MCRWE Study Summary

OVERVIEW OF THE STUDY

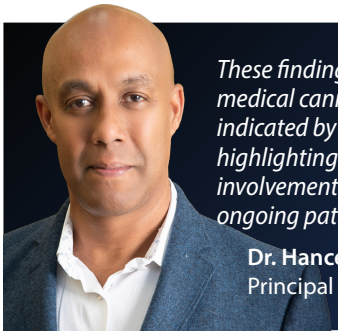
Initiated in 2020, the Medical Cannabis Real-World Evidence (MC-RWE) study is an ongoing, prospective, multicenter, observational study designed to evaluate the real-world application of medical cannabis in adult Canadian patients. The study uses validated, standardized assessment tools to examine the effects of medical cannabis for pain, sleep disturbances, epilepsy, anxiety and/or depression over a 24-week period.

A total of 276 patients were enrolled and followed over a 6-month period using several validated questionnaires at baseline, weeks 6, 12, and 24. Medical cannabis use occurred under healthcare practitioner guidance, with access to a wide range of verified cannabis products which reflects routine clinical practice rather than controlled trial conditions.

WHY THIS MATTERS

Medical cannabis is increasingly explored as a therapeutic alternative for conditions such as chronic pain, sleep disturbances, anxiety, and depression, particularly when conventional therapies are inadequate, poorly tolerated, or associated with safety concerns (Lapham et al., 2022).

Real-world evidence offers valuable insight into how medical cannabis performs outside randomized controlled trials, capturing outcomes across diverse patient populations and product types to help inform real-world clinical decision making.



These findings support the potential role of medical cannabis in selected patients as indicated by preliminary real-world data, while highlighting the importance of clinician involvement in monitoring efficacy, safety, and ongoing patient outcomes.

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KEY FINDINGS

Table 1. Mean patient study outcomes overtime.

Total N = 276	Baseline	Week 6	Week 12	Week 24
Pain Interference (6–30)	21.95 (6.75)	18.6[a] (6.81)	18.7[a] (7.06)	17.54[a] (7.22)
Missing (n)	*33*	*92*	*111*	*137*
Median, (IQR)	*23, (18, 28)*	*18, (14, 24)*	*19 (14, 24)*	*18, (12, 24)*
Pain Severity (0–10)	5.19 (2.61)	4.58[a] (2.66)	4.58[a] (2.62)	4.09[a] (2.61)
Missing (n)	*33*	*92*	*111*	*137*
Median, (IQR)	*5, (3, 7)*	*5, (2, 7)*	*5, (3, 7)*	*4, (2, 6)*
GAD-7 Total (0–21)	8.59 (6.26)	6.42[a] (5.81)	6.68[a] (5.85)	6.74[a] (6.03)
Missing (n)	*40*	*94*	*116*	*139*
Median, (IQR)	*8, (3, 13)*	*5, (2, 10)*	*5, (2, 10)*	*5, (2, 10)*
PHQ-9 Total (0–27)	10.57 (6.96)	7.76a (6.47)	8.09[a] (6.71)	8.19[a] (6.99)
Missing (n)	*40*	*94*	*116*	*141*
Median, (IQR)	*9, (6, 16)*	*7, (2, 12)*	*7, (3, 13)*	*7, (2, 13)*
Quality of Life Index (0–10)	4.02 (1.88)	3.46[a] (1.9)	3.46[a] (1.93)	3.5[a] (1.91)
Missing (n)	*40*	*94*	*116*	*139*
Median, (IQR)	*4, (3, 5)*	*3, (2, 5)*	*3, (2, 5)*	*4, (2, 5)*

Values displayed are mean (standard deviation).
[a]$p < 0.05$ from Baseline
GAD-7: General Anxiety Disorder-7, PHQ-9: Patient Health Questionnaire-9

Note. Reproduced from Canadian real-world evidence: Observational 24-week outcomes for health care practitioner authorized cannabis, by Yang et al., 2026, Canadian Journal of Pain, 5(1), Article 2593253 (https://doi.org/10.1080/24740527.2025.2593253).

PAIN OUTCOMES

Pain outcomes were assessed using the PROMIS Pain Interference – Short Form 6a and Numeric Pain Rating Scale (NPRS).

- Pain interference scores improved significantly from baseline to Week 24 ($p<0.001$).
- Pain severity (NPRS score) decreased most dramatically at 6 weeks and improvements were sustained through Week 24 ($p<0.001$).

While the improvements did not reach established minimal clinically important difference (MCID) thresholds, the early onset and durability of effect support the potential clinical relevance of medical cannabis in selected patients and highlights the need for appropriately powered, placebo-controlled trials.

SLEEP OUTCOMES

Sleep outcomes were assessed using self-reported sleep durations.

- Proportion of patients reporting >7 hours of sleep per night increased from 28.4% at baseline to 37.5% at Week 24.
- Proportion of patients reporting <5 hours of sleep per night decreased from 20.8% at baseline to 13.2% at Week 24.

Overall, the shifts in sleep duration were statistically significant ($p<0.001$) suggesting a favorable trend toward longer sleep duration.

MENTAL HEALTH OUTCOMES

Mental health outcomes focused on anxiety and depression.

- Anxiety (GAD-7) scores improved significantly from baseline to Week 24 ($p<0.001$).
- Depression (PHQ-9) scores also decreased relative to baseline to Week 24 ($p<0.001$).

Most improvements were observed as early as week 6 and sustained through 24 weeks. Although average changes fell below MCID thresholds, the sustained benefits suggest that medical cannabis may provide meaningful support in reducing anxiety and depressive symptoms for some patients, particularly when used under clinician guidance.

QUALITY OF LIFE OUTCOMES

Quality of life scores showed a small but statistically significant improvement. These findings suggest medical cannabis use may contribute to broader improvements in daily functioning and overall well-being in clinical practice.

ADVERSE EVENTS AND ATTRITION

Medical cannabis was generally well tolerated and the most commonly reported side effects included dry mouth, daytime sleepiness and feeling “high”.

By Week 24, nearly 50% of participants had discontinued follow-up. While most did not cite a reason for unresponsiveness, 13 cited no effect, 7 cited financial burden and 6 reported no longer needed medical cannabis as a reason for dropout.

CLINICAL IMPLICATIONS

In this prospective real-world cohort, medical cannabis use was associated with statistically significant but modest improvements in pain, sleep, anxiety, depression, and quality of life over 24 weeks among patients who remained on therapy. Because some participants discontinued treatment or follow-up, these findings likely reflect outcomes in a subset of patients who tolerated or perceived benefit from cannabis therapy. While average changes did not reach minimal clinically important difference thresholds, early and sustained improvements in some individuals suggest that medical cannabis may offer clinically meaningful benefit for selected patients when prescribed and monitored by clinicians.

DID YOU KNOW?

The MC-RWE study remains open to enrolment, providing valuable real-world insights into medical cannabis use over 24 weeks across diverse patient populations.

For more information or to register patients, please visit www.mcrwe.com *or contact the study coordinator at* 416-340-4800 x4251.

References

Lapham, G. T., Matson, T. E., Carrell, D. S., Bobb, J. F., Luce, C., & Oliver, M. M. (2022). Comparison of medical cannabis use reported on a confidential survey vs documented in the electronic health record among primary care patients. JAMA Network Open, 5(5), e2211677. https://doi.org/10.1001/jamanetworkopen.2022.11677

Yang, B., Diep, C., Thaker, S., Jackson, T., Lakhani, A., & Landolt, C. (2026). Canadian real-world evidence: Observational 24-week outcomes for health care practitioner authorized cannabis. Canadian Journal of Pain, 5(1), Article 2593253. https://doi.org/10.1080/24740527.2025.2593253