Research Paper

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A qualitative trajectory analysis of patients' experiences tapering opioids for chronic pain

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Abstract

Tapering opioids for chronic pain can be challenging for both patients and prescribers, both of whom may be unsure of what to expect in terms of pain, distress, activity interference, and withdrawal symptoms over the first few weeks and months of the taper. To better prepare clinicians to provide patient-centred tapering support, the current research used prospective longitudinal qualitative methods to capture individual-level variation in patients' experience over the first few months of a voluntary physician-guided taper. The research aimed to identify patterns in individuals' experience of tapering and explore whether patient characteristics, readiness to taper, opioid tapering self-efficacy, or psychosocial context were related to tapering trajectory. Twenty-one patients with chronic noncancer pain commencing tapering of long-term opioid therapy were recruited from a metropolitan tertiary pain clinic (n = 13) and a regional primary care practice (n = 8). Semistructured phone interviews were conducted a mean of 8 times per participant over a mean duration of 12 weeks (N = 173). Four opioid-tapering trajectories were identified, which we characterised as thriving, resilient, surviving, and distressed. High and low readiness to taper was a defining characteristic of thriving and distressed trajectories, respectively. Life adversity was a prominent theme of resilient and distressed trajectories, with supportive relationships buffering the effects of adversity for those who followed a resilient trajectory. Discussion focuses on the implications of these findings for the preparation and support of patients with chronic pain who are commencing opioid tapering.

Keywords: Chronic pain, Opioids, Opioid tapering, Opioid discontinuation, Qualitative, Longitudinal, Trajectory analysis

1. Introduction

Opioid medications have been the mainstay of chronic pain treatment in many developed nations, including Australia.[32] In response to emerging evidence for the limited benefit and significant risk of harm,[10] long-term opioid therapy is no longer indicated as a first-line approach for the management of chronic noncancer pain.[50] Current guidelines recommend that, when the risks outweigh the benefits, patients with chronic pain should consider tapering off or down to a safer dose in negotiation with their healthcare provider.[19,50]

However, tapering opioids is not straightforward. Many patients with chronic pain are fearful of reducing or discontinuing opioids,[25,27,30] and some are highly resistant to the idea.[1,36] Qualitative studies indicate that patients are primarily concerned about worsening pain and functioning when their medications are reduced[25,27,30] and are pessimistic about their ability to manage their pain with nonopioid alternatives.[25] These concerns are not unwarranted. Research confirms that some patients struggle with hyperalgesia, symptoms of withdrawal, and heightened depression and anxiety while tapering.[4,18,27,34] In addition, recent studies have found that opioid tapering is associated with heightened risks of illicit opioid use, overdose, and suicide.[5,11,18,31,44] However, there is some evidence that, on average, when patients are well supported, they do not necessarily have worse pain after reducing or discontinuing opioid medications and many show improved functioning and quality of life.[17,22,26,40,42,49]

To mitigate the risk of harm during tapering, prescribers are advised to take a patient-centred approach to tapering that is responsive to fluctuations in patients' pain, distress, function, and withdrawal symptoms, allowing for the possibility that the taper may need to be paused, or even reversed, as the impact of tapering on the patient is revealed over time.[50] In practice, however, it may be difficult for patients and clinicians to predict the impact of dose changes. Indeed, patients who have experience tapering opioids report that their perceived need for opioid medication fluctuates with changes in their social, emotional, and physical health and life circumstances.[30] Relatedly, although clinicians express a desire to take a patient-centred approach to pain management, they report that they find it difficult to evaluate the veracity of patients' changing needs for pain control, particularly in the absence of physical or radiographic findings.[3]

Although previous research provides us with insight into barriers and facilitators of tapering,[25,27,30,46] little is known about factors that shape patients' experience of tapering over time. To better prepare clinicians to provide patient-centred tapering support, the current research explored individual-level variation in

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patients' experience of pain, distress, and interference over the first few months of a physician-guided taper. Using longitudinal (repeated measures) qualitative methods, the research examined whether patterns emerged in individual experiences of tapering. Previous research points to the role of social support, patient-provider relationships, individual coping strategies, life adversity, readiness to taper,[16] and tapering self-efficacy[21] in patients' experience of pain, distress, and interference while tapering. The current research explored whether these factors were associated with the trajectories of tapering experiences.

2. Method

2.1. Design

The study used a longitudinal qualitative design involving serial, semistructured interviews. This design was considered to be the most appropriate for eliciting rich and deep accounts of patients' lived experiences of change and stability across time. The study was granted ethical approval from the Human Research Ethics Committee of the Northern Sydney Local Health District. All participants were provided with comprehensive study information, and informed consent was obtained.

2.2. Participants and setting

Patients were recruited from 2 healthcare settings: a tertiary public pain clinic in a metropolitan research hospital and a private primary care practice in a regional area between September 2019 and March 2020. Eligible patients included those with chronic pain on long-term opioid therapy who had either commenced or were planning to commence tapering (discontinuing or reducing) their opioid medication. Patients were excluded if they were younger than 18 years or if they had a history of opioid use disorder, other major psychiatric conditions (ie, those currently causing acute distress that affects their ability to function), insufficient English, or insufficient capacity to provide informed consent.

Patients eligible for participation were identified by clinicians and were subsequently provided with study information by researchers either in person or via telephone. A purposive sampling strategy was used to ensure diversity regarding age, sex, education level, employment status, healthcare setting, pain diagnosis, duration of pain, duration of opioid therapy, and opioid dosage. Recruitment continued until data saturation was reached; that is, interviews were no longer yielding information substantively different from that already obtained.

Eight patients were approached but not recruited as they were found to be ineligible. Three patients declined to be involved in the study: 2 chose not to taper and 1 reported being too busy. Three patients participated in a limited number of interviews (<5): 2 (P07 and P20) because they decided to stop their taper and 1 (P13) was uncontactable after travelling abroad. Twelve participants were recruited for interviews before tapering, 6 were recruited within the first 4 weeks of their taper, and 3 were recruited more than a month into their taper.

2.3. Data collection

Two researchers (A.G.M. and N.S.A.) conducted semistructured phone interviews with patients that lasted 10 to 50 minutes each (see Appendix 1 for interview guide, available at http://links.lww.com/PAIN/B383). The aim was to interview each patient once before commencing their taper (provided that they had not begun tapering at the time of recruitment) and then, while tapering, on a weekly basis for 12 weeks; however, this was not always feasible. To contextualize the tapering process, the patients self-reported their demographic and clinical information, including their opioid doses at baseline, at each interview, and at final follow-up. The proposed *ICD-11* chronic pain diagnoses were used to classify the patients' pain conditions.[52] Patients were interviewed an average of 8 times (range = 2-13) for a mean duration of 12 weeks (range = 2-20). Brief follow-ups were conducted between 4 and 8 weeks after the final interview to obtain an update on patients' opioid doses. In total, 173 interviews were conducted. Interviews were recorded, transcribed verbatim by the research team, and entered into NVivo 12 software for coding and analysis.

2.4. Data analytic technique

The data analysis process involved 4 sequential phases: (1) a between-subjects thematic analysis, (2) global ratings of individual readiness to taper and tapering self-efficacy at baseline, (3) a within-subjects longitudinal analysis of changes in pain, distress, and interference over time, and (4) identification of common tapering trajectories.

2.4.1. Phase 1: between-subjects thematic analysis

In the first phase, transcripts of all participants (N = 21) were examined using an inductive approach to thematic analysis[6] to identify the most salient features and psychosocial context of patients' tapering experiences. Two researchers (A.G.M. and N.S.A.) developed a codebook by independently coding 3 transcripts, comparing their codes, and agreeing upon an initial code list. The process was then repeated with further 3 transcripts, applying the agreed upon codes and proposing new ones where necessary. This occurred iteratively until the coders no longer found information that required a new code. To test the reliability of the codebook, the researchers independently coded 3 further transcripts, reaching >95% interrater agreement. The remaining interview transcripts were coded by a single researcher (A.G.M.). In cases in which data did not fit into an existing code, a new code was created after consultation with another researcher (C.A.J.). Higher-order themes were then developed through an iterative process of merging, separating, and synthesising codes. Themes were compared and contrasted to ensure that they achieved both internal homogeneity and external heterogeneity.[45]

2.4.2. Phase 2: global ratings of tapering readiness and self-efficacy

Two researchers (N.S.A. and A.G.M.) independently deduced a global rating (low, moderate, or high) of "opioid tapering readiness" and "opioid tapering self-efficacy" from participants' first interviews, compared evaluations, and collaboratively resolved discrepancies. Evaluations of readiness to taper opioid medications were informed by indicators of readiness to change, including (but not limited to) having (1) a desire to improve health, (2) a desire to improve functioning, (3) adequate support for change, (4) sufficient energy for change, (5) an awareness of the benefits of change, (6) a recognition of the need for change, or (7) a desire to change.[15] Evaluations of tapering self-efficacy were deduced from participants' expressed level of confidence in their ability to reduce their opioid medication and manage symptoms of pain and withdrawal. Examples of transcript excerpts

Table 1

Examples of opioid-tapering readiness and self-efficacy coding.

Opioid-tapering readiness		Opioid-tapering self-efficacy	
Low	"How does it go when you're a genuine person and you're needing that relief?" (P20)	Low	"It's going to take some convincing for me to believe that [discontinuing opioids] is a reachable goal." (P20)
Moderate	"I understand I have to start it [tapering] and do this but there is good and bad about it." (P10)	Moderate	"I think it will be difficult, but I have to try." (P03)
High	"I'm happy to be getting off it." (P08)	High	"I could stop without any hassles." (P09)

indicating low, moderate, and high levels of tapering readiness and self-efficacy are provided in **Table 1**.

2.4.3. Phase 3: within-subjects longitudinal analysis

A within-subject longitudinal analysis of participants' experience of pain, distress, interference, and withdrawal symptoms together with changes in opioid dose and psychosocial context was conducted using data from participants who completed at least 3 interviews and who were recruited within the first 3 months of their taper (N = 18).

First, global ratings of pain intensity, distress, and activity interference (low, moderate, or high) were deduced from each interview transcript. Two researchers (A.G.M. and C.A.J.) conferred on the coding of transcripts. Examples of cues used to determine global ratings are provided in **Table 2**. Global ratings for each variable were deduced independently for each participant (ie, ratings of pain intensity across interviews for all participants were made before ratings of distress and then activity interference). Consequently, researchers' ratings of pain were not influenced by ratings of distress and interference (and vice versa) at any given time point.

Second, withdrawal-like symptoms were recorded as reported or not reported at each interview using a binary code (1 = withdrawal-like symptoms reported, 0 = no withdrawal-like symptoms reported). Withdrawal-like symptoms recorded included anxiety and irritability, muscle tension, muscle and bone ache, muscle cramps, sleep disturbance, sweating, hot and cold flushes, piloerection (goosebumps), yawning, lacrimation, rhinorrhoea, abdominal cramps, nausea, vomiting, diarrhoea, and palpitations.[9] In cases in which withdrawal-like symptoms were not reported, neither continuity nor change in patients' experience of withdrawal-like symptoms was assumed.

Third, participants' average daily opioid dose was recorded in oral morphine equivalent daily dose milligrams (oMEDD) for each interview using the conversion calculator provided by the Faculty of Pain Medicine of the Australia New Zealand College of Anaesthetists (www.opioidcalculator.com.au) and rounded to the nearest whole number. In calculating the average daily opioid dose, it was assumed that participants took the maximum daily amount of opioids prescribed unless otherwise stated. If participants reported that their dose fluctuated from day to day, an estimated weekly average was calculated.

Fourth, when salient features of the participants' psychosocial context (stressful events, changes in relationships, social support, or environment) were revealed at a given interview, they were noted. When participants did not report information pertaining to their psychosocial context, neither continuity nor change was assumed.

Data pertaining to participants' experience of pain, distress, interference, withdrawal symptoms, daily opioid dose at each interview, and pertinent information relating to psychosocial context were organised in time-ordered sequential matrices.[28] Within each coding matrix, columns represented discrete

Table 2

Illustrative example of a within-participant coding matrix.

Variable	Week 1	Week 2	Week 3	Week 4
Pain intensity	1 (low) *Pain was well managed*	1 (low) *Reported pain was "totally controllable"*	2 (moderate) *Reported pain was "worse than normal"*	3 (high) *Bed-ridden with "excruciating" pain*
Withdrawal-like symptoms	0 (no) *None reported*	1 (yes) *Fatigue, mood swings, sweating, hot and cold flushes*	1 (yes) *Irritability, insomnia*	1 (yes) *Irritability, insomnia*
Distress	1 (low) *Feeling optimistic about taper, determined to continue*	1 (low) *Reported taper "not as bad as expected" so far, coping well*	2 (moderate) *Finding insomnia upsetting, worried about further reduction*	3 (high) *Cried during interview, wants to revert to higher dose*
Activity interference	1 (low) *Walking every morning, "ADLs are up"*	1 (low) *Maintaining normal routine*	2 (moderate) *Sitting more than usual, cancelled outing with friend*	3 (high) *Lying in bed most of the day, stayed home from work*
Opioid dose (oMEDD)	95 mg	90 mg	62 mg	55 mg
Psychosocial context	None reported	None reported	Patient-provider conflict Other health complications	Decreased QoL Fear and uncertainty

Descriptions were often more detailed than depicted in this mock example.
ADL, activities of daily living; oMEDD, oral morphine equivalent daily dose.

interview time points and rows represented variables of interest (**Table 2** shows a mock example). Global ratings were accompanied by exemplary excerpts from the transcript for quality assurance. Once the coding was complete, each matrix was examined longitudinally (ie, horizontally) with a focus on continuity and change,[8,47] and each participant's experience was described narratively (**Table 3** shows individual narrative summaries).

2.4.4. Phase 4: trajectory analysis

To aid the identification of common trajectories of tapering experience, global ratings of participants' pain intensity, distress, activity interference, and changes in opioid dose were graphed separately for each participant with level (low, moderate, or high) or dose on the Y-axis and time (week of taper) on the X-axis. Using these line graphs, together with narrative case summaries, which included information about psychosocial context and reported withdrawal symptoms, 2 researchers (A.G.M. and C.A.J.) independently sorted participants into groups based on similarities in the trajectories of their tapering experiences. The researchers conferred on their groupings, and discrepancies were resolved. Agreed-upon archetypal trajectories were labelled and described including exemplar quotes and qualitative illustrations.

2.5. Quality assurance

Three researchers (A.G.M., N.S.A., and C.A.J.) collaborated closely throughout data analysis to reach a consensus on themes and coding. Interviewers kept field notes throughout the recruitment and data collection process and met regularly to debrief interviews and discuss emerging themes. A comprehensive record of decision making and codebook development was done in NVivo 12 using time-stamped memos. Contradictory evidence was sought throughout analysis and accounted for in the reporting of results.

3. Results

3.1. Participant characteristics

Participants (N = 21) had a mean age of 55 years, and the range was 29 to 83 years. Back pain, neck pain, and peripheral neuropathy pain were the most common pain diagnoses. Chronic pain had been present for an average of 13 years, and patients had taken opioids for an average of 9 years (median 9 years, IQR 3-13 years). The median oMEDD before tapering reported by participants was moderately high at 90 mg oMEDD (IQR 61.5-135), with 2 taking less than 40 mg oMEDD and 4 taking greater than 200 mg oMEDD. Patients were engaged in voluntary individualised opioid tapers, undertaken in both tertiary and primary care settings. The rate of taper was negotiated between the patient and their prescriber and varied from rapid reductions of more than 10% per week to gradual reductions of less than 10% per month. Further details regarding participant sex, relationship status, education level, employment status, geographic location, and healthcare setting are outlined in **Table 4**.

3.2. Thematic analysis

Group-level thematic analysis of interview transcripts revealed key challenges to, and facilitators of, opioid-tapering experienced by participants.

3.2.1. Life adversity

All participants managed opioid tapering alongside various other sources of adversity, which made tapering difficult at times. Adversity experienced by participants included relationship difficulties ("I keep turning over a lot at night and that is hard on our relationship because he has to go to work," P03), work stress ("The whole company has been stood down," P12), financial stress ("My husband doesn't have a lot of work," P16), the death or illness of loves ones ("It's got very tough the last 18 months because [wife] has a brain tumour," P01), social isolation and other issues related to COVID-19 ("I think when you haven't got anything else to concentrate on the pain just seems to be worse than it normally would," P20), natural disasters ("We were right in the firing line [of the bushfires] for a little while," P09), and other health complications ("I had six removals of growth that was potentially cancer," P04). A few participants noted that opioids could act as an emotional crutch and could be used inadvertently to self-medicate for stress, depression, and anxiety ("If I get really stressed over something and I'm ranting and raving, I go 'oh I can't cope with all of this' and next thing you know, you're taking something," P01).

3.2.2. Pain and withdrawal symptoms

Many noted that stress was a major trigger for their pain ("The pain does get considerably worse when you're stressed," P04; "I'm trying not to get too worried about things because I know when I do worry about things it increases my pain," P16). All participants struggled with pain at some point during their taper. Some described the flare-ups that they experienced as normal, whereas others reported that their pain was increasing ("I didn't realise how much benefit I was getting off the pain medication", P09) or decreasing ("That medication doesn't actually work as good as you think it does," P18) as a result of the taper. Other than pain, the main taper-related challenge that participants reported was withdrawal symptoms, with a few participants finding insomnia and mood-related symptoms (ie, irritability, anxiety, and low mood) particularly unpleasant ("I just needed to sleep all the time, but I couldn't sleep," P05; "It's so moody, like swinging moods all the time," P03).

3.2.3. Individual coping strategies

Participants used a range of pharmacological (eg, over-the-counter analgesics, gabapentinoids, antidepressants, and alcohol) and nonpharmacological (eg, distraction, rest, exercise, cognitive behavioural techniques, heat and ice packs, and massage) strategies to cope with opioid tapering. The techniques participants used were typically influenced by factors such as their knowledge of nonopioid alternatives as well as cost and availability.

3.2.4. Supportive relationships

Participants often attributed their ability to taper their opioids safely and successfully to the support of friends, family, and clinicians ("[My husband] is just so sympathetic," P05; "It was really good to have someone to talk through all those other things that affect your mental capacity and emotional ability to cope," P08). Relatedly, many participants reported that tensions in these relationships made their tapering journey more difficult ("I keep saying to these doctors 'you put me onto something and then two years later you say I shouldn't be on it and start giving me a hard time about it'," P21).

Table 3

Participant case summaries.

Thriving trajectory

Participant 02: The participant was on 20 mg (oMEDD) of tramadol and had been taking opioid medication for 7 years when she initiated opioid tapering. She expected escalating pain and unpleasant withdrawal symptoms based on tapering experiences. Yet, she was motivated by concerns about dependence and the long-term health implications of opioid medication as well as doubts about its ongoing efficacy in the treatment of her chronic pain. She described moderate tapering readiness and low tapering self-efficacy at baseline. The participant reported several symptoms associated with opioid withdrawal (eg, headache, fatigue, stomach cramps, and congestion) in the first week of her taper as well as low mood and reduced activity. However, over the weeks that followed, she found that her mental clarity and mood improved, whereas her pain eased. She reported that tapering had not been as difficult as she had expected, that her chronic neck pain had virtually disappeared, and that she wished she had discontinued her opioid medication sooner. Despite these reassuring outcomes, her stomach cramps persisted. The participant was opioid free for 8 days before presenting to the emergency department with severe abdominal pain. Soon after, she was diagnosed with pancreatic cancer and transitioned to palliative care, where she was given morphine for her cancer-related pain.

Participant 03: The participant was on 75 mg (oMEDD) of oxycodone and had been taking opioid medication for 2 years when she initiated opioid tapering. Although she expected worsening pain and functioning, she was motivated to taper because of concerns about the health of her kidneys and a desire to travel overseas more easily to visit family. She described moderate tapering readiness and moderate tapering self-efficacy at baseline. The participant reduced her opioid dose by half in the first 3 weeks (under the guidance of her primary care doctor) and then tapered off completely while attending an intensive 3-week outpatient group pain self-management program. She reported a significant spike in pain during the first week of her taper. However, her pain improved greatly while she attended the pain program, and she attributed this to pain education and the pain self-management strategies that she practiced during the program. After completing the group program, the participant experienced elevated levels of distress in response to sleep disturbance and relationship conflict. She also reported that it was more difficult to implement pain self-management strategies without the peer support she received during the group program. Nevertheless, she adapted to life after the program quickly and during the final interview reported that her quality of life and ability to manage her pain had improved greatly since tapering off opioid medications.

Participant 08: The participant was on 150 mg (oMEDD) of tapentadol and had been taking opioid medication for 4 months when she initiated opioid tapering. She was recovering from a traumatic injury and believed that she no longer required strong opioids. She expected that she may experience increased pain and withdrawal symptoms while tapering but was confident in her ability to cope. She described high tapering readiness and high tapering self-efficacy at baseline. The participant reduced her opioid dose by half in the first week and then gradually over the following weeks until discontinuing completely after 3 months. Although she reported increased pain throughout the taper, she also reported that her ability to cope with pain increased considerably. She attributed this to the support she received from a pain specialist and a psychologist who helped her to better understand and manage her pain using techniques such as desensitisation and goal setting. She experienced some challenges midway through her taper when she had an allergic reaction to a transdermal patch and was without opioids for 2 days. She reported severe pain, insomnia, and other withdrawal symptoms. During this period, she also reported that she was experiencing some relationship conflict and was lacking social support (her best friend was away, the pain clinic was closed for Christmas, and her dog died). Although she reported feeling overwhelmed and disheartened, she bounced back quickly from the setback. In the weeks that followed, she reported improvements to her memory and mental acuity, went on an overseas holiday, and returned to work. During the final interview, she reported that opioid tapering was easier than she had expected and that she was coping with her pain much better than she had been before tapering.

Participant 12: The participant was on 90 mg (oMEDD) of fentanyl and had been taking opioid medication for 7 years when he initiated opioid tapering. Although he reported experiencing benefits from opioid medication and expected that his pain and mood would worsen, he was persuaded to taper after reading about the health and dependence risks associated with long-term opioid therapy. He described moderate tapering readiness and moderate tapering self-efficacy at baseline. The participant transitioned onto buprenorphine at the beginning of his taper. He expressed some early regrets about his decision to taper because of unpleasant withdrawal symptoms (eg, headaches, insomnia, aches, and pains) and increased pain. However, both his pain and distress lessened over time, which he attributed in part to commencing duloxetine midway through his taper. The participant described supportive relationships with his family and primary care doctor, and he reported that working and exercising intensely while tapering had helped. The participant lost his job in the third month of his taper and was surprised at how well he managed this life stress. During the final interview, he reported that the taper had been easier than he had anticipated and that his pain intensity was similar to that of pretaper levels. He reduced his opioid dose by two-thirds during the study and planned to complete the taper over the succeeding months.

Participant 18: The participant was on 210 mg (oMEDD) of tapentadol and had been taking opioid medication for 4 years when he initiated opioid tapering. He was motivated to reduce his opioids by concerns about organ function but expected worsening pain and distress because of previous experiences in which he attempted to stop "cold turkey." He described high tapering readiness and low tapering self-efficacy at baseline. The participant reduced his opioid dose by almost 75% in the first 3 weeks and maintained that reduction for the remainder of the study. With the exception of one instance of moderate distress, which he attributed to a severe pain flare-up, the participant reported low distress throughout the study and was able to cope with moderate fluctuations in pain over the course of the interview period. He described supportive relationships with a psychiatrist, 2 pain specialists, and a primary care doctor, as well as with his wife, children, and pets. He also spent many hours tending to his garden and farm animals, which he found to be a useful distraction. During the final interview, the participant reported that he found the taper to be easier than he expected and that he had adjusted to the lower dose. He planned to complete his taper when he was able to participate in a 3-week intensive pain self-management program, which had so far been delayed because of COVID-19 restriction on social gatherings.

Resilient trajectory

Participant 01: The participant was on 94 mg (oMEDD) of oxycodone and had been taking opioid medication for 20 years when he initiated opioid tapering. His personal goal was to taper his medication completely over a 4-month period. However, he held some negative expectations about the consequences of tapering because of previous experience of rapid tapering, which resulted in depression and suicidal ideation. He described high tapering readiness and moderate tapering self-efficacy at baseline. During the current taper, the participant reported fluctuating pain and irritability and being overwhelmed by life stress (ie, moving interstate, bushfires, family illness, and conflict). He delayed several planned dose reductions and considered ceasing the taper at one point. However, at the end of the interview period (which was around 6 months), he had reduced his medication by approximately 25%. He was in regular contact with a psychologist whom he trusted throughout the taper, as well as both a primary care doctor and pain specialist whom he described as understanding and flexible. During the final interview, he said that his pain remained unchanged, his activity had increased, and he was feeling healthier. He planned to continue his taper into the future.

Participant 04: The participant was on 60 mg (oMEDD) of oxycodone and had been taking opioid medication for 8 months when he initiated opioid tapering. He expected that reducing his medication would free him from negative side effects of opioid therapy (brain fog and nausea). He was recruited 4 weeks into his taper, at which point he had already reduced his opioid dose by half. Early in the interview period, the participant reported finding the tapering process easier than he expected and that he was surprised to find that he experienced less pain on a lower dose of opioids. He worked full-time, which he reported helped to distract him from pain, and he trusted his pain specialist and primary care doctor who he felt were acting in his best interests. Midway through his taper, however, the participant experienced significant life stress (his child became very sick), which he explained exacerbated his pain and made it difficult to continue tapering. His distress remained high for several weeks, and he delayed his medication reductions several times. Towards the end of the interview period, the participant sustained a serious workplace injury and spent 3 weeks in intensive care followed by a number of months in rehabilitation on a high dose of opioid medication for acute pain management. During his final interview (while in the rehabilitation ward), the participant was motivated to resume opioid tapering after recovering from his injury and was confident in his ability to taper again.

(*continued on next page*)

Table 3 (*continued*)

Participant 05: The participant was on around 400 mg (oMEDD) of methadone and hydromorphone and had been taking opioid medication for 9 years when she initiated opioid tapering. Her dose had fluctuated over the course of several surgeries to treat cancer and she felt that it was time to cut back. She described high tapering readiness and moderate tapering self-efficacy at baseline. She reduced her medication steadily during the interview period under the guidance of her pain specialist whom she described as empathic and nonjudgemental. Although she was motivated to taper, she found the process very difficult, primarily because of withdrawal symptoms (ie, aches and pains, insomnia, low mood, and irritability) and pain flare-ups, which she felt were largely unrelated to her medication changes. She had to slow the taper after 3 months as she was struggling with low mood and fatigue. She worked full-time and exercised regularly, which she said helped her cope. Despite intermittent pain flare-ups, she reported that her pain was more or less unaffected by her dose reductions. During the final interview, she reported that she had undergone another surgery to address complications with her cancer treatment and had returned to a higher dose of opioids. Despite this setback, she was determined to reduce her opioids again as soon as she had recovered.
Participant 10: The participant was on 83 mg (oMEDD) of oxycodone and had been taking opioid medication for 10 years when he initiated opioid tapering. He had already reduced his dose a year earlier, and his current goal was to discontinue completely to improve his health and quality of life. He worried about dependency and expected that the taper would be difficult, and so he sought guidance and support from a pain specialist. He described moderate tapering readiness and low tapering self-efficacy at baseline. He reduced his opioid dose by half in the first 3 months and maintained these reductions for the remainder of the interview period. He reported worsening pain, sleep, and mood (anxiety and irritability) during the first month of his taper. He had a very busy and stressful work schedule, which he said made the process difficult. He struggled to follow his tapering schedule and reverted back to higher doses during periods of intense activity. Although he reported experiencing benefits from mediation and prayer, he found it difficult to focus during pain flare-ups. Nevertheless, the participant became less distressed over time and described improvements to his cognitive functioning and energy levels, which motivated him to continue. Despite his efforts, he reported that he would have preferred to have detoxed in the hospital, where he believed that he would have received pharmacological help with withdrawal symptoms such as anxiety.
Surviving trajectory
Participant 09: The participant was on 45 mg (oMEDD) of tapentadol and had been taking opioid medication for 2 years when he initiated opioid tapering. Although he expected his pain to increase, he believed that he could stop taking opioids without difficulty and had done so previously. He described high tapering readiness and high tapering self-efficacy at baseline. The participant hoped that his primary care doctor would prescribe him an alternative pain medication. He reported that, although he was advised to see a physiotherapist, he did not believe that it would help him based on past experience. He experienced low distress throughout the study with the exception of one or 2 occasions, which he attributed to pain flare-ups that limited his functioning. He reported experiencing high pain, low functioning, and low mood before, during, and after tapering. He typically responded to pain flare-ups by sitting and watching television, and he attributed his ability to cope to his strong will. He reduced his medication by more than half during the study and planned to continue the taper into the future.
Participant 11: The participant was on 120 mg (oMEDD) of tramadol and had been taking opioid medication for 20 years when she initiated opioid tapering. She reported that her doctor had suggested reducing her opioid medication and that she had agreed to try. When she was recruited (in the third month of her taper), she had already decreased her dose by two-thirds and tolerated it well with the exception of some mild withdrawal symptoms (eg, sweating) in the first week. Although she maintained low distress throughout the study, at each interview, she expressed expectations that the taper would become more difficult. She described relatively low but stable functioning throughout the interview period. She spent a lot of time in her garden, which she described as a source of joy and distraction, and she responded to pain flare-ups by resting and using analgesics (prescription and over the counter). She reported that the taper was not as bad as she had expected because it had occurred gradually and that she had less pain than when on a higher dose. However, she said that she did not feel that she could reduce any further and that her doctor had agreed to end the taper for the time being.
Participant 17: The participant was on 1080 mg (oMEDD) of methadone and had been taking opioid medication for more than 25 years when she initiated opioid tapering. She expected that tapering would be very difficult, primarily because of dependence, and she feared that she might resort to doctor shopping if she was forced to reduce further than she was comfortable with. She reported low tapering readiness and low tapering self-efficacy at baseline. The participant's primary care doctor proposed a very slow taper, negotiating her opioid dose each time she was due for a new prescription (every 3 months). The participant reported that she would follow her doctor's advice although her preference was to stay at her current dose. She agreed that lowering her dose would be good for her long-term health, particularly managing any new pain. However, she believed that the effort would likely be wasted as her dose would creep back up again, as it had done after previous tapering attempts. The participant did not report any significant changes to pain or functioning during the study. However, she attributed this to the fact that she made only a slight reduction to her opioid dose. She believed that she would struggle if the taper were to continue and that she would probably have to enter a drug rehabilitation program if she was to discontinue.
Participant 19: The participant was on 20 mg (oMEDD) of tramadol and had been taking opioid medication for 10 years when she initiated opioid tapering. Her primary care doctor recommended that she taper her opioids because of risks associated with kidney disease. She expected that reducing her medication would negatively affect her mood and mobility. She described low tapering readiness and low tapering self-efficacy at baseline. Her doctor halved her opioid dose at the beginning of the study and prescribed her duloxetine around the same time. He did not adjust her opioid dose again for the remainder of the study. The participant reported pain flare-ups throughout the study, which she often attributed to increased activity and managed by resting. She received emotional support from her children, grandchildren, and close friends. She did not experience any withdrawal-like symptoms, and she reported that her mood and functioning improved over time. She had one particularly distressing week when she ran out of opioid medication and reported intense pain, but otherwise coped relatively well throughout the study.
Distressed trajectory
Participant 06: The participant was on 120 mg (oMEDD) of oxycodone and had been taking opioid medication for 15 years when she initiated opioid tapering. She felt that managing her opioid prescription was a burden, but she was anxious about tapering, expecting worsening pain, mood, and function. She described moderate tapering readiness and low tapering self-efficacy at baseline. Her dose was reduced by 75% during a 10-day in-patient detox, after which she joined a three-week intensive outpatient pain self-management program. The participant reported high levels of distress, intense pain, insomnia, and low mood after detox, which continued during the outpatient pain management program. She reported that she was uncomfortable with the group-based format of the program and felt that the clinicians were not attentive to her needs. Life stressors at the time of taper included a possible cancer diagnosis and housing problems and were experienced as overwhelming. The program ended shortly before Christmas and she felt abandoned and left to fend for herself while clinicians went on leave. After the detox period, the participant was resistant to further tapering and on some occasions took more than what was prescribed. During the final interview, she reported that her quality of life had deteriorated because of increased pain, that she was less independent, and that she had become socially isolated. Although she managed to maintain the initial reduction over the course of the interview period (several months), she believed that she may require an in-patient drug rehabilitation program to taper further.
Participant 07: The participant was on 80 mg (oMEDD) of morphine and had been taking opioid medication for 20 years when she initiated opioid tapering. Although she expected worsening pain and functioning, she agreed to have a go at tapering. However, she expected her primary care doctor to offer her pain medication in place of her opioid prescription, and she began to panic when he did not. She described low tapering readiness and low tapering self-efficacy at baseline. She was recruited 4 weeks after her prescription had been reduced for the first time. She reported experiencing significant increases to her pain and was resistant to any further reductions in her prescription, noting that she would seek additional scans and specialist referrals to convince her doctor that opioid medication was necessary. The participant was experiencing high levels of life stress at the time (caring for her dying husband) and was very concerned that her level of function may deteriorate. She reported that her doctor had not offered her an alternative to manage her pain and she felt helpless and abandoned. The participant withdrew from the study after 3 interviews, reporting that

(*continued on next page*)

Table 3 (*continued*)

her doctor had agreed to cease the taper for the time being. She said that her doctor had suggested opioid replacement therapy but that she declined as she felt that it was an extreme approach.

Participant 14: The participant was on 63 mg (oMEDD) of tramadol and codeine and had been taking opioid medication for 10 years when he initiated opioid tapering. He became very distressed when advised that he would benefit from reducing his opioid medication. He was very reluctant to taper, expecting that his pain would become unmanageable without opioids. He described low tapering readiness and low tapering self-efficacy at baseline. The participant reported high levels of conflict with his primary care doctor over opioid tapering. He felt angry and abandoned and believed that his doctor was not considering his individual circumstances. Although he had previously been offered opioid replacement therapy, he felt that it was not appropriate for him. After his opioid dose was reduced, the participant managed his pain and high levels of distress on a day-to-day basis using his prescribed opioids, as well as opioids leftover from previous prescriptions and heavy alcohol consumption. He reported that his pain increased considerably and that his functioning deteriorated. The participant's doctor agreed to pause the tapering process while COVID-19 restrictions were in place. Towards the end of the interview period, the participant reported that his pain and distress had come down somewhat, which he attributed to his doctor being more flexible than he expected.

Participant 16: The participant was on 95 mg (oMEDD) of methadone and tramadol and had been taking opioid medication for 2 years when she initiated opioid tapering. She was motivated to taper as she felt that her opioid medication was making her drowsy. However, she was afraid and expected withdrawal symptoms and high levels of distress, based on previous tapering experience. She described moderate tapering readiness and low tapering self-efficacy at baseline. She decided to stop taking her anxiety medication (escitalopram) at the beginning of her taper as she believed that it was causing her to gain weight. She did not report any withdrawal symptoms during the current taper, although she did experience worsening pain and low mood. She experienced social isolation and significant life stress during the interview period (ie, marital conflict and a dying family member) and struggled to reduce her medication as planned. The pain program she was scheduled to participate in was postponed because of COVID-19 restrictions, and, as a result, she lost motivation to taper. After her initial reduction, she increased her daily opioid intake to a higher dose than where she started the taper.

Participant 20: The participant was on 60 mg (oMEDD) of oxycodone and had been taking opioid medication for 10 years when she initiated opioid tapering. The participant was referred to the pain clinic and recommended for opioid tapering after a recent hospital admission due to intense pain. She agreed to attempt tapering—motivated by a desire to alleviate her children's concerns about accidental overdose—but reported that she did not believe that discontinuing would be feasible because of pain and dependence. She described low tapering readiness and low tapering self-efficacy at baseline. The participant was extremely anxious about tapering and expected that it would lead to depression and social isolation. She was relieved that the taper was voluntary, however, and said that she would likely seek illegal alternatives if tapering was forced. She described a history of some aberrant behaviours related to prescription opioids. During the interview period, the participant became very distressed and desperate and reported suicidal ideation. She experienced high levels of life stress (ongoing court proceedings associated with her sexual assault) and social isolation. She attributed increasing pain severity to the stress. The participant was ultimately unable to decrease her medication during the interview period and instead increased her dose.

oMEDD, oral morphine equivalent daily dose.

3.3. Tapering readiness and self-efficacy

Five participants described high tapering readiness at baseline, 6 described moderate readiness, and 5 described low readiness (**Table 3**). Two participants described high tapering self-efficacy at baseline, 5 described moderate self-efficacy, and 9 described low self-efficacy at baseline (see **Table 3**). Tapering readiness and self-efficacy could not be determined for participants 04, 11, 15, and 21 as they were recruited a month or more into their taper and were not assessed for participant 13 as they were not included in longitudinal analysis.

3.4. Individual opioid-tapering journeys

Narrative case summaries for all participants included in the longitudinal analysis are provided in **Table 3**, organized by tapering trajectory.

3.5. Opioid-tapering trajectories

Four distinct trajectories of opioid-tapering experience were identified in this sample of patients with chronic pain: thriving, resilient, surviving, and distressed.

3.5.1. Thriving trajectory

Five participants (P02, P03, P08, P12, and P18) described opioid-tapering experiences that followed a thriving trajectory. These participants generally reported steadily decreasing opioid doses, steady improvements in functioning, fluctuating pain severity, low levels of overall distress, and effective coping in the face of acute stressors (**Fig. 1**). All participants in this trajectory were in a relationship, were receiving tertiary care, had been on opioids for 7 years or less, and were engaged in a moderate or rapid taper (they were heterogenous with regard to other demographics, **Table 4**). At baseline, almost all reported moderate to high tapering readiness and moderate to high tapering self-efficacy (**Table 3**). Although they struggled with symptoms of pain and withdrawal during their taper, they managed to meet their tapering goals and felt that their health and well-being improved as a result.

Pain intensity typically fluctuated from interview to interview for participants with this trajectory. Although most struggled with intense pain on at least 1 occasion during their taper, 3 reported at the final interview that their pain was either unchanged or had improved: "I would say my neck is less painful now than when I was on the 100 mg of tramadol" (P02), "It's not that much different" (P03), and "It hasn't gotten worse" (P12). The other 2 reported that although their pain had increased, so too had their ability to cope ("I'm just less bothered by it. I'm not stressed by the pain," P08; "I am a little bit sorer, but I think I've just adapted I guess," P18). Indeed, all participants in this cohort reported improvements in their ability to live with pain throughout the study. For example, participant 03 explained that by learning to accept their pain, they were able to "forget about it and just live like normal."

A distinguishing feature of this group was that every participant received pain education and multidisciplinary care. Participant 03, for instance, took part in an intensive 3-week pain management program at the beginning of their taper and reported experiencing benefits from stretching, relaxation exercises, thought management techniques, and peer support. Similarly, participant 08 had regular sessions with a pain specialist, a physiotherapist, and a psychologist throughout their taper and reported that "changing the way I see pain" had helped diminish pain-related anxiety. The other participants (P02, P12, and P18) also described supportive relationships with a pain specialist and other allied health professionals. They reported

Table 4

Sample characteristics (by trajectory).

*	Age†, sex	In a relationship†	Education level	Employment status†	Healthcare setting	Geographic location	Pain diagnosis	Pain duration	Opioid therapy duration	Tapering experience	Rate of taper‡	oMEDD at start of taper	oMEDD at final interview	oMEDD at follow-up	Number of interviews	Duration of weekly interviews§
Thriving trajectory																
P02	61, F	Yes	Bachelor's degree	Not working	Tertiary	City	Chronic musculoskeletal pain in the neck associated with spondylosis	10 y	7 y	Yes	Rapid	20 mg	No opioids	Palliative morphine	6	8 wk
P03	29, F	Yes	Bachelor's degree	Not working	Tertiary	Rural	Chronic primary low back pain	2 y	2 y	Yes	Rapid	75 mg	No opioids	No opioids	9	9 wk
P08	32, F	Yes	Bachelor's degree	Not working	Tertiary	City	Chronic pain after musculoskeletal injury	4 mo	4 mo	No	Moderate	150 mg	24 mg	No opioids	8	13 wk
P12	46, M	Yes	Bachelor's degree	Working	Tertiary	City	Spinal canal stenosis	15 y	7 y	No	Moderate	90 mg	30 mg	30 mg	12	14 wk
P18	41, M	Yes	Vocational training	Not working	Tertiary	Rural	Chronic primary low back and neck pain	4 y	4 y	Yes	Moderate	210 mg	90 mg	68 mg	10	8 wk
Resilient trajectory																
P01	60, M	Yes	Master's degree	Not working	Tertiary	Rural	Chronic pain after spinal surgery	30 y	23 y	Yes	Slow	94 mg	68 mg	70 mg	10	16 wk
P04	57, M	Yes	Bachelor's degree	Working	Tertiary	City	Chronic widespread pain	3 y	8 mo	Yes	Moderate	60 mg	11 mg	120 mg	10	16 wk
P05	58, F	Yes	‖	Working	Tertiary	City	Chronic abdominal pain after cancer surgery	9 y	9 y	Yes	Moderate	>400 mg	150 mg	220 mg	11	16 wk
P10	64, M	No	PhD or higher	Working	Tertiary	City	Chronic back pain with radiculopathy	18 y	11 y	Yes	Moderate	83 mg	38 mg	38 mg	5	20 wk
Surviving trajectory																
P09	61, M	Yes	Vocational training	Not working	Primary	Rural	Chronic primary low back pain	4 y	2 y	Yes	Moderate	45 mg	20 mg	15 mg	9	18 wk
P11	83, F	No	High school	Not working	Primary	Rural	Chronic back pain secondary to spondylosis	30 y	20 y	Yes	Moderate	120 mg	50 mg	30 mg	8	17 wk
P17	59, F	No	High school	Not working	Primary	Rural	Chronic pelvic pain associated with endometriosis	>30 y	> 25 y	Yes	Slow	1080 mg	1020 mg	1020 mg	9	10 wk
P19	47, F	No	High school	Not working	Primary	Rural	Chronic primary low back and painful polyneuropathy	22 y	10 y	Yes	Moderate	20 mg	10 mg	10 mg	11	10 wk

(*continued on next page*)

Table 4 (*continued*)

*	Age†, sex	In a relationship†	Education level	Employment status†	Healthcare setting	Geographic location	Pain diagnosis	Pain duration	Opioid therapy duration	Tapering experience	Rate of taper‡	oMEDD at start of taper	oMEDD at final interview	oMEDD at follow-up	Number of interviews	Duration of weekly interviews§
Distressed trajectory																
P06	59, F	No	Bachelor's degree	Not working	Tertiary	City	Painful polyneuropathy	15 y	15 y	No	Moderate	120 mg	30 mg	30 mg	7	11 wk
P07	55, F	Yes	‖	Not working	Primary	Rural	Chronic neuropathic pain after peripheral neuropathy	20 y	20 y	Yes	‖	80 mg	70 mg	‖	3	7 wk
P14	56, M	No	Vocational training	Not working	Primary	Rural	Osteoarthritis of the hip	10 y	10 y	Yes	Moderate	63 mg	53 mg	48 mg	11	13 wk
P16	46, F	Yes	Vocational training	Not working	Tertiary	City	Complex regional pain syndrome	2 y	2 y	Yes	Slow	95 mg	75 mg	230 mg	7	9 wk
P20	63, F	No	Bachelor's degree	Not working	Tertiary	City	Painful polyneuropathy	>10 y	10 y	Yes	‖	60 mg	60 mg	‖	4	7 wk
Not included in trajectory analysis																
P13	51, M	No	‖	Not working	Tertiary	City	Chronic pain not otherwise specified	‖	4 to 5 y	‖	‖	80 mg	‖	‖	2	2 wk
P15	72, M	Yes	Vocational training	Not working	Primary	Rural	Chronic pain after spinal surgery. Chronic bone cancer pain.	15 y	4 y	Yes	Slow	90 mg	90 mg	90 mg	13	12 wk
P21	53, M	Yes	Vocational training	Not working	Primary	Rural	Chronic back pain with radiculopathy	15 y	10 y	Yes	Moderate	285 mg	60 mg	60 mg	8	7 wk

* Participant number.
† At the time of the first interview.
‡ Rate of taper informed by Centers for Disease Control and Prevention guidelines (>10% reduction per week = rapid, 2.5%–10% reduction per week = moderate, <2.5% reduction per week = slow).
§ Not including pretaper or follow-up interviews.
‖ Missing data.
F, female; M, male; oMEDD, oral morphine equivalent daily dose.

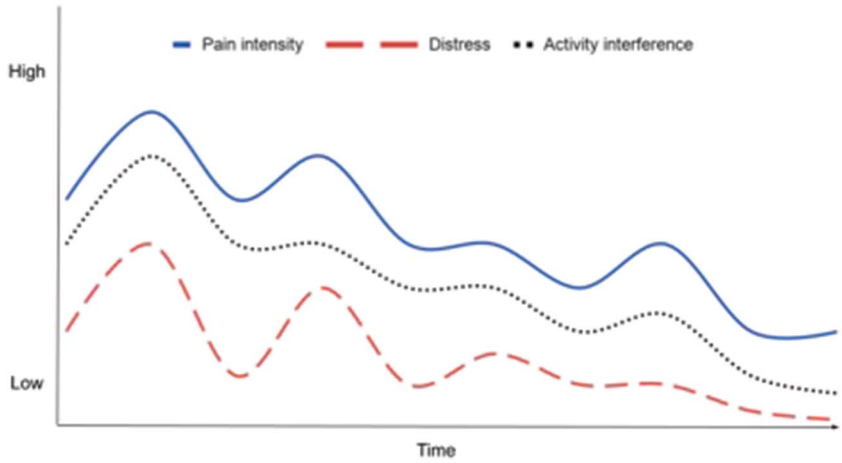

Figure 1. Qualitative illustration of the 'thriving' trajectory.

feeling reassured by encouragement from clinicians as well as information about their pain diagnosis, opioids, and symptoms of tapering ("They gave me positive reinforcement and encouragement. They armed me with facts," P08).

These participants did not describe psychosocial stress to the same extent as those in the distressed or resilient trajectories (see sections 3.5.2. and 3.5.4.). Every participant in this group reported withdrawal-like symptoms with several reporting significant discomfort due to flu-like symptoms (P02 and P12), insomnia (P03 and P12), low mood and irritability (P03, P12, and P18), aches and pains (P12), headaches (P02 and P12), and fatigue (P12). Although participants occasionally became moderately distressed by these unpleasant symptoms (eg, "The pain is just killing me. It's exhausting," P12), they were able to manage their distress without pausing or reversing the taper.

Indeed, participants in the thriving trajectory reduced their opioid medication either ahead of schedule or by a greater amount than planned at some point during their taper ("[I decided] to do it faster, I think that would be better for me," P03; "I should have probably got the doctor's advice before I cut it in half, but I thought it can't do any damage," P12). Three participants (P02, P03, and P08) discontinued opioid therapy completely during the study, whereas the others reduced their dose by at least two-thirds. Participant 02 reported that their opioid dose had increased at follow-up as they had received a late-stage cancer diagnosis and been transitioned to palliative care.

Participants in the thriving trajectory reported that they were glad that they tapered their opioid medication despite the challenges they experienced. Participant 08 said that they were "really happy with the way it happened," whereas participant 02 said "I wish I had done it years and years ago." They reported unchanged or improved functioning ("Just in my memory, my ability to recall information, my conversation skills, so much better." P08) and unchanged or improved mood ("I feel like that tiny little bubble of joy is starting to come back again," P02; "I don't feel much depressed like before," P03).

3.5.2. Resilient trajectory

Four participants (P01, P04, P10, and P05) described an opioid-tapering experience that aligned with a resilient trajectory. All participants in this trajectory were older than 50 years, were university educated, and had tapering experience (they were heterogenous with regard to other demographics, **Table 4**). They

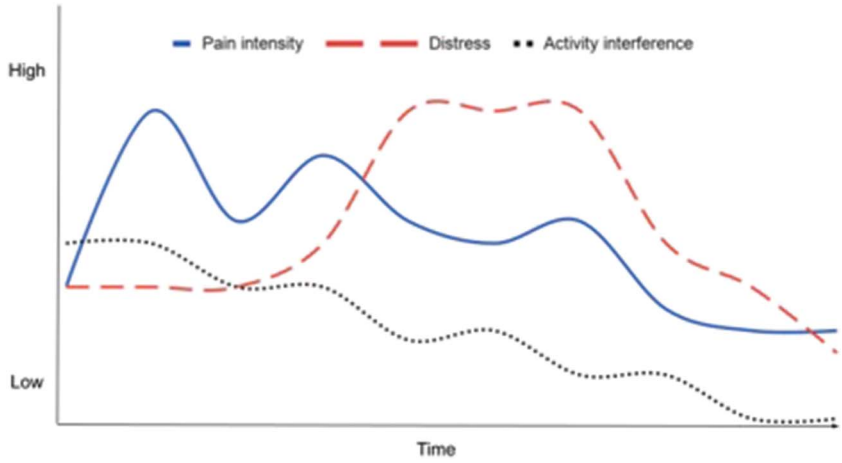

Figure 2. Qualitative illustration of the 'resilient' trajectory.

generally described moderate to high readiness and low to moderate self-efficacy (**Table 3**).

Resilient trajectory participants typically described steady improvements in functioning (ie, reducing activity interference) and a gradual decrease in opioid dose punctuated by pauses and temporary increases. Like those in the thriving trajectory, these participants experienced fluctuating levels of pain throughout the interview period. Unlike those in the thriving trajectory, however, these participants experienced more significant and sustained levels of distress (**Fig. 2**), which was typically linked to psychosocial stress rather than pain and withdrawal symptoms.

Life adversity reported by participants in this trajectory was significant and included the near-death of a child (P04), the threat of a bushfire close to home (P01), the death of employees (P10), and ongoing complications from cancer treatment (P04). Despite these stressors and often prolonged periods of heightened distress, participants in the resilient trajectory maintained their commitment and motivation to taper. Participants attributed their persistence in the face of challenges to improvements in their quality of life and functioning while tapering ("My ADLs [activities of daily living] are through the roof now," P01; "I'm much more awake. I don't fall over all the time… I'm more with it," P05; "you see the benefits of it, and I use them to motivate myself and say keep going," P10).

In addition, participants in this trajectory commonly reported supportive relationships with their prescribing doctor, clinical team, friends, and family. For example, participant 05 reported receiving support from their partner ("My husband always helps me. He's my rock. He's such a great man"), prescribing doctor ("He's really empathetic and non-judgemental"), and psychologist ("She's got all these strategies"). Participants reported feeling supported by doctors who took a flexible, patient-led ("Mentally it's important for me to be very much part of the process and feel like I'm in control," P01), and responsive approach to tapering ("He told me to slow down a bit… I was going through a really hard time," P05).

Tapering was not a strictly linear process for this cohort. All participants who followed a resilient trajectory struggled to meet their tapering goals and temporarily increased or delayed reducing their medication at times of stress ("With the current mix of things going on, [reducing] will be too much," P01; "I just can't see it happening right now… It's just too hard," P04; "I think I'm stretched as I am without going any further," P10). Despite frequent challenges, by the end of the interview period, participants in this trajectory had all managed to reduce their dose, although not as substantially as those in the thriving trajectory. Towards the end of the study, 2 participants reported that their opioid dose had increased: participant 05 underwent surgery to relieve a bowel obstruction, and participant 04 fell from a ladder and sustained a serious injury. However, when contacted at follow-up, they both had returned to tapering their opioids and were determined to persist.

3.5.3. Surviving trajectory

Four participants (P09, P11, P17, and P19) reported opioid-tapering experiences that we have described as following a trajectory of surviving. Although changes to pain, function, and opioid dose varied within this group, they reported low levels of distress, even during pain flare-ups, demonstrating a high tolerance for adversity (**Fig. 3**). Participants in this trajectory had low levels of education (relative to other trajectories), were not working (all receiving pension), lived in rural areas, and had tapering experience (they were heterogenous with regard to other demographics, **Table 4**). Participants 17 and 19 indicated low levels of tapering readiness and self-efficacy at baseline, whereas participant 09 asserted that he could "stop without any hassles" as he had done so before (tapering self-efficacy and readiness unavailable for P11; **Table 3**).

These participants had no clear intrinsic motivation to taper or personal tapering goals; they all reported that they were tapering because their doctor wanted them to do so ("Just doing what the doctors tell me," P09; "I think he's trying to whittle me off," P11; "The doctor thinks I should reduce it," P17; "I think he wants me off it," P19). They expected opioid tapering to increase pain and suffering and yet were "willing to try it and then just see what happens" (P09). Although participants with this trajectory did experience some psychosocial stress (primarily financial stress associated with living on low income), they demonstrated a stoic attitude ("No good sitting around moaning. I don't believe in that. You just get up and do what you can do," P11). Similarly, during pain flare-ups, participants' approach to pain coping was to "grit my teeth and bear it" (P09), "get on with it" (P11), and "put up with it" (P19).

All participants in this group expressed frustration at the lack of effective pain management alternatives available to them. Unlike

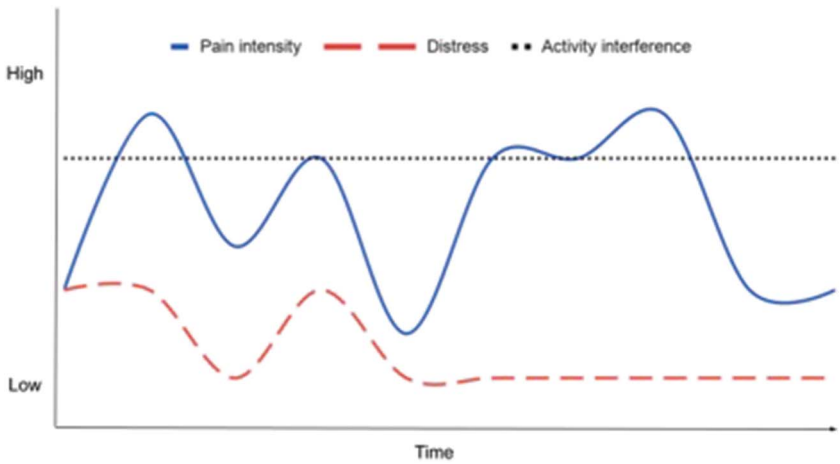

Figure 3. Qualitative illustration of the 'surviving' trajectory.

those who followed a thriving taper trajectory, participants in this group had very low self-efficacy for pain self-management, expressing a strong preference and expectation for pharmacological management of pain (eg, "I can't see an alternative to the pain that I get. I can't see any other medications helping with the pain that I have," P19). Relatedly, they all attributed episodes of increased pain to overactivity, and they dealt with them using analgesics (prescription and over-the-counter) and rest. Although they typically had less frequent contact with healthcare providers than those with other trajectories, the survivors described supportive relationships with family and friends in their community (P09 was cared for by his wife, P11 was cared for by her daughter, P17 had 2 close friends she socialised with regularly, and P19 spent a lot of time with a close friend who lived nearby, as well as her children and grandchildren).

This group of participants all described relatively low baseline functioning, which largely persisted throughout the interview period. Only participant 19 reported improvements to functioning ("I'm not as tired through the day and I'm doing a lot more."), whereas participant 09 described some deterioration ("not being able to help my wife do a bit of housework or do the mowing").

They continually expected things to get worse ("I'm doing the best I can now but if he tries to take me right off it, I'm going to be in a bad way," P11; "He can cut my opioids off if he wants to, but I know that I'm going to be in a lot more pain," P19). Nevertheless, at the final interview, they all reported that their experience had been so far unchallenging. Participant 09 said that it had caused "no worries," participant 19 said that she found it "fairly easy," participant 17 said that it had "not really" affected her as she had made only a slight reduction, and participant 11 said "it wasn't too bad" because it had occurred gradually.

For these participants, their opioid dose was negotiated each time they were due for a new prescription, and, as a result, their taper was generally slower than those in other trajectories. Nevertheless, during the interview period, participant 19 reduced their dose by half (albeit from a low starting dose), P17 reduced their dose by 6% (albeit from a very high starting dose), and participants 09 and 11 reduced their opioid dose by around 50% and 75%, respectively.

3.5.4. Distressed trajectory

The remaining 5 participants (P06, P07, P14, P16, and P20) described a distressed trajectory of opioid tapering. Participants with this trajectory typically reported high and often increasing levels of distress, high and often increasing pain severity, unchanged or increasing opioid doses, and deteriorating functioning (**Fig. 4**). All participants in this trajectory were not currently working (they were heterogenous with regard to other demographics, **Table 4**). At baseline, participants described relatively low tapering readiness and low tapering self-efficacy (**Table 3**). Despite tapering being voluntary, these participants were very reluctant to do so—they often had trouble articulating their motivations and were very anxious about the prospect of tapering ("I'm very, very scared of going off it," P20; "I'm afraid I won't be able to cope," P06).

High levels of distress in this cohort were associated with low trust in healthcare providers, psychosocial stress, and a lack of social support. One participant (P07) felt that their doctor was failing in "his duty of care to look after me and keep me comfortable," whereas another (P14) expressed concern that their doctor had a "blanket approach to cut everyone off painkillers" and that they were "forcing people onto illegal drugs or, worse, self-harm." In addition, they reported feeling stigmatised ("Is he saying I'm a drug addict or something now?" P14), feeling invalidated by explanations of pain such as "your mind is tricked into believing that you're feeling pain" (P07) and "it's in your imagination" (P14), and feeling that they were not being heard ("He was on the phone half the time I was there," P14).

Like participants in the resilient trajectory, participants in the this group experienced psychosocial stressors during their taper, included housing issues ("All my furniture got vandalised," P06), other health concerns ("I had a liver appointment at the liver clinic and the lump on my right node has grown considerably and my liver enzymes are up a lot," P06), caring for a dying family member ("My husband is terminally ill so I've got the whole work load," P07; "My aunt is dying of cancer and she is it for me in terms of family," P16), financial stress ("You've got no money, you can't do anything, you live week to week," P14), and court proceedings for a sexual assault ("It's just dragging out something I'd rather finish with," P20). Unlike participants in the resilient trajectory, however, participants who followed a distressed trajectory experienced a lack of social support from family and friends. Participant 16 remarked "My husband is not understanding so it makes it a bit

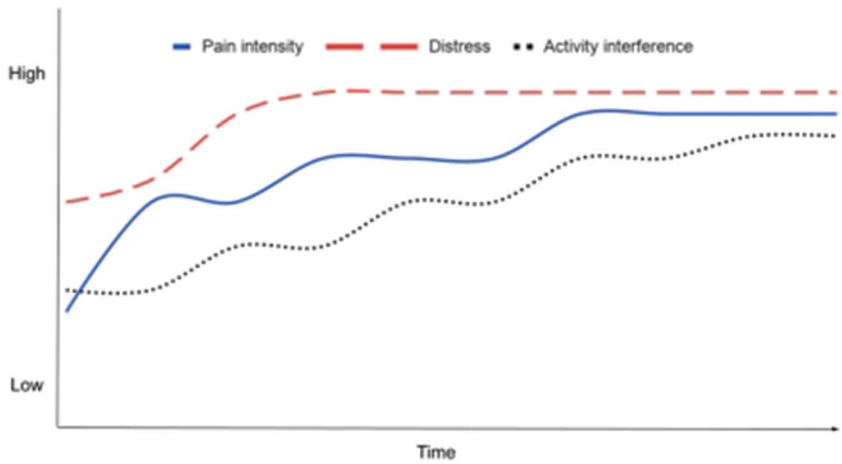

Figure 4. Qualitative illustration of the 'distressed' trajectory.

hard," and participant 06 explained "All my family are overseas, and they are just completely unaware of what's going on." Participant 20 described feeling socially isolated ("I've been staying pretty close to home, which I don't think helps really.")

In addition to high levels of distress, participants within this group reported high and often increasing levels of pain intensity ("I don't get any respite at all. Not one split second do I get a breather… it's relentless," P06; "I can't move. I'm in extreme pain just in bed," P14) and deteriorating functioning ("I'm not as independent. I'm not walking as much," P06; "I'm not as agile as what I was," P07; "I'm not eating properly," P20.)

Unlike those in the thriving and resilient trajectories, the distress experienced by participants in this group was more severe and less manageable, and the tapering progress was hindered as a direct result. Consequently, 2 of these participants (P07 and P20) abandoned their taper, 1 (P16) finished the study on a higher opioid dose than they started on, and 1 (P14) substituted their opioid prescription with alcohol and unused prescribed opioids. One participant did make a considerable reduction to their opioid dose during an in-patient detox, but they reported wanting to return to a higher dose after leaving the hospital (P06).

4. Discussion

Employing a heterogeneous sample of patients with respect to opioid dose, duration of opioid use, and demographic characteristics, the research aimed to explore (1) variability and patterns in patients' experience of pain, distress, and activity interference over the course of the first few months of opioid tapering and (2) whether patterns of experience (ie, trajectories) were associated with any participant characteristics, including baseline tapering readiness and self-efficacy, or psychosocial context.

Consistent with previous research,[30] our analyses indicate that opioid-tapering experiences are highly variable both between patients and within patients (over time). At the same time, however, 4 common trajectories of opioid-tapering experience were identified: the thriving trajectory was characterised by steady, albeit fluctuating, improvements in pain, distress, and interference; the resilient trajectory by steady improvements in functioning despite higher levels of distress; the surviving trajectory by low functioning and low levels of distress; and the distressed trajectory by high levels of persistent distress accompanied by deteriorating pain and functioning.

Participants in the thriving and resilient groups were typically high in readiness to taper and received high levels of tapering support. By contrast, participants in the surviving and distressed groups generally expressed lower readiness to taper and reported experiencing lower levels of tapering support both clinically and socially. Initial tapering self-efficacy was generally low across the sample and was also not consistently associated with tapering trajectories. Participant characteristics including opioid dose, duration of opioid use, age, gender, education, and rate of tapering varied both within and between trajectory groups.

4.1. Implications for patient-centred opioid tapering

4.1.1. Evaluating opioid-tapering readiness and self-efficacy

Patients with higher levels of distress or interference over the course of their taper expressed lower levels of readiness to taper at their initial interview. To mitigate adverse experiences while tapering, it may be important to assess and address patient readiness before initiating a taper or consider delaying tapering until patients become ready. Research has assessed patient readiness to reduce the dose (strength) of opioid medications with a 5-point self-report rating scale (1 = "Not ready" to 5 = "Very ready").[16] In practice, clinicians can informally assess patient readiness by asking about patients' understanding of the reasons for their taper, their own personal motivations for tapering, and perceived barriers to tapering.[35] If patients reveal a low readiness to taper, clinicians can respond using motivational interviewing techniques such as listening, asking, and informing to enable patients to identify barriers to change.[14,29] Motivational interviewing may also support patients along their tapering journey. A recent study found that patients with chronic pain who received weekly consultations with a physician assistant to discuss barriers and motivations for tapering (in addition to pain self-management strategies) were able to achieve lower daily doses of opioids without increased pain.[49]

The results of the present study suggest that low tapering self-efficacy is not necessarily a reason to avoid opioid tapering. Several participants who expressed low self-efficacy went on to report substantial improvements to their health and well-being during their taper. Importantly, those who thrived despite low self-efficacy received multidisciplinary pain management support during their taper. A growing body of evidence suggests that patients who receive multidisciplinary pain care, including non-pharmacological pain management strategies, are more likely to reduce their opioid prescription and less likely to experience increases in pain, interference, and distress.[26,43,49] However, further research is needed to disentangle whether the therapeutic benefits of multidisciplinary pain care can be attributed to improvements in self-efficacy for nonpharmacological pain management or to the nonspecific effects of receiving more intensive, consistent care and support.

4.1.2. Consideration of psychosocial context and need for support

Participants within all 4 trajectories experienced varying degrees of life adversity over the course of the interview period, although adversity featured more prominently in the narratives of distressed and resilient participants. Importantly, the impact of life adversity on participants' experience of pain, distress, and interference over the course of the interview period seems to have varied in association with social support. Distressed participants reported that social isolation and lack of social support compounded the emotional impact of life adversity. By contrast, resilient participants reported that the social support, reassurance, and care they received from friends, family, and clinicians serve as an important factor in their ability to persist with tapering in the face of adversity. This finding is consistent with previous research into barriers and facilitators of opioid tapering in patients with chronic pain[25,30] and reinforces the need to consider the context in which patients are tapering when negotiating opioid dose reductions.

For research and clinical trials, numerous measures of social support have been validated in the context of chronic pain.[7,39,48,54] In practice, however, clinicians can explore the quality and quantity of patients' social relationships simply by asking whether there is anyone they could lean on if they were struggling (emotional support) or whether they needed help with anything while tapering (instrumental support). In cases in which patients reveal they are socially isolated, lonely, or without social support, it may be beneficial to encourage them to join face-to-face or online peer support groups. Preliminary evidence suggests that peer support can help people to better accept and cope with chronic pain[12,13,38,41] and has been shown to help people to persist with

health behaviour and lifestyle changes.[23,24,51] Future research is needed to examine whether this form of support may also benefit those engaged in opioid tapering.

4.1.3. The importance of patient–provider communication

To ensure that patients feel safe and supported while tapering and are given the best chance to reach their goals, clinicians may need to communicate their willingness to be flexible in their management of opioid prescribing. This may involve pausing, slowing, or even reversing a patient's taper during periods of intense stress or instability if a patient is not coping.[50] Talking to patients about the variable nature of the tapering process and the flexibility of tapering schedules may help to ease patients' anxieties about tapering and fears of abandonment.[2,36] Indeed, in the present study, participants with a resilient trajectory reported feeling relieved, validated, and respected when their doctor supported their desire to slow their taper. In these cases, clinician sensitivity to within-patient variability in tapering experiences strengthened the patient-provider relationship and helped patients to maintain their motivation to taper. Consistent with this, prior research into communication between healthcare providers and patients with chronic pain has emphasised the importance of taking an individualised approach to treatment, using non-stigmatising language, validating patients' pain experiences, listening without judgement, showing empathy, engaging in shared decision making, and explicitly committing to nonabandonment.[3,20,33,35–37,53]

4.2. Limitations and future research directions

The findings of the current study should be interpreted in consideration of certain design limitations. This study did not include patients undergoing forced opioid tapers, patients with opioid use disorder, or patients with major psychiatric comorbidities. Research indicates that tapering experiences within these cohorts may follow different trajectories,[18] and consequently, our results do not necessarily generalise to these patients. We recommend that longitudinal qualitative studies are conducted specifically to address the needs of these groups.

It is important to note that, as this is not a quantitative study, it was not powered to estimate the relative prevalence of tapering trajectories, nor to detect the strength of relationships between patient characteristics and tapering trajectories. Hence, the proportion of patients who followed the thriving trajectory in the present study is not indicative of the proportion of patients who experience steady improvements while tapering opioids for chronic pain. For the purposes of patient education and counselling about opioid tapering, it would be useful for future research to elucidate the prevalence of each of the trajectories that we have identified in the current research.

Although the longitudinal design of the current study allowed us to capture patient experiences in the moment, free from recall bias, our data are not necessarily free from social desirability bias. For example, participants may have been reluctant to complain because of fear of judgment and may have downplayed the severity of their symptoms. Relatedly, participants may not have answered our calls for interviews on the days when they were struggling the most. In fact, a few participants reported that this was the case (eg, "Yesterday I was just in so much pain I couldn't talk," P05). In addition, almost all the participants reported finding the weekly phone calls supportive. Thus, their experience of opioid tapering may have been less difficult as a function of their involvement in the study. Finally, 2 of the 3 patients who declined to participate were very distressed about the prospect of having to taper their opioid medication, and 2 of the 3 participants who did not complete their interviews were not coping well with the early stages of tapering. Hence, although we certainly identified patients who were distressed, it is possible that our study does not accurately reflect the extent of distress, or frequency of distress, experienced by patients tapering opioids for chronic pain.

5. Conclusion

All participants in the current study experienced challenges, to varying degrees, at different points in their taper and for different reasons, even when tapering from relatively safe doses. Importantly, the trajectory of patients' experience of pain, distress, and interference while tapering was associated with tapering readiness, psychosocial context (life adversity), social support, and relationship with their healthcare provider. Consistent with previous research and guidelines, these findings emphasize the need for a flexible, responsive, and patient-centred approach to opioid tapering for patients with chronic pain.

Conflict of interest statement

The authors have no conflicts of interest to declare.

Appendix A. Supplemental digital content

Supplemental digital content associated with this article can be found online at http://links.lww.com/PAIN/B383.

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References

[1] Ashton-James CE, Chemke-Dreyfus A, Costa D, Glare P. Time for change: an experimental investigation of chronic pain patients' emotional and attitudinal responses to simulated opioid-tapering advice. PAIN 2019;160:1586–93.
[2] Benintendi A, Kosakowski S, Lagisetty P, Larochelle M, Bohnert AS, Bazzi AR. "I felt like I had a scarlet letter": recurring experiences of structural stigma surrounding opioid tapers among patients with chronic, non-cancer pain. Drug Alcohol Dependence 2021:108664.
[3] Bergman AA, Matthias MS, Coffing JM, Krebs EE. Contrasting tensions between patients and PCPs in chronic pain management: a qualitative study. Pain Med 2013;14:1689–97.
[4] Berna C, Kulich RJ, Rathmell JP. Tapering long-term opioid therapy in chronic noncancer pain: evidence and recommendations for everyday practice. Mayo Clinic Proc 2015;90:828–42.
[5] Binswanger IA, Glanz JM, Faul M, Shoup JA, Quintana LM, Lyden J, Xu S, Narwaney KJ. The association between opioid discontinuation and heroin use: a nested case-control study. Drug and Alcohol Dependence 2020; 217:108248.
[6] Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol 2006;3:77–101.
[7] Broadhead W, Gehlbach SH, De Gruy FV, Kaplan BH. The duke-UNC functional social support questionnaire: measurement of social support in family medicine patients. Med Care 1988:709–23.
[8] Calman L, Brunton L, Molassiotis A. Developing longitudinal qualitative designs: lessons learned and recommendations for health services research. BMC Med Res Methodol 2013;13:14.
[9] Centre for Alcohol and Other Drugs. NSW Clinical Guidelines Opioid Dependence. Sydney, Australia: NSW Ministry of Health, 2018.

[10] Chou R, Turner JA, Devine EB, Hansen RN, Sullivan SD, Blazina I, Dana T, Bougatsos C, Deyo RA. The effectiveness and risks of long-term opioid therapy for chronic pain: a systematic review for a National Institutes of Health Pathways to Prevention Workshop. Ann Intern Med 2015;162: 276–86.
[11] Coffin PO, Rowe C, Oman N, Sinchek K, Santos GM, Faul M, Bagnulo R, Mohamed D, Vittinghoff E. Illicit opioid use following changes in opioids prescribed for chronic non-cancer pain. PloS one 2020;15:e0232538.
[12] Cooper K, Kirkpatrick P, Wilcock S. The effectiveness of peer support interventions for community-dwelling adults with chronic non-cancer pain: a systematic review. JBI Evid Synth 2014;12:319–48.
[13] Cooper K, Schofield P, Smith BH, Klein S. PALS: peer support for community dwelling older people with chronic low back pain: a feasibility and acceptability study. Physiotherapy 2020;106:154–62.
[14] Crawley A, Murphy L, Regier L, McKee N. Tapering opioids using motivational interviewing. Can Fam Physician 2018;64:584–7.
[15] Dalton CC, Gottlieb LN. The concept of readiness to change. J Adv Nurs 2003;42:108–17.
[16] Darnall BD, Mackey SC, Lorig K, Kao M-C, Mardian A, Stieg R, Porter J, DeBruyne K, Murphy J, Perez L, Okvat H, Tian L, Flood P, McGovern M, Colloca L, King H, Van Dorsten B, Pun T, Cheung M. Comparative effectiveness of cognitive behavioral therapy for chronic pain and chronic pain self-management within the context of voluntary patient-centered prescription opioid tapering: the EMPOWER study protocol. Pain Med 2020;21:1523–31.
[17] Darnall BD, Ziadni MS, Stieg RL, Mackey IG, Kao M-C, Flood P. Patient-centered prescription opioid tapering in community outpatients with chronic pain. JAMA Intern Med 2018;178:707–8.
[18] Demidenko MI, Dobscha SK, Morasco BJ, Meath TH, Ilgen MA, Lovejoy TI. Suicidal ideation and suicidal self-directed violence following clinician-initiated prescription opioid discontinuation among long-term opioid users. Gen Hosp Psychiatry 2017;47:29–35.
[19] Dowell D, Haegerich TM, Chou R. CDC guideline for prescribing opioids for chronic pain—United States, 2016. JAMA 2016;315:1624–45.
[20] Evers S, Hsu C, Sherman KJ, Balderson B, Hawkes R, Brewer G, La Porte AM, Yeoman J, Cherkin D. Patient perspectives on communication with primary care physicians about chronic low back pain. Perm J 2017; 21:16–177.
[21] Feng B, Malloch YZ, Kravitz RL, Verba S, Iosif A-M, Slavik G, Henry SG. Assessing the effectiveness of a narrative-based patient education video for promoting opioid tapering. Patient Educ Couns 2021;104:329–36.
[22] Fishbain DA, Pulikal A. Does opioid tapering in chronic pain patients result in improved pain or same pain vs increased pain at taper completion? A structured evidence-based systematic review. Pain Med 2019;20:2179–97.
[23] Fisher EB, Boothroyd RI, Elstad EA, Hays L, Henes A, Maslow GR, Velicer C. Peer support of complex health behaviors in prevention and disease management with special reference to diabetes: systematic reviews. Clin Diabetes Endocrinol 2017;3:1–23.
[24] Ford P, Clifford A, Gussy K, Gartner C. A systematic review of peer-support programs for smoking cessation in disadvantaged groups. Int J Environ Res Public Health 2013;10:5507–22.
[25] Frank JW, Levy C, Matlock DD, Calcaterra SL, Mueller SR, Koester S, Binswanger IA. Patients' perspectives on tapering of chronic opioid therapy: a qualitative study. Pain Med 2016;17:1838–47.
[26] Frank JW, Lovejoy TI, Becker WC, Morasco BJ, Koenig CJ, Hoffecker L, Dischinger HR, Dobscha SK, Krebs EE. Patient outcomes in dose reduction or discontinuation of long-term opioid therapy: a systematic review. Ann Intern Med 2017;167:181–91.
[27] Goesling J, DeJonckheere M, Pierce J, Williams DA, Brummett CM, Hassett AL, Clauw DJ. Opioid cessation and chronic pain: perspectives of former opioid users. PAIN 2019;160:1131–45.
[28] Grossoehme D, Lipstein E. Analyzing longitudinal qualitative data: the application of trajectory and recurrent cross-sectional approaches. BMC Res Notes 2016;9:1–5.
[29] Henry SG, Holt ZB. Frustrated patients and fearful physicians. J Gen Intern Med, 2017;32:148–49.
[30] Henry SG, Paterniti DA, Feng B, Iosif AM, Kravitz RL, Weinberg G, Cowan P, Verba S. Patients' experience with opioid tapering: a conceptual model with recommendations for clinicians. J Pain 2019;20:181–91.
[31] James JR, Scott JM, Klein JW, Jackson S, McKinney C, Novack M. Mortality after discontinuation of primary care–based chronic opioid therapy for pain: a retrospective cohort study. J Gen Intern Med 2019;34:2749–55.
[32] Karanges EA, Blanch B, Buckley NA, Pearson SA. Twenty-five years of prescription opioid use in Australia: a whole-of-population analysis using pharmaceutical claims. Br J Clin Pharmacol 2016;82:255–67.
[33] Kennedy LC, Binswanger IA, Mueller SR, Levy C, Matlock DD, Calcaterra SL. "Those conversations in my experience don't go well": a qualitative study of primary care provider experiences tapering long-term opioid medications. Pain Med 2017;19:2201–11.
[34] Mackey K, Veazie S, Anderson J, Bourne D, Peterson K. Evidence brief: Barriers and facilitators to use of medications for opioid use disorder. Washington, DC: Evidence Synthesis Program, Health Services Research and Development Service, Office of Research and Development, Department of Veterans Affairs, 2019. VA ESP Project #09-009.
[35] Matthias MS. Opioid Tapering and the Patient-Provider Relationship. J Gen Intern Med 2020;35:8–9.
[36] Matthias MS, Johnson NL, Shields CG, Bair MJ, MacKie P, Huffman M, "I'm not gonna pull the rug out from under you": patient-provider communication about opioid tapering. J Pain 2017;18:1365–73.
[37] Matthias MS, Krebs EE, Collins LA, Bergman AA, Coffing J, Bair MJ. "I'm not abusing or anything": patient–physician communication about opioid treatment in chronic pain. Patient Educ Couns 2013;93:197–202.
[38] Matthias MS, Kukla M, McGuire AB, Bair MJ. How do patients with chronic pain benefit from a peer-supported pain self-management intervention? A qualitative investigation. Pain Med 2016;17:2247–55.
[39] McHorney CA, Ware JE Jr, Raczek AE. The MOS 36-Item Short-Form Health Survey (SF-36): II. Psychometric and clinical tests of validity in measuring physical and mental health constructs. Med Care 1993: 247–63.
[40] McPherson S, Lederhos Smith C, Dobscha SK, Morasco BJ, Demidenko MI, Meath THA, Lovejoy TI. Changes in pain intensity after discontinuation of long-term opioid therapy for chronic noncancer pain. PAIN 2018;159: 2097.
[41] Merolli M, Gray K, Martin-Sanchez F, Lopez-Campos G. Patient-reported outcomes and therapeutic affordances of social media: findings from a global online survey of people with chronic pain. J Med Internet Res 2015; 17:e20.
[42] Murphy JL, Clark ME, Banou E. Opioid cessation and multidimensional outcomes after interdisciplinary chronic pain treatment. Clin J Pain 2013; 29:109–17.
[43] Nicholas MK, Asghari A, Sharpe L, Beeston L, Brooker C, Glare P, Martin R, Molloy A, Wrigley PJ. Reducing the use of opioids by patients with chronic pain: an effectiveness study with long-term follow-up. PAIN 2020; 161:509–19.
[44] Oliva EM, Bowe T, Manhapra A, Kertesz S, Hah JM, Henderson P, Robinson A, Paik M, Sandbrink F, Gordon AJ, Trafton JA. Associations between stopping prescriptions for opioids, length of opioid treatment, and overdose or suicide deaths in US veterans: observational evaluation. BMJ 2020:368.
[45] Patton MQ. Qualitative evaluation and research methods. 2nd ed. Newbury Park, CA: Sage, 1990.
[46] Quinlan J, Willson H, Grange K. Hopes and fears before opioid tapering: a quantitative and qualitative study of patients with chronic pain and long-term opioids. Br J Pain;0:2049463720974053.
[47] Saldaña J. Longitudinal qualitative research: Analyzing change through time. Walnut Creek, CA: AltaMira Press, 2003.
[48] Sarason IG, Sarason BR, Shearin EN, Pierce GR. A brief measure of social support: practical and theoretical implications. J Soc personal relationships 1987;4:497–510.
[49] Sullivan MD, Turner JA, DiLodovico C, D'Appollonio A, Stephens K, Chan YF. Prescription opioid taper support for outpatients with chronic pain: a randomized controlled trial. J pain 2017;18:308–18.
[50] Therapeutic Goods Administration. Clinician information sheet on opioid analgesic tapering: summary. In: Health Do, ed. Australian Government. Canberra, Australia: Department of Health, Australian Government, 2020.
[51] Tracy K, Wallace SP. Benefits of peer support groups in the treatment of addiction. Substance Abuse Rehabil 2016;7:143.
[52] Treede R-D, Rief W, Barke A, Aziz Q, Bennett MI, Benoliel R, Cohen M, Evers S, Finnerup NB, First MB, Giamberardino MA, Kaasa S, Kosek E, Lavand'homme P, Nicholas M, Perrot S, Scholz J, Schug S, Smith BH, Svensson P, Vlaeyen JW, Wang SJ. A classification of chronic pain for ICD-11. PAIN 2015;156:1003.
[53] Vowles KE, Thompson M. The patient-provider relationship in chronic pain. Curr Pain Headache Rep 2012;16:133–8.
[54] Zimet GD, Dahlem NW, Zimet SG, Farley GK. The multidimensional scale of perceived social support. J Personal Assess 1988;52:30–41.