% were due to the use of opioids (Canadian Institute for Health Information, 2018b). The data also shows that 1 in 8 seniors prescribed an opioid were prescribed a strong opioid (oxycodone, hydromorphone, morphine and fentanyl) on a chronic basis (Canadian Institute for Health Information, 2017b).

We acknowledge that ageism, the negative stereotyping and discrimination against older individuals, is present in our society. This includes prejudicial attitudes toward older people, old age, and the aging process, which has harmful effects on the health of older adults (World Health Organization, 2019). Unfortunately, ageism is widespread and the most tolerated form of social prejudice in Canada (Revera, 2014). A recent survey found that six-in-ten individuals over 65 years of age felt they had been treated unfairly or differently because of their age. One-in-three Canadians 18 years of age and older admitted to treating someone differently because of their age with an alarming one-in-five believing that older Canadians are a burden to society (Revera, 2014). Through the work of the Strategy, we are committed to recognizing and reducing discriminatory policies and practices faced by older Albertans throughout their pain management journey.

The recognition, assessment, diagnosis, management and care of older adults that are experiencing chronic and/or acute pain requires a specialized skill set and an inter-professional team approach that includes the older adult and their caregivers. Through the work of the Strategy, we are committed to supporting seniors with:

- Recognition and treatment of pain, especially in those with communication and cognitive disorders such as dementia.
- Identification and reduction of potentially inappropriate medications.
- Palliative approach to care of frail older adults.
- Frailty-appropriate opioid prescribing protocols.
- Recognizing and reducing discriminatory policies and practices faced by older Albertans throughout their pain management journey.

Marginalized Populations

Despite our commitment to providing high quality healthcare, health inequities remain a pressing concern for Albertans. As we work towards equitable access to pain management, we recognize the need to understand the multiple structural and attitudinal barriers that exist, including disparities resulting from biological, psychological, economic, environmental, cultural, and health system factors (Campbell et al., 2012; Taylor, Gostin, & Pagonis, 2008).

Working from this understanding, as mentioned above, we know that age plays an important factor in pain management. Research has also identified that among marginalized populations, lack of access to healthcare, lack of stable housing, poverty, and inability to afford prescription medications or alternative therapies, and experiencing trauma across the lifespan are persistent barriers to effective pain management (Hwang et al., 2011). Importantly, we also recognize that culture plays a role in pain experiences in terms of a person's pain expression, threshold, and tolerance, and also influences interactions with health professionals, and as such requires culturally appropriate approaches (Davidhizar & Giger, 2004; McGavock, Barnes, & McCreanor, 2012).

In addition to socioeconomic and cultural considerations, pain management requires specific approaches for individuals with opioid and/or other addictions and acute pain. Management of pain should focus on: engaging the patient in the management plan through open communication based on practical goals (Haber, Demirkol, Lange, & Murnion, 2009; Jamison, 2011), effective analgesia that may reduce tolerance and prevent withdrawal, and treatment of any underlying conditions. The acute pain setting may be a reasonable time to seek the expertise of a transitional pain clinic or chronic pain clinic for future follow up for these individuals (Buckley & Ibrahim, 2014).

Indigenous Peoples

AHS' commitment to implementing the *Truth and Reconciliation Commission Calls to Action* and the *United Nations Declaration on the Rights of Indigenous Peoples* has changed how AHS partners with Indigenous peoples across Alberta. As an organization, we acknowledge that any steps forward towards reconciliation will require complex changes and action on addressing the destructive legacies of colonization. This is a vital step forward as the effects from colonization have resulted in compromised social determinants of health and health inequities, which shape the prevalence of pain conditions (Latimer et al., 2014).

According to the 2012 National Report of the First Nations Regional Health Survey, 12.4% of adults reported chronic back pain as the most commonly reported condition. Also reported are Indigenous children's higher prevalence rates of chronic disease related and dental pain. Moreover, Indigenous children are also less likely to be treated for pain, comparably to non-Indigenous children (Latimer et al., 2018).

Aligning with AHS' Indigenous Health Strategy, the Alberta Pain Strategy recognizes that we must address the widening social and health inequities experienced by Indigenous peoples by focusing on culturally appropriate and patient-centred pain care. Historically and today, cultural and relationship barriers between patient and provider impede culturally appropriate pain care (Johnson-Jennings, Tarraf, & González, 2015). We are working to change this. Increasing effective pain care requires the acknowledgement of the history and subsequent systemic barriers and effects of intergenerational trauma. This Strategy recognizes that culturally appropriate pain care must be inclusive of respecting Indigenous cultural healing beliefs and practices that consider the influence of pain in a holistic manner and involve Indigenous peoples in every step of the care management plan (Canadian Institute of Health Research, 2016). Researchers have also identified the need for greater interaction between pharmacological and non-pharmacological methods with emphasis on a holistic approach to pain care management (Canadian Institute of Health Research, 2016).

Building on our Successes

We recognize that there is already excellent work related to pain underway across our province. As part of the Strategy, we believe it is integral to build on these successes, learn from one another, use the existing evidence to guide our approach, and learn from other jurisdictions nationally and internationally. From a recent environmental scan, we cite a number of examples of great work already underway in Appendix C. The Strategy hopes to identify promising practices and innovation for spread and scale provincially where appropriate.

Unfortunately, these successes are not being felt provincewide. Many areas across the province continue to experience a lack of access to trained clinicians, which leads to frequent under-served populations across Alberta. These are not easy problems to solve, and the Strategy hopes to spread and scale innovative models of care resulting in improved access to appropriate care delivery, education (patients, providers, and public), and outcomes for all Albertans.

To support a provincial approach, the plan will build on evidence-informed resources and adapt consistent provincial curricula, workbooks, models, tools, and measures that serve our patients, their families and communities, and the healthcare professionals who deliver and facilitate their care.

Guiding Principles

These guiding principles provide the foundation for the Alberta Pain Strategy and are the basis for establishing and successfully implementing our focus areas. Our guiding principles are:

Culture of Quality

We believe that quality is everyone's business and will endeavour to foster a culture of quality improvement, based on the six dimensions of quality (as defined by the Health Quality Council of Alberta), to achieve safe, effective, appropriate, patient-centred, timely, efficient, and equitable pain management across the province.

Patient and Family Experience

The experience of patients and families/caregivers is of the utmost importance. From planning through to implementation and evaluation, our initiatives will put the needs and perspectives of patients and their support systems front and centre.

Healthcare Equity

We will promote equitable access and fairness in the distribution, quality, and delivery of healthcare resources for all communities and all Albertans. We will strive for equity in pain care for Albertans by using innovative models of care that consider the challenges in reaching rural and remote communities and leverage specialized expertise in new and novel ways. We will also work with key partners to address inequities that are not within the direct responsibility of health service delivery. These inequities may be due to an individual's culture, language, socioeconomic status, housing, sexual orientation, gender identity, etc.

Engagement and Collaboration

We know that to be successful, we must engage and collaborate with a wide variety of stakeholders across the continuum of care, including primary healthcare, specialty care, and palliative and end of life care. In doing so, we will seek input in all stages of an initiative's cycle – from planning to implementation to evaluation and sustainability. Our stakeholders include front-line healthcare providers, researchers, academic institutions, government agencies, policy makers, regulatory bodies, community partners, and patients and their families/caregivers, among many others. We believe in the use of interdisciplinary teams to care for patients with pain and are committed to incorporating the voices of all impacted professions in this work.

Prevention

We recognize that attention to prevention is essential to achieve success across all three of our focus areas. Whether it is preventing the onset of pain when possible, minimizing the incidence of acute pain progressing to chronic pain, minimizing the number of patients who would benefit from appropriate opioid prescribing, or reducing the magnitude of opioid-related disorders, prevention is an underlying principle of our work.

Evidence-informed Practice

We believe in implementing evidence-informed practice. We will strive to eliminate unwarranted variations in practice, ensuring practice is based on current scientific knowledge and best available evidence while taking into account local context and the needs and preferences of patients and families. We will strive to build a learning health system approach where evidence validated by providers and leaders will drive our decisions, and clinicians will have timely access to point-of-care information to support clinical decisions based on the needs of their patients. In areas where evidence is still lacking, we will leverage our research and clinical communities to generate and enhance evidence and measure our success.

Facilitators of Change

The facilitators are things we need to do in order to achieve success in our focus areas. These facilitators of change are:

Clinical pathways

We will help design, utilize, and evaluate clinical pathways consisting of evidence-informed, patient-centred interdisciplinary care to help patients affected by pain achieve optimal health outcomes.

Data and Analytics

Data and analytics are essential for improvement in the identification, treatment, and ongoing management of pain. Quality outcomes and improvement will be achieved by measuring and recording reliable, provincially consistent data that we will use to drive change and monitor impact. With Connect Care on the horizon, we have the opportunity to create the right data and analytics to improve our decision making and the application of best practice.

Research

We will foster and support discovery and clinical research related to pain throughout the province by building and embedding evidence into our practice, and actively supporting knowledge creation and translation.

Patient, Provider, and Public Education

We know we need to create knowledgeable Albertans through increased patient, family, and provider education, resources, and support. Evidence-informed provincially consistent patient and public education, knowledge translation, and interdisciplinary provider education strategies will be employed to support uptake of all initiatives outlined in the Strategy. Given the importance of this area, this facilitator has also been identified as a priority area within the Strategy

Leadership

We know that in order to successfully achieve what we have outlined throughout the Strategy, leadership across all areas will be required. We need administrative and clinical leadership to guide us and share their expertise to develop and implement our priorities. Additionally, we need leaders in pain research to work with clinical experts to fill identified gaps in practice and to ensure the work we are spreading across the province is informed by evidence. This leadership must be at the provincial level to provide the Strategy the strength and staying power to endure political and administrative changes and advocate for our patients throughout all of Alberta.

Our Focus Areas and Key Actions

For the Strategy, we have chosen three high-level focus areas to help us organize our work. These focus areas are:

- Support individuals, their families/caregivers, and providers in the optimal management of **acute pain**.
- Support people living with **chronic pain**, their families/caregivers, and providers to optimize management of chronic pain and its effects on function and quality of life.
- Respond to the opioid crisis by reducing opioid use dependency, decreasing opioid use frequency, and examining the appropriateness of **opioid use in pain management** for patients living with acute and chronic pain.

While we have selected three distinct areas to focus this work, we are aware that each of these areas are interconnected, and they must be considered in relation to one another. Our working groups will work closely with one another to ensure there is cohesiveness across focus areas and no duplication of efforts and to combine areas of expertise across working groups when required. Work within each of these focus areas are also intended to include all the elements described in Figure 2 earlier in this document.

Acute Pain

Acute pain can be mild and last just a moment, or it might be severe and last for weeks to months. The relief of pain is a basic humanitarian principle. It is widely accepted that acute pain is under recognized and poorly managed. As mentioned in The Burden of Pain section above, acute pain is very common and if left untreated, can lead to many detrimental consequences. The most important issues related to acute pain that we are looking to address through the Strategy are: improving prescribing practices, preventing acute pain from transitioning into chronic pain, and improving education of acute pain for patients, providers and the public.

Acute pain is often a signal of tissue damage, such as from a recent surgery or trauma, heart attack, or infection. Effective treatment of acute pain first requires a diagnosis. Completing a thorough history (including a pain assessment), physical examination, and appropriate investigations allows for a correct diagnosis. Determining whether pain is somatic, visceral, or neuropathic in nature will give clues to the diagnosis. Treating the underlying condition is often the key to improving the individual's acute pain. In some cases, symptomatic treatment of pain is also needed until the underlying condition improves and the acute pain resolves. Acute pain is best managed using multimodal pain treatment strategies.

Unfortunately, in some cases acute pain becomes chronic pain. Pre-existing pain, neurobiological, psychological, and behavioural factors may increase the risk of transitioning from acute to chronic pain (Shipton, 2014a). Moreover, ongoing acute pain can lead to opioid use beyond the time when it is most helpful (such as during the period of tissue healing). Ongoing opioid use can also lead to opioid tolerance and dependence, and in some cases, misuse (Tick et al., 2018). It can also lead to difficulty returning to daily activities and function. An inability to get back to one's previous level of function can occur after a single episode of acute pain, and it can impact work, exercising, enjoying time with others, and can lead to psychological effects such as symptoms of anxiety and depression. The application of evidence-informed acute pain standards across the province appears to be fragmented and can result in suboptimal experiences for individual patients. Expert consensus and a growing body of research indicate that best-practice pain management often requires coordinated interdisciplinary assessment and management while considering, at a minimum, the physical, psychological, and environmental risk factors for each patient (Arthur & Bruera, 2018; Haldorsen et al., 2002; Tick et al., 2018; U.S. Department of Health and Human Services, 2019; Vlaeyen & Morley, 2005; Williams, Nicholas, Richardson, Pither, & Fernandes, 1999). Patient and provider education, the use of evidence-informed practice for prescribing analgesics, the increased utilization of transitional pain services, and the adoption of other multimodal analgesic options have been identified as target areas to improve the experience and outcomes of Albertans with acute pain. Optimal acute pain management with a focus on assessment, the use of multimodal pain strategies within a modified biopsychosocial framework, and a focus on education at all levels is essential to providing the best acute pain care for all Albertans.

Our Priorities

The following, in alphabetical order, are the initial priorities identified by the Acute Pain Work Group to address the impact of acute pain on the health system:

- **Appropriate Pharmacologic Interventions:** Practice responsible, evidence-informed prescribing practices for best analgesic regimens, including the incorporation of strategies to appropriately taper medications for acute pain.
- **Multimodal Pain Strategies:** Optimal acute pain care is multimodal and interdisciplinary, including pharmacologic, physical, and psychosocial strategies for pain management. This priority includes strategies to manage acute pain and prevent the transition to chronic pain.
- **Patient, Provider, and Public Education:** Focus on public and patient education of pain and its best management practices. Provide training and support to healthcare practitioners and trainees in all healthcare and community settings, with an emphasis on assessment, best prescribing practices including short duration opiate use and opiate tapering regimes as appropriate to the clinical situation, and a modified biopsychosocial approach.
- **Transitional Pain Service:** Focus on the implementation of this service more broadly within Alberta to address challenges, including the development of chronic postsurgical pain and postoperative opioid dose escalation. Successful implementation of this service provides a model for better integration of primary and tertiary care, which is a key provincial goal.

Multimodal Pain Strategies, including Appropriate Pharmacologic Interventions

The best treatment for acute pain is a multimodal approach involving both pharmacologic and non-pharmacologic treatments (psychological, physical therapy, and a wide variety of other therapeutic options) (Tick et al., 2018; U.S. Department of Health and Human Services, 2019). Though opioids have a role to play in acute pain, opioid prescribing needs to be done in conjunction with a multimodal strategy, including the use of non-opioid medications, patient education, adequate patient monitoring and follow-up, and with opioid stewardship regarding duration, escalation, and tapering.

Strategies for improved management of acute pain and early recognition of patients at risk of developing chronic pain offer important preventative options in decreasing the prevalence of chronic pain (Breivik & Stubhaug, 2008; De Kock, 2009; Pain Australia, 2011). A key theme that emerges from the literature is that the effective assessment and management of pain requires a continuum of care involving a range of healthcare disciplines working in collaborative partnerships with those in pain (Pain Australia, 2011).

In Alberta, the following are identified as non-pharmacological areas that can be improved through multimodal care:

- Pain assessments.
- Shared decision making tools, including pain medication tapering strategies upon discharge.
- Consideration of all aspects of an individual's pain experience, described by the biopsychosocial model for pain.
- A need to screen patients to determine who is at risk of transitioning to chronic pain.

Patient, Provider & Public Education

Current community knowledge about pain and its social and economic consequences is extremely limited, which means that there is the potential for initiatives in this area to make a big impact. Previous studies have suggested that arming patients and their caregivers with knowledge could potentially reduce healthcare costs and the personal impact of illness (Buchbinder, Jolley, & Wyatt, 2001). Patients, the public, and healthcare providers have distinct needs for greater knowledge, and each represents its own education challenges.

People with acute pain are often unaware of their treatment options or may have inaccurate or values-based beliefs about pain that obstructs the path to treatment and relief. Patient education programs and materials, like treatment choices, need to be age appropriate and geared to the individual's and family's understanding and general health literacy (Chou et al., 2016; International Association for the Study of Pain, 2018).

Public education can help reduce the burden of pain in society. The benefits of providing public education about pain includes the ability to:

- Take steps to limit acute pain when it occurs and engage in timely and useful self-management strategies when individuals experience pain.
- Give appropriate advice and assistance to family, friends, and colleagues with pain.
- Advocate for and accept appropriate treatment of acute and chronic pain.
- Advocate for improved public policies on pain prevention and control (International Association for the Study of Pain, 2018).

There is a continuing lack of pain content in health science curricula despite a worldwide need to improve pain management practices. Comprehensive pain assessment and management is multidimensional. It requires collaboration that reflects competencies in pain knowledge and skill attained by all health professionals. Curricula needs to change from the frequent focus on chronic pain as a diagnostic indicator of disease to pain as a multidimensional, complex entity in itself. It is essential to ensure that graduates have demonstrated proficiency in specific pain care competencies (International Association for the Study of Pain, 2018). Curricula needs to be developed and implemented to ensure that current healthcare providers and trainees are educated in appropriate, evidence-informed acute pain management practices.

To avoid duplication of effort, the Strategy will coordinate its activities with other existing groups working on pain education for patients, the public, and healthcare providers.

Transitional Pain Service

Certain factors increase the risk of developing chronic pain, such as poorly managed acute pain, opioid use, mental health conditions such as anxiety and depression, pain catastrophizing, and trauma symptoms (Hinrichs-Rocker et al., 2009; Theunissen et al., 2012). A Transitional Pain Service comprehensively addresses the problem of chronic pain preoperatively, postoperatively in hospital, and in the outpatient setting. This service, which may take place in an inpatient or outpatient setting, may improve patients' pain trajectories, preventing the transition from acute to chronic pain, while reducing suffering, disability, and healthcare utilization and opioid dose escalation. The goal is to support patients through the stages of surgical recovery. This service works in an interdisciplinary model, focusing on multimodal analgesia with the support of a team including nursing, anesthesiology, psychology, pharmacy, and with access to addictions specialists.

Key Actions & Measuring our Success

Priority	Key Actions	Measuring Success
Appropriate Pharmacologic interventions	• Develop provincial, standardized postoperative surgical and discharge analgesia order sets and implement within Connect Care. • Develop an unused opioid return program.	Specific measureable outcomes will be developed at the project level in the next phase of this work.
Multimodal Approaches	• Implement evidence-informed multimodal acute pain care across the province in the surgical context.	
Patient, Provider, and Public Education	• Improve and implement education in acute pain assessment and management to improve outcomes in the surgical context. • Develop a Pain Toolkit for family physicians. • Improve pain education for healthcare providers at multiple levels.	
Transitional Pain Service	• Advocate for a fulsome evaluation and review of options related to the spread and scale of a transitional pain service. • Work with zone committees who have received funding for transitional/opioid prescribing efforts in the community.	

Chronic Pain

Within the chronic pain focus area of the Strategy, we are aiming to support people living with chronic pain, their families/caregivers, and providers to optimize management of chronic pain and its effects on function and quality of life.

Our priorities

The priorities of the Chronic Pain Working Group, in alphabetical order, are:

- **Access:** Improve access to multimodal resources, a modified biopsychosocial approach, and interdisciplinary teams for people with chronic pain and their support systems to ensure optimal and equitable access to pain care for all Albertans.
    - The historically uncoordinated development of pain services across Alberta has resulted in a combination of duplication of services, silos of unrelated services with differing philosophies of care, and large gaps in access.
    - Evidence-informed care for chronic pain includes a biopsychosocial, interdisciplinary approach. Not every patient requires team-based care, but for those who do, access to rehabilitation (physiotherapy, kinesiology, occupational therapy), psychological services (including addressing social and financial barriers to treatment), and medical management is essential for high quality care.
    - Innovative models and Virtual Health strategies are necessary to make this possible, regardless of geographic location, e.g. Alberta Telehealth.

"My reason for being involved with the Chronic Pain Working Group is because I want to make a difference for people who are dealing with chronic pain every day.

Chronic pain is a condition that affects your life in so many ways but it does not have to define who you are."

- Pamela Pyle, Alberta Pain Strategy Patient Advisor

- **Patient, Provider, and Public Education:** Ensure a systemic approach to chronic pain education for patients and their families/caregivers, healthcare providers, policy makers, and the public that is provincial, accessible, integrated, and evidence-informed.

  a) Patient:
    - Consistent and evidence-informed messages about pain motivate patients to engage in treatment and encourage self-management.
    - Understanding the links between pain, sleep, mood, stress, and relationships helps patients to balance a multifaceted treatment plan.
    - Better understanding of their condition facilitates goal-setting.
    - Informed and engaged patients are better able to participate in quality improvement.

  b) Healthcare Provider:
    - There is currently no infrastructure for consistent and standardized education across the province that is readily available and includes the role of diversity awareness and cultural safety in pain management.
    - Evidence-informed assessment tools and treatment pathways exist but are not widely disseminated, leading to wide variations in practice.
    - Communication skills, empathy, and awareness of bias are essential skills in chronic pain care but are not routinely applied to pain management and shared decision making with patients and families.
    - A provincial, multi-stakeholder approach to healthcare provider education will encourage learning among and within interdisciplinary teams

  c) Public:
    - People with pain face stigma when disclosing chronic pain to family, friends, and coworkers. This impacts their mood, their pain, their ability to stay in the workforce, and their willingness to seek care.
    - A public education campaign is essential to promote awareness and understanding of a condition that, while often invisible, is real and widespread.

- **Performance outcomes:** Establish a provincial chronic pain measurement strategy encompassing patients, providers, and systems, with an emphasis on a succinct number of well-defined, relevant, and meaningful measures.
    - Agreement on common outcome measures across geographic locations will reduce unwarranted variations in practice and facilitate measurement of quality outcomes (e.g. patient reported outcomes, relevant quality indicators, etc.) across the province.
    - A common understanding of evidence-informed, function-focused outcomes encourages development of consistent treatment approaches across the continuum of care and across stages of life.
    - Common outcome measures are essential to support quality improvement and assess system performance and value for money.

- **Provincial Approaches:** Investigate and recommend evidence-informed approaches (models, pathways, programs and strategies) for provincial expansion or adoption to support appropriate, effective, and individualized care for people living with chronic pain.
    - There is substantial variability in resources, access, and approaches to chronic pain care across the province. This is often based on historic factors, rather than evidence.
    - Innovative models exist to address challenging geographic situations, language barriers, and cultural safety, but these models are not widely utilized or provincially consistent.
    - Navigation models allow the right service at the right time to be offered to the right person and often result in reductions in overall cost of care.

Key Actions & Measuring our Success

Priority	Key Actions	Measuring Success
Access	• Develop and disseminate a catalogue of pain resources to enable health system planning by AHS zone. • Create a sustainable model for funded access to evidence-informed interdisciplinary services for people with pain.	• Environmental scan indicates similar levels of timely access to care across the province. • Patient-oriented outcome measures for disability and quality of life are improved. • Proportion of people with pain relying exclusively on medical management is reduced.
Patient, Provider, and Public Education	• Building on national initiatives, partner with universities, professional organizations and healthcare employers to establish pain competencies and curricula. • Establish a provincial repository of evidence-informed and provincially consistent pain assessment tools, treatment guidelines, and other useful resources. • Develop a public education campaign about chronic pain and its impact on patients and families. This should target audiences in all stages of life and offer concrete advice about how to support people with pain.	• Curriculum review for health professionals indicates dedicated time devoted to chronic pain education. • Students graduating from various healthcare disciplines indicate confidence in assessing and/or managing chronic pain. • Appropriate online resources are utilized and reviewed positively.

Performance Outcomes	• Identify common outcome measures that will be shared openly and used uniformly across the province to guide healthcare system design, patient care decisions, and development of research and education. These measures will reflect: o A focus on function and quality of life. o An evidence-informed, modified biopsychosocial approach. o Principles of cultural sensitivity. o The accepted best practice of a small but meaningful data set, rather than an exhaustive portrait.	• Outcome measures are embedded in system design and accessible widely. • Data is provincially consistent in definition and assumptions so that all data is the same and can be compared across the province. • Data is routinely collected and accurately recorded to demonstrate ease of use.
Provincial Approaches	• Work with stakeholders across the province to develop and implement an interdisciplinary hub & spoke model for chronic pain in Alberta. • Develop a mentorship model for chronic pain and addictions to allow primary care-based teams to care for people closer to the patient's community within the Medical Home. • Create navigation pathways for use by Health Link to guide people with pain to the right resources at the right time. • Advocate for the use of Connect Care (Epic) infrastructure and web-based platforms to make chronic pain tools and pathways available widely across the province.	• Duplicate referral rates to tertiary care are reduced due to use of navigation pathways. • Emergency department visits for chronic pain are reduced. • Reduction in opioid use disorders. • Primary care teams indicate increased confidence assessing and managing chronic pain.

Opioid Use in Pain Management

Opioid use in pain management is a focus area within both acute and chronic pain. The purpose of including opioid use in pain management within the Strategy is to ensure a coordinated approach to addressing opioid use across Alberta. This can be achieved by:

- Ensuring all key players within the Alberta context are aware and knowledgeable of current programming, services and projects related to opioid use, to avoid duplicative efforts. Please see the *Highlighting Current Work Underway* section and Appendices for further information.
- Highlighting areas that still require work and attention and proposing they move forward with the appropriate partners via working groups.

The objectives of the opioid use in pain management focus area include responding to the opioid crisis by:

- Reducing the development of opioid use disorder.
- Decreasing opioid use frequency and duration.
- Examining appropriateness of opioid use in pain management for patients living with acute and chronic pain, reducing the likelihood of progression to long term use.

Our priorities
The priorities identified for opioid use in pain management, in alphabetical order, are:

Addressing Stigma, with Special Reference to 'Legacy' Opioid Patients: Reducing the experience of stigma and the stigma of recovery for patients using opioids through awareness and education. Explicit recognition of the principle that people who began using prescription opioids well before the current crisis constitute a special population to whom individualized treatment goals should apply, including lowest dose to achieve benefit, consideration of risk vs benefit, and monitoring for positive and adverse effects that would be expected for any chronic condition. Expand safe and compassionate service options for opioid maintenance and opioid use disorder treatment, co-facilitated by Pain and Addiction practitioners.

We must recall that the long-term use of opioids for chronic pain was, until relatively recently, widely regarded as good practice. While the evidence now leads us in the opposite direction (Busse et al., 2018; Krebs et al., 2018), it is simplistic and dangerous to contemplate sudden involuntary discontinuation of this treatment for those who do not demonstrate opioid toxicity. The very thought of this outcome strikes terror into the hearts of these patients and their families. This Strategy must continue to empower prescribers to continue current, evidence-informed opioid regimens for members of this cohort if they wish to stay on it, as long as it is safe, notwithstanding the fact that it would not be embarked upon now or that it would be done so at much lower doses.

With regards to opioid use disorder and chronic pain, stigma is an ongoing concern for many people who use opioids or are seeking treatment for opioid use dependency. Individuals who experience stigma are less likely to seek treatment and resources, which can contribute to unintended negative consequences. Researchers note that the effects of stigma can impede progress in reducing the toll of overdose, by limiting availability of care and discouraging people from seeking services (Olsen & Sharfstein, 2014; U.S. Department of Health and Human Services, 2019).

Researchers have indicated that stigma can be combatted by decriminalization and legislation, language changes, and the presence of peer workers in the health system (Buchman, Leece, & Orkin, 2017). Within Alberta, there could be a focus on building awareness and education opportunities to address stigma, as well as ensuring that services offered to patients accessing opioid use disorder treatment are built on publicly funded programs with a safe and compassionate approach.

Another way to combat stigma and ensure legacy patients are provided with appropriate options is through the creation of *Green Zones* or *Urgent Opioid Pain Clinics.* These are a safe and non-stigmatizing option for treatment that provides services for those with chronic pain who have had difficulty accessing their medications due to prescribers retiring, losing privileges, and so on. The programs are focused on a harm reduction approach to prevent those individuals from accessing illicit options and increasing risk of death. They also include addiction practitioners available to monitor for unusual behaviours and diversion, while using brief interventions to move patients towards tapering with motivational interviewing.

Evidence-Informed Options & Current Guidelines: Exploring current guidelines, with a focus on the *2017 Canadian Guideline for Opioids for Chronic Non-Cancer Pain*, the Canadian *CRISM National Guideline for the Clinical Management of Opioid Use Disorder*, and alternative options for pain management, including new innovative and non-pharmacological treatments, and well-management strategies. This would also focus on research to further our knowledge of pain and its treatment.

Given the current opioid crisis across Canada, particular attention is needed to examine the appropriateness of opioids in pain management. Beyond the crisis currently plaguing the country, there are several reasons for exploring alternative options in pain management. Reasons for this include that opioids are not first line for chronic pain, not always effective for pain management, some opioid drugs may have harmful effects, and some can contribute to misuse (Duncan, Smith, Maguire, & Stader, 2019).

In response to a growing need for guidelines in prescribing opioids, Canadian guidelines for opioids for chronic non-cancer pain were developed. The guidelines outline several recommendations regarding (1) initiation and dosing of opioids in patients with chronic non-cancer pain, (2) rotation and tapering of opioids for patients with chronic non-cancer pain, (3) best practice statements, (4) expert guidance, and (5) risk mitigation (National Pain Centre, 2017). Specifically, within the guidelines, it is strongly recommended that there is an optimization of non-opioid pharmacotherapy and non-pharmacological therapy, rather than a trial of opioids, hence opioids not being first line for the treatment of chronic non-cancer pain.

Opioid deprescribing is also an evidence-informed practice for the treatment of chronic non-cancer pain and recommended by the Canadian guidelines. Forced tapers may destabilize patients and clinical evidence to support forced tapers is lacking (Kertesz & Manhapra, 2018). The Canadian Opioid Use Disorder guidelines and the British Columbia Centre on Substance Use (BCCSU) guidelines also clearly outline that individuals with opioid use disorder are not indicated for withdrawal management alone and that a slow taper with an Opioid Agonist (buprenorphine, methadone, slow-release oral morphine, etc.) over months to years, with psychosocial and/or residential support is recommended (BCCSU; Canadian Insitutes of Health Research (CIHR)). This complicates deprescribing opioids, as recent population studies have reported 20-25% of patients on chronic opioid therapy also meet the DSM-5 (Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition) diagnosis of opioid use disorder (Banta-Green et al., 2009; Boscarino et al., 2010). It is recommended that opioid deprescribing occur in a setting that includes addiction specialists to recognize and screen for opioid use disorder, along with pain practitioners, to manage and treat the pain, while optimizing all other pharmacological and non-pharmacological treatments in order to comply with guidelines. While the optimal location for deprescribing may be in the primary care provider setting, there is a need for specialty clinics and further training of primary care practitioners in opioid deprescribing.

In addition to the Canadian guidelines, CPSA has developed a 2017 Standard of Practice (SOP) related to prescribing drugs associated with substance use disorders or substance related harm. Among many other guidelines, the SOP outlines the importance of discussing with patients the best medication choice considering the efficacy of other pharmacological and non-pharmacological treatments, common and potentially serious side effects, and the probability of the medication improving overall health and function (College of Physicians and Surgeons of Alberta, 2017).

However, it is important to acknowledge that opioids are an effective pain management strategy for some patients (e.g. short term post-surgical pain, cancer-related pain, in some patients on a palliative approach to care, patients who are not responsive to non-pharmacological options, etc). This Strategy acknowledges the appropriate use of opioids in specific situations and in consideration of the patient's needs. Therefore, work within this Strategy will focus on building an understanding of the appropriateness of opioids and appropriate opioid use for some patients.

Indigenous Populations and Response: Collaborating with Indigenous communities, leaders, and partners and using an approach rooted in understanding the truth and historical implications of intergenerational trauma in order to close the gap in opioid use between non-Indigenous and Indigenous populations.

The data for First Nations in Alberta signals a major issue for Indigenous people in the province. This data relates to: opioid drug related deaths (3 times higher than non-First Nations), rate of hospitalizations (over 5 times higher than non-First Nations), rate of emergency department visits related to opioid use and other substances of misuse (6 times higher than non-First Nations), and the rate of opioid dispensing from community pharmacies (2 times higher than non-First Nations) (Government of Alberta, 2017). A lack of available treatment in remote communities due to scarce access to physicians and discriminatory government policies are both key contributors to the opioid crisis occurring for Indigenous populations across the province and country. In addition, historical trauma caused by the residential schools and acts, as well as the social determinants of health (broad range of personal, social, economic, and environmental factors that determine individual and population health) are all factors in the crisis.

Healthcare practitioners in Ontario have experienced success with Suboxone (buprenorphine and naloxone) tapering in combination with counselling to treat opioid use disorder in Indigenous patients (Webster, 2013). The aftercare programming was a key success factor; which included group counselling focused on relapse prevention, motivational enhancement, health education, and spiritual support (Webster, 2013). However, research in British Columbia has indicated that there are several substantial barriers for Indigenous people accessing methadone maintenance treatment, including: lack of harm reduction services, fees, and geographical issues with offering a program that may be miles away (Yang J et al., 2011).

There are current gaps in research related to best practices for Indigenous communities and response to the opioid crisis. The approach requires collaboration with communities and partners to identify how best to address the concerns across the province.

Indigenous people have been found to have even higher prevalence of pain syndromes with difficulty in accessing treatment and communicating with providers (Jimenez, Garroutte, Kundu, Morales, & Buchwald, 2011). With lower access to medical treatments, opioids have become the mainstay of treatment, leading to higher opioid prescribing and higher opioid related deaths (Government of Alberta, 2017, 2018c). It is imperative that there be an increase in access to pain treatments for all Albertans regardless of where they reside and especially for Indigenous populations due to the added challenges.

Monitoring Use and Impact: Monitoring and examining prescription, dispensation, and utilization practices for providers administering opioids. This would require a combined effort by the CPSA, CARNA, Alberta Dental Association and College, Alberta College of Pharmacy, AHS, and Alberta Health. Appropriate treatment with opioid therapy includes monitoring for outcomes and quality of life using validated scales and measures.

Researchers have highlighted the need for key data sources that help to inform and support the identification of risk factors for opioid misuse and associated harms (Abdesselam, Dann, Alwis, Laroche, & Ileka-Priouzeau, 2018). Surveillance systems designed to gather information on populations that are hard to reach are required to better understand the mechanisms underlying the opioid crisis, and opioid misuse. Current data sources are national-level surveys of the general population, which do not allow for the level of specificity required to design, implement, and apply public health interventions to tackle the crisis (Abdesselam et al., 2018).

CPSA developed its Continuing Competence program to support quality improvement in all physician practices. The program uses risk factors to identify practices that may benefit from support and educational resources to address potential concerns and promote overall quality improvement. In December 2016, CPSA initiated the MD Snapshot – Prescribing report which is a self-reflection tool that physicians can use to review their prescribing practices and identify any areas of concern. Through personalized data and support material provided by CPSA, physicians have the opportunity to take proactive steps to provide their patients with safe and responsible care. This tool is being used by Primary Care Networks and other groups to support physicians and develop programs specific to patient needs in their communities. While these specific programs are physician-centred, other practitioners such as dentists, pharmacists, and nurse practitioners also have a critical role to play in safe prescribing practices and as stakeholders in TPP Alberta, have access to this data for their own use.

"The opioid deprescribing program has given me the ability to breathe fresh air; it's like discovering new colours, experiencing life by waking up in the morning and deciding what I can do versus determined that I can't. After 20 years of opioid dependency for chronic pain, I am living life with my husband and my 6 year old like I never knew was possible. The pain is not completely gone, but it is manageable, and it is not so chronic, due to dialectical behaviour therapy (DBT) skills and the clinic's ability to explain the science. I'm grateful I was able to access the program as I have been on the Alberta chronic pain clinic wait lists for over three years. It was refreshing to have healthcare available for you when you need it, not just when they are ready to see you! The ODP clinic changed my life in three months. There's no comparison, and there is no excuse for having to wait for your life to be over when you can walk through the opioid deprescribing program doors and feel your life beginning and actually changing instantly!"

- Claudine Long, Patient Advisor, Opioid Use in Pain Management Working Group

Opioid Dependency Treatment: Using a harm reduction approach for opioid maintenance to ensure all patients have safe access to prescription opioid medications rather than going to illicit opioids**.** Expanding Opioid Dependency programs, including Opioid Agonist Therapy, to offer options for individuals living with opioid use disorder is required.

Because many patients are started on opioids by our medical system, they should all have safe access to prescription opioid medications, even if they meet criteria for opioid use disorder. (Patients with opioid use disorder should be treated as per guidelines, not just continued on opioids). Harm reduction approaches accept drug use as a reality and focus on reducing its harmful consequences, which could include death, HIV, hepatitis C, criminal activity, and incarceration (Hawk, Vaca, & D'Onofrio, 2015). Specifically within Alberta, harm reduction approaches have included naloxone programs, supervised consumption sites, community awareness grants, distribution programs, and overdose prevention sites.

Treatment services offered within AHS have included opioid dependency treatment programs in various areas of the province, including in northern and central rural areas, as well as access to Telehealth services. These services are based on Opioid Agonist Therapy, which involves taking opioid agonists (such as methadone or buprenorphine/naloxone (Suboxone), to prevent withdrawal and reduce cravings for opioids (Centre for Addiction and Mental Health, 2016). Within Alberta, treatment for opioid dependency is expanding to include innovative models such as injectable opioid agonist therapy (iOAT) and a specialized team (ARCH team) that will work with a patient's care team in the emergency department or inpatient setting. Finally, a harm reduction approach includes access to naloxone kits for all patients on chronic opioid therapy and those with opioid use disorders as well as education on the dangers of opioids and opioid toxicity, regardless of whether active treatment is occurring.

Pathway Development: Leveraging and expanding current work, as well as creating relevant order sets, pathways, and other clinical tools to reduce inappropriate opioid prescribing and creating a coordinated approach to the management of chronic and acute pain is imperative across all healthcare settings.

Patient, Provider, and Public Education: Patient and public education is a key piece in addressing opioid use in pain management. Developing and implementing public awareness and campaigns can help to reduce stigma, correct common misconceptions, and promote safer use of opioids (Department of Health and Human Services, 2011). Within Alberta, work is being considered on developing a provincial public awareness campaign as a collaboration between AHS and Alberta Health under the 'DrugSafe' banner. This would include, but not limited to, telehealth sessions, Continuing Medical Education events, and Town Hall meetings.

Patient education regarding pain after surgery and changing expectations of pain-free recovery is also important. Studies comparing probability of refilling prescription opioids after surgery were not correlated with initial prescription strength, suggesting surgeons could prescribe smaller prescriptions without influencing refill requests (Sekhri et al., 2018). This can be implemented with public awareness campaigns and education sessions prior to surgery to help set realistic expectations related to pain after surgery and throughout the recovery period; including appropriate tapering mechanisms post discharge. Emergency department prescribing is also similar, showing long-term opioid use was significantly higher among patients treated by high-intensity opioid prescribers than among patients treated by low-intensity opioid prescribers (Barnett, Olenksi, & Jena, 2017). Further education can also be given to emergency department prescribers.

Education for providers is a substantial contributor to the transformation of the approach to pain (Department of Health and Human Services, 2011). According to the U.S. Department of Health and Human Services (122) and their National Pain Strategy:

> "Demonstration of competency in pain assessment, safe and effective pain care (including specific training on safe opioid prescribing practices), the risks associated with prescription analgesics, communication of these risks to patients, and prescriber education should be a requirement for licensure and certification of health professionals and should be considered in curriculum review for accreditation of health professional training programs." (page 41).

It is essential that clinicians have the ability to recognize the differences between appropriate and inappropriate opioid prescribing. Clinicians also need to have an increased comfort, responsibility, and sense of duty in ensuring that patients who would benefit from opioid use are prescribed opioids in an appropriate manner and in consultation with pain or palliative specialists as needed. Increased knowledge on the importance of the biopsychosocial model, shared goal-setting between patients and providers, and nonpharmacological treatment options are also required (Tick et al., 2018).

Within AHS, programs focused on provider education on opioids are currently being developed. Offerings will include virtual online learning to cover a range of topics related to opioid use and chronic pain management, dosing, pregnancy, tapering, considerations for adolescents and seniors, cultural diversity, and treatment options for opioid dependency. Through the Primary Healthcare Opioid Response Initiative, a significant focus of the ACFP has been on using education and mentorship to advance access to treatment options through family physicians' practices for opioid dependency as well as for chronic pain. Targeting pain education and management for trainees during their training (medical, dental, nursing, pharmacy, allied health, etc.) will also be key in ensuring improved pain management and opioid stewardship in the future.

Key Actions & Measuring our Success

Priority	Key Actions	Measuring Success
Addressing Stigma, with Special Reference to 'Legacy' Opioid Patients	• Develop a pathway for treatment for those individuals who have been using opioids long term, which would be different from the pathway of treatment for those who are newly being prescribed opioids. • Establish peer navigators within the system who are available for patients across the health continuum. • Implement *Green Zones* or *Urgent Opioid Pain Clinics* across the province to provide services for those with chronic pain who have had difficulty accessing their medications. Develop an appropriate referral process for Physicians, including a telephone consultation to ensure the target patient population are those who have lost access to their treatments.	• Patient experience surveys reflect the effectiveness and appropriateness of the pathways, *Green Zones/Urgent Opioid Pain Clinics*, and peer navigators.
Evidence-Informed Options & Current Guidelines	• Use the fact that current guidelines all recognize the prime importance of non-opioid therapies for chronic pain to remove impediments to accessing them in both urban and rural areas. Make access to active physical therapy, exercise training and psychological therapy free of cost to those with chronic pain.	• Modelling of utilization of non-opioid treatment services to assess the correlation with changes in opioid prescription rates.

Indigenous Populations and Response	• Develop an Indigenous-specific pain team or clinic to best meet the needs of the community, which could leverage community assets to build local capacity, where appropriate. • Create a mobile access team that can provide treatment directly in community.	• Indigenous communities are engaged to develop the approaches in a co-design model, to meet the needs of the communities.
Monitoring Use and Impact	• Establish a notification system to remind patients to either dispose of any expired medications or return them to their healthcare provider. • Ensure that all patients have access to their own health information or health records, including and beyond, AHS.	• Expired or remaining medications are appropriately disposed or returned. • All patients are able to access their own health information, increasing the patient's health literacy and ability to advocate.
Opioid Dependency Treatment	• Establish at least one opioid deprescribing program in every zone. • Ensure pharmacies across the province are able to provide Suboxone and naloxone, and practitioners are appropriately trained.	• Opioid deprescribing programs are offered in all areas of the province, leading to an overall reduction in opioids. • All pharmacies have trained practitioners and are able to offer Suboxone and naloxone.
Pathway Development	• Ensure all PCNs have an interdisciplinary team available to support patients with chronic pain, as well as ensure chronic pain support is provided as a core service. • Establish new funding models (i.e., ARP model) for physicians and/or healthcare time which would allow for the additional time required to manage complex needs.	• Patients are able to access interdisciplinary teams for their chronic pain needs. • Physicians and other healthcare providers are able to spend more time with each patient who has chronic pain and/or complex needs.

Patient, Provider, and Public Education	• Utilize experts in knowledge translation and health technology assessment to create and maintain an easy-to access, constantly updated, database of the best evidence in pain treatment. • Establish a network of pain and addiction specialists that are available via telephone or telehealth for every physician in Alberta. • Partner with the CPSA, CARNA and Alberta College of Pharmacy to ensure core competency licensure includes pain and opioid management, and opioid deprescribing. • Ensure the Province's Medical, Pharmacy, and Nursing schools publish the type and quantity of education in pain and addiction medicine provided to students.	• All Alberta physicians have access to the best science in pain with minimal effort. Patients know where their providers are obtaining their information from and have access to the same data if desired. • All physicians are able to access a pain and addiction specialist at any time via telephone or Telehealth. • All physicians are able to advise and consult on pain management across the province, increasing physician confidence and competence. • Physicians graduating in 2019 and beyond are sufficiently prepared to provide evidence-informed care for chronic pain, including non-opioid treatment options and safe opioid deprescribing, where appropriate.

Highlighting Current Work Underway

Addressing Stigma:

- **"Valuing Mental Health: Next Steps" initiative and report** (Alberta Health). Report released in 2016 highlights several areas of recommendation across six general areas for addictions and mental health including: access to services, coordinated and integrated services, strengthening communities through awareness and education on addictions and mental health, collaborating with Indigenous communities, and improving leadership, planning, and evaluation of services.
- **Opioid public awareness grants for communities** (Alberta Health). Funds distributed to help community organizations raise awareness and educate Albertans about the opioid crisis.
- **Drug Awareness and Addiction Prevention Social Marketing Campaign** (Provincial). AHS addiction prevention toolkit that emphasizes the differences small actions can make in building resiliency and in preventing and reducing the harms associated with the misuse of alcohol and other drugs.
- **Harm Reduction Policy** (Provincial). A harm reduction policy launched within AHS in February 2019.

Evidence-Informed Options & Current Guidelines:

- **University of Alberta Multidisciplinary Pain Clinic** (Edmonton). See Building on our Successes section for further details.
- **South Health Campus Transitional Pain Service** (Calgary). See Building on our Successes section for further details.
- Interdisciplinary **Transitional Outpatient Pain Program for Spine (TOPPS) Program** (Calgary). See Building on our Successes section for further details.
- **Enhanced Recovery After Surgery (ERAS)** (Surgery SCN). See Building on our Successes section for further details.

Indigenous Populations and Response:

- **Indigenous Opioid Response Grants** (Alberta Health). Fifteen community-based proposals submitted from across the province focused on naloxone kit distribution, working with community members to discuss culturally sensitive approaches to opioid use/addictions, treatment and prevention, and providing culturally appropriate training for front-line workers. Five provincial in-scope initiatives, including Friendship Centres to support appropriate navigation and connections with other harm reduction agencies and Métis Nation of Alberta supporting Métis-specific opioid discharge coordination.
- **Enhancement to the Indigenous Urban Opioid Emergency Response** (Alberta Health). Specific to building resources available at the Indigenous Wellness Program in Edmonton and the Elbow River Healing Lodge in Calgary.
- **Non-Insured Health Benefits Program** (National). Programs related to opioid use including reduction of dose limits for opioids and new coverage of naloxone as an open benefit on the Drug Benefit list.

Monitoring Use and Impact:

- **Public Health Emergency Response to Opioid Crisis** (National). As a part of larger response to the opioid crisis, commitments include better identifying trends, targeting interventions, monitoring impacts, and supporting evidence-informed decisions.
- **College of Physicians & Surgeons of Alberta: MD Snapshot – Prescribing report** (Provincial). In December 2016, CPSA initiated the MD Snapshot – Prescribing report which is a self-reflection tool that physicians can use to review their prescribing practices and identify any areas of concern. Through personalized data and support material provided by CPSA, physicians have the opportunity to identify key issues and trends within their practice, and use this information to provide their patients with safe and responsible care.

Opioid Dependency Treatment:

- **Oral Opioid Agonist Therapy Program** (Provincial). Clients are prescribed specific doses of oral agonist therapy by physicians or nurse practitioners (methadone, suboxone) with a goal to effectively treat opioid use disorder. This includes ongoing monitoring for treatment outcomes or dosing adjustments.
- **Injectable Opioid Agonist Therapy Program** (Edmonton and Calgary). Clients who have a history of injecting drugs and have taken oral OAT with no success are prescribed specific doses of injectable hydromorphone with a goal of effectively treating opioid use disorder. This includes ongoing monitoring for treatment outcomes or dosing adjustments.
- **Suboxone (buprenorphine & naloxone) Initiation in Emergency Departments** (Emergency SCN). Implementing a province wide strategy and program for appropriately screening and initiating eligible emergency department patients on Suboxone, then enabling effective transfers to community or primary healthcare providers for continued follow up and patient care.
- **Addiction Recovery and Community Health Clinic (ARCH) Program** (Edmonton and Calgary). See Building on our Successes section for further details.
- **Primary Healthcare Opioid Response Initiative** (Provincial). As above.
- **Opioid Dependency Program (Addiction and Mental Health)** (Provincial). Provides methadone or suboxone maintenance treatment in an outpatient setting to people dependent on opioids, with a goal of stabilization under close medical supervision and evaluation of response to the medication. Includes various supports for accessing services, ongoing monitoring, sources of information and health, and safety and risk teaching and management.
- **Addiction and Mental Health Services** (Provincial). Offers a variety of services across the continuum of care, including specialty care.
- **Opioid Use Disorder – Telephone Consultation** (Provincial). Available for physicians and nurse practitioners seeking advice regarding the prescribing of OAT, when treating individuals with opioid use disorder. This is a provincewide service available via telephone or e-Consult.

- **Calgary Foothills PCN** (Calgary). Works with other Calgary-based PCNs in an integrated approach to safe opioid prescribing practices including initiating/post-op follow-up of opioids and management of continuing opioids.
- **Claresholm Centre for Mental Health & Addictions: Concurrent Disorders Program** (Claresholm). Provides treatment for individuals experiencing problems with chronic pain opioid dependence.
- **Naloxone Kits** (Provincial). Pharmacies and walk-in clinics across the province offer free Naloxone kits that can be distributed and used in the event of an overdose.
- **Supervised Consumption Sites** (Provincial). Using a harm reduction approach, AHS provides places where people can use drugs in a monitored, hygienic environment to reduce harm from substance use while offering additional services such as counselling, social work, and opioid-dependency treatment. There are also locations outside of AHS programming offering these services including Boyle Street Community Services, Boyle McCauley Health Centre, George Spady Centre, and AIDS Outreach Community Harm Reduction Education & Support Society (ARCHES).
- **Needle Distribution Programs** (Provincial). In partnership with several community agencies, needle distribution programs are offered across the province.
- **Responding to Canada's opioid crisis** (National). Government of Canada has taken a pan-Canadian response to the opioid crisis by committing to work across the pillars of prevention, treatment, harm reduction, and enforcement. This includes preventing problematic opioid use, supporting innovative approaches to treatments, supporting a range of tools and measures for individuals and communities, and addressing illegal drug production, supply, and distribution.
- **Access to drugs in exceptional circumstances** (National). A Government of Canada guidance document that contains an overview of the regulatory process for the importation of drugs for an urgent public health need and outlines the roles and responsibilities of Health Canada, public health officials, Drug Establishment License holders, and healthcare institutions. Within Alberta, Alberta Health has created a pathway for access to drugs in exceptional circumstances.

Pathway Development:

- **Calgary Foothills PCN** (Calgary). See Building on our Successes section for further details.
- **Primary Healthcare Opioid Response Initiative** (Provincial). The ACFP, AMA, and AHS are working collaboratively with Alberta Health to lead the work of a $9.5 million provincial grant available over three years ending April 1, 2020. The grant is for a primary healthcare response through PCNs and is intended to provide increased access to services and provide training for primary care providers, who are offering treatment, medication, and care to patients and families affected by the opioid crisis. The response objectives include: urgent opioid response through increased OAT, enhanced provider decision support, knowledge translation, and education, and enhanced opioid related service delivery through PCN Zone Committees' engagement, planning, and implementation.

Patient, Provider, and Public Education:

- **Opioid Deprescribing Program** (Calgary). Training healthcare practitioners in opioid deprescribing, chronic pain, and opioid use disorder. Provides public lectures for patients, families, and healthcare practitioners to learn about chronic pain and opioids. See Building on our Successes section for further details.
- **Calgary Chronic Pain Centre** (Calgary). Currently developing provider education on Wise Prescribing and Deprescribing: skills for the frontline clinician. See Building on our Successes section for further details.
- **Calgary Zone PCNs** (Calgary). Partner with specialists at the Calgary Chronic Pain Centre to offer Chronic Pain and Opioid Lunch and Learns in the medical home, as well as provide PCN-sponsored education events around chronic pain and opioid management.
- **Clinical Knowledge and Content Management** (Provincial). Developing provider education topics related to pain and pain management.
- **Calgary Safe Opioid Prescribing Coalition** (Calgary). Provides a forum to share experiences and resources and brings together people doing quality improvement work on opioid prescribing.
- **College of Physicians and Surgeons of Alberta**: **Standards of Practice – Prescribing: Drugs with Potential for Misuse and Diversion** (Provincial).
- **College of Physicians & Surgeons of Alberta**: **TPP Alberta** (Provincial).
  TPP Alberta is a provincial partnership administered by CPSA that monitors prescribing, dispensing, and utilization practices for targeted medications. Having access to this information from prescribers and dispensers across the province allows for proactive identification of trends and issues, as well as strategy, policy, and system development. Information from TPP Alberta is used by CPSA to support targeted programs such as the High Risk Patient Identification, 3+Opioids/3+Benzodiazepines, 4+ Benzodiazepines and Daily Oral Morphine Equivalent (DOME).
- **InRoads Curriculum Provincial Implementation** (Substance Use and Addictions Program Grant Proposal). Proposal currently in development for provincial implementation on InRoads curriculum, which focuses on identifying and improving care for children and youth with primary or underlying addictions or mental health problems.
- **Opioid public awareness grants for communities** (Alberta Health). Funds distributed to help community organizations raise awareness and educate Albertans about the opioid crisis.
- **Primary Healthcare Opioid Response Initiative** (Provincial). As above. Through this funding, the ACFP has also been working collaboratively with Patients Experience Evidence Research (PEER) to develop Simplified Primary Care Guidelines, decision support tools, and education for Back, Osteoarthritis and Neuropathic Pain.

Leadership and Governance

We acknowledge the need to create a detailed action plan from these ideas before meaningful change can be effected. A key part of this process will be the creation of leadership and governance models for the identified action areas. Unless we go forward and break down these ideas into tangible actions, recruiting a person or agency to execute each one, and provide them with the resources to perform the task, the situation will not improve. We see inertia in execution as a greater potential obstruction to improvement in patient care than the marshalling of evidence and opinion or the identification of desirable action items.

Pain Research – under development

A final priority crossing all three focus areas of the Alberta Pain Strategy is in the domain of pain research. The Alberta pain research community, led by efforts from the University of Calgary (Hotchkiss Brain Institute) and the University of Alberta, is in the process of developing a Pain Research Strategy that aligns with the Alberta Pain Strategy. A list of the researchers leading this work can be found in Appendix A.

The pain research community is committed to develop a provincial network that spans all four pillars of research from basic biomedical to health systems. Currently, pain researchers across Alberta are geographically divided with varying levels of awareness of pain-related research happening province-wide. The need to include researchers from all four pillars of research is of critical importance to adopting a bed to bench-side and back approach that is inclusive of basic and clinical research. The Alberta Pain Research Network will work with all of the interested partners to address knowledge deficits that exists through the patient's and family's journey as they experience pain; including the identification of gaps in pain-related research including the:

- Continuum of pain from acute to chronic.
- Pediatric and adult populations.
- Identification and prioritization of topic areas where it is beneficial to generate and enhance local knowledge and best practice.
- Opioid crisis and opportunities to study current issues and future trends.

Given the knowledge gaps in the field of pain, the lack of uptake of evidence-based practice, and limited service offerings, health systems struggle to provide cost-effective, evidence-informed strategies. This results in poor outcomes and leaves many patients relying on opioid approaches, with Canada being the second highest consumer of these medications.

There is an urgent need to understand the best multimodal approaches to acute pain, why chronic pain develops, and how to better prevent and treat it across the lifespan. The Alberta Pain Research Network (APRN) will directly address these needs by building critical research capacity for transformative discoveries in fundamental and clinical pain research with a focus on improving the treatment of all pain conditions. This will be achieved by:

- understanding the causes of pain conditions
- developing effective assessment and treatment options and innovative clinical tools, improving the safety of pain medications
- effective knowledge translation, including commercialization, implementation and dissemination of knowledge.

Supported by Campus Alberta Neuroscience, the Alberta Pain Research Network is poised to undertake exceptional collaborative research, train the next generation of pain scientists and clinicians, and shape health practice and policy with the goal of improving patient care and outcomes. Expertise, infrastructure, and international recognition already exist in a many key research areas across the province. This network will further strengthen research in the areas of:

- Opioid use and misuse.
- Pain in chronic diseases.
- Pharmacological and non-pharmacological approaches to pain management.
- Pediatric pain.
- Impact of pain on healthcare systems.

The Alberta Pain Network will promote collaborative research to spur innovation, education, knowledge generation, and translation. Given the wealth of knowledge and expertise on pain physiology and management throughout the province, our collaborative effort will result in high impact discoveries, increase the training of highly qualified personnel, support uptake of evidence-informed practices, and fuel investment in research and development leading to improved healthcare delivery.

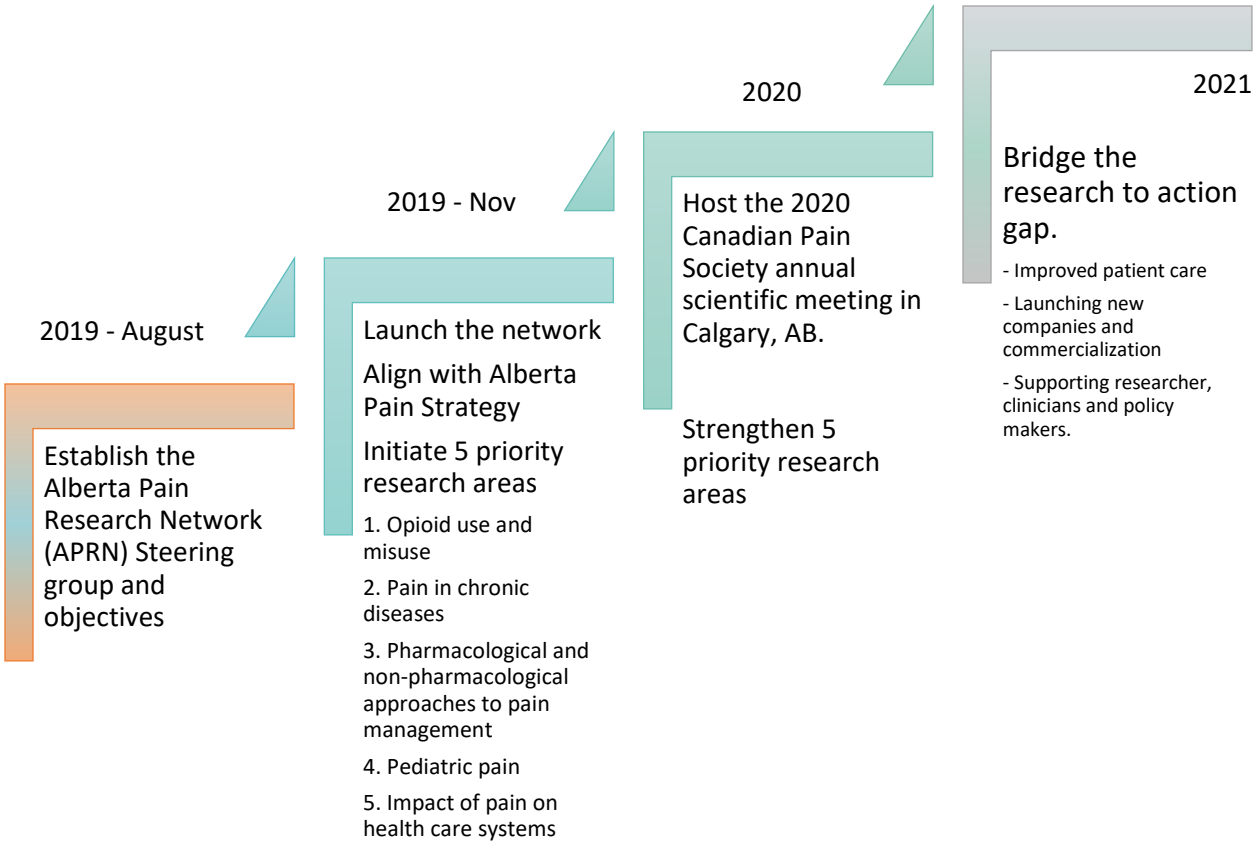


Figure 6: Alberta Pain Research Network timelines

Conclusion

The priorities identified in this five-year strategic plan will help propel Alberta into a leadership position within Canada in the area of pain management. By focusing on the priorities and key actions outlined in this document, we believe we are taking critical next steps to continue forward together, as a provincial, multi-stakeholder group of partners, towards achieving excellence in pain management for all Albertans.

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Appendix B: Glossary

Term	Definition
Acute pain	Pain of recent onset and probable limited duration that usually has an identifiable temporal and causal relationship to injury or disease.
Alberta Innovates (AI)	A provincially-funded corporation tasked with delivering on the research and innovation priorities of the Government of Alberta. In the health sector, Alberta Innovates provides leadership for Alberta's health research and innovation enterprise by directing, coordinating, reviewing, funding, and supporting health research and innovation. Working with its many partners in the health system, Alberta Innovates ensures that health research achieves innovation in care, policy, and practice and that the needs of patients and clinicians influence research.
Allied Health	An area of healthcare distinct from nursing, medicine, and pharmacy, Allied Health covers a large number of professionals, including but not limited to: Physiotherapists, Occupational Therapists, Exercise Physiologists, psychologists, Dieticians, Social Workers, Recreation Therapists, Kinesiologists, Mental Health Therapists, and Speech Pathologists.
Anaesthesiology	The branch of medicine dedicated to the care of patients before, during, and after surgery and encompassing the relief of pain. The scope of anaesthesiology includes the management of acute, chronic, and cancer-related pain.
Analgesic regime	Typically refers to a group of pharmacologic preparations used together to alleviate pain.
Analgesics	The term *analgesics* encompasses a class of drugs that are designed to relieve pain without

	causing the loss of consciousness. The different classes of analgesic drugs include: • Nonsteroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen (e.g. brand names Advil, Motrin), naproxen (e.g. brand names Aleve, Naprosyn), or prescription Cox-2 inhibitors (e.g. brand name Celebrex). NSAIDs are commonly used to reduce pain and inflammation. Since inflammation is often a component of back pain, NSAIDs are often part of the treatment regimen for many types of back pain. • Opioids, such as morphine, and synthetic opioid drugs, such as methadone, may be used for pain relief. Opioid pain medications work targeting specific pain receptors in the body. Although the pain is still present, the sensation of the pain is changed by the Opioid. All opioids carry the risk of addiction, and if taken for a long time, may result in withdrawal symptoms such as sweating and anxiety when discontinued. • Tylenol (acetaminophen) is a centrally acting non-narcotic pain reliever that does not have an anti-inflammatory effect. It does not cross react with NSAIDs and therefore the two classes of medications can be taken together.
Analytics	The discovery, interpretation, and communication of meaningful patterns in data.
Antineoplastic therapy	Antineoplastic therapy includes traditional chemotherapy with cytotoxic drugs as well as newer techniques including hormonal drugs and immunotherapy.
Being Healthy	An Area of Need defined by the Health Quality Council of Alberta (HQCA) that refers to actions Albertans take and services the health

	system provides to support Albertans to stay healthy and to prevent injuries and illness. This includes lifestyle behaviours such as healthy eating and weight control, exercise, not smoking, reducing alcohol intake, and taking informed risks to avoid injury. It also includes preventive healthcare activities such as immunization and prevention screening.
Bereavement	A period of mourning after a loss, especially of a loved one.
Biomedical	Pertaining to the biological aspects of medicine
Biopsychosocial model	An approach that addresses the dynamic interaction among biological, psychological and social factors and embraces the assessment and management of all dimensions of pain (e.g., emotional disorders, maladaptive cognitions, functional deficits, and physical deconditioning). The modified model referenced in the Strategy also encompasses spiritual factors.
Canadian Institute for Health Information (CIHI)	An independent, not-for-profit organization that provides essential information on Canada's health systems and the health of Canadians.
Caregiver	Informal caregiver: any relative, partner, friend, neighbor, or volunteer who provides a broad range of assistance for an older person or an adult with a chronic or disabling condition. These individuals may be primary or secondary caregivers and live with, or separately from, the person receiving care.
ChildKIND	A global initiative aimed at reducing pain and unnecessary suffering in children by offering a special designation to facilities that have demonstrated an institutional commitment to pain relief and by providing the technical support to achieve that goal.

Chronic pain	Pain that lasts or recurs for longer than 3-6 months.
Clinical pathways	A description of evidence-informed, clinician recommended interdisciplinary care to help a patient with a specific health condition or concern move progressively toward optimal health outcomes.
Clinical practice guidelines	Evidence-informed recommendations that help healthcare professionals make appropriate clinical decisions.
Cognitive Behavioural Therapy (CBT)	Focuses on exploring relationships among a person's thoughts, feelings, and behaviours. During CBT, a therapist will actively work with a person to uncover unhealthy patterns of thought and how they may be causing self-destructive behaviours and beliefs.
College of Physicians & Surgeons of Alberta (CPSA)	The regulatory college for physicians and surgeons in Alberta.
Connect Care	The bridge between information, healthcare teams, patients—and the future. The foundation of Connect Care is a common clinical information system (CIS), which in Alberta is the EPIC system that will allow healthcare providers a central access point to patient information, common clinical standards and best healthcare practices. It will also include a patient portal.
Contextual factors	Factors which reflect a particular context, characteristics unique to a particular group, community, society and individual, and can be important factor in the psychosocial dimension of pain experience.
Continuum of care	Includes health services spanning all levels and intensity of care, from birth to end of life including bereavement and across the patient's journey.

Cranial neuralgias	Pain related to the cranial nerves that go to different areas of the head and the face, pharynx and ear.
Curricula	A course of study in one subject at a school or college. A list of all the courses of study offered by a school or college.
Daily defined doses (DDD)	The DDD is the assumed average maintenance dose per day for a drug used for its main indication in adults.
Deprescribing	The planned and supervised process of dose reduction or stopping of medication that might be causing harm or no longer be of benefit.
Dialectical Behaviour Therapy (DBT)	An evidence-informed psychotherapy designed to help people suffering from borderline personality disorder. It has also been used to treat mood disorders as well as those who need to change patterns of behaviour that are not helpful. This approach is designed to help people increase their emotional and cognitive regulation by learning about the triggers that lead to reactive states.
Dimensions of quality	The HQCA defines quality within the Alberta Quality Matrix for Health framework, which includes six quality dimensions: 1. Acceptability 2. Accessibility 3. Appropriateness 4. Effectiveness 5. Efficiency 6. Safety
End of life	An Area of Need defined by the HQCA that addresses symptom management, best possible functioning, and preparation for eventual death for those with terminal illness. It is a part of care from the moment of the diagnosis of a life-limiting illness. It includes support for, and the involvement of, the person's close circle, to the degree desired by the person, and extends to the time of bereavement. Palliative end-of-life care

	focuses on medical, physical, emotional, spiritual, and psychological needs of the person, and it aims to help people live and prepare as well as possible as they approach death. This care is provided in any setting and is delivered with a multi-disciplinary approach, supported when necessary by specialized teams.
Evidence-informed	It is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of the individual patient. It is the integration of: (a) clinical expertise/expert opinion, (b) external scientific evidence, and (c) patient/caregiver perspectives to provide high-quality services reflecting the interests, values, needs, and choices of the individuals we serve.
First Nations	Includes Status and non-Status Indians. Indian status is the legal status of a person who is registered as an Indian under the Indian Act. The more common, non-legal term is Indigenous peoples.
Frailty	A clinical state in which there is an increase in an individual's vulnerability for developing increased dependency and/or mortality when exposed to a stressor.
Getting better	An Area of Need defined by HQCA that refers to care that supports patients through an acute episode of illness, injury, or treatment (e.g. surgery). It is often linked to emergency services and hospital care but can also be provided in the community (e.g. primary care, rehabilitation) and at home (e.g. home care).
Health literacy	The degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions.
Health Quality Council of Alberta (HQCA)	A council formed in Alberta to promote and improve patient safety and health service quality across the province.

Healthcare equity	The distribution and quality of healthcare resources, including the accessibility, acceptability, and appropriateness of health services. It also implies justice or fairness in the production and control of healthcare resources.
Herpes zoster infection	Herpes zoster infection, often known as shingles, is a common viral infection. Shingles is **caused by the chickenpox virus** – the varicella zoster virus – which remains dormant in the body after a person has had chickenpox. It can reactivate years later and cause new symptoms. Herpes zoster infection is more likely to affect older people and people with a weak immune system. It causes a burning pain, followed by a blistering rash, which tends to only affect one area of the body.
Illness trajectory	The time of diagnosis to the time of death that describes what will usually happen throughout the course of illness. These illness trajectories conceptualize how function declines as diseases advance to death and allow patients, family members, and healthcare providers to prepare for next steps and to make more informed and critical decisions about care. Four common categories for illness trajectories are sudden death, terminal illness, organ failure, and frailty.
Indigenous people(s), population(s)	Indigenous peoples is a collective name for the original peoples of North America and their descendants. The Canadian Constitution recognizes three groups of Indigenous peoples: Indians (more commonly referred to as First Nations), Inuit, and Métis. These are three distinct peoples with unique histories, languages, cultural practices, and spiritual beliefs.
Institute for Healthcare Improvement (IHI)	An independent not-for-profit organization based in Boston, Massachusetts that is a

	leading innovator, convener, partner, and driver of results in health and healthcare improvement worldwide.
Interdisciplinary	Using a wide range of disciplines to support the multifaceted and often complex needs of people, clients, and patients. No matter what discipline (physician, nurse, specialist, therapist, social worker, radiology, traditional healers, navigators, etc.), all roles/providers should adhere to a common set of principles and each type of provider will bring a unique set of skills. Focusing on an interdisciplinary approach (how the different disciplines work together) will ensure people have access to the right type of provider, while also ensuring that everyone is grounded in the same principles.
Inuit	Indigenous peoples of the Arctic. The word Inuit means "the people" in the Inuit language of Inuktut. The singular of Inuit is Inuk.
Kinesiologist	Trained health professional who works with individuals, groups, families, caregivers, and healthcare professionals to apply principles of biomechanics, anatomy, physiology, and psychomotor behaviour to improve health, function, and performance.
Kinesiophobia	Fear of movement due to the belief that activity will cause pain, increase damage to the injury and/or increase suffering or disability.
Knowledge translation	A dynamic and iterative process that includes the synthesis, dissemination, exchange, and ethically sound application of knowledge to improve health, provide more effective health services and products, and strengthen the healthcare system.
Living with illness or disability	An Area of Need defined by the HQCA that refers to care and support provided to patients managing a chronic illness and to patients managing a health-related disability. This can

	refer to specialized services that provide support to optimize patients' health and functional abilities within the limitations of their chronic conditions.
Medical Home	In this vision, every family practice across Canada offers the medical care that Canadians want — seamless care that is centred on individual patients' needs, within their community, throughout every stage of life, and integrated with other health services.
Medical model	The physician oversees, and is responsible for, treatment of the illness. Although many other healthcare professionals play a role in the treatment of patients in and out of hospitals, the traditional medical model is the dominant paradigm in our healthcare system, influencing almost all healthcare.
Methadone	An opioid medication used to treat severe pain and opioid addiction.
Métis	One of three recognized Indigenous peoples in Canada, along with First Nations and Inuit people. Refers to a person of mixed indigenous and Euro-American ancestry.
Minister's Opioid Emergency Response Commission (MOERC)	A provincial commission created by the provincial Minister of Health in Alberta in May 2017 to oversee and implement urgent coordinated actions on the opioid crisis.
Modality	A type of treatment, method, process, or form of delivery for a disease or medical condition.
Multimodal	Two or more modes of operation. The term is used to refer to myriad functions and conditions in which two or more different methods, processes, or forms of delivery are used.

Nerve blocks	The production of anesthesia in a part of the body by injecting an anesthetic close to the nerves that supply it.
Neurobiological	The study of cells of the nervous system and the organization of these cells into functional circuits that process information and mediate behaviour.
Neuromusculoskeletal	Any healthcare practice that relies on manipulation or adjustment of bones, ligaments, muscles, and tendons.
Neuropathic	Pain caused by a lesion or disease of the somatosensory nervous system
Neurostimulatory therapies	Neurostimulation works by altering pain signals as they travel to the brain. It is a pain management therapy that delivers electrical stimulation to the spinal cord, dorsal root ganglion (a cluster of nerve cells in a dorsal root of a spinal nerve) and brain.
Nociplastic pain	Pain that arises from altered nociception despite no clear evidence of actual or threatened tissue damage causing the activation of peripheral nociceptors or evidence for disease or lesion of the somatosensory system causing the pain.
Opioid agonist	These medications bind to the opioid receptors. They can work to prevent withdrawal and reduce cravings for opioid drugs. People who are addicted to opioid drugs can do opioid agonist therapy (OAT) to help stabilize their lives and to reduce the harms related to their drug use.
Opioid use disorder	One of the most challenging forms of addiction facing the Canadian healthcare system and a major contributor to the marked

	rise in opioid-related morbidity and death that Canada has been seeing in recent years.
Pain	An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage
Pain care	In the context of the Alberta Pain Strategy, we define Pain Care as encompassing: a) the identification of pain as a symptom or experience; b) the characterization of pain as chronic, acute, relapsing; c) the characterization of pain as a signal for disease that requires disease modulation, or as a primary target for longer-term pain therapy; d) the management of pain via multimodal strategies; e) assessment of efficacy of intervention, regarding both pain itself and degree of function, and f) consideration that the inability to communicate does not negate the possibility that the person is experiencing pain.
Pain catastrophizing	An exaggerated negative orientation toward actual or anticipated pain experiences. Current conceptualizations most often describe it in terms of appraisal or as a set of maladaptive beliefs. Moreover, there is a great deal of evidence for the role it plays in chronic pain.
Palliative and End of Life Care (PEOLC)	PEOLC is both a philosophy and an approach to care that enables all individuals with a life-limiting and/or life-threatening illness and/or lifestyle to receive integrated and coordinated care across the continuum. This care incorporates patient and family values, preferences and goals of care, and spans the disease process from early diagnosis to end of life, including bereavement. Palliative care aims to improve the quality of life for patients and families facing the problems associated with a life-limiting illness through the

	prevention and relief of suffering by means of early identification, comprehensive interdisciplinary assessments, and appropriate interventions.
Palliative approach to care	Access to a palliative approach in primary care requires that, in every primary care setting, (outpatient offices, home care organizations, long term care facilities), providers of every discipline (family physicians, nurses, nurse practitioners, pharmacists, personal support workers, paramedics, social workers) possess and implement the basic palliative care knowledge, skills, and attitudes pertinent to their discipline. This requires not just education, but also an infrastructure, a policy environment and a culture of care delivery that facilitates a palliative approach in primary care. A palliative approach in primary care also requires appropriate support from palliative care providers for patients with complex needs. High-quality palliative care, like high-quality maternity care or mental healthcare depends on co-operation and co-ordination between primary care and consultant palliative care teams.
Partnership for Research and Innovation in the Health System (PRIHS)	A partnership between Alberta Innovates (AI) and Alberta Health Services (AHS) that provides a partnered funding opportunity targeting high impact research activities within the SCNs that align with the priorities identified in the Alberta Health Research and Innovation Strategy and the AHS Health Plan. PRIHS supports networks of health researchers and clinical practitioners to reassess potentially inefficient activities within the health system and identify sustainable solutions to improve overall quality of care and value for money in the health system.
Pediatric	Relating to the branch of medicine dealing with children and their diseases. Throughout

	the Strategy, this is inclusive of anyone under the age of 18.
Pelvic pain	Pelvic pain is pain in the lowest part of the abdomen and pelvis.
Perioperative	The time period extending from when the patient goes into the hospital, clinic, or doctor's office for surgery until the time the patient is discharged home.
Persistent pain	Also known as chronic pain: often defined as any pain lasting more than 12 weeks.
Pharmacologic	Relating to the branch of medicine concerned with the uses, effects, and modes of action of drugs.
Plexopathies	A disorder affecting a network of nerves, blood vessels, or lymph vessels. The region of nerves it affects are at the brachial or lumbosacral plexus. Symptoms include pain, loss of motor control, and sensory deficits.
Polypharmacy	The concurrent use of multiple medications by a patient. Polypharmacy is most common in the elderly, affecting about 40% of older adults living in their own homes.
Postoperative	During, relating to, or denoting the period following a surgical operation.
Preoperative	The time period between the decision to have surgery and the beginning of the surgical procedure.
Prevalence	A measurement of all individuals affected by the disease at a particular time.
Primary Care Network (PCN)	The most common model of team-based primary healthcare delivery in Alberta. PCNs are groups of doctors working collaboratively with teams of healthcare professionals, such as nurses, dietitians and pharmacists, to meet primary healthcare needs in their communities.

	Established in 2003 through the Primary Care Initiative, Alberta now has 41 PCNs involving more than 3,800 physicians (approximately 80% of all family physicians in Alberta) and the full-time-equivalent of over 1,000 healthcare providers. PCNs provide services to close to 3.6 million Albertans.
Quadruple Aim	AHS' approach to achieve four key objectives: 1. Improve patient and family experiences. 2. Improve patient and population health outcomes. 3. Improve the experience and safety of our people. 4. Improve financial health and value for money. It is an expanded version of the Institute for Healthcare Improvement's Triple Aim framework that explicitly includes the work life of healthcare providers, including clinicians and staff.
Quality outcomes	Quality of care contributes to patient safety and health outcomes and considers how well healthcare services are provided to patients. It addresses these questions: • Do these services measure up to healthcare evidence? • Are they patient-centred? • Do they produce desired health outcomes? • Do they contribute to patient safety?
Radiculopathies	Radiculopathy, also commonly referred to as pinched nerve, refers to a set of conditions in which one or more nerves are affected and do not work properly (a neuropathy). This can result in pain (radicular pain), weakness, numbness, or difficulty controlling specific muscles.
Somatic	Somatic pain is characterized as well localized, intermittent, or constant and

	described as aching, gnawing, throbbing, or cramping. It is the most common type of pain in patients with cancer and bone metastases are the most prevalent cause.
Strategy for Patient-Oriented Research (SPOR)	A branch of the Canadian Institute of Health Research that focuses on patient-oriented research. It is about engaging patients, their caregivers, and families as partners in the research process. This engagement helps to ensure that studies focus on patient-identified priorities, which ultimately leads to better patient outcomes.
Suboxone	Suboxone (buprenorphine/naloxone) is a brand-name prescription drug used to treat dependence on opioid drugs.
Supervised consumption sites (SCS)	Part of our harm reduction approach to the Canadian Drugs and Substances Strategy. This is because Canadian and international evidence shows clearly that they help to save lives and improve health. Research also shows that SCS are cost effective and do not increase drug use and crime in the surrounding area. SCS are an entry point to treatment and social services for people who are ready to stop or reduce their use of substances.
Tele-consult	Enables the virtual communication between doctors of different disciplines or with specialists in other healthcare institutions like hospitals.
Temporal and causal relationship	Temporal – relating to time. Causal - of, relating to, or being a cause of something; causing.
Tertiary care	Highly specialized medical care usually over an extended period of time that involves advanced and complex procedures and treatments performed by medical specialists in state-of-the-art facilities.

Toward Optimized Practice (TOP)	Part of the Alberta Medical Association, TOP is an organization that develops programs, services, and tools to help Alberta physicians and practice teams implement evidence-informed practices to enhance the care of their patients.
TPP Alberta (provincial prescription monitoring program)	In 1986 the College of Physicians & Surgeons of Alberta (CPSA) established TPP Alberta to monitor the use of certain drugs prone to misuse and abuse for non-medical purposes.
Transitional Pain	Pain that transitions from acute to chronic.
Trigger point injections (TPI)	TPI can improve pain and function by making changes in soft tissues like muscle and fascia. Commonly, pain arises from multiple trigger points in our soft tissues which can be anywhere on the body.
Triple Aim	A framework developed by the Institute for Healthcare Improvement that describes an approach to optimizing health system performance by looking at three dimensions: • Improving the patient experience of care (including quality and satisfaction); • Improving the health of populations; and • Reducing the per capita cost of healthcare.
Unwarranted variation	This is defined as variation in the way care is provided that cannot be explained by differences in patient illness or patient preferences and offers no improvement in outcomes.
Visceral	Pain that originates in or near the internal organs of the body.

Appendix C: Successes in Alberta

We celebrate and build upon the number of successes we've had across the province in the area of pain. These successes include, but are not limited to:

- The **Addiction Recovery and Community Health (ARCH) Clinic** at the Royal Alexandra Hospital in Edmonton, and now available at the Peter Lougheed Centre in Calgary, provides enhanced interdisciplinary care for inner city patients with high acute care usage. By providing complex team intervention and outreach for addiction stabilization, social stabilization, health promotion, harm reduction, and linkage to community supports for patients who visit the emergency department, this program has been able to optimize healthcare delivery and the patient experience. This work was based on a Partnership for Research and Innovation in the Health System (PRIHS) grant from Alberta Innovates and has been funded by AHS to spread across other centres in Alberta.

- Establishment of the **Alberta Pain Research Network (APRN)** builds critical capacity for transformative discoveries in fundamental and clinical pain research. This network brings together scientists, clinicians, and patient partners with a focus on improving the fundamental understanding and treatment of all pain conditions. The goal is to address the pain and opioid crisis through collaborative research, innovation, and the training of future scientists and clinicians. This will be achieved by: 1) understanding the causes of pain conditions; 2) developing effective treatment options and innovative clinical tools; 3) improving the safety of pain medications; and 4) effective knowledge translation, including commercialization, implementation, and dissemination of knowledge.

- The **Calgary Chronic Pain Centre,** operational since 2000 and funded by AHS since 2004, is internationally renowned, providing comprehensive services for people managing long-term chronic neuromusculoskeletal, headache, and pelvic pain issues, as well as resources and tele-consult support for allied health, medical, and other health and wellness professionals to help support their management of chronic pain patients.

- The **Calgary Foothills Primary Care Network (PCN)** has developed pathways for opioid prescribing practice for both opioid naïve and opioid using patient populations, which includes identifying red flags for addiction, using a multimodal approach to increase capacity to manage chronic pain in the medical home, completing biopsychosocial assessments, and incorporating a self-management focus to treating pain.

- The **Complex Cancer Management Service** at Tom Baker Cancer Centre in Calgary is comprised of a small interdisciplinary team (palliative care physician, nurse practitioner, and pharmacist) supporting complex pain/symptom/palliative needs of patients receiving treatment at the cancer centre. The team work alongside patients' oncology and community providers, and also provide a bridge between in- and outpatient management for cancer patients with complex symptom issues. The service provides on-demand in-person or phone support five days a week, makes recommendations, and follows patients in person or by phone to the point of stability and ongoing management by their primary providers (Ryan, Chambers, Ralph, England, & Cusano, 2013).

- **Enhanced Recovery After Surgery (ERAS) protocols** developed by the Surgery SCN in AHS are multimodal perioperative care pathways designed to achieve early recovery after surgical procedures across the province. These protocols include preoperative counselling, optimization of nutrition, early mobilization, and opioid sparing pharmacologic and non-pharmacologic pain and symptom management approaches to treating post-surgical pain. In the first two years of implementation, these protocols resulted in patients having 11% fewer complications and being discharged 2.3 days sooner.

- The **Grande Prairie PCN's Persistent Pain Program** is the only chronic pain program north of Edmonton. It has been operational since 2014 and has an interdisciplinary team consisting of a nurse practitioner, registered nurse, licensed practical nurse, physical therapists, mental health therapists, kinesiologists, social workers, and dieticians. A visiting anesthesiologist with an interest in pain medicine sees patients every two months and provides trigger point injections, nerve blocks, and some medication management. Almost 1,600 patients have participated to date.

- **Lending Emotional and Pain Support (LEAPS)** is a patient-led support group for people with pain who have been through the Calgary Chronic Pain Centre program. Monthly meetings offer an opportunity for people to reinforce their self-management skills by sharing their challenges and tips with other former patients.

- **Numerous pain clinics** have opened in rural areas across the province, such as Drumheller and Crowsnest Pass, and they report several successes including:
    - Reduced emergency room visits by patients with chronic pain seeking narcotics to help them manage their daily pain.
    - Goal setting with patients to focus on improvement in function and quality of life, as well as reducing their pain.
    - Physician satisfaction with having a "second set of eyes" review their patients and help them navigate through the current opioid prescribing guidelines.
    - Using an educational approach.
    - Increased access to interdisciplinary care and cognitive behavioural therapy.

- The **Opioid Deprescribing Program** in Calgary is the only chronic pain program funded by AHS that focuses exclusively on voluntary opioid tapering while providing diagnoses, medical treatments, and psychological treatments for chronic pain. It is a collaboration between pain and addiction practitioners in an interdisciplinary team including nurse practitioners, psychologists, nurses, and physicians. Following Canadian treatment guidelines, this program appropriately screens, identifies, and treats opioid use disorder in a welcoming environment.

- **Solutions for Kids in Pain** (SKIP) is a Networks of Centres of Excellence (NCE) knowledge mobilization network based at Dalhousie University, Halifax, Nova Scotia and co-directed by Children's Healthcare Canada in Ottawa, Ontario. SKIP is aimed at improving children's pain management in Canada. SKIP brings together Canada's world-renowned pediatric pain research community, front-line knowledge user organizations, and end beneficiaries (patients and caregivers). More than 100 Canadian and international partners have joined to put evidence-based solutions to child pain into practice. SKIP has four main regional hubs: the IWK Health Centre (Halifax; led by Dr. Allen Finley), the Hospital for Sick Children (SickKids) (Toronto; led by Drs. Bonnie Stevens & Fiona Campbell), Stollery Children's Hospital (Edmonton; led by Dr. Samina Ali), and Children's Healthcare Canada (Ottawa). Dr. Christine Chambers (Dalhousie) is SKIP's Scientific Director and Doug Maynard (Children's Healthcare Canada) is the Knowledge User Director. Elise Kammerer is our Edmonton-based knowledge broker, and she will be coordinating SKIP's Western Canadian activities along with Dr. Ali.

- At the **Stollery Children's Hospital** in Edmonton, the **Chronic Pain Service** provides specialized care to children and teens who are in chronic pain and are having trouble managing their pain, and the **Pediatric Acute Pain Service** is an inpatient consultative service directly involved in the assessment and management of acute pain in children requiring specialized pain management techniques and transition to other pain relief modalities and services.

- **Symptom Control & Palliative Care Consult Program** at the Cross Cancer Institute in Edmonton was the first multidisciplinary symptom control clinic of its kind in Canada when it opened in the mid-1990s (Bruera et al., 2001). This program is for cancer patients who are having problems with pain or other symptoms from cancer. Depending on their needs, a patient may see several team members during a half-day clinic appointment, or a few team members during a shorter visit outside of the clinic. Patients are followed by the team until pain or other symptoms improve, at which time management is continued by their family doctor (Alberta Health Services - CancerControl Alberta).

- The **Transitional Outpatient Pain Program for Spine (TOPPS) Clinic** in Calgary is an interdisciplinary team working with spinal surgeons to stabilize individuals prior to surgery. The focus is on patient-specific factors that can affect surgical outcomes, including pain stabilization, opioid tapering, psychiatric stabilization, and the treatment of pain catastrophizing and kinesiophobia.

- The **Transitional Pain Service** at South Health Campus in Calgary is an innovative pilot program between anesthesiology and the Calgary Pain Program that addresses pain during the transitional period before, during, and after a surgical admission, bridging the potential gaps when patients are discharged from hospital to the care of their primary care team. The clinic reviews patients who are being admitted or discharged from hospital to ensure safe and appropriate opioid prescribing, provides tapering plans as required, and liaises with the local PCN to ensure smooth transition to primary care.
- **University of Alberta Acute Pain Service** in Edmonton provides consultation in the management of complex perioperative pain and provides advanced regional anesthesia services including home nerve catheter programs to minimize the detrimental impact of post-surgical pain.
- **University of Alberta Multidisciplinary Pain Clinic** in Edmonton provides consultation in the management of complex perioperative pain, offers programs and resources to assist patients in managing their chronic pain, supports the emphasis on putting patients at the centre of care by consolidating specialized, outpatient clinical care and streamlining access to numerous services and specialists, and allows rural Albertans to stay in their communities while keeping them connected to services using new technologies.
- The **Vi Riddell Pain & Rehabilitation Program** at Alberta Children's Hospital (ACH) in Calgary provides interdisciplinary team care to children and youth with all types of chronic and complex pain in the form of specialized outpatient clinics, courses, and day-treatment programming (Intensive Pain Rehabilitation Program) for youth with severe pain and disability. ACH also has an Acute Pain Service for inpatients, and the Aid in Symptoms and Serious Illness Support Team (ASSIST Team) to manage pain in life limiting conditions. Pediatric pain research is a particular focus and is integrated into the clinical environment at ACH. ACH has been awarded the prestigious ChildKind certification for their exemplary pain care for children. This certification recognizes healthcare facilities with standardized, institution-wide, collaborative approaches to the treatment of children's pain.

- **Zonal Palliative & End of Life Care Programs**: All 5 Zones across AHS have palliative programs that offer consultative support for patients with cancer and non-cancer pain as well as patients on a palliative approach to care. Palliative specialists can offer recommendations for pain management that involves appropriate prescribing of opioids and can work closely with the patient's medical home when needed. Through the provincial Referral, Access, Advice, Placement, Information & Destination program (RAAPID), any provider in Alberta can access a palliative physician specialist 24 hours a day, seven days a week for advice.

We are also fortunate in Alberta that we have access to many resources that can be leveraged and spread. These include:

- Continuing Medical Education in pain management, opioid deprescribing, concurrent disorders, and opioid dependency.
- The Chronic Pain toolkit developed by Physiotherapy Alberta.
- Evidence-informed Clinical Practice Guidelines developed by Toward Optimized Practice (TOP).
- ACH's Commitment to Comfort Pain Initiative, created to reduce pain and distress for patients and their families in all clinical areas.
- The Strategy for Patient-Oriented Research (SPOR) through the Canadian Institute for Health Research.
- Evidence-bundles on pain management and opioids and summarized research findings on non-opioid options for managing pain, created by the Canadian Agency for Drugs and Technologies in Health.
- Excellent pediatric pain research (Fischer et al., 2019; Noel et al., 2017; Reid, Simmonds, Verrier, & Dick, 2016).