McMaster University | HEALTH FORUM

Rapid Evidence Profile

Examining the characteristics and effects of interdisciplinary pain clinics for military personnel and Veterans experiencing chronic pain

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Context

- Chronic pain is among the most common reasons adults seek medical treatment and, in addition to its considerable effects on individual's physical and mental health, it produces a significant economic and social burden.
- Chronic pain is more prevalent among certain populations, including military personnel and Veterans, with the reported presence of at least one chronic-pain condition to be 50.6% among serving members and 67.1% among Veterans.(1)
- Despite its prevalence, the complexity of treating and supporting individuals experiencing chronic pain continues to challenge healthcare providers and health systems, which too frequently treat individuals using siloed approaches.
- Interdisciplinary care, which is becoming more common for the coordination of care for chronic pain, consists of greater coordination of services in a comprehensive program and more frequent communication among health professionals, all providing care 'under one roof' at the same facility or within a virtual 'circle of care.'(2)

Question

- What are the characteristics of interdisciplinary pain clinics and their effects on equity-centred quadruple-aim metrics for military personnel and Veterans experiencing chronic pain?

High-level summary of key findings

- We identified 10 highly relevant syntheses and two primary studies, which were included based on their recency and focus on Veterans' experiencing chronic pain.
- The majority of the literature focused on examining the effects of interdisciplinary care on health outcomes related to chronic pain, but very limited evidence was identified related to any of the other three dimensions of the quadruple aim related to patient and provider experiences and costs.
- Interdisciplinary care was generally found to be more effective than usual care (e.g., care provided at the discretion of an individual physician) at improving health outcomes including pain and disability.
- Physical and psychosocial components were found to be particularly important for reducing pain intensity, pain catastrophizing and depressive symptoms and for improving quality of life.
- With the exception of New Zealand, interdisciplinary programs or models of care were identified as being endorsed or funded by the Department of Defence or Department of Veterans Affairs in each of the 'Five Eyes' countries as well as in the Netherlands.
- Future research should focus on filling existing gaps in the literature (including conducting an evidence synthesis related to the effectiveness of interdisciplinary pain clinics for Veterans), as well as on documenting the characteristics of chronic pain clinics in Canada.

Framework to organize what we looked for

- Programs, services and products in interdisciplinary pain clinics
  - Non-pharmacologic therapy
    - Physical treatments (e.g., acupuncture, physical activity, physical therapy)
    - Psychological therapies (e.g., operant-behavioural therapy, cognitive-behavioural therapy, acceptance and commitment therapy)
  - Over-the-counter pharmacologic therapies
  - Prescription non-opioid pharmacologic therapies
  - Medical cannabis authorized by a healthcare provider
  - Non-opioid pharmacologic therapies (e.g., NSAIDs, SNRIs)
  - Prescription opiate therapies
  - Post-discharge supports
- Delivery arrangements (how care is organized)
  - Providers
    - Physicians
    - Psychologist
    - Pharmacists
    - Nurses
    - Allied health professionals (e.g., physiotherapists, occupational therapists)

Social workers

    - Lay/community health workers
    - Others
  - Setting
    - Community-based
    - Hospital-based
    - Hybrid models (in-person and virtual)
    - Virtual care
  - Model of care
    - Psychosocial versus medical
    - Shared decision-making (patients and providers)
    - Shared care (primary and specialty care)
- Financial arrangements (how care is paid for)
  - Funding interdisciplinary pain clinics
    - Fee-for-service
    - Capitation

Box 1: Approach and supporting materials

We identified evidence addressing the question by searching Health Systems Evidence, Social Systems Evidence, Clearinghouse for Military Family Readiness and PubMed. All searches were conducted on 19 July 2023. The search strategies used are included in Appendix 1. We also hand-searched select Veteran-specific evidence portals including: the Clearinghouse for Military Family Readiness, the *Journal of Military and Veterans' Health*, and Forces in Mind Trust Research Centre. We identified jurisdictional experiences by hand-searching government and stakeholder websites for information relevant to the question from each of the 'Five Eyes' countries (i.e., Australia, Canada, New Zealand, U.K. and U.S.) and from the Netherlands, which was purposively selected to capture experience implementing an interdisciplinary chronic pain model.

In contrast to synthesis methods that provide an in-depth understanding of the evidence, this profile focuses on providing an overview and key insights from relevant documents.

We searched for full evidence syntheses (or synthesis-derived products such as overviews of evidence syntheses) and protocols for evidence syntheses.

We appraised the methodological quality of evidence syntheses that were deemed to be highly relevant using AMSTAR. AMSTAR rates overall quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality. The AMSTAR tool was developed to assess reviews focused on clinical interventions, so not all criteria apply to evidence syntheses pertaining to delivery, financial or governance arrangements within health systems or to broader social systems.

A separate document contains five appendices:

1) methodological details (Appendix 1)
2) details about each identified evidence synthesis (Appendix 2)
3) details about each identified single study (Appendix 3)
4) findings from jurisdictional scans of experiences in each of the 'Five Eyes' countries (Appendix 4)
5) documents that were excluded in the final stage of review (Appendix 5).

This rapid evidence profile was prepared in the equivalent of three days with a 'full-court press' by all involved staff.

        - Global budget
        - Case-mix funding
    - Remunerating providers
        - Fee-for-service
        - Capitation
        - Salary
        - Episode-based payment
- Governance arrangements (how decisions about care are made)
    - Ownership
    - Networks/multi-institutional arrangements
- Priority populations
    - 2SLGBTQ+
    - Indigenous
    - Women
    - People who live in rural and/or remote areas or postings
    - People with mental health issues
    - People with substance-use issues
    - Veterans who are homeless or precariously housed
- Equity-centred quadruple-aim metrics examined
    - Health outcomes
    - Care experiences
    - Provider experiences
    - Per-capita costs

What we found

We identified 15 evidence syntheses and two primary studies addressing the question. Of these, we deemed 10 evidence syntheses and two primary studies to be highly relevant. We were only able to identify one medium-quality evidence syntheses that included findings on interdisciplinary care for active military personnel.(3) We also included two recent primary studies identified during our hand-search of military- and Veteran-specific sources that focused on these populations.

Coverage by and gaps in existing evidence syntheses

The majority of the literature focused on examining the effects of interdisciplinary care on health outcomes related to chronic pain. In profiling this literature, our focus was on assessing the effects of the bundle of programs, services and products included in interdisciplinary chronic pain clinics. Given this and because of the very heterogenous features of clinics we identified in the literature, we do not provide evidence about the effectiveness of individual programs, services and products that could be offered in interdisciplinary pain clinics. However, this is a potentially important gap to address in future research (which we identify later).

We were only able to identify one medium-quality evidence synthesis that included findings on the effectiveness of interdisciplinary care clinics among active members.(3) We did not identify any evidence syntheses examining the effectiveness of interdisciplinary care for chronic pain in Veterans. We identified very limited insights about any of the priority populations included in the framework above or for broader equity considerations.

What existing evidence syntheses tell us about the characteristics of interdisciplinary pain clinics

Primary studies included evidence syntheses focused on a broad array of programs, services and products, resulting in some challenges synthesizing findings about them. However, a low-quality evidence synthesis conducted in 2018 indicated that there has been an overall reduction in the use of over-the-counter and prescription pharmacological

therapies in lieu of alternative interventions including physical, psychological, educational and acceptance-based occupational treatments.(4)

We did not identify any evidence syntheses that compared inpatient to outpatient treatment or that directly compared interdisciplinary care in community settings to hospital settings. One low-quality evidence synthesis which described attributes of interdisciplinary care found that in-patient pain programs use a wide variety of personnel to provide effective care (e.g., social workers, alternative treatment professionals and family members), with physical therapists, physicians and psychologists being the most common.(4)

We did identify one high-quality and two medium-quality evidence syntheses that described models of care used in interdisciplinary chronic care clinics including a biopsychosocial model that included exercise, education and relaxation components, a shared decision-making model, and a shared-care model between primary, secondary and rehabilitation settings.(5-7)

We did not identify any syntheses that included descriptions of financial or governance arrangements.

What existing syntheses tell us about the effects on equity-centred quadruple-aim metrics

Many of the included syntheses and primary studies focused on the effectiveness of interdisciplinary care for chronic pain, but did not examine the relative effectiveness of different combinations of services or products.

Health outcomes

One high-quality and two medium-quality evidence syntheses found that interdisciplinary pain rehabilitation programs were effective for treating chronic pain compared to usual care (e.g., care provided at the discretion of an individual physician), resulting in reductions in pain and disability.(8-10) The high-quality evidence synthesis found that interdisciplinary rehabilitation programs for chronic low back pain led to a reduction in pain and disability, and was more effective than physical treatments alone and had similar outcomes to surgery but carried a lower risk of adverse events.(9) In addition, a single study focused on interdisciplinary pain management for Veterans found that these programs resulted in improved coping strategies, confidence and function.(11)

With respect to specific characteristics within interdisciplinary care, two medium-quality evidence syntheses noted that physical and psychosocial components were particularly important components of the program, resulting in reduced pain intensity, pain catastrophizing, depressive symptoms and improved quality of life.(6; 12) Another medium-quality evidence synthesis found that programs that combined a focus on functional improvement, behavioural changes and active medication management and that changed the opioid prescriber from a primary care physician to a physician associated with an interdisciplinary program with a specialization in pain resulted in opioid dose reductions.(13) However, the same evidence synthesis indicated that relapse rates from this program were found to be relatively high.(13)

Interdisciplinary care included an average of four different providers. However, only one medium-quality evidence synthesis included findings comparing providers, and found that including clinical pain and depression specialists on a case-management team showed the greatest effect on reducing pain intensity and increasing functionality among middle-aged men in primary-care settings.(14) One single study found that an interdisciplinary chronic pain program delivered through a primary care clinic improved health outcomes among homeless Veterans as compared to accessing services through the emergency department.(15)

Interdisciplinary care that employed care models had positive effects on health outcomes. One high-quality evidence synthesis found the use of a biopsychosocial model improved patient well-being and that improvements were maintained over time.(5) Two medium-quality syntheses focused on the use of shared decision-making and shared-care models, finding improved pain-related health outcomes from both models.(6; 7)

Care experiences

We identified very few findings related to care experiences, but one medium-quality evidence synthesis noted that individuals who had been previously dissatisfied with their care for chronic pain may encounter adherences challenges with new treatments, furthering their dissatisfaction.(7)

Provider experiences

A medium-quality evidence synthesis found that provider satisfaction improved when delivering interdisciplinary care in primary-care settings as opposed to hospital-based care.(7)

Per-capita costs

One medium-quality evidence synthesis (7) and one primary study (15) found that community-based interventions may reduce costs of interdisciplinary care.(7; 15) The primary study also found that interdisciplinary care that is delivered in primary-care settings, as compared to usual care for Veterans, reduced acute-care visits and behavioural health-service use. (15)

Jurisdictional scan

With the exception of New Zealand, we identified models of interdisciplinary pain care in each of the 'Five Eyes' countries as well as the Netherlands. These are models that are either endorsed, funded or reimbursed by the Department of Defence or Veterans Affairs health insurance in each jurisdiction and include an array of different providers delivering care in inpatient, outpatient and virtual settings.

In Australia, the Department of Veterans' Affairs promotes and reimburses care provided through a shared-decision making model for interdisciplinary chronic pain management. Pain management centres providing this type of care include many types of health providers and social workers and frequently involve family members to address the multifaceted components of chronic pain, including emotional regulation challenges, sleep impairments, exercise limitations and social disconnection.

In Canada, Veterans' Affairs can refer individuals to an approved interdisciplinary clinic that is intended to treat complex health conditions including chronic pain. These clinics have many different types of health professionals, including physicians, psychologists, physiotherapists, social workers, kinesiologists and recreational therapists.

In the Netherlands, a stepped-care model is used for chronic pain, whereby one provider (typically a primary-care provider) is ultimately responsible for the individuals' pain outcomes and acts as a consistent point of contact. A chain care coordinator is designated for each individual experiencing chronic pain and is responsible for coordinating services within the specified territory for those experiencing chronic pain. The stepped care approach matches an individual's needs to an incremental approach, which includes: prevention and self-care (step 1); interdisciplinary diagnostics, pain education and treatment in primary care (step 2); services provided in both primary and secondary care settings (step 3); and services provided in secondary and tertiary care settings (step 4).

In the U.S., the Department of Veterans Affairs recommends two programs available to active service members and Veterans to help them with chronic pain. The first is the Chronic Pain Rehabilitation Program that consists of a 19-day inpatient program, and the second is the Pain Empowerment Anywhere Program that consists of a five-week fully virtual rehabilitation program. Both programs provide a range of group and individual treatments that include many different types of providers, including nurse practitioners, psychologists, physical therapists, occupational therapists, therapeutic recreation specifics and vocational rehabilitation specialists. Through both programs, participants receive a pain-medicine evaluation, tailored exercise program, training in mindful meditation, effective communication and coping skills, education about the physical and emotional effects of pain, adaptive living skills

to improve home-related activities, recreational activities to increase socialization and engagement in leisure activities, and regular team meetings with providers.

Finally, in the U.K., the Veterans' Pain Management Program provides a group-based interdisciplinary program that focuses on education, and offers patients a range of strategies to deal with pain and to create support networks. The program consists of a 10-day virtual program that is delivered over nine months and includes a physician to focus on pain management, as well as a psychologist, nurse, physiotherapist, psychiatrist and mental health nurse. The program does not include hands-on treatment or prescriptions of pain medications, though medication review is a component in the care provided.

Next steps

Additional next steps should focus on efforts to fill gaps in the literature, which include:

- evidence syntheses on specific models of care where there is greater homogeneity in the characteristics included
- evidence syntheses on the use and effectiveness of interdisciplinary pain clinics for Veterans
- primary research on the effectiveness of post-discharge supports to ensure individuals are able to continue to benefit from this type of care even if they are further away.

In addition, one important next step from this rapid evidence profile could be to identify all interdisciplinary pain clinics in Canada and document their characteristics, including programs, services and products used, delivery, financial and governance arrangements (including settings in which care is provided, type of model used and providers engaged), and priority populations served. This work could be pursued using the existing listing of all Canadian Pain Clinics provided on the website of the Michael G. DeGroote Institute for Pain Research and Care (IPRC).

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