


What Works for Managing Chronic Pain: An Appreciative Inquiry Qualitative Analysis

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Abstract

Background: Chronic pain is a prevalent and dynamic condition for both patients and providers. Learning how patients with chronic pain successfully manage their pain may prove helpful in guiding health care providers in their treatment of other patients with chronic pain. This research sought to identify successful strategies for managing chronic pain from interviews with individuals experiencing chronic pain who were able to do “most of what they want on most days.” **Methods:** Qualitative, descriptive study. Patients were from metro Denver, Colorado, USA and were recruited from community and health care settings. Appreciative inquiry (AI) was used as an approach to elicit stories of successful pain management. We conducted one-on-one, in person interviews using a semistructured interview guide. Analysis was completed using a grounded hermeneutic editing approach. **Results:** Twenty-four interviews were completed representing a range of adult ages, genders, race/ethnicities, and underlying reasons for chronic pain. Consistent themes were found in that all patients had developed multiple strategies for ongoing pain management and prevention, as well as a mental approach embedded with elements of positive beliefs and determination. Friends, family, support group members, and health care providers were key in support and ongoing management. Although 10 patients regularly used opioid pain medications, none were dependent, and all stated an active desire to avoid these medications. **Conclusions:** Successful chronic pain management seems possible as displayed from the patient narratives but requires persistence through individual trial and error. Recommendations for health care provider teams are made to apply these findings to assist patients with chronic pain.

Keywords

chronic pain, primary care, qualitative research, community-based participatory research

Background

I think it’s important for us to hold onto our dreams . . . to never lose sight of who we were before we became the injured person we were and know that there’s always a new beginning. There’s always hope. There’s always change. You can never give up. [P17]

Chronic pain is a common condition in the United States, affecting approximately 11% of the adult population¹ with 3% to 4% of the general population using prescribed opioids for long-term treatment.^{2,3} The experience of persistent pain elicits a complex biopsychosocial phenomenon⁴ that extends well beyond the biologic sensation of pain itself.⁵ These biopsychosocial effects include a decreased ability to work, disability classification, loss or increase of appetite, inability to sleep, and general decreased quality of life.⁶ Additionally, chronic pain is associated with other medical

and mental health conditions, including cardiovascular disease, depression, and anxiety.^{7,8}

Patients seeking relief from chronic pain often do so from primary care clinics. Yet, primary care physicians report feeling conflicted about treating chronic pain.^{9,10} On the one hand, they want to help patients alleviate their pain, but on the other, are encouraged to limit or avoid prescribing controlled pain medications due to practice guidelines and regulations.^{11–13} Therefore, many primary care clinicians (ie,

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physicians or advanced practice providers or primary care physicians [PCPs]) feel underprepared to manage pain conditions without a clear pathophysiologic mechanism^{14,15} and find the management of chronic pain stressful.⁹ As a result, patients sometimes report feeling disrespected and distrusted when seeking care for their chronic pain.¹⁶

The literature on pain management interventions in primary care reveals many studies on improving adherence to chronic pain medication management guidelines and less on helping patients select other pain management strategies.^{17,18} While there is literature on patient-provider concordance and effective pain management regarding opioid and other analgesic prescribing,¹⁹⁻²² demonstrating both discordance and concordance in prescribing goals, there are few papers that describe a comprehensive approach to pain management in primary care specific settings.^{23,24} Although multidisciplinary pain care has been systematically studied,²⁵ gaps exist in primary care implementation. As well, there is an emergence of studies describing new methods of pain management; however, there is a lack of guidance on how to sort through these different studies and implement an effective comprehensive approach tailored to patients.

Given the gap in clear implementation strategies in the primary care setting, we began by investigating how patients who self-report successfully managing their chronic pain were doing so. To gain insight from these patients, we used a process called appreciative inquiry (AI) in a qualitative study research design. AI has been used predominantly as an approach to help teams identify, and focus attention on, what *is* working well as opposed to immediate problem solving that gets bogged down in barriers and problems.²⁶ AI has been used to identify solutions and to gain representation from many voices, facilitating eventual implementation.²⁷ AI has also been used to create change within health care; however, it has not been used to address overcoming chronic pain.²⁸⁻³¹ In this study, AI is used as a method to identify successful strategies, as reported by patients with chronic pain, to assist primary care physicians and their care teams in chronic pain management from a patient centered perspective.

Methods

Approval was obtained from the Colorado Multiple Institutional Review Board (COMIRB) for this qualitative, descriptive study, which occurred between 2014-2017. The research team included academic researchers, local community health research nonprofit organization members, and the Colorado Research Network (CaReNet) practice-based research network (PBRN) patient advisory council (PAC). The CaReNet PAC was created in 2004 and includes 12 members selectively chosen to represent

patient perspectives from the PBRN clinics. All groups participated in every phase of the research.

Defining Successful Chronic Pain Management

As the study purpose was to utilize AI to identify successes, the key was to first identify patients who had successful experiences to share: patients who were able to report functional, although not necessarily pain-free, lives. Therefore, the PAC deemed that functional status was being able to do “most of what they want on most days” and were absent of a diagnosis of opioid use disorder. This became the definition used to target a group of patients. Although a physician verified the patient’s story preinterview, objective measurement of pain and the patient’s successful management was not conducted.

Setting and Participants

Participants were recruited from health care and community settings in the metro Denver, Colorado area via community organization partners and PAC members using descriptive study flyers, personal contacts, and through physicians identifying and offering study participation to patients in 2 local family medicine clinics. Given the recruitment methods, it is unclear how many patients were offered an opportunity for participation. Once identified, participants were given information about the study and a number to call for further information. After initial contact, participants completed a brief screening with one of 2 study physicians. The screening questions were “please describe your chronic pain and what do you consider successful pain management?” to assess the participant’s pain experiences to ensure that he or she met our study-defined definition of successful pain management. For the remainder of the paper, we will use the term patients rather than participants for those individuals in the AI interviews as this study was conducted to inform health care delivery.

Qualitative Data Collection and Analysis Team

The qualitative core team consisted of 2 female PhD-level qualitative methodologists, a male physician, and a female master’s degree-prepared qualitative research assistant. The 3 qualitatively trained personnel had extensive experience conducting qualitative data collection and analysis and at least 1 of the 3 was present at all interviews. The team members had no prior relationships with the interview participants except for 3 patients who were members of the PAC. Interviewers had no other roles than to conduct the interview and glean perspectives on chronic pain management. The larger research team included 2 additional male physician researchers, 2 additional research

assistants, and a community stakeholder. The PAC additionally informed the research process through reporting and feedback sessions.

Instrument

A semistructured interview guide was developed with this main question stem, “Please tell me about what you do to manage your chronic pain.” Prompts throughout the interview were used to guide the patient back to successful strategies. During the interview, patients shared information about the onset, type, frequency, and duration of the chronic pain, while discussing their experiences and strategies for successful management. A very brief written questionnaire was given that asked about age, gender, and race/ethnicity. Interviews occurred with one patient at a time and lasted 45 to 60 minutes. Interviews were conducted in person by a study investigator and research assistant in a private location selected by patients, such as their home or public library meeting room. Patients were compensated with a gift card and no repeat interviews occurred. Interviews were audio recorded, transcribed, and loaded into ATLAS.ti version 6 (ATLAS.ti GmbH, Berlin, Germany), which is a qualitative analysis software program.

Analysis

The qualitative process proceeded using a grounded hermeneutic editing approach.³² First, all core team members independently read through several transcripts to establish terms and definitions for the codes to be assigned (ie, emergent process). This continued until codes were established and a coding guide was developed. Then 2 team members qualitatively coded the data in ATLAS.ti. Discrepancies were discussed and reconciled with the entire team. Once all the data were entered, co-occurrences of codes were queried and further examined, noting areas of overlap and the meaning of this overlap, and quotation reports generated. The qualitative core analysis team met biweekly over 4 months to complete the analysis after the coding was completed. Each member of the core team independently read through the quotations reports and created representative summary statements. The larger team then met to share their summaries and discuss the emerging themes, relevancies, key messages, and overall research findings.

During the examination and analysis of the seven emergent dominant treatment codes: medications, chronic pain specific medications, physical therapy/exercise, prayer/meditation/relaxation, self-care, alternative care, and procedure, it became evident that patients used a variety of methods to successfully manage their pain, based on personal life conditions and environment. The team created a spreadsheet to record if a patient had used at least 1 treatment method for each of the 7 treatment codes. Tallies

were computed for the total number of different treatment categories used per patient to track frequency, significance, and identify cross-patient themes.

Given the consistency of responses by diverse interviewees, the core team determined that saturation was reached. Confirmation of this determination occurred through coded and thematic data sharing to both the larger research team and the PAC, twice. This confirmation process was also completed to assure analysis coherence and community relevance. These efforts allowed and encouraged the core team to revisit the data, and confirm, modify, or refute initial impressions, and identify additional areas for further analysis.

Results

Twenty-four patients were interviewed. Patients varied by age, race, socioeconomic status, and chronic pain conditions (Table 1). Patients’ definition of successful pain management ranged from being pain-free to decreasing pain levels to allow for participating in daily activities. Although patients varied by gender, age, and conditions, common themes were indicated across these groups, therefore results were analyzed together as one group.

Overall themes for successful chronic pain management:

- Multiple approaches to pain management
- Positive beliefs and determination
- Significance of important relationships
- Desire to avoid chronic pain medications

Key Themes

Theme 1: Multiple Approaches to Pain Management. Seven pain treatment and management codes emerged to account for treatment engagements and strategies that patients reported (Table 2) with patients reporting about 5 strategies being used (mean = 4.8; range 3-6) of seven used by each patient. Therefore, a primary finding was that patients used a variety of strategies to reduce or eliminate pain, concurrently and in various combinations, to achieve “living with chronic pain successfully.” Patients employed these options strategically to respond to 4 key areas: (1) the mental/mind-set approach to their pain (theme 2), (2) pain prevention such as a migraine sufferers avoiding pain triggers like loud, stimulating environments, (3) ongoing management of pain such as regular visits with a *trusted* health care partner to assess overall chronic pain issues and underlying problems, and (4) dealing with acute and severe pain episodes such as taking ibuprofen or a warm Epsom salt bath.

Although patients never explicitly delineated these categories as categories themselves, there was acknowledgment that multiple approaches within the categories were needed for their pain management.

Table 1. Description of Study Patients.

Descriptor	Value
Age, years	25-77; mean 58.25
Gender	20 female, 4 male
Race	9 white, 10 African American, 3 Hispanic, 2 mixed race
Patient description of the diagnosis of painful condition	Musculoskeletal: 18 Inflammatory conditions (Crohn's disease, ankylosing spondylitis): 3 Neurologic (headaches, painful neuropathy): 8
Perceived duration of pain, years	3-63
Reported experience with opioid use	10 of 24 people reported some experience with opioid use; none had past or current opioid use disorder or were using any form of medication-assisted treatment

Table 2. Treatment and Management Categories.

Category	Definition	Examples
Procedure	Health care intervention to address the pain or underlying condition	Corticosteroid injections, surgery, diagnostic testing
Self-care	Activities that intended to care for the chronic pain that the patient sought out or did themselves	Heating pads, icing, baths, nutrition/diet changes, weight loss
Medications	Medications taken for the underlying condition	Antidepressants or anti-anxiety medications, other medications to treat the underlying condition
Chronic pain-specific medications	Medications specifically for the management of chronic pain, either opioid or nonopioid. Includes 2 categories: over the counter (OTC) and by prescription	OTC: ibuprofen, aspirin, acetaminophen, marijuana Prescribed: gabapentin, fentanyl, morphine, oxycodone, oxycontin
Alternative care	Overlaps with self-care (double coded) but considered complementary and alternative medicine	Massage, chiropractic, acupuncture, dietary supplements, herbal supplements
Prayer/meditation/relaxation	Overlaps with alternative care (double coded) but activity with the goal of producing a relaxation response and/or connection with higher power and usually mental centering	Prayer, meditation, reading the Bible, focusing on music, going to a dark room, breathing exercises, visualization
Physical therapy/exercise	Movement for purposes of decreasing or preventing pain	Formal or informal physical therapy, exercise of any type, stretching, yoga/Pilates

This has been a life-long thing . . . I just thank God I am where I'm at because now . . . You know without all these tools you know. It's like having a tool bag. [P2]

Patients illustrated how they become informed and engaged in their treatment options over time and found approaches that worked for them individually. Most took a "trial and error" approach until developing a package of approaches that worked, as well as when and how they worked. For many, there was a continuing evolution of modalities to try, include, and adjust. While this individualized approach may appear self-evident or commonsense, our experience with pain management experiences is that this personally relevant exploration was ground-breaking and critical to patient care and patient success.

Theme 2: Positive Beliefs and Determination. A persistent and reverberating theme in our data was the use of an *encouraging or affirming* mental approach that supported

and described a sense of resilience, or "can do," "doing what was needed," and "getting on with life" belief.

The mind is something that's amazing. It can get you through almost anything if you use the power of your mind over matter, which the pain was the matter, and I had to concur that through my mind, took meditation, lots of reading. [P15]

Most patients described that how they understood, felt, or experienced their pain was critical to their successful management. Being an active agent in their pain assessment keenly supported their care success. Uniformly, patients reiterated that positive or affirming beliefs and determination factored into their overall success. Their knowledge embodied a dynamic individual understanding of the connection between mind and body as a necessary foundation.

Everybody's pain is different. Everybody's activities are different . . . you know of course your support system. You

know a higher power. Acceptance within yourself, and you have to be able to accept yourself because no one's ever going to understand what you're going through. You know don't stop living your life. You have to just keep pushing. [P16]

Several patients acknowledged that changing expectations and being realistic with their goals, post their injury or condition, clearly influenced their successful management. Several ways in which patients acted on these beliefs were to trust in what they could accomplish versus what they were no longer able to do; a heightened valuing of a relationship with religion, god or something beyond them; and/or knowing that they could have some power over their situation instead of chronic pain determining their life.

Confiding in something that gives you confidence, that builds your self-esteem whether it is the people around you, or your personal relationship with your creator, and once you seek that and begin to kind of nourish that then you put your faith in the unseen. [P17]

Yet, in describing their journey with chronic pain, patients often relayed an initial sense of frustration, sometimes even despair. Thus, our research illustrated that these patients were more than default optimists. Many suffered from depression and/or anxiety at some point in their lives.

. . . so I started actually seeing a psychologist just for anxiety, and I think that's another huge turning point I think just having . . . tying everything together I guess like this stimuli things, and then anxiety playing into it and kind of spiraling things. [P7]

Patients used many methods to achieve this mental state or mindset that allowed or fostered encouraging lives. Most included a means of reframing the thoughts or feelings about their pain. Distraction from the pain by meditating, going for a short car ride, or thinking about their children or grandchildren was common.

Significantly, patients were deliberate in their desire to define themselves as a person, instead of their condition, while also accepting the inherent limitations that living with chronic pain can bring. This framing also speaks to a crucial finding that could only come through AI research; in contrast to conditions, symptoms, diagnosis our participants viewed their lives as whole and theirs.

Theme 3: The Significance of Important Relationships. Relationships with family, friends, significant others, and health care professionals were especially important in the patients' management of their pain. These relationships served 3 main functions in helping to achieve success: (1) provide instrumental support, (2) provide a sense of inspiration and motivation, and (3) assist patients in making decisions pertaining to their pain management at critical points. Patients

named various groups and types of people who positively influenced their pain management: family members provided, at times, endless support, empathy, and caring; children and grandchildren were motivators, cheerleaders, and givers of happiness and joy; friends provided therapy suggestions or were companions during physical therapy.

Well for me I'm kind of hard on myself, and I don't like being a burden to my family because I know they love me and I know that they worry about me, but you know I have to trust their love, and just know that you know they love me, and that I'm not a burden, and they know that I do the best I can for myself. They know I do, and I be honest with them. They let me vent. [P6]

Again, significantly, physicians and health care team members were described as important individuals to the contribution of successful pain management. While this may appear self-evident once again, the ability to counter the presumed futility that comes with chronic pain was keenly expressed and felt during interviews. Physicians' importance was centered on proper diagnosis and treatment options, while other health care team members were coaches and additional support systems.

He [my doctor] finally listened . . . that's what really made me have acceptance of my injury, inner peace with my injury, and then start finally trying [to] counteract it and try to fight it, because now I feel like this guy's finally listening to me. He's trying to help me with my injury. [P17]

Patients stated that health care professionals were most helpful when they listened to their concerns, worked to identify the true problem, advocated for them, helped them find solutions, and did not label them as "drug seeking." Health care team members and individuals offering formal or informal support were more likely seen as assisting patients with their decision making and helping them to understand their pain instead of pointing out some deficiency.

My psychotherapist said, "If anything you have to learn that pain puts you in the present. If you're dealing with your pain no matter what it is . . . you're dealing with the present, and that is good for you because you're always dealing in the past or where you want to be in the future, but I don't hear you dealing with where you are today". [P22]

The supportive role that relationships played in patients' lives was the most frequently applied transcript code, and often these support systems were expressed as significant and seemingly necessary. Successful chronic pain narratives had the patient engaged and surrounded by others and other choices versus isolation, dependency and failure/frustration. Moreover, the importance of these support systems was more pronounced in patients with more debilitating pain.

Theme 4: Desire to Avoid Chronic Pain Medications. Some patients described debilitating pain due to severe conditions such as fibromyalgia or increased intracranial pressure. This subgroup of patients often relied on prescription pain medication; however, they tended to describe this modality for pain relief as undesirable, but necessary. Although there was expressed resistance to all types of pain medications, opioid, or addiction-forming medications were especially noted as undesirable. Numerous patients expressed a desire to avoid opioid medications entirely or wanting to stop taking those they were on.

I don't like a lot of chemical stuff in my body. I prefer natural remedies . . . I have a wonderful physician, and she goes along with the same thing. As much as you can do naturally to manage pain. [P8]

While some patients were concerned about being labeled a “druggie,” the majority of patients were not actually concerned about stigmatization regarding opioid use. They were reluctant to take opioids because they were concerned about their own safety. In fact, patients across the self-described pain spectrum were outwardly avoidant of opioid medications, stating they “made them feel out of it,” were “not safe to have around my kids,” or that they were “having unwanted side effects” and wanted to avoid dependence or seeming weak. There was also a resistance to opioid use because of experienced or perceived side effects including constipation, lethargy, or mood changes. Negative experiences with use of opioids sometimes created either an actual or perceived adversarial relationship between themselves and others that made them feel hurt and distressed.

Patients instead relied on nonopioid pain medications, such as ibuprofen, when pain became more severe. Some even avoided nonopioid medication use and turned to alternative therapies. A small number ($n = 3$) of patients actively used marijuana for pain relief. Of the 24 patients we interviewed, 10 took daily opioids. Although several of these were in an active program to step down their medication level, none were classified as opioid use disorder or were utilizing medication assisted treatment.

. . . whatever years I have left I really don't want to be dependent on morphine my whole life, so I've seen a doctor every month, and each month we go down a little bit on the dosage, and I'm hoping to get off of it completely so I don't have to worry about that. [P23]

Discussion

In this study, the most striking result was that across all genders, races, ages, and underlying conditions, self-identified successful chronic pain patients used a variety of strategies coupled with affirming and motivating beliefs, and key close relationships—including health care providers—to

overcome limitations from chronic pain. Patients greatly valued this multi-pronged, comprehensive approach and the support of their health care team however, it required persistent, resilient trial and error, often with the help of support from loved ones and health care professionals.

Many qualitative studies have been conducted in the area of chronic pain and its management; however, the majority of these studies have focused on the volume of treatment, difficulties with health care provider communications, or difficulties with managing pain. An extensive meta-ethnographic review by Toye et al.³³ chronicles the issues of living with chronic pain and the effect on relationships with the health care clinicians.³⁴ Few have focused specifically on successful management strategies, and none have used specifically an appreciative inquiry approach, although some are similar. These included Owens et al.³⁵ who studied 80 people living with chronic pain with “positive stories to tell” using semistructured interviews and standardized questionnaires. Their results included themes of acceptance, openness, self-efficacy, hope, perseverance, self-regulation, kinesthetic awareness, holistic approaches and integrative therapies, self-care, spirituality, social support, and therapeutic lifestyle behaviors. As a whole, the narratives of pain “exemplars” illustrate a “positive approach model” for living well with pain and a multi-faceted approach. They also found that many “expressed a strong desire to minimize or eliminate pain medication.” Richardson et al.³⁶ describe how older adults used flexibility and pragmatism around chronic joint pain that supports a general model of resilience that incorporates vulnerabilities. Indeed there is a literature on resilience that should not be overlooked.^{37,38} McCluskey et al.³⁹ provide insights on the role of significant others, such as family members, in supporting individuals with chronic pain. Activity, connectivity, and positivism were themes in their data. The results from these studies are consistent with our findings, suggesting a common set of important characteristics to be attended to in the management of chronic pain.

These results have implications for how PCPs and their care teams approach treatment of chronic pain. Although many PCPs and other prescribers are encouraged by the 2016 Centers for Disease Control and Prevention Guideline for Prescribing Opioids for Chronic Pain to simply avoid opioid prescribing, these patients still have pain and need help. Our findings indicate that it may be beneficial to openly discuss pain management desires with patients to help identify multiple strategies that work for each individual. This approach supports patient centered care, where the patient is at the center and the clinician and team use a holistic approach to identify strategies that are relevant to each individual. Many patients do not want the risk of addiction to pain medications. In addition, different patients described a “trial and error” approach to their pain

management which led to a journey that was long and emotionally challenging and it took time to figure out the right “package” for each patient. Patients who are left to wander about on their own to discover what works creates a missed opportunity to get to successful management much sooner by appropriate coaching and support. Working as a team to help patients identify a personalized strategy is valuable. Behavioral health professionals could play a role in encouraging positive mindfulness approaches. Patients may benefit by reassurance that it may take a while to find the right combination to address their specific needs. Finally, the importance of supportive relationships should be emphasized. We found a few studies that describe similar strategies, but more is needed.^{23,24} Perhaps the key is an emphasis on the ongoing supportive relationship combined with strategies “tried and tweaked” incrementally over time as outlined by Atul Gawande.⁴⁰

This study has several limitations. First, the goal was to illuminate experiences that add richness and meaning to our understanding of the chronic pain experience. Therefore, patients were not expected to represent specific conditions, ages, genders, or races. None of the patients were classified as having opioid use disorder, at the study time or in the past, and none were using suboxone or other treatment for medication assisted treatment. Since chronic pain is, by definition, based on the patients’ subjective experience, we honored those interpretations and did not verify the diagnosis or underlying cause/condition. Although many patients were referred by a physician due to their chronic pain and a separate physician verified the patient’s story pre-interview, objective measurement of pain and successful management was not conducted.

Also, the focus of our inquiry was in symptom management rather than disease control. The strategies shared may offer useful approaches; however, we intentionally avoided implying or suggesting these choices linearly lead to success. Instead we are representing the voices of the people who shared their version of success, which may have utility for others. While some patients did note a history of opioid use, we do not know to what extent patients may have fully disclosed this information; however, since some patients did disclose and we created a safe environment for this information, we believe patients were being truthful. Last, although there is a temptation to sort the data by condition, age, gender, or other characteristic, our results indicated common themes that crossed across these patient characteristics and were uniformly present.

In summary, this study illustrates how a group of chronic pain sufferers are successfully managing chronic pain. Specific and varied strategies and mental approaches seem to underlie this success. Our study supports the work of other similar studies; yet, it provides further evidence of the need to provide multi-modal pain management approaches in a supportive health care team environment.

Authors’ Note

The data generated and analyzed during this study are in the form of qualitative interview transcripts. These data are potentially available from the corresponding author under specific conditions on reasonable request. The data are de-identified and stored in a password secured database at the University of Colorado.

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Author Contributions

All authors contributed to the writing of and approved the manuscript. JMW and DEN developed the idea and secured funds for the study; MF, DEM, DEN, NSA, and LZ identified and recruited participants; JSH, MF, DEM, and LZ developed the interview guide; MF, JSH, and DEM completed interviews; JSH and MF completed the qualitative coding; JSH, MF, MS, and DEM completed the qualitative analysis and DEN, JMW, and LZ provided larger research team review and oversight.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Ethics Approval

Institutional review board approval for this study was sought and obtained from the Colorado Multiple Institutional Review Board (COMIRB). All participants consented to participate using an IRB-approved consent form.

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