Opioid cessation is associated with reduced pain and improved function in people attending specialist chronic pain services

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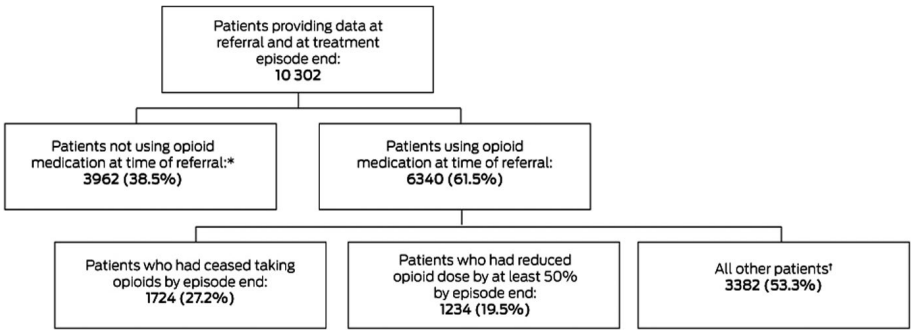
Practitioners who prescribe opioid medications for people with chronic non-cancer pain must navigate increasingly stringent policy requirements,[1] research findings questioning the benefit of opioids for such patients,[2] and patients who fear uncontrolled pain if opioids are withdrawn.[3]

In Australia and New Zealand, people with chronic non-cancer pain may be referred to specialist pain management services, most of which participate in the electronic Persistent Pain Outcomes Collaboration (ePPOC; https://www.uow.edu.au/ahsri/eppoc), an initiative for collecting standardised information about their patients, the services they provide, and the outcomes of treatment. This information is used at point of care, and for reporting, benchmarking, and research.

1 Opioid use by patients at referral and at the end of treatment in specialist pain clinics



* Opioid therapy was initiated for 536 of patients who had not being using opioid medications at referral (13.5%). † Opioid use had been reduced by less than 50% for 1025 patients (30.3%), not changed for 878 patients (26.0%), and increased for 1479 patients (43.7%). ◆

To explore the impact of changes in opioid use on outcomes for patients, we analysed ePPOC data collected at 67 pain services (online Supporting Information) during January 2015 – June 2020. We extracted data for all patients with completed episodes of care and who had answered questions about opioid use at referral and episode end. We summarised their characteristics and outcomes as means with standard deviations (SDs). All analyses were conducted in SAS 9.4. Our study was approved by the University of Wollongong and Illawarra and Shoalhaven Local Health District health and medical human research ethics committee; reference, 2019/ETH03804).

The mean age of the 10 302 patients who provided information at both referral and at the end of their treatment episodes was 49.5 years (SD, 14.4 years); 5807 were women (56.4%), and 3490 had experienced their pain for more than five years (33.9%). The most frequent site of their main pain was the back (3936 patients; 38.2%).

A total of 6340 patients (61.5%) were using opioid medications at referral (Box 1); their mean oral morphine equivalent daily dose[4] was 56.3 mg (SD, 75.3 mg), the median daily dose was 31.0 mg (interquartile range [IQR], 15–75 mg). They reported higher mean pain scores than patients not using opioids at referral (6.2 [SD, 1.6] *v* 5.8 [SD, 1.7]) and greater interference in daily activities (7.2 [SD, 1.8] *v* 6.5 [SD, 2.0]; each measured with the Brief Pain Inventory[5]). Mean values for depression, anxiety, stress, pain catastrophising, and pain self-efficacy were also worse for people using opioid medications (data not shown).

The most frequent service events were individual appointments with medical and allied health staff (35 678 of 55 012 events, 65%) and group pain programs (18 841 events, 34%); there were 493 procedural interventions (1%). The median episode length was 175 days (IQR, 99–322 days).

Opioid prescribing varies between pain services, including direct prescribing by the pain specialist and recommendations to patients' general practitioners. However, a major focus of multidisciplinary care is supporting patients to reduce their opioid use, which typically involves collaboration between the patient, their GP, and the pain service.

By the end of their treatment episodes, 1724 patients who reported using opioids at referral (27.2%) had stopped doing so, 1234 patients (19.5%) had reduced their dose by at least 50% and 3382 patients (53.3%) had either not changed, increased, or reduced opioid use by less than 50%. For each group, scores had improved in each clinical domain, and the changes were greatest for patients who had ceased opioid use, as were the proportions experiencing clinically significant improvement. Scores for measures specifically related to pain experience (pain severity, interference, catastrophising and self-efficacy) at the end of treatment were similar to or better than those of patients who had not been using opioids at referral, despite greater initial pain severity. Conversely, the smallest mean improvements were for the patients who had not reduced opioid use by at least 50% (Box 2).

Although our study was limited by its retrospective nature, the lack of follow-up of patients who did not complete treatment, and its restriction to specialist pain practices, our findings are encouraging. We found that significant clinical improvements are possible for people with chronic non-cancer pain attending multidisciplinary pain management services in Australia and

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2 Mean pain and psychometric scores, and changes in scores between referral and end of treatment (with standard deviations), by opioid use at the two time points

Clinical domain	Patients not using opioids at referral	Patients who were using opioids at referral		
		Ceased taking opioids	Reduced opioid use by at least 50%	Other*
Total number of patients	3962	1724	1234	3382
Pain severity (BPI[5])	3787	1646	1174	3215
Referral	5.8 (1.7)	6.1 (1.7)	6.3 (1.6)	6.3 (1.6)
Episode end	4.9 (2.0)	4.9 (2.0)	5.5 (1.8)	5.8 (1.7)
Change in score	−0.9 (1.7)	−1.2 (1.8)	−0.8 (1.6)	−0.5 (1.5)
Clinically significant improvement†	817/2997 (27%)	459/1410 (33%)	231/1035 (22%)	436/2827 (15%)
Pain interference (BPI[5])	3905	1702	1219	3316
Referral	6.5 (2.0)	7.1 (1.8)	7.3 (1.7)	7.2 (1.9)
Episode end	4.9 (2.4)	5.0 (2.4)	5.7 (2.3)	6.2 (2.2)
Change in score	−1.6 (2.2)	−2.1 (2.3)	−1.6 (2.1)	−1.0 (2.0)
Clinically significant improvement†	2050/3279 (63%)	1062/1546 (69%)	679/1133 (60%)	1481/3003 (49%)
Depression (DASS-21[6])	3827	1673	1201	3240
Referral	17.8 (12.1)	20.2 (12.4)	20.9 (12.6)	20.7 (12.4)
Episode end	12.8 (11.1)	13.8 (11.6)	15.6 (12.0)	16.6 (11.9)
Change in score	−5.0 (10.1)	−6.4 (11.0)	−5.3 (10.7)	−4.0 (10.2)
Clinically significant improvement†	1308/2231 (59%)	662/1100 (60%)	434/810 (54%)	1042/2190 (48%)
Anxiety (DASS-21[6])	3821	1676	1191	3233
Referral	12.1 (10.2)	13.3 (10.4)	14.1 (10.4)	13.7 (10.3)
Episode end	10.1 (9.5)	10.9 (9.7)	11.9 (9.7)	12.5 (10.1)
Change in score	−2.0 (8.2)	−2.4 (8.7)	−2.2 (8.4)	−1.2 (8.0)
Clinically significant improvement†	858/1972 (44%)	438/962 (46%)	288/716 (40%)	662/1904 (35%)
Stress (DASS-21[6])	3818	1660	1191	3226
Referral	19.8 (11.0)	21.1 (10.8)	21.9 (10.9)	21.2 (11.1)
Episode end	15.6 (10.6)	16.6 (10.7)	17.9 (10.5)	18.6 (10.8)
Change in score	−4.1 (9.6)	−4.5 (10.2)	−4.0 (9.3)	−2.6 (9.2)
Clinically significant improvement†	1154/1936 (60%)	553/905 (61%)	387/710 (55%)	898/1828 (49%)
Pain catastrophising (PCS[7])	3796	1649	1174	3204
Referral	26.3 (13.3)	28.1 (13.4)	28.5 (13.4)	28.3 (13.3)
Episode end	18.3 (13.3)	17.9 (13.5)	20.9 (13.6)	22.1 (13.6)
Change in score	−8.0 (11.6)	−10.2 (12.2)	−7.6 (11.1)	−6.2 (11.2)
Clinically significant improvement†	1425/2513 (57%)	714/1164 (61%)	435/841 (52%)	1056/2308 (46%)
Pain self-efficacy (PSEQ[8])	3860	1685	1210	3262
Referral	24.0 (12.6)	20.6 (12.0)	18.6 (11.0)	18.9 (11.9)
Episode end	32.1 (14.4)	32.0 (14.4)	26.9 (13.1)	24.0 (13.1)
Change in score	+8.1 (12.7)	+11.5 (14.0)	+8.3 (12.7)	+5.1 (12.1)
Clinically significant improvement†	1433/2796 (51%)	827/1382 (60%)	504/1058 (48%)	1015/2773 (37%)

BPI = Brief Pain Inventory (range, 0–10); DASS-21 = Depression Anxiety and Stress Scale (range, 0–42); PCS = Pain Catastrophising Scale (range, 0–52); PSEQ = Pain Self-Efficacy Questionnaire (range, 0–60; higher scores indicate greater self-efficacy). * Opioid use by patients had been reduced by less than 50%, not changed, or increased. † For patients who reported at least moderate symptom severity at referral (see Supporting Information for definitions of clinically significant improvement). ◆

New Zealand, even as they discontinue opioid medications. The challenge is to extend these services and supported self-management skills to primary and community care.

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Supporting Information

Additional Supporting Information is included with the online version of this article.