

PROFESSIONAL DEVELOPMENT
AND EDUCATIONAL SCHOLARSHIP

Queen's University

Environmental Scan Report for
the AFMC PGME and CPD Pain
Management and
Substance/Opioid Use Disorder
Curriculum

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Environmental Scan for AFMC's PGME and CPD Pain Management and Substance/Opioid Use Disorder Curriculum

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FACULTY OF HEALTH SCIENCES

PROFESSIONAL DEVELOPMENT
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Executive Summary

To support the development of educational curricula on pain management, opioid stewardship, and substance/opioid use disorder for postgraduate medical education (PGME) and continuing professional development (CPD) audiences, an environmental scan on these topics was undertaken. Data were collected in five stages: (1) a scoping review of the perspectives of patients and families who experienced the lived realities of opioid use for pain management, (2) literature reviews of published Canadian pain guidelines, published Canadian substance use guidelines, and related competency frameworks, (3) open-access searches of Canadian PGME and CPD programs to identify competencies and course offerings across each Royal College of Surgeons and Physicians of Canada (RCPSC) specialty and subspecialty, and College of Family Physicians of Canada's (CFPC) priority topics and key features, (4) surveys with leaders in PGME and CPD offices in Canadian medical schools, and (5) interviews with key stakeholders. This environmental scan allowed for the identification of key competencies, current gaps in offerings, and recommendations for future pain management and substance/opioid use disorder curricula.

This report summarizes the findings of the environmental scan to establish the educational needs that should be addressed through the development of future educational curricula.

KEY FINDINGS

Stage 1: Scoping Review

- There is a need for patients to be treated as individuals when seeking and/or receiving treatment for their pain with opioids, regardless of their past histories of substance use. Moreover, it is important for healthcare providers to acknowledge patients' emotions and worries around stigmatization.
- Patients desire collaborative, trusting, and empathetic relationships with their healthcare providers.
- Patients experience challenges due to a lack of coordination across the healthcare system (e.g., lack of continuity of care, lack of coordination between healthcare providers, and a lack of coordination between community and hospital care).
- Patients face challenges resulting from the ongoing opioid epidemic. Their experiences in seeking pain management are shaped by this broader socio-cultural context (e.g., tighter regulations due to the opioid crisis and increased fear of being stigmatized).

Stage 2: Literature Reviews of Pain Guidelines, Substance Use Guidelines, and Competency Frameworks

- Published Canadian pain guidelines for the treatment of any pain condition included condition-specific, opioid-specific, population-specific, and general chronic pain guidelines.
- No new pain competency frameworks have been published since the 2019 undergraduate medical education (UGME) environmental scan.
- Published Canadian substance use guidelines for the treatment of any substance use condition included condition-specific, substance-specific and treatment-specific guidelines.
- Two substance use competency frameworks were identified.

Stage 3: Open Access Searches

- The predominant RCPSC CanMEDS role identified in pain, addiction, and substance use-related key and enabling competencies across all specialties and subspecialties was Medical Expert (n = 165 pain-related; n = 44 addiction- and substance use related). Other CanMEDS roles were identified in fewer numbers of key and enabling competencies for pain, addiction, and substance use: Collaborator (n = 4 pain-related; n = 0 addiction/substance use-related), Professional (n = 4; n = 6), Communicator (n = 3; n = 2), Health Advocate (n = 3; n = 12), Leader (n = 2; n = 8), and Scholar (n = 0; n = 0).
- The predominant CFPC skill dimension of competence identified in the CFPC's 105 Priority Topics for pain, addiction, and substance use was Clinical Reasoning (with n = 72 key features related to pain; n = 31 key features related to addition/substance use). Other skill dimensions identified included Selectivity (n = 22; n = 6), Patient Centered (n = 10; n = 15), Communication (n = 4; n = 1), Professionalism (n = 2; n = 2), and Procedure Skills (n = 0; n = 0).
- The language used to describe substance use is inconsistent (e.g., substance abuse).
- Most pain curricula are found in Anesthesiology, Emergency Medicine, Family Medicine, and Surgery. The teaching strategies for areas of medicine included a variety of approaches including academic half days, retreats, journal clubs, simulations, workshops, lectures, rounds, and seminar series. Other areas of medicine that included teaching about pain were primarily taught through rotations (e.g., clinical experiences, experiential learning).
- Most addiction and substance use curricula are found in Anesthesiology, Family Medicine, Addiction Medicine, and Psychiatry.
- Chronic pain is not uniformly distributed among Canadians. There are a broad range of biological, psychological, social, and cultural factors that impact how individuals experience pain.

Stage 4: Surveys of PGME and CPD Offices

- Respondents identified a wide range of programs available (e.g., opioid prescribing, tapering, harm reduction, overcoming barriers to safe prescribing, research methodologies) and utilized multi-modal delivery methods (e.g., webinars, workshops, online modules, conferences).
- The primary target audience for CPD programs are practicing primary care providers. Most CPD programs are interprofessional and are attended by a number of different healthcare professions (e.g., nurses, pharmacists, rehabilitation sciences, first responders, social workers).
- One of the concerns raised by participants was that self-study, asynchronous programs have poor compliance and completion among CPD audiences. Moreover, participants felt that such approaches may be insufficient for translating knowledge into practice.
- Participants emphasized the need to ensure that curricula and programs focus on translating knowledge into practice.

Stage 5: Interviews with Key Stakeholders

- The strengths of existing programs included their value for learning, interactions with others, the provision of up-to-date evidence-based information, and the tailoring of education programs to the needs of the learner.
- The challenges of existing programs included a lack of coordination among CPD programs, a lack of a developmental approach and formative assessments in PGME, a need to address issues of stigma and bias in substance/opioid use and prescribing, and concerns about translating knowledge into practice.

RECOMMENDATIONS

Key Recommendations from Stage 1: Scoping Review

Regarding future PGME and CPD educational curricula on pain management and substance/opioid use disorder, several needs were identified based on the examination of patients' lived experiences:

- A need to adopt a developmental approach to pain management and managing substance/opioid use disorder that addresses factors at multiple levels: individual, interpersonal, institutional/organizational, and socio-cultural.
- A need to build physicians' awareness of patients' individual needs and to develop their skills to appropriately tailor care to these patient needs.
- A need to develop physicians' interpersonal skills to enhance the quality of physician-patient relationships, including patient engagement and shared-decision making strategies.
- A need to increase physicians' awareness of the siloed nature of healthcare and to develop skills to enhance coordination across healthcare sectors.
- A need to identify broader socio-cultural factors that influence patient experiences (e.g., stigmatization, changes in guidelines, regulation, and access to opioids due to the opioid epidemic).

Key Recommendations from Stage 2: Reviews of Literature

From the reviews of literature, recommendations for future PGME and CPD educational curricula include:

- A need for curricula to provide an avenue for increasing awareness of the Canadian pain guidelines for the treatment of any pain condition and developing skills to apply these guidelines where appropriate in practice with patient care.
- A need for curricula to be informed by existing competency frameworks identified in the UGME environmental scan and that align with PGME and CPD curricula.
- A need for additional Canadian clinical guidelines related to substance use.

Key Recommendations from Stage 3: Open-Access Searches

By examining the findings of the open-access searches, several key needs were identified for future PGME and CPD educational curricula:

- A need to ensure that future curricula addresses competencies related to all relevant CanMEDS roles and CFPC skill dimensions of competence for pain management and the management of substance/opioid use disorder.
- A need to ensure that the language used to describe pain, addiction, and substance use disorder is consistent and relevant.
- A need to ensure that future curricula complements existing educational opportunities.

- A need to engage stakeholders who are currently implementing pain management and substance/opioid use disorder educational programs.
- A need to ensure that future curricula includes competencies related to trauma and violence-informed care, and the broad range of biological, psychological, social, and cultural factors that impact how individuals experience pain.

Key Recommendations from Stage 4: Surveys with PGME and CPD Stakeholders

When developing PGME and CPD curricula, considerations arising from the surveys include:

- A need to ensure that future educational curricula builds upon, scaffolds, and extends, rather than duplicates, existing programs.
- A need for educational curricula that is collaborative, interactive, developmentally appropriate, and context specific.
- A need for educational curricula that prioritizes bridging the knowledge-to-practice gap and that can lead to sustainable practice change, and ultimately improve patient care and outcomes.

Key Recommendations from Stage 5: Interviews with Key Stakeholders

Findings from the interview data highlighted some important considerations for developing future educational PGME and CPD curricula, including:

- A need to coordinate and collaborate with stakeholders to ensure future curricula complements existing programs.
- A need to enhance accessibility to existing and future educational programs.
- A need for curricula to be interactive, engaging, accessible, and relevant for learners.
- A need for a developmental approach to the curricula that ensures content is developmentally appropriate, context-specific, and provides opportunities for longitudinal assessment and support (e.g., formative assessment, avenues for follow-up).
- A need for curricula content and delivery to be evidence-based.
- A need for curricula to be evaluated using evidence-based approaches to program evaluation.

Bringing it all together: Overall Recommendations

- Ensure that the development of educational curricula engages key stakeholders to ensure future initiatives complement existing programs.
- Ensure that educational curricula address pain management and substance/opioid use disorder at multiple levels (i.e., individual, interpersonal, institutional/organizational, and socio-cultural). Curricula should capture the dynamic and complex nature of these topics.
- Ensure that educational curricula focus on a person-centred approach to care, which prioritizes patients' and families' lived experiences, interpersonal relationships, care within and beyond the healthcare system, and acknowledges broader socio-cultural factors.
- Ensure that educational curricula raise awareness of evidence-based guidelines and frameworks and enables learners to apply these guidelines and frameworks in practice.
- Ensure that educational curricula develop competencies that are relevant to all CanMEDS roles and CFPC skill dimensions of competence. For example, future curriculum should focus on enabling medical learners and practitioners to interpret pain management, addiction, and substance/opioid use disorder specific research evidence, and apply it in their practice for the CanMEDS Scholar role.
- Ensure that educational curricula are appropriately evaluated.

Environmental Scan

To support the development of educational curricula on pain management, opioid stewardship, and substance use disorder for postgraduate medical education (PGME) and continuing professional development (CPD) audiences, an environmental scan on these topics was undertaken. The scan focused on the educational needs of learners at the PGME and CPD level.

Data were collected in five stages: (1) a scoping review, (2) reviews of literature relating to pain guidelines, substance use guidelines, and competency frameworks, (3) open-access searches, (4) surveys with PGME and CPD offices, and (5) interviews with key stakeholders (Figure 1). Ethics approval for the survey and interview components of the environmental scan was obtained from Queen’s University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board.

The report is organized by stage of data collection (Stages 1 to 5) and each stage includes its purpose, methods used, and main findings. The report concludes with an overview of the main findings and recommendations for curriculum development at the PGME and CPD level.

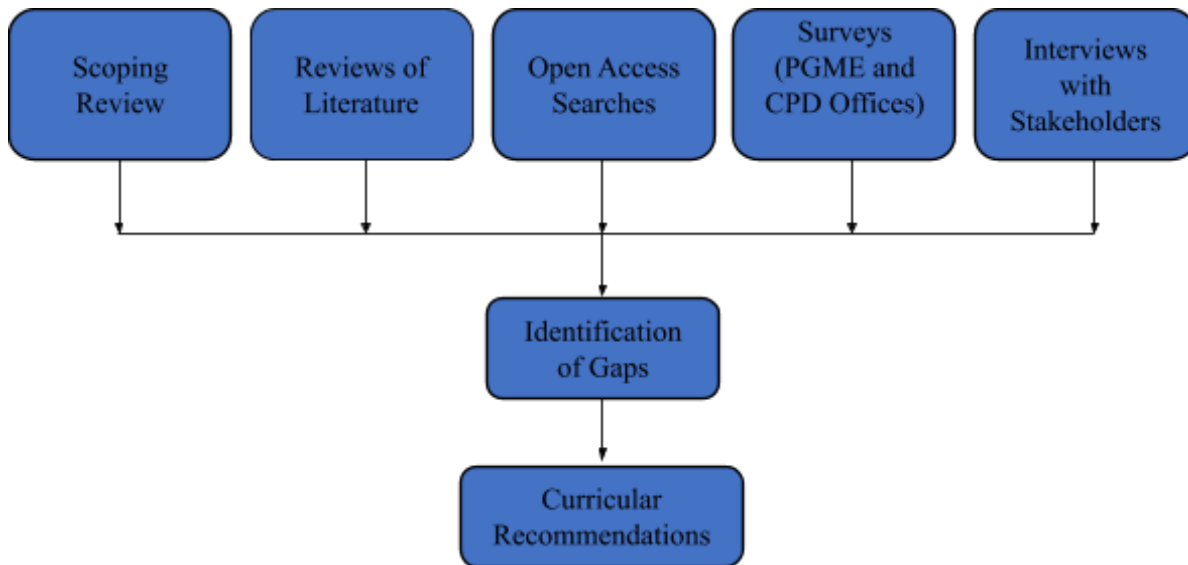


Figure 1. The five stages of data collection for PGME and CPD education.

STAGE 1 – SCOPING REVIEW

Purpose: The purpose of the scoping review was to identify the perspectives of patients and families who experienced the lived realities of opioid use for pain management, as well as those seeking treatment for their pain with previous histories of substance use disorders. We included studies with the lived experience and perspectives of patients and/or their families, and excluded studies focused on the lived experiences and perspectives of healthcare professionals. Table 1 includes the details of the review’s inclusion and exclusion criteria.

Two questions guided this scoping review: 1) What are the experiences of patients, families and caregivers receiving treatment for pain with opioids? and, 2) What are the experiences of patients, families and caregivers seeking treatment for pain while also having or having had a history of a substance use disorder?

Table 1. *Logic Grid for the Scoping Review*

		Inclusion Criteria	Exclusion Criteria
Population	Patients and families, caregivers, patient advocates	All patients ages (children, adults, older adults). All pain conditions (e.g., back pain, post-surgery pain, chronic pain, etc.). Underserved populations (e.g., indigenous populations, underhoused, mental health comorbidities, etc.)	Healthcare providers Cancer pain Palliative pain
Concept	First-person or family perspectives	Lived experience and/or perspectives of patients and/or their families receiving treatment for pain with opioids. Lived experience and/or perspectives of patients and/or families seeking treatment for pain while also having a substance use disorder.	Studies describing individual experiences with pain <i>not</i> treated with <i>opioids</i> . Experience or perspectives of healthcare providers (e.g. nurses, dentists, occupational therapists)
Context	Care, stigma, access	Experiences interacting with the healthcare system in seeking and receiving treatment with opioids for their pain. Experiences accessing healthcare, the stigma around opioids for pain management. Impact of opioid epidemic on opioid access. Issues receiving adequate pain treatment in patients who also have substance use disorder.	Patients' description of pain relief or preference for different pain relief modalities.

Methods: An initial search of Medline (Ovid MEDLINE(R) Daily and Epub Ahead of Print, In-Process & Other Non-Indexed Citations 1946 to Present) and Google Scholar was undertaken using search terms reflective of our research questions to identify relevant studies. After retrieving studies that met our inclusion criteria, the search terms and MeSH terms used to catalog those studies were collected. The search strategy was then refined to ensure a

comprehensive recall of titles (Table 2). Once finalized, the search was translated into two other databases: EMBASE (Ovid, Embase Classic+Embase 1947 to present) and APA PsycInfo (via Ovid, 1806-present). We imported citations into Covidence¹ for title/abstract and full-text screening.

Titles and abstracts were hand-screened in duplicate, by two blinded reviewers, to determine if they would undergo a full-text review. Discrepancies (differences of votes) were resolved through discussion. Full text screening was then completed by two independent and blinded reviewers to determine if papers would be included in this review and undergo data extraction, with discussion to resolve conflicts. Data extraction for each study was completed by a single reviewer. A larger research team (n = 5) then met to discuss themes from the findings of the review.

Table 2. *Finalized Medline Search Terms*

MeSH Terms
Acute Pain or Chronic Pain or Pain
Analgesics, Opioid
Substance-Related Disorders
Opioid-Related Disorders
Drug Users or Substance Abuse/Use, Intravenous
Physician-Patient Relations
Patient Participation
“Delivery of Health Care”
Health Services Accessibility
Patient Satisfaction
“Attitude of Health Personnel” or Health Knowledge, Attitudes, Practice
Qualitative Research
Interviews as Topics
“Surveys and Questionnaires”

Findings: Our searches identified 5,061 titles and after removing duplicates, 5,032 titles remained. Of these remaining titles, abstracts were screened for relevance to inclusion/exclusion criteria, resulting in the selection of 59 articles for full text review. From these articles, 25 articles were selected for inclusion (Figure 2). We demonstrated strong screener reliability within title and abstract screening with a proportional agreement of 97.9%.

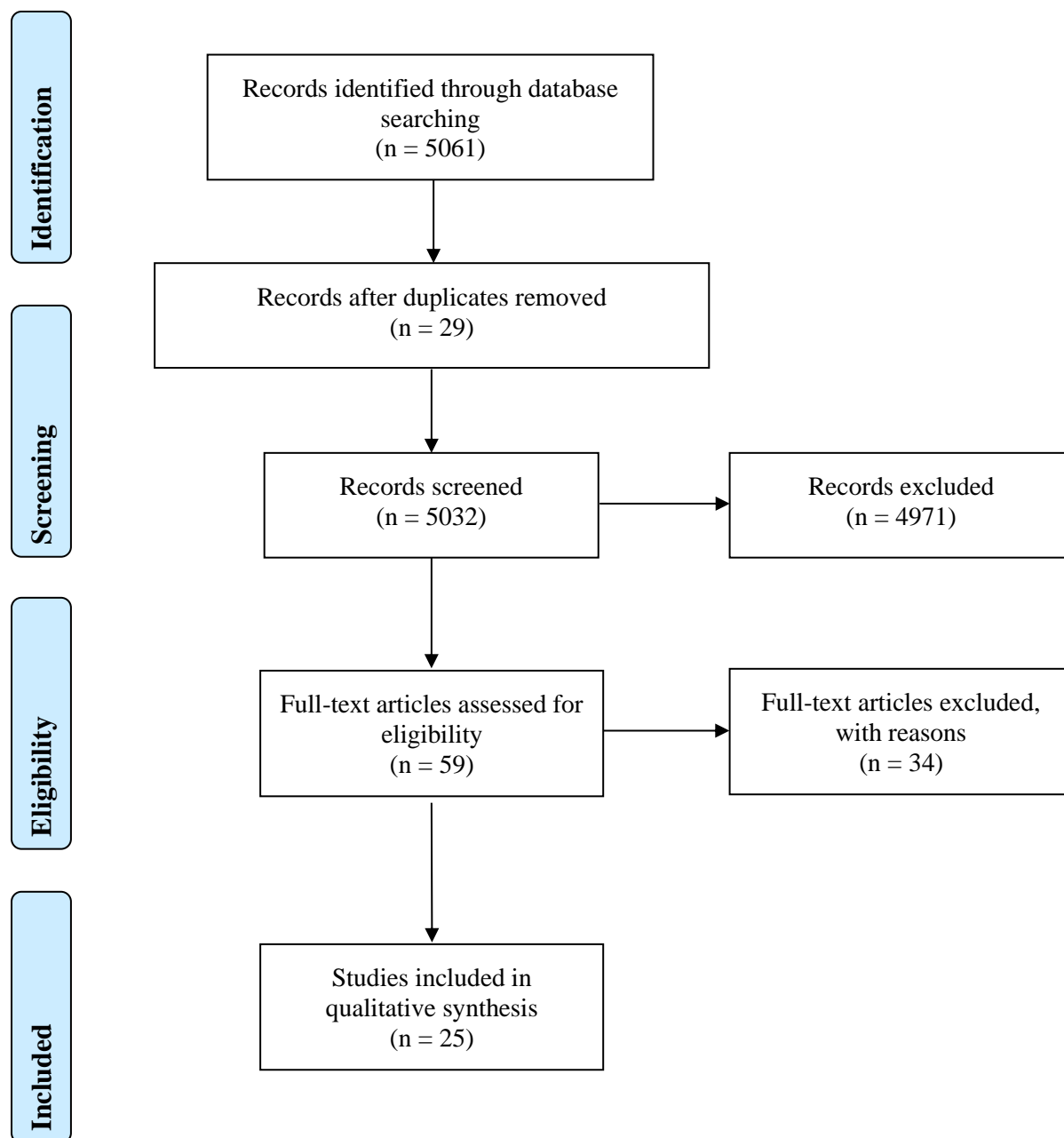


Figure 2. *PRISMA Chart for scoping review in Stage 1*

Of the 25 studies included in the scoping review, seven addressed the topic of patients seeking and/or receiving treatment for pain who had a history of past or present substance use disorder.²⁻⁸ The remaining 18 studies examined patients' experiences seeking and/or receiving treatment of various pain conditions with opioids.⁹⁻²⁶

We qualitatively synthesized the results within each study. The key findings from the studies were analyzed using a thematic approach. Upon reviewing the data, the research team decided to interpret these results through the lens of developmental systems theory,²⁷ which emphasizes the

interactions between personal, relational, and organizational factors necessary for understanding human development.²⁸ Using this approach, we explored the factors that influence patients' experiences with pain management and opioid/substance use disorder at four levels: individual, interpersonal, institutional/organizational, and socio-cultural.

Bronfenbrenner²⁸ suggested two key propositions that are relevant for understanding the findings of the scoping review. Proposition one suggests that human development occurs through reciprocal interactions between a person and their immediate environment (including persons, structures, and symbols) and that these interactions evolve over time. These interactions are known as "proximal processes". Examples of proximal processes in the context of pain management and substance/opioid use disorder include patient-physician interactions, patient-system interactions, and learning about pain management and substance/opioid use disorder. Proposition two builds upon the nature of proximal processes to recognize that these processes vary as a function of (a) the characteristics of the individual (e.g., demographics, medical history), (b) the environment in which processes are happening (e.g., rural vs. urban setting, hospital vs. community-based care), (c) the outcomes under consideration (e.g., functionality, pain elimination, health status, comorbidities), and (d) the changes occurring over time (e.g., changes in patients' age, health, or addiction, changes in physicians' expertise, changes in regulations or best-practice guidelines, changes in societal attitudes). This is referred to the person-process-context-time model.²⁸

Using an ecological lens,²⁸ four themes were constructed from the scoping review: (1) tailoring care to patients' individual needs, (2) building quality patient-physician relationships, (3) facilitating coordination and access to healthcare, and (4) addressing the socio-cultural factors that influence patients' experiences (Figure 3).

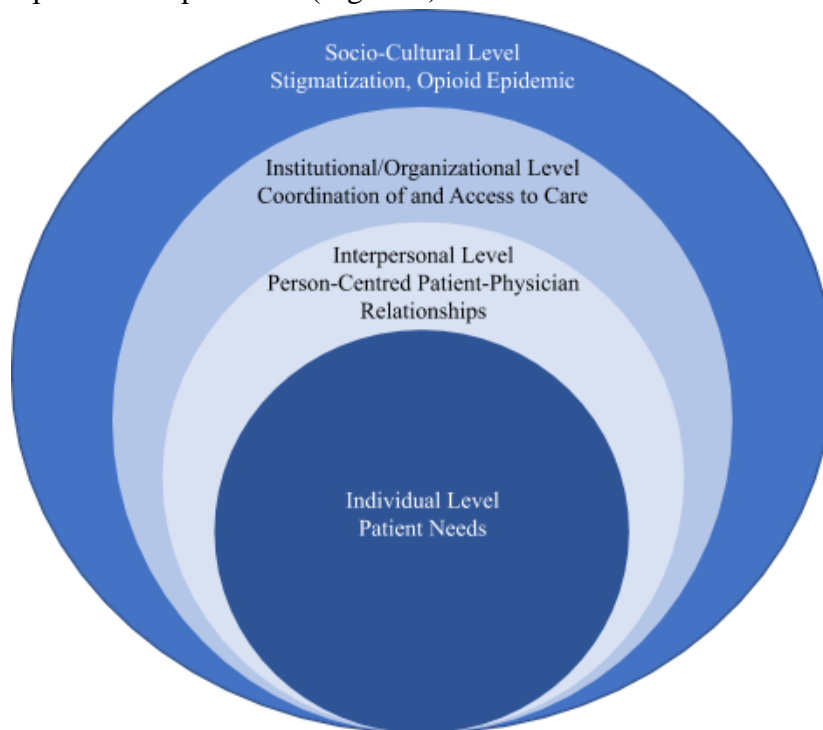


Figure 3. *Themes from findings aligned with Bronfenbrenner's Bioecological Model*²⁸

Theme 1: Tailoring care to patients' individual needs.

At the center of the model is the micro-environment or immediate environment, conceptualized here as a patient's individual needs. This theme highlights the need for patients to be treated as individuals when seeking and/or receiving treatment for their pain with opioids, regardless of their past histories of substance use. Overall, patients expressed varying attitudes, emotions, and experiences while seeking pain management with opioids. Patients reported different attitudes towards using opioids, including a lack of knowledge about the risks and benefits of opioids,^{14,17} and a willingness to try opioids, which were sometimes perceived as a last resort.²¹

Specifically, one patient expressed that *"the first thing I thought about was, you only get given morphine if you're dying"* (p. 103).¹⁰ Patients also reported a range of emotions around opioids for pain relief, including fear,^{17,19} and worry of becoming addicted to opioids.⁵ Some patients made statements such as: *"I'm trying to stay off narcotics. I don't want to get addicted,"* and *"I don't take [hydrocodone] unless I have to, because I don't wanna' get hooked on anything"* (p. 199).¹⁴

Patients expressed frustration with a healthcare system that labels all patients seeking/receiving opioid treatment as drug users,^{14,17,29} as well as a sense of lack of control over their health.^{11,24} For example one patient stated: *"I think I've been lumped in with a bunch of other people that I shouldn't be with, the abuse and things like that. And it's hurting me, who really desperately needs the medication"* (p.65).²⁰

Indeed, some patients felt that the healthcare system held all the power, which negatively influenced their experiences with the system.^{11,24} For example,

"[Being] able to have a higher dose for the days that it's really bad, and let me be the decision maker . . . Let me be the one to have some choices about my life. [Institution name], they really like encourage people to be responsible, but then when it comes to opioids, I feel like they're treating me like a little kid." (p. 1347)²⁴

Finally, results highlighted that patients' history of drug use shaped the quality of their experiences. Some patients with a previous history of drug use worried about losing sobriety,⁵ while other patients resorted to illegal drugs when their pain management needs were not adequately met by the healthcare system.^{25,29} For example, a patient highlighted: *"I don't wanna screw up my sobriety, I don't wanna get addicted, I was very frightened about getting addicted and frightened about craving [the drug of use]"* (p. 432)²⁹.

Theme 2: Building quality patient-physician relationships.

The model includes the mesosystem, reflecting connections between individuals and their physicians as a key process within the patient experience. This theme describes the characteristics of effective (and ineffective) patient-physician relationships and identifies key barriers and facilitators of effective patient-physician relationships. Patients spoke of several positive characteristics of relationships with their treating physician, including relationships that are built on open, collaborative, honest and empathetic communication.^{8,21,22,29} One patient with substance use disorder stated: *"I've really great doctors that I'm working with now that understand my addiction and understand that I do need to control my pain"* (p. 10)²⁹. On the contrary, a patient with no previous drug use said: *"You have to tell them what they want to hear,*

or you're in big trouble, trust me, I feel like I'm doing something illegal every time I take a pain pill . . . I'm scared to death of what to say to them" (p. 4)²³.

For patients with previous or current histories of drug use, many discussed being fearful of disclosing drug use histories because they felt that they would be discriminated against and not receive adequate care for their pain.^{5,6} For example, an HIV patient with drug/substance use disorder described: “. . . *the 15 milligram Oxycodone they give me is not enough. It's not strong enough and I'm afraid to tell her I take two of them to do what one won't because I don't want to get in no trouble. I'd rather have something as opposed to nothing and that's just my history" (p. 6-7)⁶.*

The selected studies also highlighted patients' challenges related to accessing adequate care when patients and physicians did not share the same goals for pain management.^{3,16} As one patient from a veterans hospital explained: “*They just want to get the medications down, take them away from me and that's their goal" (p. 4)²³. Further, patients perceived that their physicians' hesitancy towards opioid prescription as a lack of empathy towards their pain.⁶ In a study exploring veterans' experiences, one patient described their observation of physicians prescribing opioids, stating:*

“It's almost like they're afraid to . . . They mentioned that they were havin' problems with people, like in my position getting pain meds and them showing up on the streets or something. People were sellin' 'em. So it's almost like, people like me are payin' the price for the people that are just getting 'em for whatever reason.” (p. 1144)²¹

Some of the studies in this review underscored the need for better communication in general. For example, in studies examining the details of discussions between patients and physicians, results indicated that although there were often discussions about opioid use and potential addiction, there was much less discussion around the side effects of opioids.¹⁴

“PHYSICIAN: We'll get you some hydrocodone to give you some relief.

PATIENT: Is that anything that I need to be concerned about?

PHYSICIAN: No, I was going to give you enough for one a day. If you had 40 [before] and it's lasted you three months I'm not too worried about it.

PATIENT: Yeah, I'm not taking them unless I have to.

PHYSICIAN: Yeah, as long as you're taking the hydrocodone for pain it's not anything to be concerned about.” (p. 198)¹⁴

Patients expressed various concerns about potential side effects of opioids. However, in a study looking at the perceived adverse effects of opioids (constipation, drowsiness, dry mouth, confusion, reduced sex drive, and moodiness), patients were most concerned about constipation and least concerned with confusion.¹⁵

Theme 3: Facilitating coordination and access to healthcare

This theme addresses the institutional and organizational factors that influence effective care, including the often-siloed nature of the healthcare system. Patients described long and difficult journeys to have their pain diagnosed and treated with opioids,¹¹ as well as feeling that physicians often did not have enough time during appointments to adequately meet their needs.^{22,25}

Additionally, patients discussed how a lack of continuous care negatively influenced the quality of their care.^{22,25} For example, one patient stated: *“Every time I came to the clinic, it was always a new doctor. So, I would always have to explain my story all over again to a new doctor . . .”* (p. 380)⁶

Patients with histories of drug use described how physicians tended to attribute their pain to the consequences of drug use and how physicians consistently referred them to addiction care to treat their drug use at the exclusion of their pain issues.³

“When drugs became part of the mix, it was easy. Doctors just said, ‘Of course, if you use drugs that has to be the reason.’ Once you’re labelled a drug user, any pain you have is because of what you do with your body. We’re not the ones who cause the problem, so their answer is, ‘We’re not specialists in that area. Then they send us back to the methadone doctor.” (p. 152)²

Another issue at the institutional/organizational level was patients’ ability and/or resources to access healthcare services. For instance, patients described how their access to non-pharmacological treatments for pain management could be restricted due to lack of medical insurance coverage.^{3,22} One patient elaborated:

“Yes, I really like the acupuncture but the crazy thing; my insurance would not pay for that. Now that’s the part that tripped me out because you guys, the [physicians] don’t want us on opioids like that but yet they’re not willing to pay for alternative medicine, you know, I can’t afford \$120 every time I’m in pain [and] want to get acupuncture.” (p. 5)³

Theme 4: Addressing the socio-cultural factors that influence patients’ experiences

Theme 4 addresses the challenges that patients faced in receiving effective treatment for their pain with opioids within the context of the on-going opioid epidemic. As such, this theme reflects the broader social and cultural factors that shape patients’ experiences. For example, the opioid epidemic has resulted in changes to opioid access since opioid prescriptions have become more restrictive and more closely monitored. As one patient described:

“[The law] affects people like me [who are employed] because they won’t give [opioids] to you unless, you know, you go...to the special clinic, the classes, to get them. Well, I knew that I couldn’t get [medications] until I went to the classes. I had to go to the classes in the winter. I had to hop out and catch the bus and go out west to go to the [pain] clinic to see the doctor.” (p. 6)⁴

Additionally, patients described challenges related to having their prescriptions filled in pharmacies.¹⁶ *“I went to 10 pharmacies in 1 day to get an oxycodone prescription. They told me that they only order a certain amount”* (p. 4)³

Patients also perceived that opioid safety policies were unfairly applied as they felt that policies were designed to address clinicians’ legal concerns, rather than to improve patient safety.⁷ Other patients went so far as to say that the healthcare system’s preoccupation with monitoring and limiting prescriptions prevented their physician from providing comprehensive care for patient health.³

“They just ask me what my pain is. They ask me how my pain is. You okay with just morphine? Yes. Okay and that’s about it and they take my blood work. That’s all the conversation I have. I’ve never had any real in-depth conversations concerning pain management.” (p. 4)³

Additionally, patients often felt stigmatized and burdened by the opioid monitoring requirements.^{6,9,25}

“[If] the doctor know [sic] my background and I have chronic pains . . . I feel like [the clinicians] should call my meds in,, I shouldn’t have to come up there and get a prescription . . . I feel like because it don’t make no sense. It’s basically you’re going in there without an appointment but it seems like it is appointment because you have to sit in there and you have to actually wait to get in and you’re not going in the back [clinic room] . . . So, you won’t be able to say nothing to that doctor or anything, [and] you come back two weeks later to come to the doctor. I feel like they need to better up on, on serious people that really, really have chronic pain.” (p. 380)²⁵

“I get drug tested about [every] 2 or 3 months . . . I think [the rules] made it more difficult for patients to get their medicine. . . it’s hard to take off work to be able to go in every month or 2 months to the physician, whereas it used to be able to get refills every 3 or 4 months without having to go to the physician. [Now] it’s usually every 6 weeks I see [the pain management] doctor.” (p. 5)⁹

Finally, there was worry amongst some patients about future access to opioids. One patient expressed concerns about further restrictions around opioid prescription and access in pharmacies: *“... there may come a point where that’s not available to me. I feel bad for everybody who needs opioids truly and they may not be available”* (p. 1348)²⁴

Gaps: A number of gaps in physician competence were identified from patients receiving opioid treatment for their pain (Table 4). To facilitate the assessment of these gaps with subsequent sections of the environmental scan, we have organized these gaps into the Royal College of Physicians and Surgeons of Canada (RCPS) CanMEDS Roles, Family Medicine CanMEDS Roles, and the College of Family Physicians of Canada (CFPC) Family Medicine Skill Dimensions of Competence.

Table 4. *Patient-identified Gaps in Physician Competence by CanMEDS Roles and Family Medicine Skills Dimensions of Competence*

Patient Identified Gaps	RCPSC CanMEDS Roles	CanMEDS - Family Medicine	CFPC Skill Dimensions of Competence
Patients identified that physicians sometimes lacked compassion for their pain and pain management needs.	Medical Expert, Professional	Family Medicine Expert	Professionalism
Patients described a disconnect between their physicians' goals of care and their own. Patients often reported wanting a lowered level of pain, whereas they perceived their physician's goal to be to lower the amount of opioids being taken by their patients.	Medical Expert	Family Medicine Expert	Patient-Centered Approach
Patients expressed frustration regarding their "long" journey of having their pain diagnosed and treated. As such, they identified a need for improved continuity of care.	Medical Expert, Collaborator	Family Medicine Expert, Collaborator	
Across several studies in this review, patients expressed dissatisfaction with their physicians' listening skills, empathy, and understanding of their pain.	Communicator	Communicator	Communication Skills
Patients (and physicians) described wanting relationships built on open communication, honesty, empathy and trust.	Communicator	Communicator	Communication Skills, Professionalism
Nearly all patients chronicled their frustration with being labelled as "drug seekers" or "drug abusers" when seeking opioids for their pain.	Communicator, Health Advocate	Communicator	Selectivity, Professionalism
Patients wanted their physicians to treat them as individuals and to employ treatment approaches that are based on their unique needs.	Medical Expert, Health Advocate	Family Medicine Expert	Patient-Centered Approach
Patients also expressed frustration with a lack of autonomy in their healthcare decisions and expressed a	Medical Expert, Communicator	Communicator	Patient-Centered Approach

Patient Identified Gaps	RCPC CanMEDS Roles	CanMEDS - Family Medicine	CFPC Skill Dimensions of Competence
desire to be able to be a part of the decision-making process.			
Patients described ineffective referrals and transitions of their care. Patients with histories of substance use disorder were often referred to substance use treatment programs that did not deal with pain management.	Collaborator	Collaborator	Selectivity
Patients also described needing to re-tell their entire histories when meeting a new physician.	Collaborator, Communicator	Collaborator	Communication Skills
Patients wanted to be treated as an individual, despite substance use disorder history and pandemic policies, emphasizing relationship-centered care.	Medical Expert, Health Advocate	Family Medicine Expert	Patient-Centered Approach, Professionalism
The opioid epidemic has influenced patients' ability to access effective opioid treatment for their pain. Physicians should continue to advocate for fair and safe access to opioids, pain specialists, substance/opioid use programs, and any and all allied health programs with evidence-based approaches to pain management (e.g. physiotherapy, acupuncture, etc.).	Collaborator, Leader, Health Advocate, Professional	Collaborator, Leader, Health Advocate	Professionalism
Patients sometimes expressed dissatisfaction with their physicians' care and knowledge of the causes of pain and available treatments for pain. As such, physicians should continue to commit themselves to advancing their clinical practice competence around safe and effective opioid prescription.	Scholar, Professional	Scholar, Professional	Clinical Reasoning Skills, Professionalism
Patients shared the impacts that pain and opioids have on their social interactions. Patients underscored the importance of their physicians	Health Advocate	Health Advocate	Professionalism

Patient Identified Gaps	RCPC CanMEDS Roles	CanMEDS - Family Medicine	CFPC Skill Dimensions of Competence
recognizing the psychosocial effects that pain and opioids can have on their daily lives.			
Patients expressed concern that safety policies were unfairly applied as they felt that policies were designed to address clinicians' legal concerns rather than to improve patient safety. Physicians should thus continue to work towards the equitable, effective, and efficient allocation of healthcare resources for the management of all pain conditions.	Leader, Health Advocate, Professional	Leader, Health Advocate, Professional	Professionalism

STAGE 2 – REVIEWS OF LITERATURE

The reviews of literature included four specific areas: (a) published Canadian pain guidelines, (b) published Canadian substance use guidelines, (c) published Canadian pain competency frameworks, and (d) published Canadian substance use competency frameworks.

Part A: Review of Canadian Pain Guidelines

We collected published Canadian pain guidelines for the treatment of any pain condition, as well as any updated Canadian pain competency frameworks.

Purpose: The purpose of the first review of literature was to collect published Canadian pain guidelines for the treatment of any pain condition. We included any clinical guidelines published by Canadian special interest/working groups for any type of pain, in any patient. Table 5 includes the details of the review’s inclusion and exclusion criteria.

Methods: Data collection occurred within two databases (Medline (Ovid MEDLINE(R) Daily and Epub Ahead of Print, In-Process & Other Non-Indexed Citations 1946 to Present) and EMBASE (Ovid, Embase Classic+Embase 1947 to present)) to collect all diagnosis and treatment guidelines published by Canadian authors and/or interest groups. Table 6 includes the search terms and limits used in each database. Citations were imported into Covidence¹ for title/abstract screening and for full-text screening.

Titles and abstracts were hand-screened in duplicate, by two blinded reviewers, to determine if they would be included in the full-text review. Any discrepancies were resolved through

discussion between reviewers. Full-text screening was then completed by a single reviewer to determine if papers would be included in the review. Since the purpose of this literature review was to identify Canadian Clinical Guidelines, no data extraction took place.

Table 5. *Logic Grid for the Review of Canadian Pain Guidelines*

		Inclusion Criteria	Exclusion Criteria
Population	All pain conditions. All patient groups.	All patients ages (children, adults, older adults). Published by special interest groups, working groups or organizations.	Guidelines or comments on guidelines published by authors outside of a recognized pain group.
Concept	Clinical guidelines for the diagnosis and treatment of pain.	All pain conditions (e.g., back pain, post-surgery pain, chronic pain, etc.).	Conditions unrelated to pain.
Context	Clinical guidelines for physicians	All specialties of medicine (e.g., family medicine, surgery, gynecology).	Clinical practice guidelines unique to healthcare providers outside of medicine (e.g., chiropractors, massage therapists).

Table 6. *Pain-Related Search Terms and Limits Used in Medline and Embase.*

Search Terms and Limits
Practice Guidelines
Pain
Canada.mp
Limit to year = “2000-2020”
Limit to humans and English language

Findings: Our initial searches identified 544 titles and after removing duplicates, 525 titles remained. Of these remaining titles, abstracts were then screened for relevance to inclusion/exclusion criteria, resulting in the selection of 17 studies. An additional 17 titles were found through reviewing the references of the report by the Canadian Pain Task Force.³⁰ An overview of the guidelines can be found in Table 7. A detailed list of all 35 guidelines, including a brief summary, is available upon request.

Table 7. *Overview of Canadian Pain Guidelines*

Condition-specific Guidelines	Opioid-specific Guidelines
The CanPain SCI Clinical Practice Guidelines for Rehabilitation Management of Neuropathic Pain after Spinal Cord: Recommendations for treatment ³¹	Canadian Guideline for Safe and Effective Use of Opioids for Chronic Noncancer Pain: Clinical Summary for Family physicians. Part 1: General Populations ³²
Management of Patients with Refractory Angina: Canadian Cardiovascular Society/Canadian Pain Society Joint Guidelines ³³	Canadian guideline for safe and effective use of opioids for chronic noncancer pain: clinical summary for family physicians. Part 2: special populations ³⁴

Reducing Pain During Vaccine Injections: Clinical Practice Guideline ³⁵	Guideline for opioid therapy and chronic noncancer pain ³⁶
Consensus Guidelines for the Management of Chronic Pelvic Pain. This guideline was developed by the Chronic Pelvic Pain Working Group and approved by the Executive and Council of the Society of Obstetricians and Gynecologists of Canada ³⁷	Use of Opioid Analgesics for the Treatment of Chronic Noncancer Pain – A Consensus Statement and Guideline from the Canadian Pain Society ³⁸
Canadian Urological Association Best Practice Report on Chronic Scrotal Pain ³⁹	Population-specific Guidelines
2012 Canadian Guidelines for the Diagnosis and Management of Fibromyalgia Syndrome: Executive Summary ⁴⁰	No. 355-Physiologic Basis of Pain in Labour and Delivery: An Evidence-Based Approach to its Management ⁴¹
Consensus statement: the development of a national Canadian Migraine Strategy ⁴²	Prise de Position de la société Québécoise de Gériatrie sur l'Évaluation et la Prise en Charge de la Douleur. ⁴³ (Assessment and management of pain in older persons)
Evidence-based Guideline for Neuropathic Pain Interventional Treatments: Spinal Cord Stimulation, Intravenous Infusions, Epidural Injections and Nerve Blocks ⁴⁴	General Chronic Pain Guidelines
Guideline for Primary Care Management of Headache in Adults ⁴⁵	Guidelines for the Use of Cannabinoid Compounds in Chronic Pain ⁴⁶
Evidence-informed Primary Care Management of Low Back Pain: Clinical Practice Guideline ⁴⁷	Pharmacological Management of Chronic Neuropathic Pain: Revised Consensus Statement from the Canadian Pain Society ⁴⁸
Diagnosis and Management of Low-Back Pain in Primary care ⁴⁹	Assessment and Management of Pain (Third Edition) ⁵⁰
No. 164-Consensus Guidelines for the Management of Chronic Pelvic Pain ⁵¹	Chronic Pain: Care for Adults, Adolescents, and Children ⁵²
The Treatment of Neck Pain-associated Disorders and Whiplash-associated Disorders: A Clinical Practice Guideline ⁵³	Management of Chronic Non-Cancer Pain Tool ⁵⁴
Spinal Manipulative Therapy and Other Conservative Treatments for Low Back Pain: A Guideline from the Canadian Chiropractic Guideline Initiative ⁵⁵	
Non-pharmacological Management of Persistent Headaches Associated with Neck Pain: A clinical Practice Guideline from the Ontario Protocol for Traffic Injury Management (OPTIMa) Collaboration ⁵⁶	
Management of Neck Pain and Associated Disorders: A Clinical Practice Guideline from the Ontario Protocol for Traffic Injury Management (OPTIMa) Collaboration ⁵⁷	
Ottawa Panel Clinical Practice Guidelines – Therapeutic Exercise and Manual Therapy in the Management of Osteoarthritis ⁵⁸ ; Knee Osteoarthritis Part 1-3 ^{18,59,60} ; Therapeutic Exercise in the Management of Hip	

Osteoarthritis ²⁸ ; Structured Physical Activity in the Management of Juvenile Idiopathic Arthritis ⁶¹	
Endometriosis: Diagnosis and Management ⁶²	

Part B: Review of Canadian Substance Use Guidelines

We collected published Canadian substance use guidelines for the treatment of any substance use disorder, as well as any Canadian substance use competency framework.

Purpose: The purpose of the review of literature was to collect published Canadian substance use disorder guidelines. We included any clinical guidelines published by Canadian special interest/working groups for any substance use disorder, in any patient. Table 8 includes the details of the review’s inclusion and exclusion criteria.

Methods: Data collection occurred within two databases (Medline (Ovid MEDLINE(R) Daily and Epub Ahead of Print, In-Process & Other Non-Indexed Citations 1946 to Present) and EMBASE (Ovid, Embase Classic+Embase 1947 to present) to collect all diagnosis and treatment guidelines published by Canadian authors and/or interest groups. Table 9 includes the search terms and limits used in each database. Citations were imported into Covidence¹ for title/abstract screening and for full-text screening.

Titles and abstracts were hand-screened in duplicate, by two blinded reviewers, to determine if they would be included in the full-text review. Any discrepancies were resolved through discussion between reviewers. Full-text screening was then completed by a single reviewer to determine if papers would be included in the review. Since the purpose of this literature review was to identify Canadian Clinical Guidelines, no data extraction took place.

Additionally, we searched “CPG Infobase: Clinical Practice Guidelines” (<https://joulecm.ca/cpg/homepage>) for guidelines related to substance use. Any new titles were added to those found through Medline and Embase.

Table 8. *Logic Grid for the Review of Canadian Substance Use Guidelines*

		Inclusion Criteria	Exclusion Criteria
Population	All substances (e.g. alcohol, opioids). All patient groups.	All patients ages (children, adults, older adults). Published by special interest groups, working groups or organizations.	Guidelines or comments on guidelines published by authors outside of a recognized pain group.
Concept	Clinical guidelines for the diagnosis and treatment of substance use disorders.	All substance use (e.g., alcohol consumption during pregnancy, opioid addiction, etc.).	Addictions outside of substance use disorders (e.g. gambling).
Context	Clinical guidelines for physicians	All specialties of medicine (e.g., family medicine, surgery, gynecology).	Clinical practice guidelines unique to healthcare providers outside of medicine (e.g., dentists).

Table 9. Substance Use Guideline Search Terms and Limits Used in Medline and Embase

Search Terms and Limits in Medline	Search Terms and Limits in Embase
Practice guidelines	Practice guidelines
Heroin dependence, or alcoholism, or opioid-related disorders, or substance-related disorders, or “tobacco use disorder”, or cannabis	Drug use/abuse, or substance use/abuse, or opiate addiction or heroin dependence, or alcoholism, or cannabis addiction, or drug dependence
Canada.mp	Canada.mp
Limit to year = “2000-2020”	Limit to year = “2000-2020”

Findings: Our initial searches identified 165 titles and after removing duplicates, 158 titles remained. Of these remaining titles, abstracts were then screened for relevance to inclusion/exclusion criteria, resulting in the selection of 10 studies. An additional four titles were found through a search of the Canadian Clinical Practice Guideline database. An overview of the guidelines can be found in Table 10. A detailed list of all 14 guidelines, including a brief summary, is available upon request.

Table 10. Overview of Canadian Substance Use Guidelines

Condition Specific	Substance Specific
The Canadian Network for Mood and Anxiety Treatments (CANMAT) task force recommendations for the management of patients with mood disorders and comorbid substance use disorders ⁶³	Lower Risk cannabis use Guidelines for Canada (LRCUG): A narrative review of evidence and recommendations ⁶⁴
Guideline No. 405: Screening and Counselling for Alcohol Consumption During Pregnancy ⁶⁵	Management of opioid use disorders: a national clinical practice guideline ⁶⁶
SOGC clinical practice guidelines: Substance use in pregnancy: no. 256, April 2011 ⁶⁷	Tobacco use and misuse among Indigenous children and youth in Canada ⁶⁸
No. 245-Alcohol Use and Pregnancy Consensus Clinical Guidelines ⁶⁹	Strategies to promote smoking cessation among adolescents ⁷⁰
WHO guidelines for the identification and management of substance use and substance use disorders in pregnancy: Implementation in a Canadian context ⁷¹	Counselling adolescents and parents about cannabis: A primer for health professionals ⁷²
Screening and recording of alcohol use among women of child-bearing age and pregnant women ⁷³	Treatment Specific
Adolescent Pregnancy Guidelines ⁷⁴	Injectable opioid agonist treatment for opioid use disorder: a national clinical guideline ⁷⁵
	Guidance for Injectable Opioid Agonist Treatment for Opioid Use Disorder ⁷⁶

Part C: Review of Canadian Pain Competency Frameworks

Purpose: The purpose of the third review of literature was to collect published Canadian pain competency frameworks. Given the recent review conducted by AFMC in 2019,⁶¹ the aim of this

review was to find any Canadian pain-related competency frameworks published after January 2019. A search strategy was built in Medline and translated into Embase (Table 11).

Table 11. *Pain-Related Competency Framework Search Terms and Limits Used in Medline and Embase*

Search Terms and Limits in Medline	Search Terms and Limits in Embase
education, medical or clinical competence or competency-based education or competency framework.mp	clinical competence, or curriculum, or competency framework.mp, or medical education
pain	pain
Canada.mp	Canada.mp
limit to year = “2019-2020”	limit to year = “2019-2020”

Findings: Our searches returned 21 titles and abstracts, but none of them were pain-related competency frameworks. As a result, our searches did not find any additional published Canadian pain competency frameworks to add to those found by AFMC’s 2019 environmental scan.⁷⁷ We have included the three competency frameworks identified in the 2019 environment scan in Table 12. We did not include the undergraduate medical education pain management framework developed in 2019/2020 since it has not yet been published.

Table 12. *Pain-Related Competency Frameworks*

Reference
Répertoire des compétences médicales en gestion de la douleur non cancéreuse et en prescription d’opioïdes ⁷⁸
Medical competencies directory in non-cancer pain management and opioid prescribing - Update ⁷⁹
IASP Interprofessional Pain Curriculum Outline ⁸⁰
Core competencies in integrative pain care for entry-level primary care physicians ⁸¹

Part D: Review of Canadian Substance Use Competency Frameworks

Purpose: The purpose of the fourth review of literature was to collect published Canadian substance use competency frameworks. Given the recent review conducted by AFMC in 2019,⁶¹ the aim of this review was to find any Canadian substance use related competency framework. A search strategy was built in Medline and translated into Embase (Table 13).

Table 13. *Substance Use Competency Framework Search Terms and Limits Used in Medline and Embase*

Search Terms and Limits in Medline	Search Terms and Limits in Embase
Clinical competence, or competency-based education, or competency framework.mp or medical education	clinical competence or curriculum or competency framework.mp
Heroin dependence, or alcoholism, or opioid-related disorders, or substance-related disorders, or “tobacco use disorder”, or cannabis	Drug use/abuse, or substance use/abuse, or opiate addiction or heroin dependence, or alcoholism, or cannabis addiction, or drug dependence
Canada.mp	Canada.mp

Findings: Our searches returned 76 titles and abstracts and after removing duplicates, 69 titles remained. Of these remaining titles, abstracts were then screened for relevance to inclusion/exclusion criteria, resulting in the selection of 1 study. Two additional studies were found as they were referenced in studies that we screened for inclusion. The titles of these studies can be found in Table 14.

Table 14. *Substance Use Competency Frameworks*

Reference
Training in Substance-Related and Addictive Disorders, Part 1: Overview of Clinical Practice and General Recommendations ⁸²
Training in Substance-Related and Addictive Disorders, Part 2: Updated Curriculum Guidelines ⁸³
Competencies for Canada’s Substance Abuse Workforce. Section VII Technical Competencies Report ⁸⁴

Gaps: Thirty-five pain-related clinical guidelines were found through our first literature review, covering conditions from endometriosis, to headache, and chronic pain. Upon reviewing the currently available guidelines, some gaps that were identified include a need for guidelines related to the treatment of acute pain conditions (e.g., broken bones, dental pain, post-surgery, obstetric-related). In the scoping review, young people often reported that their first encounter with opioids was in acute care settings (e.g., emergency rooms) for acute pain conditions. Their experiences with those opioids influenced their beliefs of opioids and even, in some cases, future experiences with opioids. With a large number of pain guidelines, it will be difficult for physicians, especially those who treat a diverse range of pain-related conditions (e.g., emergency rooms physicians, family physicians, and pediatricians), to remain up-to-date on the most current and evidence-based best practices.

While it is unlikely that our review captured all Canadian published substance use guidelines, our findings identify that they fall into one of three types: condition-, substance- and treatment-specific.

STAGE 3 – OPEN-ACCESS SEARCHES

In the third stage of the environmental scan, we identified all pain, addiction, and substance use related competencies for all RCPSC specialties and subspecialties, and for the CFPC priority topics and key features under. Additionally, websites for individual PGME departmental websites and CPD offices at each medical school were searched for open-access curricular content.

Part A: RCPSC CanMEDS competencies and CFPC priority topics/key features related to pain, addiction, and substance use

Purpose: The purpose of this portion of our open-access search was to collect all pain, addiction, and substance use related competencies for each specialty and subspecialty as outlined by the RCPSC. Additionally, we collected pain, addiction, and substance use (abuse) related priority topics and key features as outlined by the CFPC. It is important to note that some documents

refer to “substance abuse” rather than “substance use”. We therefore included both terms in the search strategy.

Methods: Using the “Information by Discipline” section on the RCPSC website (<http://www.royalcollege.ca/rcsite/ibd-search-e>), we hand searched each specialty (and subspecialty) competency documents using the keyword “pain”, “addiction”, and “substance use/abuse”. In addition, CFPC’s “*Defining competence for the purposes of certification by the CFPC: The evaluation objective in family medicine*” was searched for all priority topics and key features related to pain, addiction, and substance use.

Findings: After reviewing and collecting all key and enabling competencies related to pain, we found that across the 29 specialties, 13 (45%) had one or more key competencies related to pain (*Note:* In some specialties, pain is not a relevant clinical topic; i.e., nuclear medicine, neuropathology). Across the 40 subspecialties, 17 (43%) had one or more key competencies related to pain (*Note:* In some subspecialties, pain is not a relevant clinical topic i.e., forensic pathology and medical biochemistry).

In reviewing the key and enabling competencies related to addiction and substance use (abuse), we found that across the 29 specialties, 9 (31%) had one or more key competencies related to addiction and/or substance use. Across the 40 subspecialties, 12 (30%) had one or more key competencies related to addiction and/or substance use.

We tabulated the number of key and enabling competencies related directly to pain, addiction/substance use for each CanMEDS role (Table 15). We found that the role of Medical Expert aligned with the largest number of key and enabling competencies, with the remaining five roles aligning with smaller numbers of key and enabling competencies. A complete list of competencies for each specialty, subspecialty are available upon request.

Table 15. *Summary of the Numbers of RCPSC Key and Enabling Competencies Across all Specialties and Subspecialties for Each CanMEDS Role*

CanMEDS Role	Number of key competencies related to <u>pain</u> (Specialties, Subspecialties*)	Number of enabling competencies related <u>pain</u> (Specialties, Subspecialties*)	Number of key competencies related to <u>addiction and substance use</u> (Specialties, Subspecialties*)	Number of enabling competencies related to <u>addiction and substance use</u> (Specialties, Subspecialties*)
Medical Expert	20, 24	54, 67	6, 11	7, 20
Communicator	0, 2	0, 1	0, 1	0, 1
Collaborator	1, 1	1, 1	0, 0	0, 0
Leader	1, 0	1, 0	3, 1	3, 1
Health Advocate	2, 0	1, 0	0, 5	0, 7
Professional	0, 2	0, 2	2, 1	2, 1
Scholar	0, 0	0, 0	0, 0	0, 0

*Key and enabling competencies related to the subspecialty ‘Pain Medicine’ have not been included in these tabulated results as this subspecialty focuses explicitly on pain.

After collecting and analyzing all priority topics and key features related to pain, substance use, addiction and substance abuse from CFPC, we found that across the 105 priority topics, 17 had one or more key features related to pain and 14 had one or more key features related to substance use, substance abuse, or addiction.⁸⁵ A complete list of priority topics and key features for each CFPC skill are available upon request.

We tabulated the number of priority topics and key features for each CFPC skill dimension of competence (Table 16). We found that the skill ‘Clinical Reasoning’ appeared in the largest number of priority topics and key features related to pain and substance use. The skill ‘Procedure Skills’ did not appear in any of the priority topics or key features for either pain, addiction, or substance use.

Table 16. *Summary of the Numbers of CFPC Priority Topics and Key Features Related Across Each Skill*

CFPC Skills	Number of Priority Topics (Pain)	Number of Key Features (Pain)	Number of Priority Topics (Addiction and Substance Use)	Number of Key Features (Addiction and Substance Use)
Clinical Reasoning	16	72	13	31
Communication Skills	4	4	1	1
Patient-Centered Approach	5	10	5	15
Selectivity	9	22	4	6
Professionalism	2	2	1	2
Procedure Skills	0	0	0	0

Part B: Pain-related curriculum from each of Canada’s 17 medical schools.

Purpose: The purpose of the open-access search of CPD and PGME programs across medical schools was to identify pain and substance use disorder related course offerings across each specialty including family medicine and subspecialty. This information supplements the survey response data collected in Stage Four of the environmental scan.

Methods: Residency specialty and subspecialty programs at each medical school were hand searched using the key words pain, substance, and opioid. These findings were cross-checked against Cohaesio’s environmental scan from 2018-19.⁸⁶ Data were categorized by specialty, program type, topic area, and curriculum modality (Table 17 and Table 18).

Findings: Anesthesiology, Emergency Medicine, Family Medicine and Surgery programs typically contained a core pain curriculum. A wide variety of teaching and learning modalities were used in these specialties, including academic half days, rotations, journal clubs, intensive sessions with senior residents, interactions with standardized patients, hi-fidelity simulation, clinical service, rounds, online courses, lectures, workshops, small groups sessions, and seminar

series. For most of the other specialties, pain curricula content was primarily delivered through rotations.

Gaps: While most schools offered some form of CPD related to pain management or substance and/or opioid use disorder, some schools did not provide any CPD offerings in these areas. It is possible that content in these areas could be provided through other channels (e.g., Faculty Development). Memorial University, Laval University, the University of Ottawa, and the University of Sherbrooke did not have information publicly available on their websites.

Table 17. *Curricular Offerings PGME*

Specialty	PGME Program	Topic Area	Curriculum Modality
Anesthesiology and Pain Medicine	Residency	<ul style="list-style-type: none"> • Communications Course⁸⁷⁻⁹⁰ • Chronic Pain Management^{87,90-93} • Internal or Intensive Care Pain^{87,94} • Multidisciplinary Pain Clinic^{87,95,96} • Long-term Outpatient program (Life Despite Pain)⁸⁷ • Assessment and treatment of acute and chronic pain^{87,92,97,98} • Pain rotation^{99,100} • Postoperative care^{88,89,97,101,102} • Complex pain syndromes^{88,89,103} • Acute/chronic spinal pain management^{88,90,103,104} • Acute pain modalities^{88,103,105} • Chronic pain modalities^{88,103} • Communicate clearly with the patient and other members of healthcare team as to the expectations and strategies of individual pain management^{89,105} • Chronic pain clinic^{103,106} • Chronic pain in children^{88,95,103} • Acute pain management^{88,93,95,103} • Knowledge of clinical pharmacology of the opioid and non-opioid (tricyclics, NSAIDS, alpha agonists, anticonvulsants) treatment of acute pain including the use of systemic opioids, non-opioid analgesics, PCA, Regional techniques including nerve blocks^{88,89,95,97,107} • Outline the advantages of one pain relief delivery system over another, and give specific doses, rates and details of these delivery systems⁸⁹ • Describe and treat common and life threatening adverse reactions to medications used to treat acute pain⁸⁹ • Obtain pain history^{88,89,97} • Perform pain physical exam^{88,89,97,105} • Methadone in pain management⁸⁹ • Addictions^{88,90,93,95,105,108} • Treatment of opioid dependent patients^{88*104} • Ethical standards in pain management and research^{88,105} • Psychosocial and cultural aspects of pain^{88,90} • Interdisciplinary pain management^{88,90,105,108} • Pain and substance dependence^{88,90} • Rheumatological and musculoskeletal pain^{88,105} • Chronic pain management in substance abusers^{88,90,105} • Chronic pain fellowship⁹¹ 	<ul style="list-style-type: none"> • Rotations • Academic half days • Orientation • Training site • Journal club • Intensive sessions with senior residents • Didactic teaching • Interaction with standardized patients • Task trainers • Hi-fidelity simulation • Rounds • Lectures • ECHO rounds • Online Courses • Workshops • Logbook • Pain committee membership • Portfolio • Small group sessions • Seminar series (regional and pain) • Invited guest speakers • Teaching sessions • Conferences • Scholarly project • Self-assessment modules

Specialty	PGME Program	Topic Area	Curriculum Modality
		<ul style="list-style-type: none"> • Public health and preventative medicine elective⁹⁵ • Pain pathways^{97,104,109} • Epidural starts¹¹⁰ • Opioid abuses including in physician colleagues^{86,105} • Acute pain services^{93,96,111,112} • Pediatric pain service¹¹¹ • Community-based pain medicine^{105,111} • Interventional Pain Medicine/Neuromodulation^{104,105,111} • Pain clinic¹¹³ • Acute pain therapy¹⁰⁶ • Implement appropriate pain control measures perioperatively^{104,114} • Pain control specific to ambulatory surgical cases¹¹⁴⁻¹¹⁶ • Pediatric pain management¹⁰⁴ • Knowledge of indications, contra-indications, and complications of narcotics, anti-inflammatory medications, antidepressants, sedatives, intrathecal medications, and epidural analgesia as they pertain to perioperative pain control^{93,117} • Preoperative assessment clinic⁹⁶ • Pre-admission clinic¹¹⁷ • Apply the science of quality improvement to contribute to the improvement of the Acute Pain Service and patient care^{93,104} • Apply evidence and management processes to achieve cost appropriate post-operative pain management⁹³ • Critically evaluate the integrity, reliability, and applicability of health related research and literature for post-operative pain management⁹³ • Leadership skills that enhance the effective function of the Acute Pain Service⁹³ • Reduction of patient safety incidents (adverse events) during Acute Pain Service and Out of OR Anesthesia⁹³ • Use of pain medications, non-steroidal anti-inflammatory drugs and regional anesthetic techniques in cardiac surgical patients¹¹⁸ • Altered respiratory physiology of the immediately postoperative ventilated patient with significant surgical incisions and pain (sternotomy, large abdominal incision)¹¹⁹ • Types of chronic pain syndromes that present to a tertiary pain clinic⁹⁷ • Pharmacologic, non-pharmacologic and surgical modalities available⁹⁷ • Impact of chronic pain on patients' lives and work and that of their families⁹⁷ • Role of psychological factors, particularly anxiety and depression, on pain perception and disability^{97,105} • National practice guidelines for chronic pain management⁹⁷ 	

Specialty	PGME Program	Topic Area	Curriculum Modality
		<ul style="list-style-type: none"> • Interventional techniques commonly employed in chronic pain medicine including: peripheral nerve blocks, sympathetic blockade for upper & lower extremity, trigger point injections, epidural steroid injections, blocks for diagnosis and treatment of the facet joint syndrome, sacroiliac joint injections, lidocaine and ketamine infusions⁹⁷ • Legal, social, and bioethical issues encountered in chronic pain management⁹⁷ • Specific pain disorders: Complex Regional Pain Syndrome, neuropathic pain syndromes (e.g., peripheral diabetic neuropathy, post-herpetic neuralgia), central pain syndromes, intractable anginal pain, visceral pain, pelvic pain, headaches, pain related to peripheral vascular insufficiency^{97,105} • Management of an ambulatory care pain clinic⁹⁷ • Important determinants of health affecting chronic pain patients^{97,105} • Recognize and contribute to opportunities for advocacy to improve health in the chronic pain population⁹⁷ • Labour analgesia including anatomy and physiology of labour pain, and strategies for analgesia¹²⁰ • Anesthesia in community settings (outside a major teaching hospital)^{92,121} • Management of opioid tolerant patients¹²² • Postoperative pain management of vascular patients, including pre-emptive analgesia, PCA, epidural and nerve blocks¹²³ • Providing pain and symptom control expertise in palliative medicine settings (without practicing palliative medicine)⁹³ • Knowledge of the level of evidence in the literature regarding neuropathic pain management options¹⁰⁵ • Assessment of patient using validated assessment tools, history taking skills, physical examination skills, and appropriate ordering and interpretation of investigations^{104,105} • Knowledge of the level of evidence in the literature regarding musculoskeletal pain management options¹⁰⁵ • Use of patient controlled analgesia pumps¹⁰⁵ • Assessment and management of patients with comorbid surgical or medical illness^{104,105} • Non-pharmacologic and pharmacologic treatment options for common sleep problems occurring in association with chronic pain disorders¹⁰⁵ • Identify when and who to include for pain management for children¹⁰⁵ • Describe the impact of developmental stage on pain and communication¹⁰⁵ • Identify and manage anger, frustration, and other strong affective responses from ongoing painful conditions¹⁰⁵ • Provide psychological education to patients and their families around pain and symptom management¹⁰⁵ 	

Specialty	PGME Program	Topic Area	Curriculum Modality
		<ul style="list-style-type: none"> • Develop a management plan with patients (shared decision-making) and communicate these goals to the primary care physician and other caregivers in the health care team¹⁰⁵ • Explain the role of pain medicine physicians to other health care providers¹⁰⁵ • Models of pain medicine delivery (e.g., community based, academic) and their utilization¹⁰⁵ • Roles of the primary care physician and the specialist in the provision of pain management¹⁰⁵ • Support patients when interacting with government, insurers, or legal bodies involved with the circumstances surrounding pain condition¹⁰⁵ • Proactive and preventive approach for the early treatment of painful conditions at risk for becoming chronic¹⁰⁵ • Barriers to adequate pain management for vulnerable or marginalized patients¹⁰⁵ • Access relevant literature to address a specific clinical question and apply critical appraisal skills to the evidence and integrate it into clinical care¹⁰⁵ • Methods of managing their own stress associated with caring for patients in pain¹⁰⁵ • How their own personal experiences surrounding pain management issues influence their attitudes¹⁰⁵ • Psychological interventions for pain management¹⁰⁴ • Diagnosis, appropriate investigations and management of common painful central nervous system disorders, including post-stroke pain and multiple sclerosis¹⁰⁴ • Musculoskeletal and/or neurological physical examinations in order to differentiate painful processes arising from bones, joints, soft tissues, peripheral or central nervous system, or other tissues¹⁰⁴ • Identify functional domains as outcome measures for pain¹⁰⁴ • Indications for diagnostic imaging (plain films, CT, bone scan, MRI, Ultrasound, PET); identification of expected imaging abnormalities for common pain diagnoses; explanation of the relationship between imaging findings and pain¹⁰⁴ • Indications and limitations of imaging, nerve conduction studies, electromyography and quantitative sensory testing in the diagnosis of neuropathic pain¹⁰⁴ • ‘Red flag’ conditions for patients presenting with back pain indicative of conditions such as tumor, fracture, myelopathy, and infection¹⁰⁴ • Continuing, long term pain management strategies¹⁰⁴ • Gathering information about a patient’s beliefs, concerns, expectations and the impact of pain on their life¹⁰⁴ • Genetic influences on pain and pharmacotherapy for pain; role of genetic techniques in investigating pain physiology¹⁰⁴ • Pharmacologic knowledge (pharmacodynamics including mechanism of action, pharmacokinetics including dosing and effect of organ insufficiency such as renal or 	

Specialty	PGME Program	Topic Area	Curriculum Modality
		<p>liver, drug interactions, and complications) of agents used in the management of chronic pain (local anesthetics, opioids, co-analgesic medications, NSAIDs, NMDA antagonists, serotonin/norepinephrine reuptake inhibitors, calcium channel blockers, sodium channel blockers, anticonvulsants, cannabinoids, corticosteroids, and neurolytic agents)¹⁰⁴</p> <ul style="list-style-type: none"> • Stepwise approach to pharmacotherapeutic interventions¹⁰⁴ • Principles, indications and limitations of physical treatments (exercise based treatment, passive physical therapies such as ultrasound, transcutaneous electrical stimulation (TENS), manual therapies, manipulation and massage) in the management of musculoskeletal pain¹⁰⁴ • Principles, indications and limitations of occupational therapy management (pacing, ergonomics and work/daily activity modification) in the management of musculoskeletal pain¹⁰⁴ • Current evidence for the potential role of complementary and alternative medicine, commonly used in managing musculoskeletal pain¹⁰⁴ • Importance of coping strategies for the control of pain and how they may be affected by age and gender¹⁰⁴ • Cognitive-behavioral treatments of pain: cognitive therapy, cognitive restructuring, problem solving, and communication skills training¹⁰⁴ • Structure of the pain clinic and how it fits into the administrative structure of the care setting (community or hospital)¹⁰⁴ • Costs involved in running a pain clinic with respect to administrative, nursing, equipment, and physician needs¹⁰⁴ • Understanding of the benefits and disadvantages to patients, clinics, hospitals, and society of different pain management strategies (e.g. multidisciplinary clinic, sole practitioner)¹⁰⁴ • Principles and techniques of qualitative and quantitative research methodologies and outcome evaluation, including the statistical biases and limitations of current methods to assess the validity pain research¹⁰⁴ • Pain management plans for patients at risk for developing chronic post-surgical pain¹⁰⁴ • Effective communication of transition plans from the acute pain service to care back to the surgical team or upon patient discharge¹⁰⁴ • Appropriate use of referrals to rehabilitation specialists¹⁰⁴ • Surgical approaches to pain management in patients with neuropathic pain¹⁰⁴ • Use of neurostimulation for the management of neuropathic pain¹⁰⁴ • Strategies for gaining drug coverage for medications required for neuropathic pain care¹⁰⁴ • Application of appropriate tools for assessment of pain in preterm/term infants, children, nonverbal and developmentally delayed children and adolescents¹⁰⁴ 	

Specialty	PGME Program	Topic Area	Curriculum Modality
		<ul style="list-style-type: none"> • Biopsychosocial model and the importance of the interdisciplinary approach for management of pediatric complex pain¹⁰⁴ • Pain management for developmentally delayed or preverbal children¹⁰⁴ • Use of age appropriate language to assist pediatric patients in understanding their pain conditions and management options¹⁰⁴ • Diagnosis of major depression and dysthymic disorder and distinguishing these forms of mental disorder from the depressive symptoms that often accompany chronic pain¹⁰⁴ • Somatic complaints or pain out of proportion to the alleged organic findings that indicate a conversion disorder or hypochondriasis¹⁰⁴ • Principle of Universal Precautions¹⁰⁴ • Integrated Chronic Pain Program⁹⁶ <p>*Suboxone Education Program sponsored by RB Pharmaceuticals Ltd. A university made course is under development to replace this one.</p>	
Chronic Pain Management	Complementary Training	<ul style="list-style-type: none"> • Perform adequate assessments¹²⁴ • Make diagnoses¹²⁴ • Establish appropriate treatment plans¹²⁴ • Treat patients with chronic pain in an interdisciplinary approach¹²⁴ 	<ul style="list-style-type: none"> • 1-year clinical training
Pain Medicine	Fellowship	<ul style="list-style-type: none"> • Interdisciplinary inc. family medicine¹²⁵ • Fundamental scientific, clinical and therapeutic knowledge to treat chronic pain¹²⁵ • Medical, physical, psychological and interventional approaches to pain treatment¹²⁵ 	<ul style="list-style-type: none"> • Clinical service
Anesthesiology and Pain Medicine	Fellowship	<ul style="list-style-type: none"> • Chronic pain clinic¹²⁶ • Perioperative pain service¹²⁶ • Multidisciplinary pain clinic¹²⁶ • Regional palliative care unit¹²⁶ • Medication management¹²⁶ • Pain education¹²⁷ • Acute pain service¹²⁷ • Pediatric cardiac anesthesia¹²⁸ • Pediatric intensive care unit¹²⁸ • Pediatric chronic pain clinic¹²⁸ 	<ul style="list-style-type: none"> • Rotations • Pain Medicine Program • Service
Pediatric Anesthesia	Fellowship	<ul style="list-style-type: none"> • Postoperative management for children¹²⁹ • Acute pain management in children¹²⁹ • Acute pain service¹³⁰ 	<ul style="list-style-type: none"> • 1-year clinical fellowship • Complication/morbidity/mortality reviews • Preparation and presentations of

Specialty	PGME Program	Topic Area	Curriculum Modality
			<ul style="list-style-type: none"> topics for departmental rounds • Critical literature assessment • Research activities in the department • Core lecture series • Visiting profession series rounds
Obstetric Anesthesia	Fellowship	<ul style="list-style-type: none"> • Acute pain service¹³⁰ • Labour analgesia including but not limited to anatomy and physiology of labour pain, and strategies for analgesia¹³¹ • Epidural labour analgesia service¹³¹ • Acute post-cesarean pain service¹³¹ • Obstetric Anesthesia clinic for consultation of high-risk obstetric patients¹³¹ 	<ul style="list-style-type: none"> • Clinical experiences • Develop a research protocol, recruit participants and collect data • Participation in the teaching program • Running simulation sessions • Multidisciplinary meetings • Virtual grand rounds • Research seminars • Conferences
Regional Anesthesia and Acute Pain Medicine	Fellowship	<ul style="list-style-type: none"> • Acute pain service¹³⁰ • Being clinically and academically effective¹³² • Identification of complex pain patient and diagnosis of the most likely underlying problem¹³² • Diagnose side effects related to pain medications and commence the needed action¹³² 	<ul style="list-style-type: none"> • Research • Teaching • Present at departmental grand rounds

Specialty	PGME Program	Topic Area	Curriculum Modality
		<ul style="list-style-type: none"> • Continue and alter pain management plans by using different modalities¹³² • Scientific inquiry to challenges relevant to acute pain management¹³² • Comprehensive perioperative pain management assessment, including use of multimodal analgesia, parenteral opioid techniques, appropriate selection of blocks, and use of infusions of lidocaine and ketamine¹³³ • Assessment and management of the opioid dependent patient and those with complex pain management issues¹³³ • Knowledge and skills required to establish a new Regional Anesthesiology and Acute Pain Medicine program in their future practice and to adopt emerging knowledge and techniques for the acute pain management of patients whom they encounter¹³³ • Training of future generations of generalists and subspecialists in Regional Anesthesiology and Acute Pain Medicine¹³³ • Organization and management of an acute pain medicine service within the hospital setting composed of a variety of specialists to provide comprehensive multimodal acute pain management¹³³ • Interaction of the regional anesthesia and acute pain medicine service with other elements of the healthcare system, including primary surgical and medical teams, and other consultant, nursing, pharmacy, and physical therapy services¹³³ • Recognition and management of complications specific to regional anesthesia and acute pain medicine practice¹³³ • Knowledge of neuraxial opioids and systemic opioids¹³³ • Management of acute or chronic pain in the opioid-tolerant patient¹³³ 	<ul style="list-style-type: none"> • Workshops • Rounds • Journal club • Case discussions • Didactic presentations • Clinical education • Anatomy labs • Conferences
Thoracic Anesthesia	Fellowship	<ul style="list-style-type: none"> • Thoracic epidurals or paravertebral blocks for postoperative pain management in adult and pediatric patients¹²² 	<ul style="list-style-type: none"> • Clinical experience
Perioperative Medicine	Fellowship	<ul style="list-style-type: none"> • Complex acute and chronic pain¹³⁰ • Pain clinic services¹³⁰ 	<ul style="list-style-type: none"> • Rotations (core blocks and electives) • Research • Hi-fidelity simulation
Critical Care Medicine	Residency	<ul style="list-style-type: none"> • Pain control¹³⁴ • Advice for ICU survival¹³⁴ • Critical care pain observational tool¹³⁴ • Sedative and analgesia algorithm¹³⁴ • Assess and manage patient with chest pain, including myocardial infarction¹³⁴ 	<ul style="list-style-type: none"> •
	Pediatric Critical Care Residency	<ul style="list-style-type: none"> • Opioids and pain management⁸⁸ 	<ul style="list-style-type: none"> • Summer boot camp

Specialty	PGME Program	Topic Area	Curriculum Modality
Emergency Medicine	Residency RCPSC Program	<ul style="list-style-type: none"> • Transition to Discipline EPAs for pain¹³⁵ • Foundations EPAs for pain⁸⁶ • Core EPAs for pain¹³⁵ • Identify the important determinants of health affecting patients¹³⁶ • Demonstrate thorough knowledge of pain management and appropriate technical skills¹³⁶ • Pain management⁹⁹ • Familiar with agents, dosing, side effects, and techniques to monitor pain^{99,137} • Evaluation of patients who present with chest pain⁹⁹ • Differentiation of cardiac chest pain from non-cardiac pain in patients with risk factors⁹⁹ • Diagnosis and management of abdominal pain in females^{99,138} • Consultation and surgical intervention in patients with acute abdominal pain⁹⁹ • Acute and chronic pain management in patients with musculoskeletal disorders^{99,139} • Dosages, indications, contraindications, side effects and relative potency of standard oral analgesics used in treatment of patients with musculoskeletal disorders¹³⁹ • Treatment of patients with low back pain^{99,139} • Treatment of pain for traumatic wounds⁹⁹ • Care of patients with addictions⁸⁶ • Pain control⁸⁶ • Opioid use and abuse⁸⁶ • Sedation techniques, local nerve blocks, epidural and spinal anesthesia¹³⁷ • Treatment and management of headaches, including knowledge of agents used to manage different types of headaches¹⁴⁰ • Regional anesthesia, including hematoma blocks, Bier blocks and radial, ulnar, median, axillary, posterior tibial and sural nerve blocks¹³⁹ • Dosages, indications, contraindications and side effects of standard analgesic and sedative agents used to treat patients with acute orthopedic trauma¹³⁹ • Diagnose and manage common intoxication and withdrawal symptoms, as well as complications¹⁴¹ • Presenting signs, symptoms, laboratory findings, pathophysiology, and treatment of common therapeutic drug poisonings and drugs of abuse¹⁴² • Assess and emergently manage acute and chronic complications of substance abuse¹⁴² • Basic principles of drug absorption, redistribution, metabolism, and elimination¹⁴² • Assess and manage common postoperative conditions, including pain¹⁴² 	<ul style="list-style-type: none"> • Rotations • Academic half days • Rounds • Simulation • Subspecialty seminars • Resident rounds • Grand rounds • Teaching sessions • Journal club • Resident Retreat • Structured seminar • Departmental rounds
Family Medicine	Residency	<ul style="list-style-type: none"> • Distinguish between acute and chronic pain¹⁴³ • Identify key features of pain¹⁴³ • Pain identification and management¹⁴³ • Curriculum on substance abuse¹⁴³ 	<ul style="list-style-type: none"> • Rotations • Academic half days

Specialty	PGME Program	Topic Area	Curriculum Modality
		<ul style="list-style-type: none"> • Pain clinic⁸⁶ • Clinic sessions with addictions counsellors⁸⁶ • Safe opioid prescribing⁸⁶ • Substance use and abuse⁸⁶ • Pain control in palliative care⁸⁶ • Primary care management of low back pain⁸⁶ • Alternate treatment modalities⁸⁶ • Assessment, treatment and interdisciplinary collaboration for pain management⁸⁶ • Opioid tapering⁸⁶ • Street health experience⁸⁶ • Behavioral medicine⁸⁶ • Treating opioid addiction⁸⁶ • Management of acute intoxication and withdrawal symptoms⁸⁶ • Adherence with the 10 Canadian Opioid prescribing guidelines⁸⁶ • Methadone clinic⁸⁶ • Chronic Mental illness, pain and disease¹⁴⁴ • Chronic pain management and drug seeking¹⁴⁴ • Identify and manage acute, urgent, and emergent presentations¹⁴⁵ • Co-ordinated approach using essential skills, equipment, medications in hospital, office, rural and remote settings¹⁴⁵ • Diagnose and manage acute presentations of chest pain, including coronary syndromes^{145,146} • Diagnose and manage abdominal pain, differentiating between acute and chronic pain¹⁴⁵⁻¹⁴⁷ • Recognize and diagnose mental health problems commonly found in family practice, including chronic pain syndromes and addiction¹⁴⁸ • Care of cardiovascular disorders: assess and treat a patient who presents with a painful or swollen leg in terms of his/her risk for ischemic vascular disease or DVT¹⁴⁶ • Care of ear, nose and throat disorders: diagnose otitis media; include pain referred from other sources in the differential diagnosis of an earache (e.g., tooth abscess, trigeminal neuralgia, TMJ dysfunction, pharyngitis, etc.)¹⁴⁶ • Care of musculoskeletal disorders: consider history and physical examination to determine causes of low back or neck pain; recommend exercise, posture, pain medication for management of back and neck pain¹⁴⁶ • Impact of pain¹⁴⁶ • Treatment using analgesics and community resources¹⁴⁶ • Musculoskeletal disorders in children, including joint pain¹⁴⁷ • Prevalence of substance abuse in remote communities and appropriate management¹⁴⁷ 	<ul style="list-style-type: none"> • Academic sessions • Seminars • Workshop • Grand rounds • Lectures • Experiential and didactic learning • Clinics • OSCE • Small group sessions • Online modules and readings • Training sites

Specialty	PGME Program	Topic Area	Curriculum Modality
		<ul style="list-style-type: none"> • Epidemiology of issues affecting Indigenous populations, including substance abuse¹⁴⁹ • Neurophysiology of pain¹⁵⁰ • Effective opioid prescription: initiating dosage, titration, breakthrough dosing, side effects, monitoring, dose equivalency, opioid rotation¹⁵⁰ • Adjuvant modalities and medications for pain management¹⁵⁰ • Concept of total pain¹⁵⁰ • Diagnose and manage acute and chronic abdominal and pelvic pain¹⁵¹ • Coexisting mental health and substance use issues¹⁵² • Addiction medicine^{151,153} 	
	Enhanced Skills Program, Emergency Medicine (CFPC)	<ul style="list-style-type: none"> • Analgesia and sedation¹⁵⁴ • Assess and manage patients with ocular complaints, including painful eye¹⁵⁴ • Assessment of abdominal pain, its causes and presentations, and indications for imaging¹⁵⁴ • Assessment and management of pelvic pain¹⁵⁴ • Assessment and management of chest pain¹⁵⁴ • Awareness of substance abuse¹⁵⁴ • Pharmacology of opioids¹⁵⁵ • Use of ED ultrasound in assessment of pelvic pain¹⁵⁶ 	<ul style="list-style-type: none"> • Rotations
	Enhanced Skills Program, Anesthesia (CFPC)	<ul style="list-style-type: none"> • Anesthesia services in rural communities¹⁵⁷ • Elective and emergency anesthesia¹⁵⁷ • Family doctor as community resource¹⁵⁷ • Anesthetic management of obstetrical emergencies¹⁵⁷ • Epidural analgesia¹⁵⁷ • Pain management^{157,158} • Post-operative pain relief plan¹⁵⁸ • Establish mutual expectations for pain management with patient¹⁵⁸ • All phases of pain management, including before, during, and after procedure¹⁵⁸ • Opioid and non-opioid analgesics¹⁵⁸ • Regional anesthesia¹⁵⁸ • Non-pharmacologic therapies¹⁵⁸ • Managing poorly controlled pain or a pain pattern that changes; avoid assumption that pain is related to initial diagnosis¹⁵⁸ • Optimize therapeutic effect, minimize complications through periodic assessment¹⁵⁸ 	<ul style="list-style-type: none"> • Rotations • 1-year program • Community sites • Clinical experience • FPA Boot Camp
	Enhanced Skills Program, Primary Care Chronic Disease	<ul style="list-style-type: none"> • Neuropathic Pain¹⁵⁹ • Guideline recommended management of chronic neuropathic pain¹⁵⁹ 	<ul style="list-style-type: none"> • Rotations • Academic half days • Scholarly project • Teaching

Specialty	PGME Program	Topic Area	Curriculum Modality
	Management (CFPC)		<ul style="list-style-type: none"> • “Lunch & Learn” sessions • Retreats
	Enhanced Skills Program, Child Health (CFPC)	<ul style="list-style-type: none"> • Recognize and appropriately manage life-threatening illness with a child presenting with acute abdominal pain or signs of obstruction¹²² • Form comprehensive differential diagnoses and management plans for gastrointestinal complaints in children knowing that these may present atypically (i.e., vomiting, acute/chronic abdominal pain, acute/chronic diarrhea, constipation, failure to thrive)¹²² • Management of chronic conditions¹²² • Counsel adolescents about substance abuse¹²² 	<ul style="list-style-type: none"> • Rotations • Academic half days • Grand rounds • Fellowship project • Logbook • Teaching
	Enhanced Skills Program, Care of the Elderly (CFPC)	<ul style="list-style-type: none"> • Assessment and management of pain in older adults using patient-centered clinical method^{160,161} • Etiology of pain in the elderly; chronic and complex conditions (physical and emotional) that contribute to perception of pain¹⁶² • Impact of pain management on disability, vulnerability, loss of independence¹⁶² • Assessment of pain in patients with limited ability to express themselves¹⁶² • Accounting for patient specific factors in assessment of pain¹⁶² • Non-pharmacological treatment, such as exercise, stretching, physical modalities, therapy, mindfulness or cognitive behaviour therapy¹⁶² • Principles of prescribing for the elderly¹⁶² • Contribution of pain to urinary incontinence¹⁶² • Principles of geriatric pharmacology in appropriate pain management¹⁶³ 	<ul style="list-style-type: none"> • Rotations
	Enhanced Skills Program, Obstetrics and Women’s Health (CFPC)	<ul style="list-style-type: none"> • Prenatal care, including cases and management of abdominal pain during pregnancy¹⁶⁴ • Management of early or false labour, decreased fetal movement, pain syndromes, possible ruptured membranes and threatened preterm labour¹⁶⁴ • Principles of pain management during labour and early labour, including but not limited to use of epidural anesthesia, patient controlled analgesia with fentanyl or other low dose infused narcotics, nitronox inhalation analgesia and the principles of therapeutic rest¹⁶⁴ 	<ul style="list-style-type: none"> • Rotations • Teaching • Rounds • Interprofessional case simulation • Skills drill or emergency drill • Grand rounds presentation • Scholarly project Logbook
	Enhanced Skills Program, Primary Care	<ul style="list-style-type: none"> • Mechanical back pain¹⁶⁵ • Nonarticular and regional musculoskeletal disorders (e.g., axial syndromes such as low back pain and cervical pain syndromes)¹⁶⁵ 	<ul style="list-style-type: none"> • Academic half days • Clinical work

Specialty	PGME Program	Topic Area	Curriculum Modality
	Rheumatology (CFPC)	<ul style="list-style-type: none"> • Regional musculoskeletal disorders, such as heel pain¹⁶⁵ • Biomechanical/anatomic abnormalities associated with regional pain syndromes¹⁶⁵ • Importance of multidisciplinary approaches to rehabilitation and pain control¹⁶⁵ • Referral/prescription to rehabilitation specialists, pain clinics¹⁶⁵ 	<ul style="list-style-type: none"> • Didactic lectures • Scholarly project • Workshops • OSCE-style test
	Enhanced Skills Program, Sports Medicine (CPFC)	<ul style="list-style-type: none"> • Mechanical back/neck pain¹⁶⁶ • Discogenic back/neck pain¹⁶⁶ • Act in the best interest of the patient's health, recognizing pressures from the patient, family, coaching staff, teammates and society (i.e., unregulated substances)¹⁶⁶ 	<ul style="list-style-type: none"> • Rotations • Academic half days • Teaching • Medical services for varsity teams • Medical coverage for community, provincial, and national events • Rounds • Scholarly project • Journal club • Homecoming Sport Medicine Symposium • Conferences
	Enhanced Skills Program, Hospitalist (CFPC)	<ul style="list-style-type: none"> • Pain recognition and management¹⁶⁷ 	<ul style="list-style-type: none"> • Rotations • Utilization/quality improvement committee • Rounds • Fellowship project • Teaching • Logbook
	Enhanced Skills Program, H2SUM (HIV, Viral Hepatitis, Substance Use Disorder and Mental Health) (CFPC)	<ul style="list-style-type: none"> • Care for marginalized populations with complex medical and psycho-social conditions¹⁶⁸ • Care and management of substance use disorder, mental health, and related conditions¹⁶⁸ 	<ul style="list-style-type: none"> • Clinical experience

Specialty	PGME Program	Topic Area	Curriculum Modality
	Enhanced Skills Program, Palliative Care (CFPC)	<ul style="list-style-type: none"> • Pain and symptom outpatient clinics⁸⁶ • Withdrawal management⁸⁶ • Opioid agonist therapy⁸⁶ • Concurrent disorders⁸⁶ • Chronic pain and addiction⁸⁶ • Inner city medicine⁸⁶ • Addiction Medicine⁸⁶ • Deprescribing principles⁸⁶ • Safe use of opioids in the elderly⁸⁶ • Management of pain^{86,169} • Use of validated assessment tools, history taking skills, physical examination skills, and appropriate ordering and interpretation of investigations¹⁷⁰ • Neurophysiology of pain transmission¹⁷⁰ • Pharmacology (pharmacokinetics and dynamics) of medications used in pain control¹⁷⁰ • Issues in assessment of pain in patients with cognitive impairment and with communication difficulties¹⁷⁰ • Dose selection, titration, routes of administration and effectiveness of pain medications (e.g., opioids, methadone)¹⁷⁰ • Level of evidence in the literature regarding pain management¹⁷⁰ • Pediatric palliative care patients¹⁷⁰ • Opioid use in children¹⁷⁰ 	<ul style="list-style-type: none"> • Selective rotation • Academic half days • Clinical case discussion • Scholarly project • Teaching • Self-directed learning • National videoconference for palliative medicine trainees
	Palliative Residency	<ul style="list-style-type: none"> • Pain and symptom management¹⁷¹ • Elective pain service¹⁷² • Breakthrough and incidental pain¹⁷³ • Methadone¹⁷² • Safe and appropriate opioid use⁸⁶ • Addiction and substance use disorder⁸⁶ • Opioid safety in the community⁸⁶ • Opioids and opioid rotation⁸⁶ • Pain syndromes and assessment of pain⁸⁶ 	<ul style="list-style-type: none"> • Rounds • Clinical training Rotations
	Addiction Medicine Additional Competency Program (Advanced Training) (CFPC)	<ul style="list-style-type: none"> • Screening¹⁷⁴ • Assessment¹⁷⁴ • Treatment¹⁷⁴ • Identify and assess severity of disorders¹⁷⁴ • Associated comorbidities¹⁷⁴ • Multidisciplinary collaboration¹⁷⁴ • Monitoring of patients¹⁷⁴ • Inpatient and outpatient Addiction Medicine¹⁷⁵ 	<ul style="list-style-type: none"> • 12-month clinical course • Reading seminar • Club newspaper • Directed readings • Regular meetings

Specialty	PGME Program	Topic Area	Curriculum Modality
		<ul style="list-style-type: none"> Withdrawal management facilities¹⁷⁵ Residential treatment centres¹⁷⁵ Culturally focused substance use disorder treatment clinics¹⁷⁵ 	<ul style="list-style-type: none"> Presentation of cases and literature
Addiction Medicine	Fellowship (RCPSC)	<ul style="list-style-type: none"> Screening¹⁷⁴ Assessment¹⁷⁴ Treatment¹⁷⁴ Identify and assess severity of disorders¹⁷⁴ Associated comorbidities¹⁷⁴ Multidisciplinary collaboration¹⁷⁴ Monitoring of patients¹⁷⁴ Continuation or initiation of opioid agonist therapy and other pharmacotherapy¹⁷⁶ Substance use disorder in primary care outpatients¹⁷⁶ Maintenance therapies, including buprenorphine/naloxone (Suboxone®), and individual and group psychotherapy models including the Matrix Model and Seeking Safety¹⁷⁶ Women using substances and infant exposure to substances¹⁷⁶ Outpatient pain clinic¹⁷⁶ Assessment, diagnosis, treatment planning for chronic pain disorders and patients with concurrent substance use disorders¹⁷⁶ Opioid rotation, conversion to long-acting opioids¹⁷⁶ Biopsychosocial assessments¹⁷⁶ Longitudinal Outpatient Continuity of Care Experience¹⁷⁶ 	<ul style="list-style-type: none"> Rotations 1-year fellowship Didactic experiences Journal club Conferences Research
Medicine	Cardiology Residency	<ul style="list-style-type: none"> Chest pain evaluation program¹⁷⁷ 	<ul style="list-style-type: none"> Clinical training
	Cardiology Fellowship	<ul style="list-style-type: none"> Atypical chest pain¹⁷⁸ 	
	Critical Care Residency	<ul style="list-style-type: none"> Pain management in patients with burns¹⁷⁹ Pain management in palliative care consults¹⁷⁹ Pain management in surgical patients¹⁷⁹ Environmental and drug-related psychopathy associated with chronic critical illness (e.g. pain, drug withdrawal)¹⁷⁹ Asses different types of pain and pain syndromes and demonstrate appropriate management for ICU palliative care¹⁷⁹ Describe pharmacology of opioids¹⁷⁹ Describe opioid tolerance, physical dependence, and addiction¹⁷⁹ Demonstrate non-pharmacological approaches to pain management¹⁷⁹ Chest pain¹⁷⁹ Painful throat, ear and sinuses¹⁷⁹ 	<ul style="list-style-type: none"> Rotations

Specialty	PGME Program	Topic Area	Curriculum Modality
	Neonatal-Perinatal Residency	<ul style="list-style-type: none"> • Neonates born to mothers who use addiction drugs before or during pregnancy and labour¹⁸⁰ 	<ul style="list-style-type: none"> • Rotations
	Gastroenterology Residency	<ul style="list-style-type: none"> • Most gastrointestinal issues are worsened with opioids⁸⁶ • Chronic abdominal pain¹⁸¹ 	<ul style="list-style-type: none"> • Rotations
	General Internal Medicine Residence	<ul style="list-style-type: none"> • Chest pain and ACS¹⁸² • Pain management and opioid use⁸⁶ • Electives in palliative care and toxicology⁸⁶ 	<ul style="list-style-type: none"> • Rotations • Academic half day • Sessions • Journal Club • Research
	General Internal Medicine Fellowship (RCPSC)	<ul style="list-style-type: none"> • Specialty clinicals and technical skills that align with career goals, such as addiction medicine, palliative, and perioperative medicine¹⁸³ 	<ul style="list-style-type: none"> • Rotations • Academic half day • Journal Club • Research
	Geriatric Medicine	<ul style="list-style-type: none"> • Appropriate prescription of opioids⁸⁶ • Pain management⁸⁶ • Addiction/dependence⁸⁶ • Tapering of benzos to prevent withdrawals⁸⁶ 	<ul style="list-style-type: none"> • Rotations • Academic half day • Clinic • Conferences
	Hematology Residency	<ul style="list-style-type: none"> • Pain Management¹⁸⁴ 	<ul style="list-style-type: none"> • Rotations
	Internal Medicine	<ul style="list-style-type: none"> • Pain specific EPAs¹⁸⁵ • Substance use disorder EPAs¹⁸⁵ • Chest pain^{186,187} • Cardiac and non-cardiac chest pain^{186,187} • Effective control of pain¹⁸⁸ • Fundamentals of pain management in cancer patients¹⁸⁹ • Interdisciplinary collaboration for pain and symptom management¹⁸⁹ • Opioid use and misuse⁸⁶ • Safe opioid prescribing⁸⁶ 	<ul style="list-style-type: none"> • Rotations • Academic half day • Lectures
	Nephrology Residency	<ul style="list-style-type: none"> • Pain management¹⁹⁰ • Shoulder pain¹⁹⁰ 	<ul style="list-style-type: none"> • Rotations
	Neurology Residency	<ul style="list-style-type: none"> • Pain electives¹⁹¹ • Mechanisms of neuropathic pain⁸⁶ 	<ul style="list-style-type: none"> • Rotations • Academic half days • Service

Specialty	PGME Program	Topic Area	Curriculum Modality
	Pediatric Neurology	<ul style="list-style-type: none"> • Pain management⁸⁶ • Headaches⁸⁶ • Neuropathies⁸⁶ 	<ul style="list-style-type: none"> • Weekly teaching round • Clinical rounds
	Occupational Medicine Residency	<ul style="list-style-type: none"> • Addiction and psychiatry rotation¹⁹² • Complex pain management rotation¹⁹² • Goals for opioids prescribing⁸⁶ • Safe opioid prescribing⁸⁶ • Opioid related aberrant behaviours⁸⁶ • Pain assessment and opioid risk⁸⁶ • Opioid addiction⁸⁶ • Opioid overdose⁸⁶ 	<ul style="list-style-type: none"> • Rotations • Interactive E-modules • Small group • Workshops
	Physical Medicine and Rehabilitation Residency	<ul style="list-style-type: none"> • Education model (ECHO) on care for patients with pain and other disabilities¹⁹³ • Spinal cord injuries¹⁹³ • Musculoskeletal pain and disability¹⁹³ • Opioid misuse⁸⁶ • Multidisciplinary assessment and management of chronic pain⁸⁶ • Pharmacology of chronic pain⁸⁶ • Pain Clinic^{194,195} 	<ul style="list-style-type: none"> • Academic half day • Clinical teaching • Rotations • Optional internship
	Public Health and Preventative Medicine	<ul style="list-style-type: none"> • Foundation course in Occupational Medicine¹⁹⁶ • Addictions medicine¹⁸⁰ • Opioid dependency¹⁸⁰ • Substance use and misuse¹⁸⁰ • Harm reduction¹⁸⁰ 	<ul style="list-style-type: none"> • Academic half days • Field visit • clinic
	Rheumatology Residency	<ul style="list-style-type: none"> • Assess, screen, and treat spinal or regional pain¹⁹⁷ • Mechanical back pain¹⁹⁵ • Generalized pain and stiffness¹⁹⁵ • Distinguish between inflammatory, degenerative, and chronic pain conditions¹⁹⁵ • Pain clinics¹⁹⁸ 	<ul style="list-style-type: none"> • Optional internships
Obstetrics and Gynecology	Residency	<ul style="list-style-type: none"> • Pain EPAs¹⁹⁹ • Substance use EPAs¹⁹⁹ • Sociocultural context of pain¹⁹⁹ • Pelvic pain and sexual health¹⁹⁹ • Appropriate use of narcotics and NSAIDs for postoperative pain control¹⁹⁹ • Acute and chronic pelvic pain¹⁹⁹ • Endometriosis¹⁹⁹ • Vulvar pain¹⁹⁹ • Postpartum care¹⁹⁹ 	<ul style="list-style-type: none"> • Rotations

Specialty	PGME Program	Topic Area	Curriculum Modality
		<ul style="list-style-type: none"> principles and appropriate use of various classes of analgesics for postoperative pain control¹⁹⁹ 	
	Endometriosis, Pelvic Pain and Advanced Laparoscopic Surgery (Advanced Training)	<ul style="list-style-type: none"> Development of skills for clinical management, teaching, and research related to chronic pelvic pain²⁰⁰ In-depth knowledge of chronic pain pathophysiology²⁰⁰ Interdisciplinary approach to chronic pain management²⁰⁰ In-hospital complex pain team²⁰⁰ 	<ul style="list-style-type: none"> Experience in the operating room Clinical experience Research Teaching
	Female Pelvic Medicine & Reconstructive Surgery (Advanced Training)	<ul style="list-style-type: none"> Pelvic pain²⁰¹ Diagnostic evaluation²⁰¹ Conservative treatments for conditions such as pelvic pain²⁰¹ 	<ul style="list-style-type: none"> Rotations Clinical experience Research Teaching
	Vulvovaginal Disorders/Sexual Medicine (Advanced Training)	<ul style="list-style-type: none"> Clinics²⁰² Working with allied healthcare workers, including Chronic Pelvic Pain Specialists²⁰² Pelvic pain²⁰² 	<ul style="list-style-type: none"> Rotations Clinical experience Research Teaching
Ophthalmology	Residency program	<ul style="list-style-type: none"> Painful/red eye²⁰³ Ear pain²⁰³ Abdominal pain²⁰³ Back pain²⁰³ Joint pain and swelling²⁰³ Nature and location of pain²⁰³ 	<ul style="list-style-type: none"> Rotations
Pediatrics	Residency program	<ul style="list-style-type: none"> Pain management^{184,204} Pain management in newborns²⁰⁵ Substance abuse¹⁸⁴ Withdrawal¹⁸⁴ Inpatient and outpatient care of adolescents with complex pain, substance use and concurrent disorders²⁰⁶ Assessment and management of a full spectrum of neurodevelopmental disorders, including neurobehavioural effects of prenatal substance exposure²⁰⁷ Identification of medications used for sedation, pre-intubation, general anesthesia, and pain²⁰⁸ 	<ul style="list-style-type: none"> Rotations

Specialty	PGME Program	Topic Area	Curriculum Modality
		<ul style="list-style-type: none"> • Pathophysiology of pediatric cardiovascular diseases and conditions, including chest pain²⁰⁹ • Conscious sedation²⁰⁴ • Management of acute surgical problems, including acute scrotal pain²¹⁰ • Use of information from history and physical examination to generate comprehensive differential diagnosis, investigation, treatment plan for surgical problems and pain management²¹⁰ • Post-operative care in the neonate, including pain management²¹¹ • Diagnosis and management of clinical scenarios encountered by on-call pediatricians, including abdominal pain²¹² 	
	Gastroenterology and Nutrition Residency Program	<ul style="list-style-type: none"> • Chronic abdominal pain¹⁸¹ 	<ul style="list-style-type: none"> • Rotations
Psychiatry	Residency	<ul style="list-style-type: none"> • Assessment and management of addictions⁸⁶ • Harm reduction⁸⁶ • Opioid dependency⁸⁶ • In patient addiction program⁸⁶ • Methadone and suboxone treatments⁸⁶ • Neurobiology of addiction⁸⁶ • Elective in pain psychiatry⁸⁶ • Emergency diagnosis and management of substance use and toxic exposure²¹³ • Use of Regional Poison-Control Centre as a resource²¹³ • Substance intoxication and withdrawal²¹⁴ • Abdominal pain^{180,215} • Back pain²¹⁵ • Chest pain²¹⁵ • Biopsychosocial factors involved in substance abuse²¹⁶ • Appreciate and manage impact of substance use on medical and surgical circumstances²¹⁷ 	<ul style="list-style-type: none"> • Rotations • 4-week rotation in addiction • Academic half days • Lectures • Required readings • Clinical experience • Academic sessions
	Geriatric Psychiatry Subspecialty Residency Program	<ul style="list-style-type: none"> • Substance use disorder²¹⁸ 	<ul style="list-style-type: none"> • Rotations
Radiology	Child and Adolescent Psychiatry	<ul style="list-style-type: none"> • Prescription drug addiction⁸⁶ • Substance use disorders²¹⁹ 	<ul style="list-style-type: none"> • Lectures • Clinical placements

Specialty	PGME Program	Topic Area	Curriculum Modality
Radiology	Fellowship (RCPSC)	<ul style="list-style-type: none"> • Interventional procedures, including ultrasound-guided pain injection²²⁰ 	<ul style="list-style-type: none"> • Research • Rounds
Surgery	Orthopedic Surgery Residency	<ul style="list-style-type: none"> • Chronic and acute pain and symptom management²²¹⁻²³⁰ • Location of pain and defining the pathology producing the pain²²² • Reflex sympathetic dystrophy/complex regional pain syndrome^{222,223,227} • Postoperative pain^{222-224,227} • Chronic pain syndromes²²³ • Assessment of patient with back pain²²⁹ • Knowledge of non-operative treatment modalities available for the patient with non-surgical back pain^{229,230} • Painful reconstruction²²⁴ • Emergency care with appropriate pain relief²²⁶ • Undifferentiated pain related problems²³¹ • Painful hardware²²⁷ • Understand the approach to the chronic pain patient²²⁸ • Low back pain²³² • Assess painful or failed knee and hip replacements^{233,234} • Chronic regional pain syndromes^{233,235-237} • Discuss patient's belief's concerns, and expectations in terms of pain relief²³⁸ • Foot and ankle pain^{233,239,240} • Outline community resources available to patients/families: pain management services • Management of patients with acute and chronic pain^{233,240} • Chronic pain management²³³ • Chest pain²³³ • Abdominal pain²³³ • Back pain²³³ • Joint pain/swelling²³³ • Demonstrate sensitivity to patient's pain, emotional state, and gender/ethnicity issues^{233,236} • Perioperative pain control²³³ • Narcotics use and abuse²³³ • Communicate a pain management plan²³³ • Diagnosis and management of chronic wrist pain²⁴¹ • Recognize and assess painful or failed hip and knee replacements.²⁴² • Discuss the patient's beliefs, concerns, illness experience and specifically focus on the patient's expectations in terms of pain relief and improved function.²³² • Understand the principals of substance abuse²³² • Chronic regional pain syndrome²⁴³ 	<ul style="list-style-type: none"> • Rotations

Specialty	PGME Program	Topic Area	Curriculum Modality
		<ul style="list-style-type: none"> • Discuss patient’s belief’s concerns, and expectations in terms of pain relief and improved function²³⁸ • Foot and ankle pain^{129,233,240} • Outline community resources available to patients/families: pain management services^{233,240} • Management of patients with acute and chronic pain²³³ • Chronic pain management²³³ • Chest pain²³³ • Abdominal pain²³³ • Back pain²³³ • Joint pain/swelling²³³ • Demonstrate sensitivity to patient’s pain, emotional state, and gender/ethnicity issues^{233,236} • Perioperative pain control²³³ • Narcotics use and abuse²³³ • Communicate a pain management plan²³³ • Counsel athletes on the risks and side effects of drugs and substance abuse²³⁴ • Substance abuse²³⁴ • Discuss the patient’s beliefs, concerns, illness experience and focus on the patient’s expectations in terms of pain relief and improved function¹²⁸ • Recognize and assess painful or failed hip and knee replacements¹³⁰ • Diagnosis and management of chronic wrist pain¹⁵⁰ • Understanding of pain²⁴⁴ • Hip and knee pain²⁴⁵ • Inter-professional spine assessment and education clinic²⁴⁶ • Measures of drug dependency and chronic pain risk²⁴⁶ • Anatomy and pathophysiology of acute chronic soft tissue injury, including low back pain²⁴⁷ 	
	General Surgery	<ul style="list-style-type: none"> • Management of pain²⁴⁸ • Perioperative pain management²⁴⁸ • Act as a consultant for the management of acute pain in other circumstances²⁴⁸ • Indications and contraindications²⁴⁸ • Principles of monitoring²⁴⁸ • Chronic abdominal pain²⁴⁸ • Chest pain²⁴¹ • Chronic abdominal pain²⁴⁸ • Obtaining detailed and accurate medical history that includes history of pain¹⁴³ 	<ul style="list-style-type: none"> • Rotations • Academic half days

Specialty	PGME Program	Topic Area	Curriculum Modality
	Surgical Foundations Residency	<ul style="list-style-type: none"> • Pain management^{86,249} • Appropriate opioid use⁸⁶ • Postoperative care^{86,249} • Chronic and acute pain management⁸⁶ • Prescribing opioids⁸⁶ • Chest pain²⁴⁹ • Back pain²⁴⁹ • Regional musculoskeletal pain²⁴⁹ • Testicular pain²⁴⁹ 	<ul style="list-style-type: none"> • Experiential learning • Boot camps • Rounds • Seminars • Tutorials • Clinics
	Neurosurgery	<ul style="list-style-type: none"> • Develop management plans for patients with chronic pain²⁵⁰ • History taking relevant to pain²⁵¹ • Regional pain including myofascial pain syndromes²⁵¹ • Neuropathic pain²⁵¹ • Physiologic anatomy of pain²⁵² • Approach to patient with chronic pain including non-operative management²⁵² • Surgery for chronic pain²⁵² • Lower back pain²⁵² • Failed back syndrome²⁵² • Chronic pain management²⁵² 	<ul style="list-style-type: none"> • Rotations
	Pediatric General Surgery	<ul style="list-style-type: none"> • Pain management⁸⁶ • Withdrawal treatment⁸⁶ 	<ul style="list-style-type: none"> • Rotations
	Plastic Surgery	<ul style="list-style-type: none"> • Aspects of function, pain and body image²⁵³ • Pain management²⁵³ • Non-trauma pain²⁵⁴ • Chest pain^{241,254} • Differentiate surgical from non-surgical abdominal pain²⁵⁴ • Joint pain²⁴¹ • Back pain²⁵⁴ • Abdominal pain²⁴¹ 	<ul style="list-style-type: none"> • Rotations
	Otolaryngology - Head & Neck Surgery	<ul style="list-style-type: none"> • Chest pain²⁵⁵ 	<ul style="list-style-type: none"> • Rotations
	Thoracic Surgery Residency	<ul style="list-style-type: none"> • Acute and chronic pain²⁵⁶ • Regional pain control²⁵⁶ 	<ul style="list-style-type: none"> • Rotations
	Vascular Surgery Residency	<ul style="list-style-type: none"> • Pain, anxiety, and sleep²⁵⁷ 	<ul style="list-style-type: none"> • Rotations
Clinical Pharmacology	Residency	<ul style="list-style-type: none"> • Toxicology⁸⁶ • Poison control⁸⁶ 	<ul style="list-style-type: none"> • Rotations

Specialty	PGME Program	Topic Area	Curriculum Modality
		<ul style="list-style-type: none"> • Pain management⁸⁶ 	
Urology	Residency	<ul style="list-style-type: none"> • Acute scrotal pain²⁵⁸ • Assessing and managing patients with acute scrotal/perineal pain²⁵⁹ 	

Table 18. *Curricular Offerings CPD*

University	Title of Course	CPD Topic Area	Curriculum Modality
Dalhousie University	94th Annual Dalhousie Fall Refresher (2020) ²⁶⁰	<ul style="list-style-type: none"> • Understanding Chronic Pain: A unique condition that requires a unique approach • Diagnosis and Management of Bladder Pain Syndrome/ Interstitial Cystitis 	<ul style="list-style-type: none"> • In person and live streamed conference
	Academic Detailing Service ²⁶¹	<ul style="list-style-type: none"> • Customized sessions • E.g., Opioids in chronic non-cancer pain 	<ul style="list-style-type: none"> • One-on-one educational sessions
	Webinars ²⁶²	<ul style="list-style-type: none"> • Annual series • E.g., Shoulder Injuries and Shoulder Pain; Opioid Use Disorder Treatment 	<ul style="list-style-type: none"> • One hour webinars • Interactive
McGill University	Wednesday E-Learning Series ²⁶³	<ul style="list-style-type: none"> • E.g., The Opioid Crisis; Evaluation of Hip Pain in Adults 	<ul style="list-style-type: none"> • Webinar (1 hour)
	Thursday Evening Learning Series ²⁶³	<ul style="list-style-type: none"> • E.g., Approach to Chest Pain; Hip Pain in Teens and Young Adults; Evaluation of Neck vs Shoulder Pain 	<ul style="list-style-type: none"> • Online (3 hours)
McMaster University	Opioids Clinical Primer* ²⁶⁰ *Hosted by Machealth; developed through partnership of Ontario Ministry of Health and Long-Term Care, University of Toronto, McMaster University, Northern Ontario School of Medicine (NOSM), University of Ottawa, Western University, Queen's University	<ul style="list-style-type: none"> • Overview of key concepts and skills for the management of patients with chronic pain, including reducing the risks of opioids and addressing opioid use disorder • Managing Opioid Use Disorder stream: Treating Opioid Use Disorder: Initiating Buprenorphine in Primary Care, ED and Inpatient Settings; Managing Patients with Opioid Use Disorder in Primary Care with Buprenorphine; Opioid Use Disorder in Primary Care: Principles of Assessment and Management • Managing Chronic Pain stream: Strategies for Managing Chronic Pain: Moving Beyond Opioids; Mental Health, Chronic Pain, and Substance Use: Addressing the Connections; Safer Opioid Prescribing Strategies 	<ul style="list-style-type: none"> • 6-part online program • 3 courses per stream
Northern Ontario School of Medicine (NOSM)	Overcoming Barriers to Safe Opioid Prescribing Program ²⁶⁴	<ul style="list-style-type: none"> • Opioid prescribing habits of primary care providers in Northern Ontario • Accounting for health and socioeconomic issues that differ from urban centres • Opioid crisis 	<ul style="list-style-type: none"> • Online learning module • Community of practice cohorts that include workshops

University	Title of Course	CPD Topic Area	Curriculum Modality
		<ul style="list-style-type: none"> • Areas for change or improvement in prescribing habits • Tools and strategies around the prescription and management of opioids and opioid tapering 	
	North of 44: A Primary Care Symposium 2020 ²⁶⁵	<ul style="list-style-type: none"> • Holistic needs of the “generalist” nature of practices in the north • Discuss updates and common guidelines for opioid use disorder 	<ul style="list-style-type: none"> • Virtual conference
Queen’s University	Acute Opioid Prescribing Module: Information, guidelines and best practices ¹⁷³	<ul style="list-style-type: none"> • Describe the origins of the current opioid use and overuse crisis, and the role of physician prescribing behaviour in its development and expansion. • Explain the role of responsible opioid prescribing in acute pain management in mediating downstream positive and negative outcomes. • Identify currently applicable guidelines related to the issuing of opioid prescriptions within acute care contexts. • Utilize the “3 Ps” as a method for ensuring appropriate therapeutic strategies in acute pain management. • Describe the importance of monitoring opioid prescribing behaviour for residents under supervision and intervening constructively as required to facilitate good prescribing practices. • Identify methods to actively support beneficial changes in overall opioid prescribing behaviour at both an individual, and institutional, level. 	<ul style="list-style-type: none"> • Online module
University of Alberta	Certificate in Pain Management ²⁶⁶	<ul style="list-style-type: none"> • Importance of interdisciplinarity to managing pain • Critical thinking and evidence-based management of pain conditions • Biopsychosocial clinical reasoning framework for assessment and treatment of pain 	<ul style="list-style-type: none"> • Multicourse online modules
University of British Columbia	Therapeutics Initiative ²⁶⁷	<ul style="list-style-type: none"> • To provide physicians and pharmacists with up-to-date, evidence-based, practical information on prescription drug therapy 	<ul style="list-style-type: none"> • Webinars • Publications
	Refresher Course for Family Physician Anesthetists ²⁶⁸	<ul style="list-style-type: none"> • Acute Pain Prevention & Intervention • Chronic Pain Prevention & Intervention 	<ul style="list-style-type: none"> • Conference with small group workshops • Virtual in 2020
	Perinatal Substance Use ²⁶⁹	<ul style="list-style-type: none"> • Evidence-based, woman-centred, trauma-informed, culturally-safe care for infants and women who experience substance use 	<ul style="list-style-type: none"> • Online modules
	Addiction Care and Treatment Online Course ²⁷⁰	<ul style="list-style-type: none"> • Diagnosis and treatment of patients with substance use disorder using evidence-based treatments along a continuum of care • Module 5: Opioid Use Disorder • Module 12: Pain and Substance Use Disorder 	<ul style="list-style-type: none"> • 22 interactive online modules
	Safe Prescribing ²⁷¹	<ul style="list-style-type: none"> • Introduction to two opioid epidemics in BC • Knowledge and skills on opioid prescribing 	<ul style="list-style-type: none"> • Interactive online module

University	Title of Course	CPD Topic Area	Curriculum Modality
		<ul style="list-style-type: none"> Individual and public health harms 	
	Opioids and Benzodiazepines: Safe Prescribing for Midwives ²⁷²	<ul style="list-style-type: none"> Safe and effective prescribing of opioids and benzodiazepines for pain in labour and postpartum Pathophysiology of acute pain Visual analogue and verbal rating scales for pain assessment Pharmacology of opioid analgesics and benzodiazepines Pharmacokinetics of opioid analgesics and benzodiazepines Adverse effects and drug interactions 	<ul style="list-style-type: none"> Interactive online module
	This Changed My Practice ²⁷³	<ul style="list-style-type: none"> Articles on practice change experiences E.g., opioid use disorder; management of cyclical pelvic pain; patients with fatigue pain and unexplained symptoms 	<ul style="list-style-type: none"> Blog Rapid consumption articles (2-3 minutes) with links to further references
	Provincial Opioid Addiction Treatment Support Program ²⁷⁴	<ul style="list-style-type: none"> Diagnosis of opioid use disorder Evidence-based therapeutic options for the treatment of adults and youth with opioid use disorder Development of patient-centered care plan Opioid agonist treatment Withdrawal management Patient education in harm reduction 	<ul style="list-style-type: none"> Interactive online module
University of Calgary	Rural Virtual Conference Series: Approach to Abdominal Pain ²⁷⁵	<ul style="list-style-type: none"> Recognize alarm symptoms that need urgent endoscopic assessment Apply strategies to manage situations when endoscopy not readily available Approach IBS associated abdominal pain with new perspectives 	<ul style="list-style-type: none"> Weekly online education sessions, presented by clinical experts
	37th Annual Calgary Therapeutics Course (2020) ²⁷⁶	<ul style="list-style-type: none"> Identify new medications and new indications for “old” products Examine current therapeutic controversies Compare drug and non-drug approaches for selected clinical conditions Discuss the types of evidence used to support the prescribing of one drug instead of another in the same class of drugs Efficacy of different medications in chronic pain management Current uses of codeine and appropriate substitutes if it is delisted by Blue Cross Role of tramadol and buprenorphine in the treatment of chronic pain Pain management in patients with Chronic Kidney Disease (CKD) Appropriate choices of pain medications for patients with CKD and chronic pain including arthritis, inflammatory conditions, and neurogenic pain 	<ul style="list-style-type: none"> Two online half days

University	Title of Course	CPD Topic Area	Curriculum Modality
		<ul style="list-style-type: none"> Why some medications are safer than others and which ones should be avoided 	
	45th Annual Pearls for Family Practice (Half Days) (2020) ²⁷⁷	<ul style="list-style-type: none"> Approach to atypical chest pain in the office Describe the differential diagnosis of non-cardiac chest pain Recognize appropriate levels of testing and need for referral to guide diagnosis 	<ul style="list-style-type: none"> Webinars
	Poison and Drug Information Service (PADIS) Conference 2020 ²⁷⁸	<ul style="list-style-type: none"> Unique Substance Withdrawal: the pathophysiology of withdrawal from GHB, Baclofen, and Benzodiazepines; presenting features of each withdrawal syndrome; management strategies targeting the underlying disease pathophysiology of each withdrawal syndrome Opioid Use Disorder: Everything you need to know in 45 min: pharmacology of buprenorphine/Naloxone; confidence with prescribing buprenorphine/naloxone in the ED; risks and benefits of tapering buprenorphine/naloxone 	<ul style="list-style-type: none"> One-day online conference Keynote speakers, breakout sessions, panel discussions
	Wise Prescribing and Deprescribing: Opioid Skills for the Frontline Clinician ²⁷⁹	<ul style="list-style-type: none"> Principles and guidelines for opioid tapering Reflection on personal practice Enablers and barriers Identifying if opioid tapering is an appropriate plan for a given patient Planning tapering discussions that are evidence-based and responsive to patient's readiness for change Initiating opioid tapering Troubleshooting challenges that arise during opioid tapering 	<ul style="list-style-type: none"> Self-paced online modules Small group learning activities
	Alberta Opioid Dependency Treatment (ODT) Virtual Training Program ^{*280} * Hosted by Alberta Health Services; developed in partnership	<ul style="list-style-type: none"> Knowledge, skills, and attitudes necessary for providing care to patients with opioid use disorder Module 1: Opioid Crisis Module 2: Understanding Opioids Module 3: Impact of Opioid Use Module 4: Reducing Harms and Recognizing Opioid Poisoning Module 5: Opioid Agonist Treatment Therapy Module 6: Psychosocial Interventions Module 7: Special Populations 	<ul style="list-style-type: none"> Series of 7 online modules Pre- and post-competency assessments
University of Manitoba	Chronic Pain Day ²⁸¹	<ul style="list-style-type: none"> Arthritis – inflammatory and non-inflammatory Suboxone therapy DBT Low back pain Palliative care Constipation and abdominal pain 	<ul style="list-style-type: none"> Friday nights at the university

University	Title of Course	CPD Topic Area	Curriculum Modality
	Community-Based CPD Program ²⁸²	<ul style="list-style-type: none"> • Toxicology • Addiction Medicine • Pain control • Mental Health (Psychosis & Suicide Risk Assessment) • Vulnerable Persons Act 	<ul style="list-style-type: none"> • Sessions
University of Montreal	Opioids: Proper Use and Misuse ²⁸³	<ul style="list-style-type: none"> • The evolution of the use of opioids • Place of opioids in the treatment of pain • What to do before prescribing opioids 	<ul style="list-style-type: none"> • Video clip capsules dedicated to the use of opioids
	Replacement Pharmacotherapy for Psychoactive Substances in the Context of the COVID-19 Pandemic in Quebec: Clinical Guide for Prescribers ²⁸⁴	<ul style="list-style-type: none"> • Opioids • Alcohol • Tobacco • Benzodiazepines • Cannabis • Stimulants 	<ul style="list-style-type: none"> • Clinical practice guides and web capsules
University of Saskatchewan	Pain and Therapeutics ²⁸⁵	<ul style="list-style-type: none"> • Describe the role of CBT for patients: altering the experience of (chronic) pain, improving function, stimulus control therapy, sleep hygiene, relaxation training and sleep restriction; • Identify resources available for pain management in Saskatchewan, including Indigenous cultural influences on pain and pain management; • Describe the role of opioid stewardship programs in Saskatchewan; • Outline the indications for methadone and buprenorphine in the treatment of chronic pain; and • Comprehend harm management in relation to cannabis. 	<ul style="list-style-type: none"> • Interprofessional online learning
	Pain and Therapeutics Conference 2020 ²⁸⁶	<ul style="list-style-type: none"> • Opioid prescribing • Intervention • Cannabinoids • Non-pharmacological options in managing pain • Team-based care • Mental healthcare for pain patients 	<ul style="list-style-type: none"> • Virtual, interdisciplinary conference
	CME Webinar Series ²⁸⁷	<ul style="list-style-type: none"> • E.g., Pediatric Pain 	<ul style="list-style-type: none"> • Weekly webinars
University of Toronto	Paediatric Pain Curriculum ²⁸⁸	<ul style="list-style-type: none"> • Neurobiology of pain • Development of children's pain perception • Epidemiology and taxonomy of paediatric pain • Assessment and measurement of paediatric pain • Paediatric pain: pharmacological therapies • Treating pain in children: non-pharmacological therapies • Acute pain management: special considerations • Management of pain in paediatric palliative care 	<ul style="list-style-type: none"> • Multiple online modules

University	Title of Course	CPD Topic Area	Curriculum Modality
		<ul style="list-style-type: none"> • Ethical considerations for children with pain 	
	Opioid Dependence Treatment Certificate Program ²⁸⁹	<ul style="list-style-type: none"> • Skills and knowledge in treating opioid use disorder 	<ul style="list-style-type: none"> • 39 hours • Core course + 2 or 3 elective courses for certificate
	Safer Opioid Prescribing Skills Webinar Series ²⁹⁰	<ul style="list-style-type: none"> • Employ multi-modal approaches to complex chronic pain • Initiate and manage effective opioid therapy • Prevent and address opioid use disorder • Communicate and collaborate with patients and other healthcare providers to optimize patient care 	<ul style="list-style-type: none"> • 3 1-hour webinars • Online interactive skills development workshop
	Challenging Cases in Opioid Use and Misuse ²⁹¹	<ul style="list-style-type: none"> • Recognize and address possible risks and complications of opioid prescribing • Implement clinical skills for safer prescribing of opioids • Identify Opioid Use Disorder and outline treatment options • Use effective communication with chronic pain patients 	<ul style="list-style-type: none"> • Workshop • Prerequisite webinar series

Part C: Summary of the Canadian Pain Task Force Report 2

Purpose: In October 2020, the Canadian Pain Task Force (CPTF) published a report titled ‘Working Together to Better Understand, Prevent, and Manage Chronic Pain: What We Heard’.²⁹² The report’s findings as they pertain to this environmental scan are summarized here.

Overview: The CPTF’s second report is the result of consultations with individuals affected by and/or care about chronic pain in Canada. They sought to identify best practices for the development of effective strategies to better understand, prevent, and manage chronic pain. The results were categorized into five overarching themes: 1) Access to timely and patient-centered pain care, 2) Awareness, education and specialized training for pain, 3) Pain research and related infrastructure, 4) Monitoring population health and health system quality, and 5) Indigenous Peoples.

Biological, Psychological, Social, and Cultural Factors Influencing Chronic Pain

The report begins by reflecting on the distribution of chronic pain among Canadians, specifically how chronic pain is influenced by biological, psychological, social, and cultural factors, including:

- a) *Race/Ethnicity.* The report described how people of colour and Indigenous Peoples experience chronic diseases (including chronic pain) at rates much higher than white populations and that these communities face inequity in the access to pain diagnosis and treatment. See page 14 of the CPTF report for a full description and references.
- b) *Sex and gender.* The report points to multiple published studies highlighting the role of sex and gender in chronic pain diagnoses, with women being diagnosed at greater numbers than men. See pages 14-15 of the Canadian Pain Task Force’s report for a full description and references.
- c) *Sexual orientation and gender diversity.* In addition to sex-based differences, literature describes how gender diverse individuals and the LGBTQ2S community are more likely to develop disability and marginalization. See page 15 of the Canadian Pain Task Force’s report for a full description and references.
- d) *Incarcerated populations.* While the literature is sparse, the report describes how there is evidence that chronic diseases are more prevalent in the incarcerated population as compared to the general population. See page 15 of the Canadian Pain Task Force’s report for a full description and references.
- e) *Veterans.* The prevalence of chronic pain in Veterans is estimated to be about twice that of the general population. Post-traumatic stress disorder (PTSD) and other mental health conditions are common in Veterans and when they co-exist with chronic pain, Veterans suffer higher pain, disability, depression, sleep disturbance, healthcare utilization and lower function as compared to Veterans without PTSD. See page 16 of the Canadian Pain Task Force’s report for a full description and references.

f) *Mental health and substance use disorders.* The report details the increased risk individuals with chronic pain face in developing conditions such as depression, anxiety, decreased cognitive function, reduce health, and impairments in social functioning. The report also highlights the prevalence of chronic pain in people with substance use disorders, as well as the discrimination people who use drugs face when accessing healthcare. See pages 16-17 of the Canadian Pain Task Force's report for a full description and references.

g) *Trauma and violence.* Several common risk factors have been identified in people with chronic pain, mental health conditions and substance use disorders, including adverse childhood experiences, past traumatic events, and PTSD. People with chronic pain may have also faced trauma within the healthcare system, including invasive procedures or negative interactions with healthcare practitioners. See page 17 of the Canadian Pain Task Force's report for a full description and references.

The Pain Task Force's report makes recommendations regarding the convergence of trauma and chronic pain management by advocating for the use of trauma and violence-informed care. When healthcare practitioners take into account these traumatic experiences, they can adapt their approaches to ensure they better meet their patients' needs. There are four principles of trauma and violence-informed care and include: 1) understanding the trauma and violence and their impacts on people's lives and behaviours, 2) create emotionally, physically, and culturally safe environments, 3) create options for choice, collaboration, and connection, and 4) provide strengths-base and capacity-building approach to support patient coping and resilience.

Overview of Findings from Consultations

As this environmental scan was undertaken to inform the development of PGME and CPD education for physicians in Canada, therefore, three relevant themes from the report's findings are highlighted in this environmental scan (Themes 1, 2, and 5).

Theme 1- Access to timely and patient-centered pain care. This theme encompassed the challenges facing Canadians across the country as they struggle to navigate the healthcare system in search of timely and patient-centered pain care. Through consultations, a number of gaps were identified, including:

- a) Shortages of primary care practitioners that result in interruptions in Canadians' access to continuous pain care, thereby impacting the quality of care they receive.
- b) A lack of healthcare practitioners (HCPs) recognition of the impact pain has on Canadians' daily lives resulting in disagreements and conflict between HCPs and patients and thereby impacting the quality of care.
- c) Differing expectations between patients and HCPs on the goals and approach to pain care, which have been shown to be detrimental to patient outcomes.
- d) Canada's health system does not espouse a biopsychological model for chronic pain treatment which would address the biological, psychological, and socio-environmental factors that influence pain.

- e) Long wait times, limited access to specialists and geographical disparities can delay adequate pain intervention thereby increasing the possibility of increased disability, functional and mental health problems.
- f) Financial barriers mean some Canadians cannot fully access treatment opportunities (e.g. those living in or near poverty, those without private insurance, and/or those in regions with gaps in government health insurance).

To address these gaps, a number of innovative approaches were identified, including:

- a) Patient-centered care models, including stepped care frameworks, which adapt services based on the needs of people living with pain.
- b) Community-based care, strategic networks and communities of practice, which are building capacity in primary care settings.
- c) Innovation models focused on rapid access to pain care and early intervention.
- d) Interprofessional teams incorporating different clinical approaches and specialties.
- e) Clinics supporting transition across different levels and sites of care.
- f) Common, centralized, and clear referral pathways integrating services and improving navigation of care.

Theme 2 - Awareness, education, specialized training for pain. This theme addresses the need for people living with chronic pain, HCPs, and Canadian society at large to better understand the existence and prevalence of chronic pain, its impact and best practices for diagnosing and managing pain. Through consultations with different stakeholders, they identified a number of gaps:

- a) Canadians lack understanding and awareness of pain, its impacts and options for prevention and management.
- b) There is limited education on the full spectrum of pain mechanisms and pain disorders, and patient-centered care.
- c) There is limited information and understanding of what supports are available for pain, including pharmacological, physiotherapy, and psychological counseling.
- d) There is inefficient knowledge mobilization and duplication of educational initiatives.

The report identified a number of best and promising practices to address these gaps, including:

- a) Public awareness and public education initiatives to help improve knowledge and reduce stigma. See page 30 of the Canadian Pain Task Force's report for a list of pain networks and organizations.
- b) Provincial and national networks that connect specialty and primary care practitioners. See page 30 of the Canadian Pain Task Force's for a list of projects.
- c) Institutionally based leadership and infrastructure to build capacity and knowledge sharing practices.
- d) Activities to increase care clinical awareness and understanding of the patient experience.
- e) Clinical decision-making tools and resource, including opioid-specific resources. See pages 31-33 of Canadian Pain Task Force's report for a list of tools.
- f) Online and in-person self-education programs. See page 33 of Canadian Pain Task Force's report for a list of programs.
- g) Peer-support networks, organizations and tools for people living with chronic pain to seek guidance from other individuals with similar experiences.

Theme 5 - Indigenous Peoples. Indigenous populations are disproportionately affected by chronic pain and in addition to the challenges described in themes 1 and 2, face additional challenges accessing appropriate diagnoses and effective treatment. Indigenous Peoples' challenges include:

- a) barriers in seeking and receiving healthcare due to stigma and racism,
- b) the predominance of conventional approaches to health and wellness that do not include traditional Indigenous knowledge, medicine, and healing,
- c) mixed benefits and risks of pharmacological pain management complicate care,
- d) poor data and inadequate monitoring of the prevalence, impact, and outcomes of pain in Indigenous Peoples,
- e) non-insured health benefits program and geography-related healthcare inequality are challenging to navigate,
- f) Indigenous Peoples often live with a range of complex overlapping health challenges, including mental illness, trauma, violence, substance use, and pain,
- g) poverty and low incomes result in barriers to accessing pain care options.

Throughout the Pain Task Force's consultations with stakeholders, a number of best or promising practices were described. These included:

- a) Provinces that offer training to HCPs specific to Indigenous Peoples are improving accessibility and effectiveness of healthcare for Indigenous Peoples (see full report for examples of training programs, page 54).
- b) Community-based healthcare need to build capacity within their community to provide care that incorporates traditional medicines (see full report for examples of these programs, page 55),
- c) The blending of conventional medicine treatments with traditional medicine knowledge and practices have shown promising results (see full report for examples of these practices, page 55),
- d) Improve access to equitable and culturally safe pain care and integrate Indigenous traditional medicine appropriate to each community.
- e) Provide information about services (including traditional healing approaches) as well as a clear referral pathway within jurisdictions.
- f) Develop concurrent approaches to mental health, substance use, trauma, and pain to better support the overlapping health challenges of some Indigenous Peoples.
- g) Improve research and surveillance activities that encompass social determinants of health, mechanisms of chronic pain and non-pharmacological treatment options with direction from Elders and Indigenous communities.
- h) Provide services to address geographical and financial barriers for accessing healthcare for Canadians living in northern rural and remote regions.

STAGE 4 – SURVEYS OF KEY STAKEHOLDERS IN PGME AND CPD OFFICES

Purpose: In the fourth stage of the environmental scan, our research team contacted representatives from CPD and PGME offices across Canadian medical schools to participate in a telephone survey. The aim of these surveys was to gain a deeper understanding of: (a) current CPD and PGME pain management and substance/opioid use disorder offerings across Canada

medical schools (including content, modalities, and clientele), (b) key competencies relating to pain management and substance/opioid use disorder that should be targeted through CPD and PGME programs, (c) current gaps in CPD and PGME offerings, and (d) recommendations for future CPD and PGME curricula.

Methods: Surveys were conducted over the telephone and responses were recorded into an online survey form via Qualtrics by a member of the research team. If this option was not feasible for participants, they were emailed a link to the online survey to be completed on their own time.

CPD Participants. Overall, 14 individuals from CPD offices across Canada agreed to participate in this component of the environmental scan. Data were collected from both French and English programs. Within the CPD offices, participants represented a wide range of positions, including the director of CPD, educational consultants, project managers, as well as adjunct and full-time faculty. For example, one participant held a faculty position within the departments of anesthesiology and health research, as well as roles within several centres.

PGME Participants. Six individuals from PGME offices across Canada participated in the surveys.

Findings: For the purposes of this report, findings are reported separately for CPD and PGME.

Part A: Current CPD Offerings

CPD Content. Participants described a wide range of CPD programs currently being offered at medical education institutions across Canada. These programs covered diverse topics including opioid prescribing, opioid tapering, harm reduction, prescription writing, overcoming barriers to safe opioid prescribing, and research methodologies.

CPD Modalities. Current CPD programs were delivered through a diverse range of modalities, such as webinar series, conferences, small and large workshops, video vignettes, and online modules. Participants also discussed multi-modal approaches, which involved a combination of modalities, such as pre-program practice reflection, program workshops, and post-program practice reflection.

CPD Clientele. Current CPD offerings were targeted towards several key audiences. The main target audience was practicing primary care providers, including physicians, nurse practitioners, and physician assistants. Participants also mentioned several other healthcare providers and professions who participated in current CPD programs, such as pharmacists, nursing professionals, rehabilitation sciences, first responders, and social workers. Finally, some participants also indicated that medical learners (e.g., undergraduate medical students and residents) participated in their CPD programs.

CPD Development. In general, current CPD offerings were developed either internally or through a collaboration between internal and external stakeholders. Several participants described a process in which programs were developed in consultation with external

stakeholders, such as content experts, members of their target audience, and community partners, and then implemented internally.

Part B: Target Key Competencies

Participants were asked to reflect on the key competencies physicians should acquire for both (a) managing pain of patients in practice and (b) managing substance/opioid use disorder. Table 19 provides a list of competencies described by CPD respondents. To facilitate analysis between competencies discussed by survey participants and those described in previous sections of the environmental scans, participants’ responses were mapped to CanMEDS roles and competencies, and to the Family Medicine Skill Dimensions of Competence.

Table 19. List of Competencies Described by CPD Respondents and Mapped to CanMEDS Roles and Family Medicine Skill Dimensions of Competence

Topic Area	Key Competencies	CanMEDS Role and Competency	Family Medicine Skill Dimensions of Competence
Pain Management Physicians are able to...	Understand Pain 101 (e.g., mechanisms, assessment across specialties).	Medical Expert: 2.2	
	Discuss and establish realistic treatment goals focused on functionality, rather than pain elimination.	Medical Expert: 2.3, 2.4	Patient-centred approach, Communication
	Assess patients (e.g., patients with pain, patients with OUD).	Medical Expert: 2.2	Clinical reasoning skills
	Share expertise and collaborate with other professionals (e.g., psychologists)	Collaborator: 1.3, 3.1, 3.2	Communication
	Engage in team-based (interdisciplinary) approaches to care (e.g., counselling, pharmacy).	Collaborator: all enabling competencies	
	Engage in shared decision-making with patients.	Collaborator: 1.3 Communicator: 1.6, 4.1, 4.3	Patient-centred approach, Communication
	Address barriers in relation to shared decision-making.	Collaborator: 1.3, 3.1, 3.2 Communicator: 1.6, 4.1, 4.3	Patient-centred approach, Communication
	Adapt treatment decisions to individual patient needs (e.g., current or historical substance use disorder).	Communicator: 1.6, 2.1	Patient-centered approach
	Communicate and engage with patients in an appropriate manner (e.g., displaying empathy, setting goals that relate to improving function rather than eliminating pain).	Communicator: 1.1, 1.2, 1.3	Patient-centred approach, Communication, Professionalism
	Understand the behaviour change process and its application to pain management and substance/opioid use disorder.	Communicator: 1.1, 1.3, 2.1	Patient-centred approach, Communication

Topic Area	Key Competencies	CanMEDS Role and Competency	Family Medicine Skill Dimensions of Competence
	Practice with cultural awareness and sensitivity.	Communicator: 1.1, 1.6, 2.2, 4.1	Patient-centred approach, Professionalism
	Apply evidence to guide practice (e.g., managing acute and chronic noncancer pain).	Scholar: 3.1, 3.2, 3.3, 3.4	Selectivity, Clinical reasoning skills
	Develop a multi-modal approach to chronic pain (e.g., using non-pharmacological and non-opioid approaches).	Medical Expert: 1.1, 3.1, 5.2	Selectivity, Clinical reasoning skills
	Implement a multi-modal treatment plan to chronic pain (i.e., prescribing opioids as the last, rather than first, step).	Medical Expert: 1.1, 3.1, 5.2	Selectivity
	Calculate MME/d (e.g., initiating, switching, and tapering opioid treatments).	Medical Expert: 3.4, 4.1, 5.2	Procedure skills
	Use OAT therapy safely.	Medical Expert: 3.4	Procedure skills
	Respond to opioid poisoning.		Procedure skills
	Address the timeliness of medication provision.	Medical Expert: 1.4	Clinical reasoning skills
	Understand the complexities of chronic pain management.	Medical Expert: 1.6, 3.4, 4.1	
Substance/ Opioid Use Disorder Management Physicians are able to...	Develop appropriate prevention and management strategies for withdrawal symptoms (e.g., prescribing opioids, calculating doses, titration, tapering, preventing and managing withdrawal, managing OUD, identifying structured opioid therapy, continuation, OAT).	Medical Expert: 2.4, 3.1, 4.1 Health Advocate: 1.3	Patient-centred approach, clinical reasoning skills, selectivity
	Share expertise and collaborate with other professionals (e.g., psychologists).	Collaborator: 1.3, 3.1, 3.2	Communication
	Understand behaviour change process (e.g., motivational interviewing).	Communicator: 1.1, 1.3, 2.1	Communication, patient-centred approach
	Communicate with patients in an empathetic manner.	Communicator: 1.1, 1.2, 1.3	Communication, Professionalism
	Understand and apply best practice guidelines for opioid prescribing.	Scholar: 3.1, 3.2, 3.3, 3.4	Clinical reasoning skills, selectivity
	Differentiate management approach for different populations.	Health Advocate: 2.1	Patient-centred approach
	Understand stigmatization as a barrier to care.	Health Advocate: 1.1, 1.3, 2.2	Patient-centred approach
	Understand issues relating to the timelines of the medication.	Medical Expert: 1.4	

Part C: CPD Needs and Gaps in Current Offerings

Gaps in Current CPD Offerings. Participants identified several important gaps within current CPD offerings that could be addressed through future educational initiatives. Some of these gaps related to target stakeholders' knowledge and understanding of certain topics, such as (a) how to use and interpret data on prescribing habits, (b) how to set goals to improve prescribing habits, (c) the role of behaviour change in pain management and the management of substance/opioid use disorder, and (d) patients' lived experiences related to pain management and substance/opioid use disorder.

Other gaps that participants identified were related to program delivery. More specifically, several participants discussed the need for interactive, multi-modal CPD programs that include pedagogical strategies such as reflective practice, role play, and peer discussions. Participants emphasized the need for educational programs that focus on the practice and application of knowledge and skills in real-world settings, rather than programs that focus on knowledge acquisition. Further, participants highlighted the potential benefits of interdisciplinary initiatives whereby CPD programs enable participants to develop interdisciplinary networks and management approaches.

Finally, participants stressed the importance of addressing barriers to participating in CPD programs. For instance, participants described a need to target stakeholders' motivation to participate in CPD through the provision of compelling topics and offering diverse choices. Participants also highlighted barriers related to stakeholders' access to existing programs (e.g., funding, registration fees) and suggested that future initiatives should dedicate resources to addressing such barriers to participation in CPD programs.

CPD Training Needs. Participants were asked to reflect on the CPD needs for topics relating to pain management and substance/opioid use disorder to further physician practice. The identified needs are categorized into eight topic areas: (a) Pain management (acute and chronic), (b) Opioid prescription and tapering, (c) Pharmacological and non-pharmacological alternative therapies (e.g., NSAIDs) and treatment options (e.g., community-based care), (d) Patient engagement (e.g., shared decision-making, communication), (e) Interdisciplinary approaches (e.g., building networks across disciplines and developing treatment plans in collaboration with diverse team members), (f) Evidence-based practice (e.g., awareness of, and ability to apply, up-to-date clinical practice recommendations), (g) Addressing barriers to change (e.g., patient behaviour change needs, practitioner behaviour change techniques, adapting to local resources, social determinants of health), and (h) Addressing stigma (e.g., acknowledging and addressing biases surrounding pain management and substance/opioid use disorder).

Overall, participants emphasized that although there is a need to address these topics, it is important to recognize that CPD programs on some of these topics also currently exist. As such, the focus should be on building upon and extending the content of existing programs, as well as increasing access to existing programs.

Part D: Reflections on Topics Covered in UGME Curriculum

In order to assess how future CPD programs could build upon and extend on topics covered within AFMC’s newly developed UGME curriculum on pain management and substance/opioid use disorder, participants were asked to rate the extent to which they agreed that the UGME curriculum topic areas should be addressed within future CPD programs. Seven of the ten survey participants responded on a Likert-type scale from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*) (Table 20).

Table 20. *Survey Results Regarding Interest Using UGME Pain Topics for Future CPD Programs*

Please rate your agreement on the inclusion of these potential topic areas in a future CPD program.	Mean (SD)	Strongly Agree (%)	Agree (%)	Somewhat Agree (%)	Neither Agree or Disagree (%)	Somewhat Disagree (%)
Topic 1: The Public Health Perspective	6.42 (0.64)	50.0	41.7	8.3	-	-
Topic 2.1: Core Concepts in Pain	6.00 (1.15)	41.7	33.3	16.7	-	8.3
Topic 2.2: Core Concepts in Management of Pain	6.42 (0.49)	41.7	58.3	-	-	-
Topic 3: Pathophysiology of Pain and Pharmacology of Opioids	5.42 (0.95)	8.3	41.7	41.7	-	8.3
Topic 4.1: Opioid Stewardship	6.08 (0.95)	341.7	33.3	16.7	8.3	-
Topic 4.2: Opioid Stewardship in Palliative Care	5.33 (1.18)	8.3	16.7	25.0	33.3	16.7
Topic 4.3: Safe Storage and Disposal of Opioids	5.00 (1.00)	8.3	16.7	50.0	16.7	8.3
Topic 5.1: Recognizing Opioid Use Disorder	6.33 (0.62)	41.7	50.0	8.3	-	-
Topic 5.2: Managing Opioid Use Disorder	6.00 (1.15)	41.7	33.3	16.67	-	8.3
Topic 6: Cultural and Legal Considerations for Enhancing Competence	5.25 (1.09)	8.3	50.0	-	41.7	-

Note. n = 12 participants; 2 participants did not respond to this question

Participants also reflected on what was missing from the current list of UGME topics that could be relevant for the CPD context. Some of the recommended topics built upon the topics included in the UGME curriculum. For example, participants highlighted the importance of the safe storage and disposal of opioids (including the role of family members in storage and disposal), the implications of different treatment approaches, cultural awareness and sensitivity (e.g., including the patient perspective), and the adaptation of approaches to different patient populations (e.g., cancer vs. non-cancer population, young populations, elderly populations, Indigenous populations). Some additional recommended topics included the interpretation of evidence-based guidelines, interprofessional collaborations, early detection/identification of risk, and social determinants of health.

Part E: Recommendations for Future CPD Programs

Participants provided several recommendations regarding both the content and delivery of future CPD program offerings related to pain management and substance/opioid use disorder.

CPD Content. With regards to content, participants highlighted the importance of topics such as patient safety, the tapering process, interdisciplinary collaboration, social determinants of health, as well as the critical appraisal of evidence, and interpretation and application of evidence-based guidelines.

CPD Program Delivery. Recommendations for future CPD curricula could be synthesized into five key characteristics for effective CPD programs:

1. **Complementary.** One of the dominant themes throughout the surveys was the need to capitalize on existing CPD programs and to empower CPD audiences to access existing CPD resources.
2. **Collaborative.** Participants emphasized that future CPD programs should provide opportunities for learners to engage with, and learn from, other professions and to build interdisciplinary networks.
3. **Context-Specific.** Participants discussed how future CPD programs could focus on contextual influences on pain management and substance/opioid use disorder. For example, programs could examine differences in management approaches in rural versus urban settings. Further, programs could provide opportunities to reflect on and practice skills both in a variety of settings (e.g., treatment centres, emergency rooms, birthing centres) and with a wide range of patient populations.
4. **Interactive.** One of the concerns raised by participants was that self-study, asynchronous educational programs sometimes have poor compliance and completion among CPD audiences. Moreover, participants felt that such approaches may be insufficient for translating knowledge into practice. As such, participants highlighted that future CPD offerings should adopt engaging, multi-modal approaches. Specific examples of interactive approaches included blended learning, flipped classrooms, coaching, and interactive discussions.
5. **Application-Focused.** Participants emphasized that future CPD programs should focus on translating knowledge into real-world settings and integrating patients' lived experiences into educational curricula. As such, participants recommended strategies such as reflective practice, case-based scenarios, simulation-based discussions, and discussions related to barriers/facilitators to knowledge translation. Participants also discussed the importance of preparation and follow-up sessions to facilitate practice change and to ultimately improve patient care.

Part F: Current PGME Offerings

PGME Content. Participants described several PGME programs related to pain management currently being offered at medical education institutions across Canada. These programs included (a) modules on safe opioid prescribing for PGY1 students, (b) an opioid clinical primer

program, (c) a fellowship in chronic pain, (d) a pain medicine program through which training is provided for physicians, nurses, and allied health disciplines, (e) a Master's program in pain management that focuses on improving clinical effectiveness and managing complex pain, and (f) post-graduate curricula for anesthesiology, palliative care, physical medicine and rehabilitation, and family medicine programs. Three participants reported that their schools have a centralized curriculum for pain management programs, while two reported they did not have a centralized curriculum, and one was unsure. Some of the specific topics included in these existing curricula included: Sources of pain, pain management, opioid abuse, safe opioid prescription, non-opioid pain medications prescription, non-medical management of pain, and rehabilitation. With regards to substance/opioid use disorder, one participant reported that they had a centralized curriculum, whereas four reported that they did not have a centralized curriculum.

PGME Target Audience. For PGME programs that currently exist, participants reported that they primarily targeted residents at the PGY1 or PGY2 levels. Three of the participants also reported that fellowships were available that address pain management and substance/opioid use disorder, while two participants were unsure. With regards to residency specialties, participants highlighted that program content is typically managed by individual programs. Nonetheless, participants described several programs which addressed pain management and/or substance/opioid use disorder, including:

- Anesthesiology
- Family Medicine
- Gastro-enterology
- General Surgery
- Internal Medicine
- Medical Oncology
- OB/GYN
- Orthopedics
- Palliative Care
- Physical Medicine & Rehabilitation
- Psychiatry

PGME Modalities. Current PGME programs were typically delivered through online modules. Other modalities that were discussed included webinars, voice-over PowerPoint lectures, and self-assessment. Programs that tracked hours of instruction varied between two and eight hours. However, participants discussed that hours of instruction were generally not tracked or known.

Part G: Recommendations for Future PGME Offerings

Recommendations for Resident Competencies. Participants highlighted the specialty-specific nature of required competencies for PGME. For example, participants highlighted that some specialties may require little to no competencies in these areas (e.g., pathology or other lab-based specialties), while others would require comprehensive competencies related to these topics. Examples of competencies that should be targeted included competencies for specific skills, such as pain management, opioid prescription, non-opioid pain medications prescription, non-medical pain management, and rehabilitation. Participants also highlighted the importance of

competencies relating to building relationships with patients (e.g., communication, working with difficult patients) and tailoring care to individual patient needs.

Recommendations for PGME Program Delivery. Recommendations for PGME program delivery included employing a multi-modal approach to program delivery, such as using a combination of didactic lectures, workshops, asynchronous modules, and coaching to address these important topics.

Gaps:

In relation to CPD, some of the gaps identified through the surveys included:

- CPD content related to certain topics:
 - patient safety, opioid tapering, interdisciplinary collaboration, social determinants of health, as well as the critical appraisal of evidence and interpretation and application of evidence-based guidelines.
 - content gaps represent different CanMEDS competencies (medical expert, communicator, collaborator, health advocate, scholar) and CFPC skill dimensions of competence (patient-centered care, communication, clinical reasoning skills).
- A lack of interactive, multimodal, and application focused CPD programs.
- Broad awareness of, access to, and scaffolding of existing CPD programs.

In relation to PGME, some of the gaps identified through the surveys included:

- PGME content related to certain topics:
 - pain management, opioid prescribing, non-opioid options, non-pharmaceutical options, patient communication, and developing patient-centered goals of care.
 - content gaps represent different CanMEDS competencies (medical expert, communicator) and CFPC skill dimensions of competence (patient-centered care, communication, clinical reasoning skills).
- A lack of PGME programs across all developmental levels.
- A lack of specialty-specific content.
- A lack of coordination across PGME programs.

STAGE 5 – INTERVIEWS WITH KEY STAKEHOLDERS

Purpose: In the fifth stage of the environmental scan, the research team contacted representatives from a variety of key stakeholder groups identified by AFMC. The aim of these interviews was to gain a deeper understanding of: (a) current PGME and CPD offerings across Canada, (b) key competencies relating to pain management and substance/opioid use disorder that should be targeted through future programs, (c) current gaps in PGME and CPD offerings, and (d) recommendations for future PGME and CPD curricula.

Methods: Interviews were conducted via telephone or video-conferencing software (i.e., Zoom). Interviews were audio-recorded, and interview notes were taken by a member of the research team. Interview data were analyzed thematically. Participants included 16 stakeholders with experiences and expertise in pain management, substance/opioid use disorder, residency

education, and CPD. They were sampled from a diverse range of healthcare organizations and educational institutions. More specifically, stakeholders were targeted who have experience developing and implementing PGME and CPD educational programs related to pain management and substance/opioid use disorder.

Findings:

Part A: Reflections on Existing PGME and CPD Programs:

Target Audience: Existing programs target a diverse range of audiences, including medical learners (UGME, PGME) and practicing professionals (e.g., physicians, chiropractors, nurses, NPs, addictions counsellors, allied health professionals) (Table 21).

Feedback on Existing PGME and CPD Educational Programs:

Strengths. Participants discussed key strengths of existing programs, including their (a) inclusion of valuable information, (b) provision of interactions with other learners, (c) provision of up-to-date evidence, (d) adaptation to learner needs (e.g., learners felt that their needs are important), and (e) inclusion of real-world experiences (e.g., patients and families).

Challenges. Participants identified several challenges related to the development and implementation of PGME and CPD curricula. Across both PGME and CPD, participants raised concerns regarding the potentially limited ability of current programs to translate program content into practice. Participants also discussed the need to address issues of stigma and bias with regards to pain management and substance/opioid use disorder. To address this issue, participants highlighted the potential benefits of sharing stories of patients', families', and physicians' lived experience and understanding these important topics from the perspective of various populations (e.g., elderly, veterans, Indigenous populations). Participants also highlighted the need to address stigmatizing language, as well as issues relating to stigma when interacting with patients and families and when working with the broader healthcare community. Other challenges that were discussed included addressing: (a) physician roles beyond Medical Expert (e.g., Collaborator, Communicator, Advocate), (b) legal issues related to pain management and substance/opioid use disorder, and (c) the intersection between opioids and the use of other substances (e.g., alcohol, cannabis).

Specific to CPD, participants discussed that there has been a proliferation of new CPD programs that are available. As such, participants emphasized the need to avoid duplication and “reinvent the wheel”. Rather, participants suggested that it is crucial for future CPD programs to align with and complement existing programs. Further, participants suggested it may be useful to address some of the current barriers to engagement in existing CPD programs. For example, participants discussed the low likelihood of practice change due to (a) low completion rates, and (b) lack of regulation. In addition, participants emphasized the importance of stakeholder engagement and buy-in to support continued participation in CPD educational offerings.

Specific to PGME, participants also highlighted the need to have supports in place for residents to apply their knowledge in real-world settings. For instance, developing faculty

development or CPD resources which would enable physicians to be aware of the educational content being delivered at the PGME level and to model the appropriate behaviours (e.g., diagnosis and treatment, communication skills, advocacy skills) that are targeted through the PGME educational curricula.

Overall Feedback. Overall, participants suggested that there may be potential for greater impact at the PGME level and that PGME may benefit from new programs that are developmentally appropriate for postgraduate medical learners. One interviewee suggested that pain and substance/opioid use disorder content be explicitly required in competency-based education and clinical rotations. With regards to CPD, participants highlighted some specific contexts (e.g., surgery, internal medicine) and topics (e.g., regulatory issues, legal issues, safety, advocacy, behaviour change, substance use beyond opioids) that could be strategically targeted to address gaps in the current CPD landscape. Nonetheless, participants cautioned against duplicating existing content and that efforts should be made to both (a) complement existing programs, and (b) increase awareness of and access to existing programs.

Existing Programs. Throughout the interviews, participants discussed several existing CPD programs. Following the interviews, open-access searches were completed for the programs that participants discussed. Table 21 provides a summary of existing CPD programs with data collected from the participant interviews, surveys, and open-access website searches.

Table 21. *Summary of Existing CPD Programs Related to Pain and/or Substance Use Disorder*

Program Name	Program Content	Program Audience	Modalities
Overcoming Barriers to Safe Opioid Prescribing Program	Designed to change the opioid prescribing habits of primary care providers in Northern Ontario where health and socioeconomic issues often differ from those seen in urban centres and access to multidisciplinary programs is limited.	Primary care providers, residents, and medical learners	Self-directed interactive online learning module Community of Practice
ECHO Ontario Chronic Pain/Opioid Stewardship	Learning objectives: Interpret comprehensive assessments to make an accurate and timely pain diagnosis, plan treatment and follow-up. Employ assessment techniques to determine origin, track evolution, and support treatment of chronic pain. Self-regulate attitudes and beliefs about patient presentations to provide safe	Primary care providers	Weekly sessions including short didactic lecture and de-identified patient cases

Program Name	Program Content	Program Audience	Modalities
	<p>and effective chronic pain management.</p> <p>Develop comfort level, self-efficacy in managing chronic pain.</p> <p>Develop ability to mentor and be mentored by colleagues in a community of practice that ultimately benefits the patient.</p>		
Opioids Clinical Primer	Two streams: Managing Opioid Use Disorder and Managing Chronic Pain. Includes an overview of key concepts and skills for clinicians facing common challenges in the management of patients with chronic pain, as well as reducing the risks of opioids and addressing opioid use disorder.	Clinicians, physicians, other healthcare professionals, health professional trainees	Six online courses (three per stream)
Buprenorphine-Naloxone Treatment for Opioid Use Disorder	This course aims to present a framework for providing maintenance treatment for opioid use disorder with buprenorphine/naloxone, including its use in a primary care setting. The course walks the learner through the key elements of selecting, preparing, initiating and maintaining a patient with opioid use disorder on buprenorphine/naloxone treatment.	Frontline clinicians who provide treatment for opioid use disorder	Six-week online course A blend of narrative text, video role-plays, short answer and multiple-choice questions frame the course
Opioid Replacement Therapy 101: An Introduction to Clinical Practice	<p>At the conclusion of this workshop, participants will:</p> <p>Have acquired the prerequisite knowledge to initiate and monitor patients on methadone and/or buprenorphine/naloxone.</p> <p>Be able to demonstrate basic decision-making skills essential to providing or dispensing safe and effective opioid agonist therapy.</p>	Physicians, pharmacists, residents, nurse practitioners, other health professions	Two-day program

Program Name	Program Content	Program Audience	Modalities
	Be able to explore the value of sensitivity, understanding and commitment in the delivery of addictions medicine in clinical or pharmacy practice		
Pain Foundations: Online Course	<p>Addresses the challenges faced by healthcare providers of all disciplines when assessing and treating people living with chronic pain.</p> <p>Enables healthcare providers to:</p> <p>Identify and recognize the underlying symptoms of acute and chronic pain from a biopsychosocial perspective</p> <p>Use tools to monitor the biopsychosocial impact on the patient and to reassess their pain management plan</p> <p>Implement non-pharmacological strategies to create a holistic treatment plan for people living with pain</p> <p>Learn to empower the patient to self-manage their own pain</p>	<p>All healthcare providers (physicians and allied health)</p> <p>Not discipline specific</p>	Five self-directed online modules with written content and links to embedded videos
Skills Workshop 2020-2021 Opioid Agonist Therapy OAT	A primer for Opioid Agonist Therapy, focusing on the core approaches to managing and prescribing Suboxone and Methadone.	Physicians, Nurse Practitioner, Other Health Professions	Case discussion and didactic teaching
BC ECHO for Chronic Pain	Case-based learning to gain improved competence in providing care for complex pain cases. Healthcare providers get the help and support they need to provide immediate care to patients with complex pain in underserved areas, such as rural and remote communities.	Specialists, Community Healthcare Providers	Virtual learning community of monthly two-hour sessions, including 20-30-minute instructive presentation, two case presentations submitted by participating healthcare providers, and resources and recommendations

Program Name	Program Content	Program Audience	Modalities
ISAM-CSAM 2020 Scientific Conference and Annual Meeting	The ISAM-CSAM Annual Conference brings together more than 700 leaders, researchers, and clinicians in addiction medicine to share, collaborate, and connect. In addition to a conference program featuring global leaders and prominent researchers, both ISAM and CSAM offer pre-conference and post-conference educational opportunities for professionals looking to expand their skills and knowledge.	Physicians and residents	Fully online conference (due to Covid-19) Research briefs, interactive sessions and feature presentations
BC ECHO on Substance Use	<p>Two focuses: Opioid Use Disorder and Alcohol Use Disorder</p> <p>BC ECHO on Substance Use – Opioid Use Disorder: Supports primary care providers to build capacity in the clinical management of Opioid Use Disorder (OUD) in their practice. ECHO sessions link providers to a core interdisciplinary team with expertise in managing OUD. Outcomes include:</p> <p>Improved knowledge of evidence-based approaches for OUD care</p> <p>Access to virtual mentoring and support for yourself and your team</p> <p>Become better prepared to tackle common clinical scenarios</p> <p>Work through challenging cases with addiction specialists</p> <p>BC ECHO on Substance Use – Alcohol Use Disorder</p>	Primary care providers	Interactive, web-based platform; virtual community of practice

Program Name	Program Content	Program Audience	Modalities
	<p>Helps build capacity within primary care settings to improve access to and delivery of high-risk drinking and alcohol use disorder (AUD) treatment and care. Outcomes include:</p> <p>Improved knowledge of evidence-based approaches to AUD care</p> <p>Access to virtual mentoring and support for yourself and your team</p> <p>Become better equipped to tackle common clinical scenarios</p> <p>Work through case studies with addiction specialists</p>		
Provincial Opioid Addiction Treatment Support Program	<p>Trains physicians and nurse practitioners in British Columbia to diagnose and treat opioid use disorder using evidence-based treatments along a continuum of care.</p> <p>Learners can select modules based on their learning goals pertaining to methadone, buprenorphine/naloxone, SROM, iOAT, or a combination of these treatment options.</p>	<p>Geared towards opioid agonist treatment prescribers, including both physicians and nurse practitioners</p> <p>All healthcare providers (e.g., nurses, pharmacists, social worker, counsellors, etc.) can benefit</p>	Online learning platform paired with an in-person preceptorship
Choices Before Opioids in Non-Cancer Pain	<p>Pharmacotherapy of chronic pain. Following the presentation participants should:</p> <p>Understand the complexities of managing chronic non-cancer pain</p> <p>Appreciate the components of treatment management</p> <p>Understand the evidence for the various pharmacological non-</p>	Primary care providers	Recorded webinar

Program Name	Program Content	Program Audience	Modalities
	opioid options for managing CNCP, including cannabinoids		
Safer Opioid Prescribing	<p>Safer Opioid Prescribing assists physicians in acquiring knowledge and learning new skills in chronic pain management and opioid prescribing. Physicians will better be able to:</p> <p>Employ multi-modal approaches to complex chronic pain</p> <p>Initiate & manage effective opioid therapy</p> <p>Prevent & address opioid use disorder</p> <p>Communicate & collaboration with patients and other healthcare providers to optimize patient care</p>	<p>Family and primary care physicians</p> <p>Other prescribers, including nurse practitioners and specialists</p>	Three webinars and a capstone workshop
Alberta Opioid Dependency Treatment (ODT) Virtual Training Program	The focus is to provide healthcare providers with the necessary knowledge, skills, and attitudes when providing care to patients with opioid use disorder (OUD).	<p>Prescribers, including physicians and nurse practitioners</p> <p>First Responders</p> <p>Medical learners can review content</p>	Seven online modules with online simulations, videos, quizzes
Wise Prescribing and Deprescribing: Opioid Skills for the Frontline Clinician	<p>Provides opportunities to review the principles and guidelines for opioid tapering, opportunities for self-reflection, discussions of enablers and barriers. At the end of this course, learners will be equipped to:</p> <p>Identify whether opioid tapering is an appropriate plan for a given patient</p> <p>Plan a tapering discussion that is evidence-based and responsive to the patient's readiness for change</p>	Community healthcare providers, including family physicians, nurse practitioners, registered nurses, pharmacists	Online modules and small group learning activities, including workshops

Program Name	Program Content	Program Audience	Modalities
	<p>Execute an opioid taper with a motivated patient</p> <p>Troubleshoot challenges that occur during an opioid taper</p>		
<p>Acute Opioid Prescribing Module: Information, guidelines and best practices</p>	<p>Acute opioid prescribing is an important issue, one with major health impacts. This module will be a valuable insight into the role of opioids in acute pain management strategies. Throughout this module, we'll provide links to a broad range of additional information, opportunities to apply and test your knowledge. Learning outcomes include:</p> <p>Describe the origins of the current opioid use and overuse crisis, and the role of physician prescribing behaviour in its development and expansion</p> <p>Explain the role of responsible opioid prescribing in acute pain management in mediating downstream positive and negative outcomes</p> <p>Identify currently applicable guidelines related to the issuing of opioid prescriptions within acute care contexts</p> <p>Utilize the "3 Ps" as a method for ensuring appropriate therapeutic strategies in acute pain management</p> <p>Describe the importance of monitoring opioid prescribing behaviour for residents under supervision, and intervening constructively as required to facilitate good prescribing practices</p>	<p>Physicians and healthcare practitioners involved in acute care</p>	<p>Online module</p>

Program Name	Program Content	Program Audience	Modalities
	Identify methods to actively support beneficial changes in overall opioid prescribing behaviour at both an individual, and institutional, level		
Video Vignettes: Les opioïdes : le bon usage et mésusage	Video one covers the evolution of opioid use, types of pain and the place of opioids in treating pain, and what to before prescribing opioids. The second video introduces the basics of the proper use and misuse of opioids.	Physicians	Online videos
Addiction Care and Treatment Online Certificate	Providing care to patients with various substance use disorders, including alcohol, tobacco, stimulants, cannabis, and opioids. Topics include: Screening and care plans, including safe prescribing, specialized assessments, overdose prevention and harm reduction, psychological interventions Concurrent mental health and substance use disorder; pain and substance use disorder; common medical complications Recovery oriented systems of care; policy, legal, and ethical issues Outreach and case management; vicarious trauma and self-care	All health care providers, including nurse-specific training modules	Twenty-two online modules with knowledge testing questions
META:PHI Conference 2020	An annual conference supporting META:PHI's purpose: to support clinicians across Ontario in delivering high-quality care to patients with substance use disorders in all care settings.		Fully online conference (due to Covid-19) Plenaries, breakout sessions, panels, and networking sessions
Opioid Dependence Treatment (ODT)	To prepare physicians, pharmacists, nurses, and counsellors to provide a comprehensive range of	All health care professionals involved in the treatment of opioid use disorders	Online and in-person components; one mandatory course and

Program Name	Program Content	Program Audience	Modalities
Certificate Program	services for people with opioid dependence.		two to three elective courses
TEACH Certificate Program in Intensive Tobacco Cessation Counselling	A certificate program in intensive cessation counselling. It provides the context, background, knowledge and skills needed to offer intensive tobacco cessation counselling.	Interdisciplinary audience; targeted toward practitioners who can deliver intensive cessation counselling	Online courses; certificate comprised of the TEACH core course and two TEACH specialty courses
Addressing Cannabis Use in Primary Care	How to screen, assess, and address cannabis use with patients. Topics include: Harm reduction, referrals, specialized care; public health concepts Functioning of endocannabinoid system, particularly in relation to cannabis Canadian legal framework for medical and non-medical cannabis at federal, provincial, territorial levels Overview of medical cannabis use	Primary care providers	Five online modules
Basic Pharmacology in Mental Health and Substance Use	The basic pharmacology of mental health problems and substance use. Topics include pharmacokinetics, pharmacodynamics, how neurotransmitters work, and the effects of psychiatric medications and substance use on the brain.	Frontline workers, care providers, case managers, and clinicians working in mental health and substance use programs	Online course
Interactions Between Psychiatric Medications and Drugs of Abuse	Explores the needs of clients who are taking prescribed medications and also have substance use problems; covers the most common interactions between psychiatric medications and substances of abuse.	Mental health and addictions professionals	Online course
Managing Alcohol Problems	The impact of alcohol problems and the use of common pharmacotherapies and psychosocial treatments for	Physicians and front-line clinicians	Five self-directed online modules, including case scenarios, interactive

Program Name	Program Content	Program Audience	Modalities
	alcohol use disorder. Aims to enhance health care practitioners' knowledge and skills to identify, assess and treat clients with alcohol use problems.		review questions, and quizzes
Medications and Drugs of Abuse Interactions in ODT Clients	Provides the knowledge and skills needed to anticipate and respond to the common interactions between psychiatric medications and abuse of drugs. Topics include drug interaction theory and similarities between symptoms of mental health problems and substance use.	Physicians, pharmacists, nurses, counsellors, and case managers	Five self-directed online modules
Recovery-Orientated Approach	Enhanced understanding of recovery-oriented approach. Most of the content is applicable not just to recovery from both mental illness and substance use issues, but also to recovery from either one or the other. Topics include the importance of culturally competent care, individualized care plans, strategies for recovery care, strengths-based approach to recovery care, and ethical practice of recovery care.	Mental health, addiction, and allied health professionals	Online course
Safe and Effective Use of Opioids for Chronic Non-cancer Pain	Provides health care workers with evidence-based tools and recommendations from the 2010 Canadian Guidelines on Safe and Effective Use of Opioids for Chronic Non-cancer Pain. Covers the use of the point-of-care tool Opioid Manager in interprofessional teams in clinical practice and primary care settings.	Health care providers collaborating in the treatment of patients with chronic non-cancer pain (e.g., physicians, pain specialists, addiction specialists, mental health clinicians, pharmacists, nurses, dentists, social workers, occupational therapists, physiotherapists, psychologists)	Three self-directed online modules; "ask the experts" section for questions
Simulation-Based Learning for Methadone Prescribing Skills	In Ontario this course is approved by the College of Physicians and Surgeons of Ontario (CPSO) as an	Ontario physicians and nurse practitioners who completed the opioid	Simulation learning comprised of cases of patients at appointments at

Program Name	Program Content	Program Audience	Modalities
	alternative for the practicum component of the training required to prescribe methadone. It is an opportunity for physicians and nurse practitioners to practice methadone prescribing skills in an environment that imitates real-life situations, without any risk to real patients.	dependence treatment core course and are looking for practicum training.	different points of time in their treatment; active participation in three simulation sessions and observation of six sessions, with a debrief
Buprenorphine-Naloxone Treatment for Opioid Use Disorder	Presents a framework for providing maintenance treatment for opioid use disorder with buprenorphine/naloxone. Its use in primary care settings. Selecting, preparing, initiating, and maintaining a patient with opioid use disorder on buprenorphine/naloxone treatment.	Frontline clinicians who provide treatment for opioid use disorder	Six self-paced online modules that include narrative text, video role-plays, and short answer and multiple-choice questions
Opioid Use Disorder Treatment (OUDT) Course	Prepares learners to effectively and safely manage the treatment of clients receiving methadone or buprenorphine for opioid use disorder. Promotes interprofessional collaboration among the health care team involved in the delivery of opioid dependence treatment.	Physicians, nurse practitioners, pharmacists, counsellors, nurses	Online course
TEACH Core Course: An Interprofessional Comprehensive Course on Treating Tobacco Use Disorder	How to screen, assess and treat people with tobacco dependence using evidence-based pharmacotherapies and psychosocial interventions. Tools and techniques for enhancing motivation and facilitating cessation groups are also covered.	Interdisciplinary audience; targeted toward practitioners who can deliver intensive cessation counselling	Online course
TEACH Specialty Course: Integrated Chronic Disease Management and Prevention	Examines the five major modifiable risk factors (i.e., alcohol, stress, sleep, nutrition, and physical activity), their contribution to the major non-communicable chronic diseases, and their impact on tobacco and tobacco dependence treatment. Highlights best practices and integrated strategies to address	Interdisciplinary audience; targeted toward practitioners who can deliver intensive cessation counselling	Online course

Program Name	Program Content	Program Audience	Modalities
	multiple modifiable risk factors during tobacco dependence treatment.		
TEACH Specialty Course: Tobacco Interventions for Clients with Mental Illness and/or Substance Use Disorders	The knowledge, skills, and abilities to provide a client-centred biopsychosocial approach to screen, engage, and treat clients with a mental illness and/or substance use disorder for tobacco use.	Interdisciplinary audience; targeted toward practitioners who can deliver intensive cessation counselling	Online course
TEACH Specialty Course: Tobacco Interventions for First Nations, Inuit and Métis Populations	The knowledge, skills, and abilities to provide a wholistic, client-centred, biopsychosocial approach to screen, engage, and treat commercial tobacco use among First Nations, Inuit and Métis populations. The application of these skills, development of treatment in collaboration with clients, and making referrals as necessary.	Interdisciplinary audience; targeted toward practitioners who can deliver intensive cessation counselling	Online course
TEACH Specialty Course: Tobacco Interventions for Women Across the Lifespan	A specialized course designed to provide the practical knowledge and tools to screen, assess and treat women at all stages of the lifespan with tobacco dependence using evidence-based pharmacotherapies and psychosocial interventions.	Interdisciplinary audience; targeted toward practitioners who can deliver intensive cessation counselling	Online course
TEACH Specialty Course: Tobacco Interventions with Youth and Young Adults	A specialized course that provides knowledge about tobacco prevalence, opportunities for screening, and initial and ongoing assessments and interventions with youth and young adults. How to recognize opportunities for engaging youth and young adults who use tobacco, as well as explain the factors that influence the initiation or prevention of tobacco use.	Interdisciplinary audience; targeted toward practitioners who can deliver intensive cessation counselling	Online course
TEACH Educational Rounds 2020-2021	Designed to enhance knowledge and skills in offering cessation interventions. Each session focuses on a particular area of tobacco dependence, including cessation counselling with	Health care providers across all disciplines	Monthly seminar series of 1-hour webinars

Program Name	Program Content	Program Audience	Modalities
	priority populations, emerging research and evidence-based treatment guidelines. Example sessions include: Cannabis Use and Indigenous Peoples Adapting Tobacco Cessation Interventions for People with Severe Mental Illness and Addiction		

Part B: Key Needs for Residents (PGME specific):

Participants emphasized the importance of adopting a developmental approach to PGME curriculum, including opportunities for formative assessment (e.g., self, peer, and clinical teacher) and follow-up. Indeed, participants highlighted the need for pain management and substance/opioid use disorder content that could be appropriately tailored to the stage of resident development (e.g., PGY1, PGY2) and context (e.g., specialty-focused). By adopting a developmental approach, participants hoped that the curricula could better facilitate the application of knowledge in real-world settings.

Some of the specific topic areas that participants felt would be relevant for PGME curricula included: (a) guidelines related pain management, opioid stewardship, substance use disorder, and safe prescribing, (b) the intersection between pain, mental health, and substance/opioid use disorder, (c) the outcomes (e.g., risks and harms) associated with pain management and substance/opioid use disorder, (d) the contextual influences on pain management and substance/opioid use disorder (e.g., differences in approaches in rural and urban settings, influence of patient socioeconomic status, legal and ethical considerations, engagement of community resources), (e) the adoption of a person-centred approach to care (e.g., how to communicate in an empathetic, open, and honest manner, how to engage with family members), and (f) the importance of physician advocacy (e.g., at the patient and community levels).

Participants also highlighted specific residency specialties for which a pain management and substance/opioid use disorder curricula would be particularly relevant, including:

- Anesthesia
- Emergency Medicine
- Family Medicine
- Gerontology
- Internal Medicine
- Neurology
- Palliative
- Physical Medicine & Rehabilitation
- Psychiatry
- Rheumatology

- Sports and Exercise
- Surgical Programs (e.g., neuro, orthopedics)

Part C: Recommendations for PGME and CPD Curricula

Recommendations for PGME and CPD Program Content

Participants provided several recommendations regarding content of future PGME and CPD programs. Specifically, participants discussed the value of targeting: (a) specific skills (e.g., how to take a history, recognize withdrawal, manage substance/opioid use disorder, identify risks for overdose), (b) the co-ordination of care within (e.g., between specialties) and beyond the healthcare system (e.g., managing pain or substance/opioid use disorder in the community), (c) issues relating to mental health, trauma, and stigmatization of pain and substance/opioid use disorder, (d) building quality physician-patient relationships (e.g., understanding the behaviour change process, motivational interviewing), (e) issues relating to the intersection between the healthcare and legal systems, (f) issues relating to the use of other substances (e.g., alcohol, cannabis), and (g) physicians' role as advocates within the healthcare system and within the broader community.

Recommendations for PGME and CPD Program Delivery

Participants proposed several recommendations for the delivery of future pain management and substance/opioid use disorder PGME and CPD curricula. These included:

1. **Prioritize Interactive and Engaging Material.** Participants emphasized the importance of relevant and engaging material that is tailored to meet the needs of adult learners.
2. **Bridge the Knowledge-to-Practice Gap.** Participants discussed the need for programs that would facilitate the application of knowledge (e.g., scenarios, case-based learning). For PGME specifically, participants suggested developing materials (e.g., OSCEs or practice questions/scenarios) that could be encountered on future exams, as well as developing materials for faculty members to support the application of knowledge during residency.
3. **Provide Pre- and Post- Program Resources.** Participants discussed the benefits of providing opportunities to reflect on, and evaluate, one's practice (both pre- and post-program). This was particularly important for CPD programs. Indeed, participants highlighted the need to provide tools that physicians can use to both assess their current practice and to improve the quality of their practice in the future (e.g., using EMR data to assess prescribing habits, patient outcomes, implementation of Quality Improvement tools). Several avenues for program follow-up were also identified (e.g., infographics, summaries of guidelines, links to local resources for both patients and practitioners).
4. **Enhance Accessibility.** Participants highlighted the need to find a balance between offering accessibility and providing the best learning environment (i.e., asynchronous options can facilitate access, but may be limited in their ability to foster change in practice).

5. **Offer Developmentally Appropriate Content.** Participants suggested that resources should be tailored to the developmental stage of the learner (e.g., PGY1, PGY2, practicing professional).
6. **Foster Collaboration.** With regards to CPD, participants discussed the value of engaging with interdisciplinary professions (e.g., physical therapists, mental health professionals, and dentists).
7. **Evaluate the Program.** Participants emphasized that future educational curricula should be guided by a clear program logic and informed by educational theories and frameworks. Moreover, they suggested that programs should be appropriately evaluated using evidence-based approaches that assess outcomes both at the participant (e.g., knowledge, performance) and patient level (e.g., patient health, well-being).

Gaps: Participants identified some important gaps related to PGME and CPD curricula on pain management and/or substance/opioid use disorder:

- A lack of programs that adequately address the knowledge-to-practice gap for both future and current healthcare providers.
- A lack of programs addressing issues related to stigma and bias around pain management with opioids. This supports findings from both the scoping review and surveys, which similarly found a need for programs to cover these topics. Interestingly, the participants highlighted that one way that future curricula could address this issue would be to incorporate patients' and families' lived experiences in diverse populations and contexts. Additionally, it highlights the diverse set of competencies that physicians need to effectively care for patients with pain and/or substance use disorders (beyond those related to the mechanics of prescribing opioids).
- A lack of developmentally appropriate and context-specific programs for PGME programs.
- Broad awareness of, and access to, existing CPD programs.

Key Recommendations

Key Recommendations from Stage 1: Scoping Review

Regarding future PGME and CPD educational curricula on pain management and substance/opioid use disorder, several needs were identified based on the examination of patients' lived experiences:

- A need to adopt a developmental approach to pain management and managing substance/opioid use disorder that addresses factors at multiple levels: individual, interpersonal, institutional/organizational, and socio-cultural levels.
- A need to build physicians' awareness of patients' individual needs and to develop physicians' skills to appropriately tailor care to these patient needs.
- A need to develop physicians' interpersonal skills to enhance the quality of physician-patient relationships, including patient engagement and shared-decision making strategies.
- A need to increase physicians' awareness of the siloed nature of healthcare and to develop skills to enhance coordination across healthcare sectors.
- A need to consider the broader socio-cultural factors that influence patient experiences (e.g., stigmatization, changes in guidelines, regulation, and access to opioids due to the opioid epidemic).

Key Recommendations from Stage 2: Reviews of Literature

From the reviews of literature, recommendations for future PGME and CPD educational curricula include:

- A need for curricula to provide an avenue for increasing awareness of Canadian pain guidelines for the treatment of different pain conditions and developing skills to apply these guidelines where appropriate in practice with patient care.
- A need for curricula to be informed by existing competency frameworks identified through the AFMC UGME environmental scan and that align with PGME and CPD curricula.
- A need for additional Canadian clinical guidelines related to substance use.

Key Recommendations from Stage 3: Open-Access Searches

By examining the findings of the open-access searches, several key needs were identified for future PGME and CPD educational curricula:

- A need to ensure that future curricula address competencies related to all relevant CanMEDS roles and CFPC skill dimensions of competence for pain management and the management of substance/opioid use disorder.
- A need to ensure that the language used to describe pain, addiction, and substance use disorder is consistent and relevant.

- A need to ensure that future curricula complements existing educational opportunities.
- A need to engage stakeholders who are currently implementing pain management and substance/opioid use disorder educational programs.
- A need to ensure that future curricula includes competencies related to trauma and violence-informed care, and the broad range of biological, psychological, social, and cultural factors that impact how individuals experience pain.

Key Recommendations from Stage 4: Surveys with PGME and CPD Stakeholders

When developing PGME and CPD curricula, considerations arising from the surveys include:

- A need to ensure that future educational curricula build upon, scaffolds, and extend, rather than duplicate, existing programs.
- A need for educational curricula that is collaborative, interactive, developmentally appropriate, and context-specific.
- A need for educational curricula that prioritizes bridging the knowledge-to-practice gap and that can lead to sustainable practice change, and ultimately improve patient care and outcomes.

Key Recommendations from Stage 5: Interviews with Key Stakeholders

Findings from the interview data highlighted some important considerations for developing future educational PGME and CPD curricula, including:

- A need to coordinate and collaborate with stakeholders to ensure future curricula complements existing programs.
- A need to enhance accessibility to existing and future educational programs.
- A need for curricula to be interactive, engaging, accessible, and relevant for learners.
- A need for a developmental approach to the curricula that ensures content is developmentally appropriate, context-specific, and provides opportunities for longitudinal assessment and support (e.g., formative assessment, avenues for follow-up).
- A need for curricula content and delivery to be evidence-based.
- A need for curricula to be evaluated using evidence-based approaches to program evaluation.

Bringing it all together: Overall Recommendations

- Ensure that the development of educational curricula engages key stakeholders to ensure future initiatives complement existing programs.
- Ensure that educational curricula address pain management and substance/opioid use disorder at multiple levels (i.e., individual, interpersonal, institutional/organizational, and socio-cultural). Curricula should capture the dynamic and complex nature of these topics.
- Ensure that educational curricula focus on a person-centred approach to care, which prioritizes patients' and families' lived experiences, interpersonal relationships, care

within and beyond the healthcare system, and acknowledges broader socio-cultural factors.

- Ensure that educational curricula raise awareness of evidence-based guidelines and frameworks and enables learners to apply these guidelines and frameworks in practice.
- Ensure that educational curricula develop competencies that are relevant to all CanMEDS roles and CFPC skill dimensions of competence. For example, future curriculum should focus on enabling medical learners and practitioners to interpret pain management, addiction, and substance/opioid use disorder specific research evidence and apply it in their practice for the CanMEDS Scholar role.
- Ensure that educational curricula are appropriately evaluated.

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