

Chronic Pain: Challenges and Opportunities for Relieving Suffering

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This issue of the NCMJ addresses the problem of chronic pain in North Carolina; its diagnosis and management in primary and specialty care; and the need to balance efficacy and safety when prescribing opioid medications, as these drugs are associated with significant potential for misuse and abuse. The commentaries in this issue not only address the use of opioids for the management of chronic pain but also explore various alternatives, including medical marijuana, epidural and other injections, surgery, acupuncture, and other integrative therapies. Articles in this issue also describe the management of chronic pain in palliative care, the ways in which mental health affects pain, and the unintended consequences of chronic pain management. Finally, this issue describes several initiatives across the state that are addressing the epidemic of prescription drug abuse; these initiatives are effecting systematic changes in clinical practice to more effectively manage chronic pain, protect patients, and minimize the negative impact of prescription drug abuse on communities.

Chronic pain, which can persist for months or even years, negatively impacts a person's function and quality of life and can be difficult for clinicians to address. Although an ongoing inflammatory or degenerative process may initiate and/or perpetuate this condition, pain can persist long after an acute injury has healed or an inciting event has ended. Chronic pain is complex, may involve both central and peripheral neurological changes, and is influenced by the patient's psychosocial milieu, which can potentiate the persistent experience of pain [1]. One thing is certain: Patients with chronic pain are suffering. However, therapeutic approaches to alleviate that suffering may be poorly defined or only partially effective. Following the premise "first do no harm," a clinician often must weigh the risks of prescribing medications or performing an intervention, the utility of ordering diagnostic tests to evaluate something that is inherently subjective, and his or her duty to reduce suffering without being manipulated by patients.

Estimates regarding the prevalence of chronic pain in adults vary widely. Based in part on the work of Tsang and colleagues [2], an Institute of Medicine report titled *Relieving Pain in America* estimated that about 100 million adults in the United States experience chronic pain [1]. Extrapolating

from that figure to the adult population of North Carolina suggests that as many as 3.1 million adult North Carolinians may be affected by this problem. The costs of managing chronic pain are immense. Estimates suggest that the national cost of health care and lost productivity combined total between \$560 and \$635 billion [1].

Common treatment modalities for chronic pain include pharmacotherapy, interventional techniques, physical therapy, cognitive and behavioral therapies, and integrative approaches such as acupuncture and meditation. Rarely is a single therapeutic modality entirely effective. The best therapeutic approaches often involve multiple components and a team approach to pain management. The components of comprehensive pain management include an ongoing therapeutic relationship, continuity of care, and careful monitoring and adjustment of the treatment plan over time [3].

This issue of the NCMJ discusses the management of chronic pain with opioid and nonopioid therapies, the mental health implications of chronic pain, and the societal consequences of chronic pain, especially when opioids are used in a manner that is not consistent with the prescribed use.

Opioid Use, Diversion, and Overdose Deaths

Opioids are frequently prescribed for the management of chronic noncancer pain, despite the lack of evidence supporting their use for that indication. In their commentaries in this issue, both Roux [4] and Fedoriw [5] emphasize careful patient selection for opioid therapy and careful selection of an opioid in order to both reduce pain and improve function. In another commentary, Finch [6] outlines a strategy for assessing risk, establishing treatment agreements, monitoring and adapting treatment when necessary, and intervening when high-risk behaviors are observed. Fedoriw [5] also reminds us of the important role the primary care practitioner plays in the ongoing assessment of opioid therapy for chronic noncancer pain.

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Opioid diversion poses a particular challenge for clinicians as they try to appropriately manage pain. The sidebar by Varnell [7] describes how the problem of diversion has increased over the past few years. Going beyond “doctor shopping,” diversion now involves the outright theft of physicians’ Drug Enforcement Administration numbers and the creation of fraudulent prescriptions. These activities result in more than \$120,000 worth of controlled drugs being sold on the street each week [7].

Fortunately, prescribers have a powerful tool to assist them in the appropriate prescribing and monitoring of controlled substances. The North Carolina Controlled Substances Reporting System (NCCSRS) allows prescribers to query a database of outpatient prescriptions and use these data to inform treatment decisions. As Bronson explains in his commentary [8], the NCCSRS was established primarily as a clinical tool to help practitioners make more informed decisions regarding the prescription of controlled substances, but this database should also be used to identify individuals who abuse or misuse controlled substances, with the intention of referring them to appropriate treatment programs.

Unfortunately, deaths due to prescription opioids have reached epidemic levels over the past decade [9]. Medicaid patients represent a disproportionate number of overdose deaths in North Carolina [10]. Middle-aged white males who are receiving prescription opioids are at the highest risk of unintentional overdose [9, 11].

In a sidebar, Ford and Dulaney [12] share data from Carolinas Poison Center. Between 2011 and 2012, there were more than 6,000 calls to Carolinas Poison Center regarding prescription pain medications containing opioids. In the majority of cases, the patient underwent treatment in a health care facility; in 22% of those cases, treatment involved administration of naloxone, an opioid-receptor antagonist. Despite some limitations, naloxone continues to be an important life-saving intervention. Both the Centers for Disease Control and Prevention [13] and the American Medical Association [14] endorse community-based distribution of naloxone to be used in an emergency by anyone witnessing an overdose.

A number of important initiatives in North Carolina are addressing the epidemic of prescription opioid abuse and overdose. In their commentary in this issue, Lancaster and colleagues [15] describe the Chronic Pain Initiative (CPI) led by Community Care of North Carolina (CCNC). This statewide initiative is a comprehensive, community-based approach to addressing chronic pain and opioid misuse. The CPI grew from the Project Lazarus pilot program developed in Wilkes County, North Carolina [16]. Key elements of the Project Lazarus model include community activation and coalition building, monitoring and surveillance data, and the use of naloxone for high-risk patients [16].

The Wilkes County experience is impressive. In 2008 Wilkes County had the sixth-highest per-capita overdose

rate in the country. After Project Lazarus was initiated in Wilkes County, overdose deaths decreased by 69% between 2009 and 2011. In 2011 there were no deaths due to a prescription opioid obtained from a prescriber within Wilkes County [15]. The CPI uses the community engagement aspects of the Project Lazarus model and the expansive CCNC network for care management to change opioid prescribing practices and to set patient expectations.

CCNC has acknowledged the need for both community and professional education, and the Governor’s Institute on Substance Abuse has taken a leading role in educating medical practitioners about chronic pain management and safe opioid prescribing. In a sidebar, Finch and McEwen [17] describe the role the Governor’s Institute has played in the CPI. On a national level, the US Food and Drug Administration (FDA) has issued a mandate to the pharmaceutical industry to develop educational materials and to sponsor continuing education activities about opioid prescribing. In July 2012, the FDA approved a risk evaluation and mitigation strategy for extended-release and long-acting opioid medications [18].

In response to the opioid overdose epidemic in North Carolina, the North Carolina Medical Society (NCMS) created an Opioid Death Reduction Task Force to examine this public health crisis and to develop strategies to address it. In October 2012, the NCMS sponsored a forum that highlighted the work of Project Lazarus and the CPI and promoted enrollment of prescribers in the NCCSRS. North Carolina Attorney General Roy A. Cooper spoke at this forum and emphasized prevention strategies, including medication take-back events such as Operation Medicine Drop [19]. Although avoidance of accidental poisoning may not be the primary motivation for citizens to bring controlled substances to these community take-back events, the events can still be effective in removing unused prescription medications from households [20].

Nonopioid Therapies

Opioids are not the only pharmacologic treatment for chronic pain. In his commentary in this issue, Laguerre [21] examines how nonopioid medications such as nonsteroidal anti-inflammatory drugs, antidepressants, and anticonvulsants may be more effective than opioids for the treatment of certain pain conditions. In other cases, such drugs may have opioid-sparing effects. Since higher doses of opioids are associated with a higher risk of overdose, dose-reduction strategies such as the use of adjunct medications are important to consider [9]. As Blau points out in another commentary [22], interventional techniques such as joint injections and nerve blocks are another way of reducing the need for long-term opioid therapy, and they can also reduce treatment costs and improve function.

Patient selection is critically important not only for successful opioid therapy but also for surgical interventions, where proper patient selection is linked to reduced pain and

better functional outcomes. A commentary by Del Gaizo [23] emphasizes that, although hip and knee replacement surgery can greatly benefit patients, those who are using opioid medications long term before surgery have higher risks for complications, persistent pain, and dissatisfaction after joint replacement.

The use of less conventional treatments for chronic pain is also gaining attention. Medical marijuana has been approved for treatment of chronic pain in some states, although not in North Carolina. In a sidebar, Kondrad [24] reviews the evidence for marijuana's analgesic properties and evaluates the potential risks and benefits of its use for pain relief. A commentary by Coeytaux and Garland [25] explores the safety and effectiveness of acupuncture for the management of chronic pain, as well as the potential contribution of the placebo effect. This commentary reviews multiple studies whose findings suggest that acupuncture can benefit some patients with back and neck pain, headaches, shoulder pain, and osteoarthritis [25].

To broaden our perspective on the experience of chronic pain and its management, a commentary by Langlois [26] addresses chronic pain in the palliative care setting. A common misconception is that palliative care is limited to end-of-life care, but palliative care can also be life-affirming, and pain management is a key component of the palliative care approach. Palliative care uses a holistic and team-based approach to address total pain, which includes psychological, emotional, existential, and social factors. In another commentary, Lima [27] embraces the biopsychosocial model for the management of chronic pain and reminds us that pain is dramatically affected by a person's thoughts and moods. She illustrates a step-by-step cognitive behavioral therapy approach to chronic pain that involves education about pain, relaxation skills, increasing levels of behavioral activation, time-based pacing to reduce fear of movement, and sleep modification.

Models of Care

The Mountain Area Health Education Center (MAHEC) is developing a nurse practitioner-led model of care that manages patients in a coordinated, standardized way and can be implemented in a primary care practice. In a large practice, and particularly in a residency training program, getting all physicians and providers to perform all of the elements spelled out in a guideline can be difficult. Because primary care is so broad, it is hard to do all of the things that must be done for each chronic disease. Through the support of an innovations grant from the Centers for Medicare & Medicaid Services (CMS) [28], MAHEC is developing a chronic pain program that will employ a nurse practitioner as the primary care manager for patients with chronic pain. The nurse practitioner will share responsibility for the patient's care with the patient's primary care physician. Nurse practitioners are ideally suited to provide such care, given the nursing profession's holistic approach to care. The nurse practitioner

will ensure completion of all elements in the chronic pain program: conducting a pain-specific history and physical examination, screening for a history of substance abuse or risk factors for potential abuse, obtaining informed consent and a signed controlled-substance agreement, developing a self-management plan and goals for therapy, reviewing the NCCSRS database, and performing periodic urine drug screening. Patients will schedule appointments before they run out of medicine, which will allow for pill counts—something that has not generally been done in primary care. The goal is for patients to receive consistent care from their regular physician and avoid situations in which patients present to another provider with an urgent need for an opioid prescription, either because they have missed an appointment or because they have been taking too much medication.

In addition to employing nurse practitioners, MAHEC will expand the role of behavioral health specialists to help patients strengthen their coping strategies. Group visits will provide both education and support. Patients will learn the basic mechanisms of pain and therapeutic modalities during a mandatory introductory session. Patients will also learn how moods and mental state contribute to the pain experience. Pharmacotherapists will review the benefits and risks of medications, especially opioids. A series of educational sessions will incorporate the expertise of community providers and will illustrate how physical therapy, occupational therapy, relaxation, yoga, Pilates, and acupuncture can reduce pain. The goal is for patients to engage in the behavioral management of their pain.

Once this model is established, it will be disseminated across the region with support from the CMS innovations grant. The ultimate goal of the project is to prevent visits to the emergency department for inadequately treated pain or for drug abuse. Pill counts, drug screening, and review of the NCCSRS database will reduce diversion and abuse of medications. Further benefits will ideally include improved pain scores and heightened self-efficacy scores.

Conclusion

Successfully managing chronic pain is a challenge for providers, health care systems, and communities. Community engagement, provider education, and an interdisciplinary approach to care are key elements of successful chronic disease management programs, and they should be applied to the management of chronic pain. There are several initiatives in North Carolina that are not only educating patients and providers but also developing tools to facilitate implementation of practice changes that meet the needs of chronic pain patients while minimizing the risks of diversion, abuse, and overdose. NCMJ

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