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Optimizing Pain Management through collaborations with Behavioral and Addiction Medicine in Primary Care

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Abstract

Chronic non-cancer pain (CNCP) affects a high proportion of primary care patients and carries a large human and economic burden. In response to the widespread perception that pain has been under-diagnosed and undertreated, regulatory bodies have encouraged more comprehensive services addressing pain syndromes. Significant hurdles exist in treating CNCP in primary care settings including a relative lack of training, lower physician satisfaction in treating pain patients, lack of objective measures and the risks associated with opioid treatment including addiction. Additionally, interventional therapies and pharmacotherapy often do not provide complete symptomatic relief. Here, we describe a multidimensional and interdisciplinary approach to the treatment of CNCP. The utility of collaborations with behavioral and addiction medicine specialists optimizes care and advances models of patient treatment within a primary care patient-centered medical home.

Keywords

chronic non-cancer pain; opioids; interdisciplinary; patient-centered medical home; addiction

Pain is an important signal that something is wrong with our bodies, which confers unambiguous adaptive functions. Pain signals to the body mean that tissue damage has occurred that needs repair and/or alerts the individual to environmental threats to survival. Indeed, those with a rare, genetically mediated syndrome where pain is not experienced face significant functional impairments that can be life threatening [1]. In chronic illnesses, however, pain may linger despite limited or even no adaptive signal for the individual. This situation is encountered frequently in primary care as the prevalence of chronic diseases increases in the American population and acute pain in the context of chronic disease impairs functioning and contributes to human suffering. More, as patients repeatedly seek medical care to reduce their pain, providers become frustrated by limited progress when prescribing powerful analgesics to their patients with chronic non-cancer pain (CNCP). This paper discusses existing approaches in primary care that are designed to help patients to

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better manage CNCP, with particular emphasis on implementation of these efforts in the context of behavioral and addiction medicine. CNCP and addiction are chronic diseases and provide opportunities to integrate these conditions within the patient-centered medical home framework. Further, a team-based program developed to address these conditions within an academic primary care clinic has utilized the building blocks of high-performing primary care clinics identified by Willard and Bodenheimer which include: data-driven improvements, managing panel size, team-based care, population management, continuity of care and prompt access to care [2].

In 2001, The Joint Commission (TJC) established pain management standards for accredited ambulatory care facilities, behavioral health care organizations, hospitals, home care and long term care facilities. These standards require that patients be assessed and treated for pain and encourages patients to report pain to their providers. The action of TJC was a response to the widespread perception that pain had been under-diagnosed and undertreated. Similar actions were taken within the Veterans Administration health care system which is creating a comprehensive, system-wide approach to pain management that ensures the active assessment and treatment of chronic pain [3].

The establishment of pain as the “5th Vital Sign” is justified by a cursory examination of the prevalence of chronic pain. Although there is no universally accepted definition of chronic pain, it is commonly defined as pain persisting beyond the time for normal tissue healing, typically specified between three and six months. This article limits its attention to CNCP which presents additional challenges when compared with pain related to malignancies. In a nationally representative sample of 27,035 in the United States, the crude point prevalence of pain lasting at least six months is 34.5% [4]. Adjusted for the population characteristics of the nation, prevalence is estimated at 30.7%. Chronic pain increases across age groups and is more prevalent among women (34.3%) than men (26.7%). Chronic low back pain is the most commonly reported pain syndrome. Prevalence rates for pediatric populations vary widely, but even low estimates suggest a substantial burden on this population [5]. The Institute of Medicine (IOM) recently issued a report titled, *Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education and Research*. The report estimates that 100 million Americans suffer from chronic pain [6], a figure that closely coheres with other epidemiological estimates [4, 7].

Chronic pain exerts an enormous public health burden. A nationally representative survey of 28,902 working adults assessed the economic impacts created by pain conditions [8]. Over one-half (53%) of these individuals admitted to having pain in the 2-week period prior to the survey. Thirteen percent lost productive time as a result of the pain. Absence days were uncommon and most productivity loss was due to reduced performance on the job. Among those with low back pain, direct costs for medical care is estimated to be \$26 billion U.S. [9]. On average, individuals with back pain incurred health care expenditures about 60% higher than individuals without back pain (\$3,498 vs. \$2,178) and in the report from the IOM, the total estimated annual economic cost of chronic pain in the U.S. is between \$560-635 billion. This estimate reflects the combined cost of health care (\$261-300 billion) and the cost of lost productivity (\$297-336 billion) associated with chronic pain. The authors suggest that these estimates are likely conservative, as it excludes the cost of pain associated with institutionalized individuals, children and military personnel. Pain is associated with clinically important comorbidities [10], including a 4-fold increase in odds of having an anxiety or depressive disorder [11].

The American College of Physicians and the American Pain Society issued a joint clinical guideline for the diagnosis and treatment of low back pain [12]. It is reported that low back pain is the fifth most common reason for all physician visits in the U.S. One survey by the

World Health Organization screened 25,619 primary care patients in fourteen countries and found that 22% (range: 6%-33%) reported pain persisting longer than six months [11]. Primary care physicians are responsible for a substantial proportion of the care for chronic pain [13]. Yet, in a survey of primary care resident physicians, more than one-half rated their medical school preparation for treatment of chronic, non-cancer pain as poor or fair with similar dissatisfactions expressed with residency training [14]. Treating CNCP can be wearisome and physicians report a lack of confidence in their ability to treat pain effectively and have aversive responses to the treatment challenges [15-17]. Primary care physicians face barriers to providing care for chronic pain including lack of objective measures of pain, lack of expertise in treating chronic pain, coexisting disorders including addiction, aberrant patients behaviors and legal complications associated with prescribing opioids [18]. The role of primary care physicians is often to assist patients with self-management strategies, but many lack training to confidently perform that role and reimbursement structures provide little incentive for providing this type of care [6].

As expected, patients with CNCP represent a common population in primary care settings, are expensive as measured by human and economic burden, and are often difficult to treat without support of a team with the understanding of this special needs population. The development of a multidisciplinary team of specialists coupled with a front and back office staff prepared to address the unique needs of this population has been developed in our academic primary care health center. A collaborative interdisciplinary model has been implemented and evaluated to address barriers for payment to pain, addiction and behavioral medicine physicians for services which become the "PCP responsibility" particularly for those health plans aimed at providing care to underinsured populations. Further, panel size, roles and responsibilities of team members and length of treatment ensures both continuity of care and prompt access to care. For most patients with CNCP, a credentialed pain medicine physician serves as a consultant as well as primary care provider until alternate diagnoses are made or the patient is stabilized and subsequently transferred to the family physician for ongoing care. The pain medicine physician collaborates with the family physician and the specialists from the Behavioral Medicine clinic (BMED) and Addiction Medicine Clinic (AMED). Established relationships with physical therapy clinics provide easy referral paths for patients who might benefit. This integrated care provides a single home for many of our pain patients. In what follows, the rationale and implementation of an interdisciplinary model of pain treatment is described.

Interdisciplinary Model of Pain Treatment

Collaborations with the Behavioral Medicine Clinic

Despite advances in interventional therapies, surgery and pharmacotherapy for chronic pain, symptomatic relief is often incomplete [19]. Even when these therapies provide relief from the experience of pain, functional improvements are often not witnessed. The purely biomedical model has been largely replaced by a biopsychosocial model where the experience and burden of pain reflects the dynamic interplay of physiological, psychological and social factors [10]. The transition from acute injury to chronic pain related disability is predicted by a range of psychosocial variables including maladaptive beliefs, lack of social support, depressive mood and somatization [20, 21]. Psychosocial and behavioral factors contribute significantly to the experience, maintenance and exacerbation of pain [19]. The American Pain Society guidelines for treatment of chronic low back pain recommends that patients with nonradicular pain receive interdisciplinary treatment if first-line treatments fail to resolve the symptoms [12]. Although modest in their effects, several reviews highlight the effectiveness of behavioral treatments [10, 22, 23]. A recent meta-analysis examined the efficacy of psychological interventions for chronic low back pain and found reductions in self-reported pain, depression and disability and increases in quality of life [24].

Short-term, cognitive-behaviorally focused approaches to management of CNCP can help patients address functional and psychological problems that arise over with their chronic illnesses [25, 26]. Within the context of a behavioral medicine clinic, elements of these approaches in behavioral medicine sessions that correspond with functional improvement include: (1) increasing ability to tolerate distress due to mild to moderate levels of pain in order to fulfill roles for family and job. This can include cognitive (e.g., identifying and challenging negative cognitions) and behavioral (e.g., diaphragmatic breathing, mindfulness) methods; (2) de-emphasizing the role for analgesic medications as the central element for managing pain; (3) helping patients to become more physically active in all spheres of their life, while respecting their limits; (4) educating family members and enlisting their involvement in supporting efforts to increase functional abilities; (5) working with the health system to discourage medication seeking behaviors, especially frequent use of emergency departments to access opioid analgesics.

As the offices for pain and behavioral medicine are co-located, coordination between the pain specialist and psychologist is straightforward. Typically, the pain physician will provide a referral for an assessment and possibly brief treatment to one of the clinicians in BMED. The pain medicine physician meets directly with a clinician from BMED to discuss the patient and provide treatment recommendations. When indicated, BMED staff and the pain specialist meet jointly with the patient. As the patient's primary care physician is on staff at the health center, coordinating care is uncomplicated. Referrals flow in both directions. Cases within behavioral medicine frequently are complex, involving disorders or diseases that will not improve and that involve pain problems that are challenging to manage using pharmacotherapy only. In collaboration with the primary care physician, BMED can facilitate closer pain management by the primary care physician or provide a referral to the pain specialist.

Intersection of Pain Treatment and Addiction Medicine

Pain medicine clinics almost invariably intersect with addiction treatment. In this section, we describe opioid prescribing trends and some of the unintended negative consequences of increased accessibility of prescription opioids. These data highlight the importance of close collaboration between pain clinics and addiction medicine specialists.

Over the past two decades, the recognition of the scope and urgency of pain has led to dramatic increases in opioid prescribing rates [27]. In 1997, the morphine equivalent dose (MED) prescribed, per person, was 100 mg. By 2007, this figure had risen to 700 mg [28]. As of 2005, approximately 10 million Americans were receiving chronic opioid therapy (COT) [29]. More aggressive treatment of pain has alleviated suffering but carries unintended negative consequences. Those at elevated risk for opioid misuse, such as individuals with comorbid psychiatric disorders, are more likely to be prescribed opioid medications [30]. Younger individuals and those with prior substance abuse problems are also at higher risk for misuse and receive opioids at elevated rates [31].

The National Survey on Drug Use and Health, a representative sample of 92,000, found 4.5% of adults reported non-medical use of prescription opioids in past year [32]. In the most recent data annual available, 2.2 million people initiated illicit use of opioids, with only marijuana exceeding opioids as the substance associated with illicit drug initiation [33]. Between 2004 and 2009, the number of emergency room visits for misuse of prescription drugs doubled with opioid related problems figuring prominently in this increase [34]. Oxycodone-related emergency department visits increased 242% during this period with substantial increases also noted for hydrocodone, morphine and fentanyl. These patterns have been paralleled by disturbing trends in opioid-related poisonings. Poisoning is the second leading cause of accidental death in the United States and more than one-third of all

poisonings involve opioid medications [35]. Fatal overdoses increased overall, but involvement of opioids increased dramatically, climbing from 21% in 1999 to 37% in 2006, an increase of 76%.

Although opioid medications are often obtained through illegal means, legitimate physicians' prescriptions figure prominently in opioid misuse and its associated morbidity and mortality. In nationally representative data from 2006 through 2008, Becker, Tobin and Feillen [36] found that of those misusing opioids, 31% had a physician source and approximately 20% were receiving opioids exclusively from their physician. The situation led the President's Office of National Drug Control Policy to release a recent report entitled, *Epidemic: Responding to America's Prescription Drug Abuse Crisis*.

Despite the risks associated with opioid treatment, prescribing practices primary care providers are not optimal. Among fully trained primary care physicians, opioid risk reduction strategies are not commonly implemented. Starrels et al. [37] assessed the use of risk reduction strategies among primary care physicians caring for patients on continuous opioid therapy. Only 8% of patients ever submitted a urine drug screen, 50% failed to have regular monitoring visits, and 77% received repeated early refills. Of individuals with multiple risk factors for opioid misuse, risk strategies were not implemented at higher rates and in some cases, were actually implemented less frequently for those at greatest risk.

While the majority of patients in our pain clinic can safely use opioids and adhere to physician directions, a significant minority shows signs of problematic use. Rates of aberrant drug taking behavior vary widely [38], but one systematic review estimated a rate of 11.5% [39]. Before initiating opioid treatment, the pain clinic stratifies the risk level according to a range of factors predictive of opioid misuse including a personal or family history of substance abuse, younger age and comorbid psychiatric disorder [40, 41]. For higher risk patients, more stringent and more frequent monitoring is provided, in accord with recent guidelines for chronic opioid therapy for CNCP [41]. These monitoring strategies include risk assessment questionnaires such as the Current Opioid Misuse Measure [40] opioid contracts, more frequent visits, withholding any requests for early refills, prescription drug monitoring program reports and urine drug screening.

Despite these efforts, a small minority of patients develop use indicative not merely of physiological dependence that develops with COT [42] but a loss of control over drug taking. Here, collaboration with AMED becomes essential. Often, the pain physician will consult with the addiction medicine physician and when appropriate, meet jointly with the patient. If the problematic use of opioids does not resolve quickly, the team might consider induction onto buprenorphine-naloxone (Suboxone). Buprenorphine is a partial agonist – it binds tightly to μ -opioid receptors, but features low intrinsic activity. This combination of properties blocks the euphoric effects of full agonists while attenuating craving and withdrawal symptoms. Its effectiveness in opioid addiction is well-established [43, 44]. Although indicated for maintenance treatment of opioid dependence, for mild-moderate pain, high doses of buprenorphine will have some analgesic effects, although pain relief may be incomplete. Dosing may need to be more frequent than is typical with buprenorphine as its analgesic effects are shorter acting than the suppression of opioid craving and withdrawal symptoms.

A case series of 95 CNCP patients attests to the therapeutic effects of buprenorphine in this population [45]. There are some guidelines that have been offered for the treatment of acute pain in the context of methadone or buprenorphine patients [46]. In this case, the authors warn against common misconceptions that lead to the under-treatment of pain for patients on opioid substitution therapy. Flexibility in treatment approach for acute pain is feasible.

However, negotiating the challenge of a bona fide chronic pain condition in the context of opioid addiction is complex and minimal empirical data exists to guide decision-making. Blondell and colleagues [47] assessed buprenorphine for individuals with CNCP and comorbid opioid addiction. The trial was terminated prematurely as none of the six participants assigned to a 4-month buprenorphine taper condition completed the trial. Of those continuing with buprenorphine treatment and a 6-month follow-up, the majority reported increased functioning and persistent analgesic effects of the medication. An adaptive trial design recently assessed buprenorphine-naloxone in opioid dependent patients [48]. Although patients with severe chronic pain were excluded from the trial, those with mild-moderate pain comprised 42% of the sample. A brief stabilization with buprenorphine followed by behavioral support failed the vast majority of participants in terms of opioid abstinence. Those failing treatment were enrolled in the second phase of the trial and all received extended buprenorphine-naloxone treatment. End of treatment success was much greater than outcomes from the first phase, with 49.2% abstinent from opioids. Of relevance, chronic pain did not moderate treatment outcomes, suggesting that the utility of buprenorphine-naloxone is similar in patients with and without mild-moderate chronic pain.

Conclusion

CNCP figures prominently in the health of primary care patients and carries an enormous human and economic burden. The recognition that pain has been under-diagnosed and undertreated has encouraged more comprehensive services to meet the needs of these patients. Despite its prevalence, organizational and therapeutic challenges exist in treating CNCP in primary care settings. Interventional therapies and pharmacotherapy often do not provide complete symptomatic relief. At UCLA's Family Health Center, we have created an interdisciplinary pain clinic that includes a pain physician working in collaboration with Behavioral and Addiction Medicine specialists. This approach helps successfully address the multidimensional nature of chronic pain conditions and provides confidence that the complexities arising from chronic opioid treatment can be managed effectively.

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Key Points

1. Chronic non-cancer pain (CNCP) affects a high proportion of primary care patients and carries a large human and economic burden. In response to the widespread perception that pain has been under-diagnosed and undertreated, regulatory bodies have encouraged more comprehensive services addressing pain syndromes.
2. Significant hurdles exist in treating CNCP in primary care settings including a relative lack of training, lower physician satisfaction in treating pain patients, lack of objective measures and the risks associated with opioid treatment including addiction. Additionally, interventional therapies and pharmacotherapy often do not provide complete symptomatic relief.
3. The utility of collaborations with behavioral and addiction medicine specialists optimizes care and advances models of patient treatment within a primary care patient-centered medical home.