

Management of Chronic (Non-Cancer) Pain Organization of Health Services

SUMMARY

AGENCE D'ÉVALUATION DES TECHNOLOGIES
ET DES MODES D'INTERVENTION EN SANTÉ

Management of Chronic (Non-Cancer) Pain Organization of Health Services

SUMMARY

Report prepared for AETMIS by
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The mission of the Agence d'évaluation des technologies et des modes d'intervention en santé (AETMIS) is to contribute to improving the Québec health-care system and to participate in the implementation of the Québec government's scientific policy. To accomplish this, the Agency advises and supports the Minister of Health and Social Services as well as the decision-makers in the health-care system, in matters concerning the assessment of health services and technologies. The Agency makes recommendations based on scientific reports assessing the introduction, diffusion and use of health technologies, including assistive devices for disabled persons, as well as the modes of providing and organizing services. The assessments take into account many factors, such as efficacy, safety and efficiency, as well as ethical, social, organizational and economic implications.

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“Chronic Pain is like a toxic spill, with damage that eventually spreads far beyond the original site. Neglect one local disaster—a back injury, a twisted knee—and it can metastasize into more pain. More pain poisons the joy and the vitality of one individual, whose suffering then seeps into the lives of family members. Pain can destroy a wide radius of lives in the same way that clearcutting erases the history of a forest.”

– Marni Jackson, author of *Pain: The Fifth Vital Sign*
and chronic pain sufferer

“Illness is the doctor to whom we pay most heed: to kindness, to knowledge we make promises only: pain we obey.”

– Marcel Proust

FOREWORD

MANAGEMENT OF CHRONIC (NON-CANCER) PAIN: ORGANIZATION OF HEALTH SERVICES

This report was requested by the Ministère de la Santé et des Services sociaux (MSSS; Ministry of Health and Social Services) as a means of filling an information gap concerning how to improve management of patients with chronic pain (CP) in Québec. The Agence d'évaluation des technologies et des modes d'intervention en santé (AETMIS; Québec Health Services and Technology Assessment Agency) researchers worked separately albeit in parallel with an advisory committee, consisting of representatives from government, universities, pain clinics, and the Société québécoise de la douleur, that was preparing a document about the necessity for change in the organization of health services for CP patients.

Chronic pain is a major health problem because of its prevalence, associated disability, and the extensive use of health care services by CP patients. The impact of CP on the lives of the sufferers and their families can be devastating. Although the origin or type of pain may differ, once pain becomes chronic the modalities needed for treatment are generally similar and the health services issues cross discipline boundaries.

The main objective of this report is to describe, within a health technology assessment framework and using published and “grey” literature, the organizational components of health care for those with CP and modes of intervention employed to assist them, rather than specific treatments. A conceptual framework is used to organize the material according to structure, process, and outcome elements. Information is provided from three selected jurisdictions (France, the Veterans Health Administration in the United States, and Australia) that have prioritized management of CP services. Research from these or other regions, including Québec, is also reviewed when relevant evidence was available.

Special attention was paid to the “building blocks” of systems that could be useful for the reorganization of structures and processes for patients with CP in Québec. These included professional know-how, hierarchy of services, interdisciplinary care and case management, assessment of patient outcomes and quality of care, and the patient as a partner in health care. The conclusions and recommendations take into consideration review of the evidence and management of CP in other jurisdictions, combined with an analysis of their implications for Québec.

AETMIS recommends that CP be recognized as a major chronic health problem, and that resources be allocated accordingly. A hierarchical and integrated model, incorporating the principles of stepped care and employing an interdisciplinary approach at all levels of care, should be used for the delivery of services for CP patients. Educational strategies for health care professionals should be developed and supported, in order to promote evidence-based practice in assessment, diagnosis, treatment, rehabilitation and management. Monitoring CP services and other quality assurance mechanisms should be put into place. Finally, AETMIS recommends that funding agencies strongly consider supporting research on patient outcomes, program implementation and process evaluation in CP.

In producing this report, AETMIS aims to contribute to the improvement of health services for persons suffering from chronic pain in Québec.

Dr. Luc Deschênes
President and Chief Executive Officer

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DISCLOSURE OF CONFLICTS OF INTEREST

None declared.

SUMMARY

BACKGROUND

This report was requested by the Ministère de la Santé et des Services sociaux (MSSS, Québec Ministry of Health and Social Services) as a means of filling an information gap concerning how to improve management of patients with chronic pain (CP) in Québec. The Agence d'évaluation des technologies et des modes d'intervention en santé (AETMIS, Québec Health Services and Technology Assessment Agency) researchers worked separately but in parallel with a *Comité avisé* (advisory committee) consisting of representatives from government, universities, pain clinics, and the Société québécoise de la douleur (Québec Pain Society), that was preparing a document about the necessity for change in the organization of health services for CP patients. The main objective of our report is to describe, within a health technology assessment framework, the organizational components of health care for those with CP and modes of intervention employed to assist them (e.g., multidisciplinary teams), rather than specific medical interventions. Our report considers chronic pain not related to cancer. At the time of writing a restructuring of oncology services in Québec is a priority for the MSSS, and cancer pain is considered to be a part of those services.

Appropriate, timely, and evidence-based treatment of patients suffering from CP has the potential to have an impact on multiple stakeholders: that is, health-care policy-makers in government, managers at health-care facilities, health-care professionals providing services, and, most importantly, patients who receive care and their family members who share the burden imposed by CP. Furthermore, patient advocacy groups, such as the Association québécoise sur la douleur chronique (Québec Chronic Pain Association), have called for improved services and better patient access to services that are presently poorly funded,

and lack coherence and continuity. Other stakeholders in Québec are the workers' compensation and automotive insurance agencies,¹ that presently "purchase" health-care services in specialized pain clinics, when a worker has been injured or a citizen has been involved in an automobile accident and has subsequently developed CP.

There is variability in how chronic pain is defined, with respect to duration (i.e., three versus six months), anatomical site, and pain intensity. The International Association for the Study of Pain (IASP) defines CP as "pain that has persisted beyond the normal tissue healing time, usually taken to be 3 months." Chronic pain can be categorized according to musculoskeletal, neuropathic, headaches and "other", with many subtypes within these groups: thus the scope of the diagnostic categories involved is broad. Related to the fact that CP varies greatly in type, intensity, frequency, and prognosis, patients are found at all levels of the health-care system and are treated by many different health professionals. It is important to note that even though patients' pain may differ in origin or type, once pain becomes chronic the modalities needed for treatment are similar. Thus, it is appropriate to examine management of the various types of CP as an overarching topic because the issues pertaining to health services cross discipline boundaries.

OBJECTIVES AND METHODS

This report addresses the following questions:

- 1) Is there any information from jurisdictions in or outside Canada on how health-care services for persons with chronic pain are organized, delivered and monitored, particularly if accompanied by data showing outcomes for patients?

1. The commission de la santé et de la sécurité du travail (CSST) and the Société de l'assurance automobile du Québec (SAAQ).

- 2) Is there any research evidence that examines organizational aspects of chronic pain management (e.g., who should provide care and when, multimodal versus unimodal treatment strategies, training for care providers, use of case managers) and shows impact on outcomes such as patient health status (e.g., pain, physical or psychological functioning, quality of life), satisfaction with services, or care-related factors (e.g., waiting times, use of health services, efficiency of referral)?

The published and “grey” literature were searched for information on organizational components of CP management in general, and also specific to chronic back pain and complex regional pain syndrome, two problems examined as case studies to underscore various organizational issues. Material was selected according to a number of criteria: 1) thematic content; 2) utility for decision makers; 3) strength of the evidence (i.e., controlled studies were prioritized); 4) geographical location; and 5) recency of publication. We utilize a conceptual framework to organize the material in this report according to structure, process, and outcome elements. Using these themes we provide information from three selected jurisdictions that have chosen to prioritize management of CP through organization and delivery of services. We also review research from these or other regions, including Québec, when evidence relevant to these themes was available. Our objective to find evidence linking innovations in organizational structure and/or process to outcomes for CP patients was only partially accomplished due to the limited number of publications found explicitly making these connections.

A CLEAR NEED FOR REORGANIZATION OF HEALTH SERVICES FOR PATIENTS WITH CHRONIC PAIN

In a systematic review conducted by Ospina and Harstall in 2002, prevalence of chronic pain in

the general adult population varied from 11.5 to 55.2% internationally, with a weighted mean of 35.5%. These authors also indicated that severe or highly limiting chronic pain may be present in 11% of adults. Importantly, prevalence increases with age. Data specific to Québec from an earlier Canadian study show a CP prevalence of 20% among adult men and 24% among adult women in 1996. Chronic pain is recognized to be costly to the patient and society. Associated direct costs relate to treatment and providing health-care services, while indirect costs include time off work and increased disability payments. There is much evidence that CP is associated with frequent use of health services; according to the Canadian National Population Health Survey of 1994/95, for example, those with severe CP made more physician contacts (mean of 12.9 versus 3.8 visits) and stayed in hospital longer (mean of 3.9 versus 0.7 days), compared to those without any chronic pain, in the previous year. The impact of chronic pain on the lives of the sufferers and their families can be devastating, affecting the patients’ functioning, mood, sleep, social relationships and quality of life. These and other data presented in our report highlight the significance of CP as a major chronic health problem.

As is evident from discussions held as part of the activities of the *Comité avisieur*, services offered to CP patients in Québec are fragmented, and waiting times at all levels of the health-care system are long. The few existing multidisciplinary pain clinics (MPCs) in Québec lack adequate resources to provide care according to the modes of intervention supported by the evidence. Inequity in access to services is problematic in terms of regions served and presence of third-party payers that dictate where and which services can be reimbursed. These problems are similar to those found in most other regions considered for this report.

EXAMPLE JURISDICTIONS PRIORITIZING THE MANAGEMENT OF CP

Three example jurisdictions with different health-care systems on three continents were examined in detail in this report. Australia, France, and the Veterans Health Administration (VHA) in the United States were selected as examples for several reasons: 1) they have made a clear commitment to CP health services and their quality control; 2) they provide services to all members of a specific region or group; and 3) they have published sufficient material pertaining to their respective programs to enable inclusion in this report.

BUILDING BLOCKS

We paid special attention in the literature to the “building blocks” of systems that could be useful for the reorganization of structures and processes for patients with CP in Québec.

Professional “know-how”

There is a consensus that professional education is a basic building block for the delivery of “state-of-the-art” pain management, yet training in CP diagnosis, treatment and follow-up is often inadequate for various health professionals. Medical schools and allied health professional training programs typically devote little time to this topic despite the fact that pain is one of the main symptoms that motivates a patient to seek health services. Efforts have been made in the example jurisdictions to fill this lacuna. In France, a series of teaching documents have been placed on the Internet to enable health-care workers to extend their knowledge of the management of pain in specific areas (e.g., back pain). Australia and New Zealand offer explicit, formal training in pain medicine. The VHA serves as a training site for nurses, psychologists, physical medicine and rehabilitation therapists, and medical students. Education of care providers and assurance of clinical competency are key objectives

of the VHA pain management strategy, and initiatives include specific residency training and continuing education opportunities such as national conferences. Recently, a model program initiated in Alberta, Canada shows promise for disseminating information on evidence-based pain management methods at the primary care level. Clearly, professional education needs to begin with students in training and persist through continuing education for all who administer therapies to CP patients. An educational emphasis on timely diagnosis and initiation of appropriate treatment in order to prevent chronicity, as well as recognition of risk factors for the development of CP, is likely to be an especially beneficial approach.

Numerous clinical practice guidelines exist for CP; these are aimed at specific health professionals (e.g., physicians, nurses), types of services (e.g., inpatient, pain clinics), types of conditions (e.g., back pain), or target particular interventions (e.g., opioids). Yet, whether or not they are implemented is in general unknown, and whether their use makes a difference for CP patient outcomes appears to be rarely studied in a systematic manner.

Hierarchy of services

The majority of CP patients are treated by general practitioners who are responsible for referral of patients with pain that may be associated with a serious disease requiring specialist care, or referral to pain specialists (or other care providers), if necessary. Several studies conducted at the primary care level (i.e., the first point of entry to the health-care system, offering generalized care) point to the potential for sub-optimal outcomes (i.e., with respect to pain, quality of life) for many CP patients. Evidence indicates the need for general practitioners to have direct links to allied health professionals (e.g., physiotherapists, psychologists, occupational therapists, nurses) for patients who are at risk for becoming disabled (e.g., those with persistent low back pain), yet the strength of these connections

vary by region. The importance of including occupational medicine and therapy for injured workers with back pain is shown by the “Sherbrooke Model”, designed and tested by Loisel and colleagues in a population-based randomized controlled trial in Québec. In terms of specialist care, various types of physicians may examine and/or treat CP patients such as anesthesiologists, rheumatologists, orthopedic surgeons, physiatrists, neurosurgeons and neurologists.

A hierarchy of services does not imply that patient pathways are unidirectional; in fact, CP patients may need to move from one level of services to another and back over the course of time. The hierarchical model of services is conceptually linked to the process of *stepped care*, in which patients progressively receive more complex, specialized and, often, costly interventions according to need. The role of health professionals increases in intensity as the patient moves through the stepped care framework, and there is a clear need for both the use of evidence-based guidelines for evaluation and treatment at each stage of care and coordination between different levels of services. The Sherbrooke Model utilized an integrated combination of occupational and clinical interventions, the latter following a stepped care approach such that those not responding to treatment (i.e., not returning to work within a certain period of time) received multidisciplinary care.

Multidisciplinary care refers to several health professionals from different disciplines (e.g., anesthesiologists, pain specialists, nurses, psychologists, physiotherapists) working with a patient concurrently; these professionals may not necessarily share a location or patient records. The multidisciplinary pain clinic (MPC) care providers each have specialized training and experience in different aspects of pain management. Treatment objectives extend beyond lessening pain intensity to improving physical, psychological, social and occupational functioning and quality of life. In a recent synthesis of systematic

reviews by Ospina and Harstall, there was strong evidence for effectiveness of MPCs for chronic low back pain, moderate evidence for chronic pelvic pain, and limited evidence for fibromyalgia/widespread body pain, neck and shoulder pain. Cost-effectiveness data were found to be lacking. Nevertheless, the International Association for the Study of Pain (IASP) recognizes that the services of multiple disciplines will be required for many CP patients.

The three example jurisdictions display the organization of pain services according to a hierarchy, with increased specialization—as well as multidisciplinary—as the patient moves to higher levels. A cross-sectional study of all the hospital anesthesiology departments in Québec showed limitations with respect to the scope of services available for CP, particularly the paucity of sites with multidisciplinary teams of care providers. A small number of specialized pain clinics (public and private) exist in Québec, but these are concentrated in urban settings and their extent of multidisciplinary is presently unknown. Furthermore, patient outcomes data appear to be lacking. Finally, our review highlighted the importance of efficient referral of the right patient to the right health professional at the right time within the health-care service structure.

Interdisciplinary care and case management

The key feature of pain management at a MPC is comprehensive evaluation and treatment using an integrated team approach. *Interdisciplinary care* can be distinguished from multidisciplinary treatment in that not only do health professionals with different backgrounds work in concert, but they also organize meetings to discuss cases, use one record system and, most importantly, employ a uniform approach to patient management. A rehabilitative approach that offers care from various disciplines is considered to be the “gold standard” for patients with CP that persists despite less intensive treatment and is recommended by the IASP.

The interdisciplinary model is considered optimal in pain clinics and is promoted in the three example jurisdictions. Canadian clinical practice guidelines recommend interdisciplinary approaches to CP management using teams composed of physicians, psychologists, and physical/occupational therapists. The Sherbrooke model in Québec demonstrates the positive effects associated with an integrated approach that incorporates both clinical and occupational interventions, as well as other types of multidisciplinary treatment for cases in greatest need.

The provision of interdisciplinary services emphasizes the need for ongoing communication and coordination of care. The three example jurisdictions display efforts in this regard. In a Québec randomized controlled trial, case management in the context of a multifaceted intervention facilitated interdisciplinary care for workers with low back pain, with the coordinated care group showing significant improvements in several domains including level of pain and functional and psychosocial status. The model of “*intervenant pivot*” (“patient navigator”), currently implemented in cancer care in Québec, may prove useful for the coordination of services by different health-care providers, particularly for complex CP cases.

Assessment of patient outcomes and quality of care

Turk and colleagues have proposed key domains that should be considered to determine if pain treatment is effective (in the context of clinical trials); these include pain measures (e.g., pain intensity, pain relief), emotional functioning (e.g., depression, anxiety), pain-related physical functioning, return to work, quality of life, and patient satisfaction with pain management. Of the example jurisdictions examined in this report, the American VHA is notable for its efforts in the monitoring of patient outcomes. A “Pain Outcomes Toolkit” is used to collect data which are linked to performance improvement as part of an overall vision of accountability. It is noteworthy that the

electronic monitoring of pain assessment and effectiveness of pain management interventions is being implemented. The VHA system has incorporated quality control measures in all pain management services, mandating documentation of pain assessment, pain care plans, and patient education. In France, most evaluative efforts appear to have been directed at tracking the implementation of the national pain program rather than patient outcomes.

The patient as a partner

Similar to patients living with other chronic illness, those with persistent pain need to be key players in their own health care. They must take responsibility for the aspects of treatment that are under their control, such as adherence to medications and lifestyle changes. They need to learn strategies to cope with the challenges posed by an incurable health problem. In France, one approach to “self-management” has been to provide all new inpatients (i.e., in hospital settings) with printed material informing them of their rights and their responsibilities. Other public information campaigns have been launched in France, addressing migraine/chronic headaches, pediatric pain, and services for chronic pain. In the VHA system, one objective of the national pain management strategy is to include patients and families as active participants. Pain education materials such as CDs, books, and videotapes are distributed to VHA patients. We found other examples of material written for patients in Australia and the United Kingdom.

In addition to touching on the issues above, the case studies of back pain and complex regional pain syndrome highlight the importance of timing in diagnosis and referral (if necessary) in order to minimize damage and disability.

The need for more evidence

Research on CP is ongoing but there are relatively few studies of a more applied nature (e.g., predictors of patient outcomes, the impact of the structure and/or process of health services on patient outcomes). Thus,

despite impressive progress in understanding pain from a physiologic perspective in recent decades, high-quality research is needed to guide management of patients with CP. The VHA promotes research as an integral part of its vision for pain management. There appear to be no data informing policy-makers about acceptable waiting times in CP, except with regards to specific conditions such as back pain and complex regional pain syndrome. There is a potential role for health technology assessment or evaluative research in examining the effectiveness and financial implications of modes of intervention and specific treatments in CP.

CONCLUSIONS AND RECOMMENDATIONS

Based on the material presented in this report, we make the following conclusions:

- Due to its magnitude as a health problem in the general population, its associated burden, and the viability of modes of intervention, CP should be considered a priority within health-care systems. This conclusion applies equally to Québec.
- Appropriate resources are required to support the structures and processes involved in providing evidence-based management of CP and monitoring outcomes.
- A hierarchy of services is required to ensure that the right patients are treated by the right health professional, at the right time. This structure facilitates the process of stepped care, in which patients progressively receive more complex, specialized and, often, costly interventions according to need and in a coordinated manner.
- Primary care structures and services need to provide timely diagnosis and treatment of CP, where possible (for example, via medications, rehabilitative and physical medicine, behavioural medicine, as needed). Specialized services and MPCs are intended to serve more complex cases that persist despite previous treatments. Among more specialized structures such as MPCs it is possible to have a gradation of services, the most comprehensive type involving research and training activities in addition to patient care.
- An interdisciplinary approach—in which health professionals from different disciplines work together to provide care, as needed for the individual case—is crucial for management of CP at all levels of the health-care system. This includes links between primary care physicians and physical medicine/rehabilitation practitioners, as well as collaboration between multiple care providers in specialized clinics. Canadian clinical practice guidelines support the interdisciplinary model for management of CP patients.
- Services need to be integrated and coordinated so that different types of health professionals (from various disciplines and levels of care) can be involved in seamless delivery of care.
- Care pathways and discharge protocols need to be employed to ensure continuity of care.
- Education for physicians and allied health professionals at all levels of the health-care system is essential to optimize treatment of patients with CP.
- CP patients need to be viewed as part of the solution in that they require education about pain, including self-management strategies.
- CP patient outcomes need to be assessed systematically to ensure quality of care.
- Employment of information technology and the Internet are vital for the success of any program aimed at restructuring services for patients with CP.
- High-quality research is essential to guide management of patients with CP. For example, there is a need for data on patient outcomes associated with and cost-effectiveness of MPCs in Québec.

The following recommendations take into consideration our review of the evidence and experiences with management of CP in other jurisdictions, combined with an analysis of their implications for Québec. AETMIS recommends that:

- Québec policy-makers at the governmental level, health-care managers, physicians and other health-care professionals, as well as directors of university training programs in health fields, recognize the importance of CP as a major chronic health problem, and that resources be allocated accordingly and progressively by those with the authority to do so.
- The organization and provision of services for CP patients in Québec be developed and supported according to a hierarchical and integrated model, which incorporates the principles of stepped care.
- The organization and delivery of CP services in Québec be based on an *interdisciplinary* approach at all levels of care.
- Strategies be developed and supported to educate physicians as well as allied health professionals about assessment, diagnosis, treatment, rehabilitation, and management of CP, and to facilitate evidence-based practice (using clinical practice guidelines, for example).
- Monitoring activities of CP services and other quality assurance mechanisms be put into place, notably with regard to patient outcomes and implementation of programs.
- Funding agencies strongly consider supporting research on patient outcomes, program implementation and process evaluation in CP.

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