

Physiatry, Pain Management, and the Opioid Crisis

A Focus on Function

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- Nonpharmacological interventions for pain, a focus of physiatric care, should be encouraged to reduce the overreliance on opioids.
- The out-of-pocket costs for nonpharmacologic pain management interventions should be reduced to improve access to care and to encourage these modalities over prescription medications.
- Research involving opioids should use instruments and tools that measure patient function, as well as pain.
- Research on pain management should include a strong focus on nonpharmacologic interventions.
- An expansion in physiatric residency positions is essential, as part of any package aimed at targeted growth in graduate medical education to address the opioid crisis.

OPIOIDS, A CAUSE FOR CONCERN

The epidemiology of chronic pain and chronic disability is closely matched. Chronic pain affects millions of people worldwide, with a prevalence of approximately 11.2% of the United States (US) adult population based on recent Centers for Disease Control and Prevention data.¹ The Institute of Medicine/National Academy of Medicine estimated that chronic pain conditions in the US cost US \$560–\$635 billion in direct medical treatment costs and lost productivity in 2011.^{2,3} Chronic disability

affects a similar percentage of Americans: Approximately 8.6% of the US population under age 65 were affected by a disability when assessed in 2012–2016 by the US Census Bureau. The incidence of disability increases with age, with 15.2% of those age 65 and older affected by disability based on 2016 data.⁴ Not surprisingly, pain is the number one cause of disability. Low back pain, other musculoskeletal conditions, and neck pain were ranked the first, third, and fourth causes of years lived with disability based on data from the US Burden of Disease Collaborators in 2010.³ According to a report by the National Institutes of Health in 2014, the US Social Security Disability Insurance program recently expanded to include a greater number of individuals with musculoskeletal conditions, with musculoskeletal conditions such as back pain comprising the most common Social Security Disability Insurance–qualifying diagnoses.⁵

Opioid use and misuse in the acute pain setting, often related to trauma, illness, surgery, or injury, are an equal public health concern. Acute pain, coupled with psychosocial and other factors, is a major risk for the development of chronic pain.^{6–10} Opioid use in the acute pain setting is associated with a greater likelihood of long-term opioid use.^{9–11} Use of opioids within 7 days of minor surgery is associated with increased risk of ongoing opioid use 1 yr later.¹¹ Early opioid exposure for patients with acute low back pain has been shown to be predictive of multiprescription opioid use 30–730 days later.¹² Higher dose of early opioid exposure is predictive of higher long-term opioid dose.¹² Judicious, limited use of opioids when indicated, along with effective nonopioid and opioid-minimizing strategies for the treatment of acute pain, is therefore essential for patient safety and to properly address the opioid crisis.

There is no high level of evidence to suggest that chronic opioid therapy promotes functional improvements or decreases pain in long term in individuals with chronic noncancer pain.⁴ Several studies that have evaluated the use of opioids for chronic pain show worsened pain and functioning.^{13,14} Despite this, opioid use and abuse have escalated since the 1990s, with the number of opioid overdoses tripling in the US between 2000 and 2015.¹⁵ Drug overdose, driven by opioid addiction, is now the leading cause of accidental death in the US. There were 52,404 lethal drug overdoses in 2015 and more than 100,000 direct and indirect prescription opioid deaths in the

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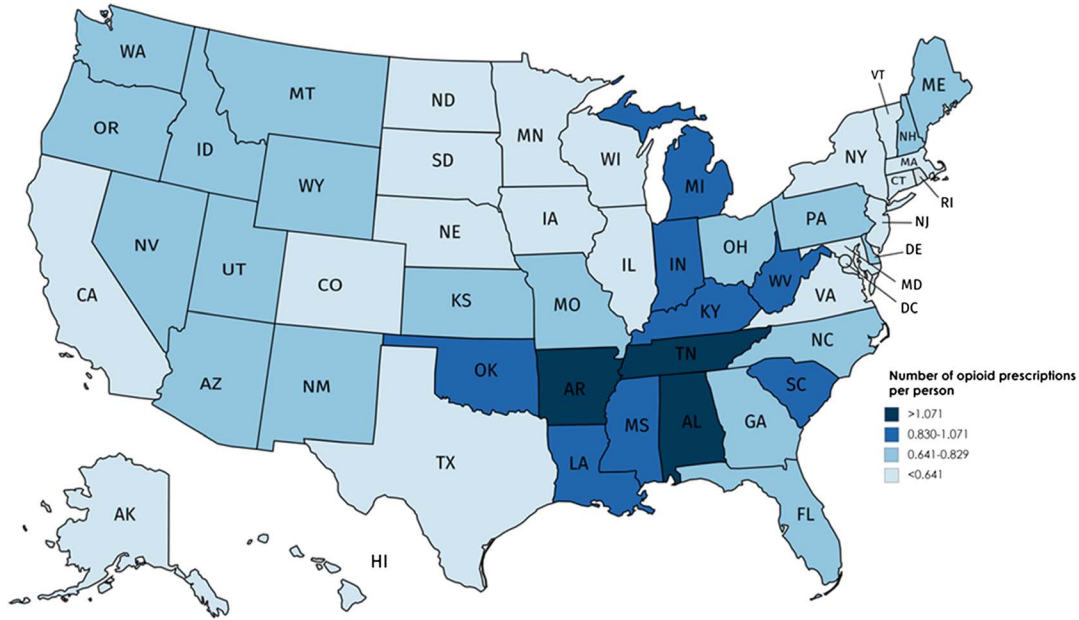


FIGURE 1. Number of opioid prescriptions per group of 100 individuals, stratified by state.¹⁹ Available at: <https://www.cdc.gov/drugoverdose/maps/rxrate-maps.html>, 2017.

US between 1999 and 2010.¹⁶ Deaths from prescribed opioid pain relievers, a class of drugs including oxycodone, methadone, hydrocodone, and others, exceed deaths from cocaine and heroin combined,¹⁷ as well as from firearms and from motor vehicle accidents.¹⁸ Even with a national focus on responsible opioid prescribing, opioid prescribing rates continue to remain very high in many areas of the country. In 2016, in approximately a quarter of US counties, enough opioid prescriptions were dispensed for every person in the country to have one.¹⁹ Opioid overutilization and opioid-related morbidity/mortality vary by state (Fig. 1).¹⁹ An overlay with state disability

epidemiology (Fig. 2) highlights the opportunity for a national strategic redirection of patients on opioid therapy.²⁰ Many of these patients have conditions that would be better addressed with nonpharmacologic care.

PHYSIATRY, PHYSICIANS OF RECOVERY

Physiatrists are physicians who specialize in the care of individuals with functional deficits due to pain, disability, injury, and illness. Physiatric management focuses on the restoration of patient function and on safe, responsible, and holistic

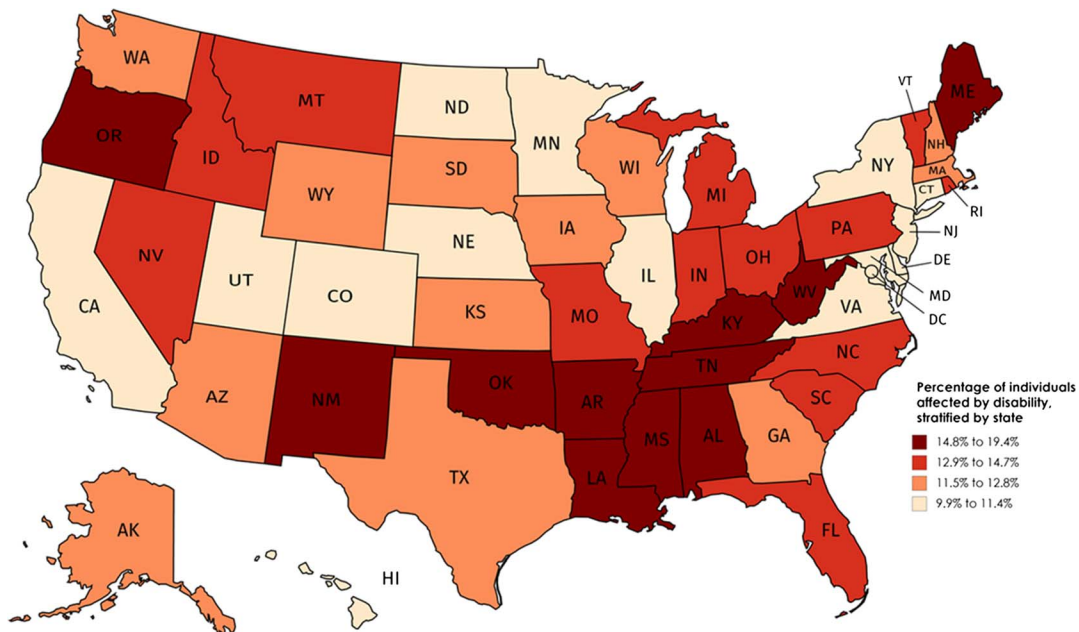


FIGURE 2. Percentage of individuals affected by disability, stratified by state.²⁰ Available at: https://disabilitycompendium.org/sites/default/files/user-uploads/2016_AnnualReport.pdf, 2017.

nonopioid strategies for pain treatment. Pain medicine is a common fellowship track for physiatrists, with increasing numbers of trainees choosing this subspecialty.¹⁶

Physiatrists are trained in the recognition and responsible treatment of painful musculoskeletal and neurological conditions. In addition, physiatrists have long known that the treatment of chronic pain should not be focused on pain reduction alone and must include a rehabilitation plan to improve function and quality of life while reducing exposure to harmful treatments such as opioids. Physiatrists are uniquely trained to lead and support a team of providers from many specialties. An integrated team can improve outcomes for patients with complex chronic pain—including pain that is often complicated by opioid misuse.²¹

Physiatrists are trained to provide optimal care for individuals with complex pain and disability. Physiatrists are taught effective diagnosis, assessment, and management of acute and chronic pain conditions including the use of medications, therapeutic and diagnostic injections, and psychological and vocational counseling.²² This includes understanding the etiology and clinical presentation of pain syndromes; demonstrating effective chronic opioid and nonopioid medication management (including management of addiction, tolerance, physical dependence, surveillance, drug testing); and serving as an expert resource in the multidisciplinary management of complex pain disorders.²³

Collaboration with other medical providers in opioid addiction management is paramount, especially when patients with addiction have persistent chronic pain. Physiatric care is often administered in a multidisciplinary team setting that promotes quality of life and functional restoration.

Physiatrists receive explicit training in appropriate opioid medication management and are a resource for primary care physicians, surgeons, and other medical specialists to prescribe opioid pain medications when appropriate.^{3,18,24} Physiatrists are trained in the management of exercise, nonopioid analgesic medications, use of procedural treatments for pain, and recognition of conditions requiring surgery.

Physiatrists function in a critical “midfield” role in health care, directing and redirecting the flow of patients between often costly surgical interventions and preventive primary care.²⁴ In this key role, physiatrists have a holistic perspective on pain management, coordinate the entire healthcare team from their midfield location, and possess a unique set of diagnostic skills, technical skills, and the judgment required to redirect the flow of patient care. Physiatrists collaborate with other healthcare providers along the entire spectrum of pain care. This includes collaborative management with primary care, surgical, and emergency medicine providers in the acute pain setting; with primary care, surgical, and specialty care providers, along with rehabilitation therapists and pain psychologists in the chronic pain setting; and with both primary care and addiction medicine specialists when patients with persistent chronic pain require opioid-minimizing and opioid-sparing treatments in the setting of opioid misuse.

Primary care medicine is often focused on health maintenance, efficiency, and population health, and primary care providers often have little direct training in musculoskeletal and pain medicine.²⁵ Physiatrists, with their specialized training in pain management and in the diagnosis and treatment of musculoskeletal conditions, can function as a complement to

primary care. Furthermore, when physiatrists are partnered with emergency medicine providers to manage back pain, there are 80% fewer “bounce back” cases (patients who returned to the emergency department within 30 days), with increased detection of dangerous disease and more appropriate medication use.²⁶ When a physiatric consultation is provided before elective spine surgery, there are 30% fewer back surgeries with a substantial drop in overall cost and without disruption in patient satisfaction.²⁷

Physiatrists are particularly skilled at identifying painful conditions early through expert physical examination, electrodiagnosis, and diagnostic testing. Physiatrists have the opportunity to provide care for patients shortly after injury and surgery and are trained in implementing effective acute pain management strategies. Physiatrists also evaluate and treat the psychosocial factors that contribute to chronic pain. The incorporation of physiatrists early in the treatment of acute and subacute pain and supporting them in the treatment of chronic pain is essential to address the opioid crisis.

THE IMPORTANCE OF AND LACK OF ACCESS TO NONOPIOID TREATMENTS FOR PAIN

The opioid crisis in the US can be attributed in part to the overtreatment of acute and chronic painful conditions with opioid medications.^{28,29} Pain treatment should be redirected to emphasize the nonopioid and nonpharmacologic interventions that physiatrists employ, minimizing the social and economic impact of addiction and opioid-related morbidity and mortality.³⁰ Examples of nonpharmacologic interventions include heat, cold, acupuncture, manual treatment, durable medical equipment, braces, nerve blocks/ablation, spinal injections, spinal cord stimulation, exercise and movement, and behavioral treatments to emphasize the activities that improve function and quality of life. Nonpharmacological strategies often work best when employed synergistically, as part of a multifaceted plan of pain care, although more research to guide these treatment combinations is needed.

A major limitation to the use of nonopioid, nonpharmacological pain treatment strategies is lack of access. For example, despite the cost of chronic disability and the threat of the opioid crisis, patients typically have access to 20 to 36 physical therapy sessions per year, with copayments between US \$10 and \$50 per session.^{31,32} Uninsured individuals are charged US \$50–\$350 per therapy session.^{31,32} The high cost and limited access result in underutilization of physical therapy by Americans, despite its potential to reduce chronic pain, improve function, improve the chance of return to work, and decrease patient reliance on habit-forming pain medications.³³ The negative cost consequence of inappropriate pain management should drive payment reform and enhanced access to appropriate treatments. Physiatrists can function to improve the utilization of exercise therapies while these policy changes are underway; physiatrists can diagnose the primary pain generators and provide targeted therapy prescriptions and home exercise programs that address patients' musculoskeletal ailments.

Furthermore, physiatrists are leaders in pain rehabilitation programs for complex and disabling chronic pain. These programs are intensive, often requiring 70 hrs or more of physical therapy, occupational therapy, pain psychology, physician

visits, and exercise to show successful outcomes. These intensive pain rehabilitation programs have led to years and even decades of improvement in physical activity, decreased opioid use, improved mood, and decreased costs to health systems.³⁴ Pain rehabilitation programs were financially challenged when low-cost opioid management became alluring. The false promise of large-scale opioid treatment for chronic and disabling pain is manifest, and the lack of access to pain rehabilitation programs for Americans is disheartening. Physiatrists are the most qualified professionals to lead patients to successful outcomes within these programs.

THE FUTURE OF PAIN TREATMENT AND THE IMPORTANCE OF RESEARCH AND EDUCATION

Enhanced funding of pain research is of immense national interest and should be driven by the need for safer and more effective pain treatments. The National Institutes of Health, which funds most of the basic biomedical research in the US, spent less than 2% of their annual \$30-plus-billion budget on pain research before 2018 despite the fact that approximately one in ten Americans lives with chronic pain and pain is the leading cause of disability in the US.^{1,35} The National Institutes of Health received US \$37 billion in fiscal year 2018 with opioid research targeted to receive a boost of US \$500 million; opioid activity-related funding is earmarked to focus on addiction and nonopioid pain treatments. This research should focus on rehabilitation strategies, psychosocial needs, physical activity, and interventional procedures, all of which provide nonopioid options and may help reduce opioid use, improve function, and permit continued participation in society.

All clinical pain research should report function as the most important outcome of any treatment or intervention studied. Pain research should evaluate outcomes over extended periods. Receiving two or more opioid prescriptions after an acute back sprain is associated with a doubling of the patient's risk for long-term disability.^{31,36} Hence, even pain research in acute pain should include long-term patient follow-up and attention to function, impairment, and disability. Research should be framed by reformed health care delivery models that provide longitudinal access to appropriate multimodal care that is not anchored by opioids. Pain research efforts should target community strategies to educate the public on the safety profile of opioids and on the value of nonopioid approaches for treating pain.

Ultimately, providers are responsible for safe opioid prescribing and must be competent in opioid-sparing pain management. Medical education at all levels should expose trainees to the challenges that accompany the treatment of acute and chronic pain and incorporate the best evidence in a model that emphasizes rehabilitation. Medical education must incorporate evidence-based approaches to the judicious use of opioids and concurrent nonopioid therapies, along with training in physical medicine as well as in addiction medicine and in opioid weaning techniques. Training in physiatry is an excellent fit for these needs: The Accreditation Council for Graduate Medical Education requires that physiatrists entering into practice be well trained in the diagnosis, assessment, and management of patients with both acute and chronic pain conditions and effectively use medications,

therapeutic and diagnostic injections, and psychological counseling in the treatment of these conditions.²² With bipartisan support for the proposed Opioid Workforce Act of 2018, the country is hopeful for an expansion in graduate medical education, by 1000 additional Medicare-supported residency positions to teaching hospitals. This provides a nationally targeted investment in a workforce that is competent in the management of acute and chronic pain. Growth in physiatry must be a part of this targeted investment. Physiatrists are an essential and unique resource in this public health crisis; although most health care providers focus on pain reduction, physiatrists collaborate with patients to work toward improvement of function and quality of life. This deep-rooted approach prioritizes physical modalities and exercise, the importance of alternatives to opioids, plus holistic care with attention to the psychological and social aspects of pain. There is no other field of medicine where providers master the assessment and treatment of both pain and function. It is therefore crucial that any upcoming expansion in graduate medical education, targeted to the opioid crisis, include deliberate growth in psychiatric residency positions.

CONCLUSIONS

The opioid crisis is complex but driven in large part by the excessive prescription of opioid medication for both acute and chronic pain. Physiatrists are aware of the limitations of opioid treatment for acute pain as well as for chronic pain and disability, wary of the dangers of chronic opioid use, and experts in identifying effective nonopioid strategies for painful conditions. In addition, physiatrists are aware of the danger posed by viewing pain reduction as the primary end point in pain management. Physiatrists have unique experience setting appropriate expectations and incorporating an emphasis on function and quality of life rather than pain reduction in isolation when treating individuals with acute and chronic pain. Physiatrists are facilitators for primary care providers and surgical practices to integrate care for the benefit of patients with pain conditions, improve quality of care, and minimize the harm that is caused by opioid medications. Physiatrists are experts in the treatment of complex pain and disability using intensive rehabilitation strategies. However, these effective nonopioid treatments can be difficult for patients to access because of the burden of medical costs caused by current policies. Furthermore, if pain research does not include an enhanced focus on functional outcomes and if graduate medical education expansions aimed at the opioid crisis do not include a strong psychiatric contribution, our nation's ability to address the opioid crisis will be jeopardized. We must support rehabilitation-based nonopioid treatments for acute and chronic pain, non-pharmacologic and nonopioid pain research that measures patient function, and a deliberate expansion in psychiatric residency positions to provision the right resources to meet the nation's healthcare needs.

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