2021

An Examination of the Research Related to American Physicians' Prescription of Opioid Analgesics Before and After the Joint Commission Pain Standards for 2001

Valory Anne S. Vailoces
University of Central Florida

AN EXAMINATION OF THE RESEARCH RELATED TO AMERICAN PHYSICIANS' PRESCRIPTION OF OPIOID ANALGESICS BEFORE AND AFTER *THE JOINT COMMISSION PAIN STANDARDS FOR 2001*

by

VALORY ANNE S. VAILOCES
University of Central Florida, 2021

A thesis submitted in partial fulfillment of the requirements
for the Honors Undergraduate Thesis in Health Management & Informatics
in the College of Community Innovation & Education
and in the Burnett Honors College
at the University of Central Florida
Orlando, Florida

Spring Term
2021

ABSTRACT

The purpose of this thesis was to explore the literature regarding physicians' prescriptions of opioid analgesics before and after *The Joint Commission Pain Standards for 2001*. Opioids are a last resort treatment for chronic pain due to their high potential for tolerance, dependency, and misuse. The establishment of *The Joint Commission Pain Standards for 2001* was the culmination of several movements to address the underassessment and undertreatment of pain. *The Joint Commission Pain Standards for 2001* focused on improving pain assessment, management, and treatment through a systematic approach. The Joint Commission (TJC), formerly the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), is the largest accrediting body for healthcare organizations in the United States and affects thousands of medical care facilities and physicians. Although many physicians were hesitant to prescribe opioids due to addiction concerns, opioid prescriptions rose due to pressures to meet the TJC's accreditation requirements and maintain patient satisfaction. Pain management seemed to improve for a short period before adverse reactions and unintended consequences emerged. Confusing language within the *TJC Pain Standards for 2001* and its supplemental materials and misleading information from researchers and pharmaceutical companies led to unnecessary pain measurement, problematic pain treatment algorithms, and excessive opioid analgesic use. As patient safety concerns emerged, the TJC continuously amended the *TJC Pain Standards for 2001*. They were revised in 2017 as the opioid epidemic became a national public health emergency. The TJC has since called for better evaluation of research validity, more vigilant examination for conflicts of interest, and more detailed instructions on interpreting and implementing future standards. The medical community, pharmaceutical industry, government, and the public need to coordinate future strategies to combat the opioid epidemic.

TABLE OF CONTENTS

LIST OF ABBREVIATIONS

Abuse-deterrent opioid formulations (ADFs)

Centers for Disease Control and Prevention (CDC)

The Drug Addiction Treatment Act of 2000 (DATA 2000)

Dopamine (DA)

Drug Enforcement Agency (DEA)

Food and Drug Administration (FDA)

Gamma aminobutyric acid (GABA)

Health and Safety Code (HSC)

Journal of the American Medical Association (JAMA)

Joint Commission on Accreditation of Healthcare Organizations (JCAHO)

Morphine milligram equivalents (MME)

N-methyl-D-aspartate (NMDA)

Nucleus accumbens (NAc)

Opioid use disorders (OUD)

Prescription Drug Monitoring Program (PDMP)

Primary care physicians (PCPs)

Risk Evaluation and Mitigation Strategies (REMS)

The Joint Commission (TJC)

Ventral tegmental area (VTA)

INTRODUCTION

The United States Government declared the opioid epidemic a public health emergency in 2017 (Jones et al., 2018). The crisis culminated from well-intentioned but ill-fated decisions by physicians, medical associations, governmental agencies, and the pharmaceutical industry (Jones et al., 2018). In 2018, 128 Americans died each day from an opioid overdose (Centers for Disease Control and Prevention, 2018a). Amongst overdose deaths, commonly prescribed opioids were the second leading cause of death (Centers for Disease Control and Prevention, 2018a). Since 1991, opioid prescriptions dispensed by U.S. retail pharmacies have increased from 76 million to a peak of 219 million in 2011 (Wolkow, 2014). When considering healthcare costs, lost productivity, addiction treatment, and criminal justice involvement, the "economic burden" of prescription opioid misuse is approximated to be $78.5 billion per year (Florence et al., 2016). Clearly, prescription opioid misuse is a growing public health concern.

According to a study conducted by Cicero et al. (2017), 47.1% of patients entering one of 125 drug treatment programs in the United States were first exposed to opioids through a prescription. Prescription opioids are used as pain-killers. Treating pain poses a unique challenge for healthcare providers due to the wide range of presentation and subjective interpretation (Task Force on Taxonomy of the International Association for the Study of Pain, 1994). Strategies to prevent under- and over-prescription by physicians require continuous revision to address patient needs. Investigating the roles and consequences of health care policy and physician practices is essential to identifying evidence-based approaches to manage pain.

The TJC is the largest accreditation organization of healthcare facilities in the United States (The Joint Commission, 2020a). Consequently, their guidelines affect thousands of healthcare

facilities and physicians (The Joint Commission, 2020a). The rise of prescription opioid use predated and persisted after implementing *The Joint Commission Pain Standards for 2001* (Baker, 2017a; Joint Commission on Accreditation of Healthcare Organizations, 2001). It is difficult to isolate the independent effects of *The Joint Commission Pain Standards for 2001* and its related educational materials due to concurrent movements advocating for increased opioid use for pain (Baker, 2017a). This thesis aims to evaluate the literature about American physicians' prescriptions of opioid analgesics before and after *The Joint Commission Pain Standards for 2001*. While The Joint Commission (TJC) published its personal reflections of the *TJC Pain Standards for 2001* in 2017 (Baker, 2017a, 2017b), further investigation by an outside perspective is warranted to create a comprehensive picture of the effects of the *TJC Pain Standards for 2001*. To combat the modern opioid epidemic, one must learn from history which endeavors were not only successful, but those that fell short of their goals.

METHODOLOGY FOR LITERATURE REVIEW AND ETHICAL CONSIDERATIONS

The PubMed and Google Scholar databases and the Google search engine were accessed to examine the literature on opioid analgesic prescriptions by American physicians. Keywords included opioids, analgesics, chronic pain, pain management, opioid crisis, Joint Commission, and prescription. Source types were limited to peer-reviewed books, journals, and online publications from government agencies' official websites and reputable medical organizations. Medical, pharmacology, and law journals were all reviewed to address the interdisciplinary nature of opioid prescription misuse. Types of studies referenced include literature reviews, systematic reviews, retrospective and prospective studies, case studies, cohort studies, and surveys. The articles were all published in English and focused on the United States. Publications in journals primarily focused on healthcare outside the United States were only included if the article's primary subject matter pertained to the United States.

Articles published between 1950 and 2020 were included in the review. Given that the TJC published *TJC Pain Standards for 2001* in 2001, one needs to understand the use of opioid analgesics and the prevailing attitudes toward them in the decades leading up to their release. The end of the evaluated period is 2020 because TJC's Vice President David W. Baker published his own reflections on the *TJC Pain Standards for 2001* in 2017. To understand how other organizations viewed the TJC's actions and how they responded to the opioid epidemic, one needs to look at the years following 2017.

Publications solely discussing the use of illicit opioids were excluded. Publications about opioid use outside the United States were not considered. Websites of non-reputable medical organizations and government agencies were not utilized. Sources were evaluated for bias based on

funding sources and author affiliations. Any concerning biases are addressed within this thesis. There are no ethical considerations to be considered.

BACKGROUND

Opioids

The cultivation of the opium poppy can be traced back to the 3400 BC Mesopotamians (Trescot et al., 2008). The poppy has seeds that contain opium, a mixture of alkaloids (Trescot et al., 2008). Naturally occurring alkaloids (e.g., morphine or codeine) are called "opiates"; the term "opioid" is a broader definition that encompasses all compounds that act on opioid receptors in the brain (Trescot et al., 2008). The Mayo Clinic describes opioid medications as "synthetic cousins of opium and the drugs derived from opium, such as heroin and morphine" (Mayo Clinic Staff, 2018). Legal opioid pain killers include oxycodone (Oxycontin), hydrocodone (Vicodin), codeine, morphine, and others. Common names include Happy Pills, OC, Oxy, Oxycotton, Percs, and Vikes (National Institute on Drug Abuse, n.d.).

The classic example of opioids is morphine, which is composed of a benzene ring with a phenolic hydroxyl group and an alcohol hydroxyl group at the nitrogen atom (Trescot et al., 2008). Other opioids follow this archetypal structure, but with different substituents at the hydroxyl groups (e.g., codeine is an O-methylated morphine, heroin is an O-acetylated morphine) (Trescot et al., 2008). Morphine is an analgesic (pain-killer) in its tertiary nitrogen and levorotatory form (Trescot et al., 2008). Alterations to its structure, such as a quaternary nitrogen or an altered methyl group on the nitrogen, will lead to decreased analgesia, the formation of opioid antagonists, or both (e.g., nalorphine) (Trescot et al., 2008).

Opioid receptors are distributed between the central nervous system and peripheral tissues and are "stimulated by endogenous peptides (endorphins, enkephalins, and dynorphins) produced in response to noxious stimulation" (Trescot et al., 2008, p. S134). Like natural opium, opioids act as endorphin agonists and dull nociception (Mayo Clinic Staff, 2018). Opioids act through the G protein-coupled receptor pathway and have complex interactions with the three opioid receptor types: mu, delta, and kappa (Inturrisi & Jamison, 2002; Zöllner & Stein, 2007). Two other vital receptors related to opioids are the presynaptic receptors on gamma-aminobutyric acid (GABA) neurons and N-methyl-D-aspartate (NMDA) receptors (Trescot et al., 2008). Opioids and endogenous opioids activate presynaptic receptors on GABA neurons and inhibit GABA release, allowing for rapid firing of dopaminergic neurons (Trescot et al., 2008). The increased dopamine produces a pleasurable sensation in the brain (Trescot et al., 2008). The antagonistic activity of opioids on NMDA receptors induces the activation of the descending serotonin and noradrenaline pain pathways (Trescot et al., 2008). The stimulation of such receptors could cause neuropathic pain and tolerance development (Meldrum, 2003b). Differing affinity for the various receptors may cause opioids' diverse effects (Trescot et al., 2008).

The addictive nature of opioids is rooted in its activation of the brain's mesolimbic (midbrain) reward system (Kosten & George, 2002). This system produces signals that stimulate the ventral tegmental area (VTA) to release dopamine (DA) in the nucleus accumbens (NAc), generating a sense of pleasure (Kosten & George, 2002). As a result, other areas of the brain form "conditioned associations" between "these good feelings with the circumstances and environment in which they occur" (Kosten & George, 2002, p. 14). Those with substance use disorder can develop drug cravings due to conditioned associations upon reencounters with the corresponding stimuli, triggering drug-seeking behavior regardless of the barriers (Kosten & George, 2002).

Opioids are categorized by the Drug Enforcement Agency (DEA) into schedules I, II, III, IV, and V depending on misuse/addiction potential and medical usability (Trescot et al., 2008). The Schedules are as follows: I (no medical use; high addiction potential), II (medical use; high addiction potential), III (medical use; moderate addiction potential), IV (medical use; low misuse potential), and V (medical use, low misuse potential) (Trescot et al., 2008). This paper's schedules of interest are II, III, IV, and V because of their use in medicine. Within opioid schedules, there are additional medical opioid classifications such as opioid agonists, mixed agonist-antagonists, stimulants, hallucinogens/other, and sedative-hypnotics; these classifications can vary by state (Trescot et al., 2008).

Opioids can be used for both acute and chronic pain (Mayo Clinic Staff, 2018). Although effective, opioids require careful management because they currently cause the most prescription drug-related overdose deaths in the United States (Mayo Clinic Staff, 2018). Acute pain patients often use the lowest possible dose of opioid analgesics for a few days (Mayo Clinic Staff, 2018). Long-time users of opioids risk experiencing drug tolerance that leads to dependence, addiction, or fatal overdose (Mayo Clinic Staff, 2018). The feelings of euphoria and pain relief can lead to misuse, meaning "taken in a different way or a larger quantity than prescribed, or taken without a [physician's] prescription" (National Institute on Drug Abuse, n.d.). The risk of misuse makes opioids the last choice for cancer-related and, sometimes, non-cancer, chronic pain management (Mayo Clinic Staff, 2018; National Institute on Drug Abuse, n.d.).

Pain

Pain is "an unpleasant sensation localized to a part of the body… described in terms of a penetrating or tissue-destructive process (e.g., stabbing, burning, twisting, tearing, and squeezing) and/or of a bodily or emotional reaction (e.g., terrifying, nauseating, and sickening)" (Fields & Martin, 2005, pp. 71–76). The sensation of pain involves the central nervous system, cognition, and emotions (Task Force on Taxonomy of the International Association for the Study of Pain, 1994).

Pain can be classified as acute or chronic, depending on its duration. Acute pain typically occurs following surgery, trauma, or labor and persists for no longer than six months (Cleveland Clinic, 2017; Vadivelu et al., 2014). The cause of acute pain is specific, and when the underlying cause is eliminated, the patient no longer experiences pain (Cleveland Clinic, 2017). Chronic pain is "pain that persists past normal healing time" (Bonica & Hoffman, 1954; Treede et al., 2015, p. 1003) typically for more than 3 to 6 months, although the original injury or illness has been resolved (Bonica & Hoffman, 1954; Cleveland Clinic, 2017; Treede et al., 2015). The condition afflicts approximately 20% of people globally and accounts for 15% to 20% of physician visits (Breivik et al., 2006; Goldberg & McGee, 2011; Gureje et al., 2008; Simon, 2012). Common causes of chronic pain include arthritis in joints, frequent migraines, improperly treated or healed surgical and muscular pain, shingles, and phantom limb pain (American Society of Anesthesiologists, 2020).

Pharmacological treatment options for pain include nonsteroidal anti-inflammatory (NSAIDs), acetaminophen, COX-2 inhibitors, antidepressants, anticonvulsants/antiepileptic medications, and opioids (Mayo Clinic Staff, 2018). Some treatment options can be purchased over the counter, while others require a physician's prescription. A primary care physician can diagnose and treat pain and refer patients to physician pain specialists (National Institute on Aging, 2018).

Physician pain specialists complete four years of medical school, complete residencies in specialties such as anesthesiology, physical medicine and rehabilitation, psychiatry, or neurology, followed by a year-long fellowship in clinical pain (American Society of Anesthesiologists, 2020).

The Joint Commission (TJC)

Formerly known as The Joint Commission on Accreditation of Healthcare Organizations (JCAHO), TJC is an independent, not-for-profit organization that is the "nation's oldest and largest standards-setting and accrediting body in healthcare" (The Joint Commission, 2020a). Since 1951, TJC has been responsible for the accreditation and certification of healthcare organizations and programs within the United States (The Joint Commission, 2020a). Over 22,000 healthcare organizations and programs strive to obtain TJC's "Gold Seal of Approval" by passing an on-site survey by a TJC survey team every two to three years (The Joint Commission, 2020a). The 21-member TJC Board of Commissions comprises "physicians, administrators, nurses, employers, quality experts, a consumer advocate and educators" (The Joint Commission, 2020a).

Many healthcare organizations can achieve TJC accreditation, including "hospitals, doctor's offices, nursing homes, office-based surgery centers, behavioral health treatment facilities, and providers of home care services" (The Joint Commission, n.d.-b). Healthcare organizations seek TJC's accreditation for several reasons: improve patient safety, boost the community's confidence in the organization's capabilities, marketing advantage, better risk management and decreased liability insurance costs, access to educational services and professional counsel, attract and develop qualified staff, qualifying for Medicare and Medicaid certification, recognition by insurers and other third

parties, fulfilling legislative requirements, strengthen performance, and the approval of one the most respected bodies in healthcare (The Joint Commission, 2020b).

PHYSICIAN OPIOID PRESCRIPTION PRACTICES BEFORE 2001

Before the 19th century, pain was considered primarily a consequence of aging (Meldrum, 2003b). Lack of regulation of cocaine and opioids translated to its ubiquitous use as an analgesic for a wide variety of ailments, ranging from diarrhea to toothache (Clarke et al., 2016). Increases in street heroin abuse and iatrogenic morphine dependence resulted in the Harrison Narcotic Control Act of 1914 and a newfound hesitation for prescription opioids by both patients and physicians (Meldrum, 2003a). In the 1920s, those suffering from unexplained pain were stigmatized as deluded or abusers (Schiffrin, 1956). The prevailing "opiophobia" in the United States is evident in studies such as that of Morgan in 1985, which observed that "physicians markedly undertreat severe pain based on an irrational and undocumented fear that appropriate use will lead patients to become addicts" (Morgan, 1985, p. 163).

The tide began to shift as more medical professionals sought to address pain under-treatment (Jones et al., 2018). In 1973, Marks and Sachar suggested that misconceptions of opioid pharmacology and addiction amongst physicians contributed to the undertreatment of patients in severe pain due to the underreliance on opioid analgesics (Marks & Sachar, 1973).

Twenty years later, Dr. Mitchell Max, the President of the American Pain Society, published his own paper (Max, 1990) which specifically criticized the stagnation in improvement for pain assessment and treatment over the previous 20 years; the prevailing recommendations and protocols by the U.S. Agency for Health Care Policy and Research, the American Pain Society, and World Health Organization (WHO) were modest efforts, but still required improvement (American Pain Society, 1990; World Health Organization, 1986). Max outlined several recommendations to address the shortcomings of existing pain management guidelines:

- "Make pain 'visible.'
- Give practitioners 'bedside' tools for change to guide physicians and nurses to initiate and modify analgesic treatments.
- Assure patient a place in the 'communications loop.'
- Increase clinician accountability by developing 'quality assurance guidelines,' improving care systems, and assessing patient satisfaction.
- Facilitate innovation and exchange of ideas.
- Work with narcotics control authorities to encourage therapeutic opiate use" (Baker, 2017a, p. 3).

Max praised movements such as the Wisconsin Controlled Substances Board's Cancer Pain Initiative that resulted in a "tenfold increase in morphine prescribing over a 12-year period" (Baker, 2017a, p. 3; Joranson & Engber, 1986).

At the time of Max's publication, the scientific community's conventional wisdom was that "therapeutic use of opiate analgesics rarely results in addiction" (Max, 1990), a claim primarily substantiated by two retrospective publications from the 1980s (Jones et al., 2018). The 1980 Porter and Jick publication, a brief letter to the editor, claimed low addiction rates for inpatients receiving opioids for acute pain while failing to reveal their methodology (Porter & Jick, 1980). The second retrospective review, a study of 38 patients with non-malignant pain treated with various opioids, reported that pain "management became a problem in only [two] patients, both with a history of drug [misuse]" (Portenoy & Foley, 1986, p. 171). Based on the analysis of the aforementioned studies, Jones et al. believe that "the scientific background for the use of opioids for non-malignant pain was therefore not based upon any demonstrable outcomes or safety studies" (2018, p. 15). Opioids soon grew in popularity for the treatment of chronic non-cancer pain (Stein, 1997).

In 1986, the World Health Organization's Cancer Pain Monograph sparked interest in improving treatment for postoperative and cancer pain (World Health Organization, 1986). The focus on cancer pain made researchers wonder why opioids were not utilized more for chronic pain

states (Melzack, 1990). The conflation between malignant and non-malignant pain led to misconceptions about their etiological differences (Portenoy & Foley, 1986).

Several factors contributed to inadequate pain management: patients not informing their healthcare team about their pain, nurses not being able to adjust doses, and hesitancy amongst physicians to prescribe opioids (Baker, 2017a). In the late twentieth century, a movement grew to assess pain as the "fifth vital sign" and garnered support from institutions such as the Department of Veteran Affairs (Pruitt et al., 2020). But unlike visible symptoms and measurable vital signs, pain management was not the responsibility of neither physician nor nurse (Baker, 2017a). No system was in place to address pain concerns or hold healthcare professionals accountable for improper pain management (Baker, 2017a).

Following the recommendations set forth by Max, the American Pain Society established quality assurance standards for relief of acute pain and cancer pain in 1991 (Baker, 2017a). The standards included measures such as:

- "chart and display pain and relief,
- a simple, valid measure of pain intensity should be selected by each unit,
- each clinical unit should identify values for pain intensity rating and pain relief rating that will elicit a review of the current pain therapy" (Baker, 2017a, p. 3).

The implementation of the latter recommendation resulted in the use of ineffective pain treatment algorithms. In 1999, the California legislature became involved in the revitalization of pain management, starting with Assembly Bill 791. The bill revised the Health and Safety Code (HSC) to include "requires health facilities to include pain as an item to be assessed at the same time patient vital signs are taken. Additionally, [it] requires health facilities to ensure that pain assessment is performed in a manner that is appropriate to a patient" (Figueroa, 1999, pp. 1–2). The following

year, Congress passed H.R. 3244; title VI, Sec. 1603 established the "Decade of Pain Control and Research" (Brennan, 2015).

The total opioid prescriptions had already been steadily increasing throughout the 1990s (Wolkow, 2014). The most significant factor in the increase between 1991 and 1997 (76 million to 97 million prescriptions) is likely due to the education and awareness efforts of pain experts advocating for the safety and efficacy of opioids (Baker, 2017a; Wolkow, 2014). The 1995 approval of oxycodone (OxyContin) may have partially contributed to the slightly more rapid increase in prescriptions from 1997 to 2013 (97 million to 207 million) (Van Zee, 2009). Concurrent with the release of their new opioid formulations, pharmaceutical companies were marketing opioids as a "humane treatment option, often using paid physician consultants on the safety and benefits of opioid use" (Jones et al., 2018, p. 16).

In turn, physicians who did not prescribe opioids for their pain patients risked being perceived as inhumane and legal action for undertreatment of pain (Tucker, 2004a). Oxycontin, produced by Purdue Pharma, was advertised and backed by the Food and Drug Administration (FDA) as a new sustained-release opioid with minimal risks for iatrogenic addiction and abuse (Van Zee, 2009). These claims fueled Oxycontin's positive marketing that targeted physicians in 40 all-expenses-paid national pain-management and speaker training conferences throughout the country (Van Zee, 2009). Although the FDA retracted the approval of these unsupported claims from OxyContin's labeling in 2001, the myth that sustained-release opioids were less addictive had already permeated throughout the medical community and would not be refuted until years later (Højsted & Sjøgren, 2007; Rischitelli & Karbowicz, 2002).

As the 20th century drew to a close, the Federation of State Medical Boards and the Drug Enforcement Agency "[promised] less regulatory scrutiny over opioid prescribers" (Jones et al.,

2018, p. 16), physicians' hesitancy to prescribe opioid analgesics became increasingly eased (Joranson et al., 2002). All in all, the culmination of the aforementioned movements pushed TJC to create its own version of pain management standards in 2001 (Baker, 2017b). As the largest accrediting body in the United States, this action would impact thousands of healthcare organizations (Baker, 2017b).

THE JOINT COMMISSION PAIN STANDARDS FOR 2001

The Release of The Joint Commission Pain Standards For 2001

Funded by the Robert Wood Johnson Foundation, the TJC collaborated with the University of Wisconsin-Madison School of Medicine and other experts to establish pain standards in 1997. Three years later, TJC President Dr. Dennis O'Leary, MD, announced the formalized standards (Phillips, 2000). In response to demands by physicians, patients, medical organizations, and the pharmaceutical industry to assess pain more seriously and regularly, the TJC mandated pain assessment and treatment as a requirement for accreditation starting January 1, 2001 (National Pharmaceutical Council Inc & Joint Commission, 2001; The Joint Commission, 2014). O'Leary said that "appropriate pain management is good medicine because it results in quicker clinical recovery, shorter hospital stays, fewer readmissions, and improved quality of life, leading to increased productivity" (Phillips, 2000, p. 428). Upon their release, Donald M. Phillips commented, "excuses for inadequate pain control appear to have run their course and will no longer be accepted because poor pain control is unethical, clinically unsound, and economically wasteful" (Phillips, 2000, p. 428).

Summary of The Joint Commission Pain Standards for 2001

Carole H. Patterson, RN, director of the JCAHO Standards Interpretation Group, provided a summary of the six chapters of the *TJC Pain Standards for 2001* below.

- "**Rights and Ethics.** Recognize the right of individuals to appropriate assessment and management of pain. This standard represents the organizational commitment to pain management. Health care organizations may make this commitment explicit through their mission statements, their patient/client bill of rights, or detailed service standards.
- **Assessment of Persons With Pain.** Assess the existence and, if so, the nature and intensity of pain in all patients, residents, or clients. This standard represents the organizational recognition that pain is a common experience and that unrelieved pain has negative consequences. To comply with the standard, the organization incorporates pain assessment into its procedures. It develops procedures for recording assessment results and for ongoing reassessment and follow-up. As part of this standard, the organization also determines and ensures staff competency in pain assessment and management, and incorporates training on pain assessment and management in the orientation of new clinical staff.
- **Care of Persons With Pain.** Establish policies and procedures that support the appropriate prescribing or ordering of effective pain medications. This standard asserts that the goal of care is treating symptoms that may be associated with a disease, condition, or treatment, including pain. In the context of pain management, it focuses on appropriate prescription and administration of patient-controlled analgesia, spinal-epidural or intravenous medications, and other pain management techniques.
- **Education of Persons With Pain.** Educate patients, residents, and clients and families about effective pain management. This standard specifies that the organization is responsible for helping patients, residents, and clients understand the importance of pain management as a part of treatment, as well as the influence that cultural and belief systems have on shaping conceptions of pain and pain control. In particular, organizations must present individuals with balanced and accurate information on pain medication, since many misconceptions exist about them.
- **Continuum of Care.** Address the individual's needs for symptom management in the discharge planning process. This revised standard includes pain as a symptom that should be addressed when considering an individual's needs after discharge.
- **Improvement of Organization Performance.** Incorporate pain management into the organization's performance measurement and improvement program. This revised standard specifies that as the organization collects data to monitor its performance, it should consider the appropriateness and effectiveness of its pain management program" (Phillips, 2000, p. 429).

Intentions of The Joint Commission Pain Standards for 2001

The *TJC Pain Standards for 2001* intended to clarify who was in charge of pain control, emphasize a need for more comprehensive education on pain management, and correct misunderstandings about drug tolerance and addiction (Phillips, 2000). Specifically, the responsibility would shift to healthcare organizations to uphold the new guidelines (Phillips, 2000). Four fundamental changes were going to be implemented: making pain management a "patient rights issue as well as an education and training issue, emphasizing the quantitative aspects of pain (placing it on a 10-point scale), encouraging systematic assessment, and emphasizing safe management" (Phillips, 2000, p. 428). Leary's recommendations aligned with The American Pain Society, the Institute of Medicine, and the U.S. Veterans Health Administration's "Pain: The Fifth Vital Sign" (American Pain Society, 1990; Department of Veterans Affairs, 2000; Institute of Medicine (US) Committee on Pain, Disability et al., 1987; Phillips, 2000).

Pain was now to be monitored as closely as the standard vitals (blood pressure, pulse, temperature, respiratory rate) (Phillips, 2000). The approach to pain was also going to shift; instead of just an individual patient-physician plan with undetermined follow-up, a multidisciplinary team would draft a systematic approach, with each person executing specific duties (Phillips, 2000).

Supplemental Materials to The Joint Commission Pain Standards for 2001

TJC also created a manual, *Pain Assessment and Management: An Organizational Approach*, that provided an overview of the standards and "Examples of Implementation" of how different

organizations met the standards (Phillips, 2000). These examples were "NOT standards, nor [were] they required ways to meet a standard" (Baker, 2017a, p. 3; The Joint Commission, n.d.-a) according to TJC Executive Vice President David W. Baker, MD, MPH.

TJC pain management educational programs were also partially funded by drug companies such as Purdue Pharma (Brennan, 2015). Purdue Pharma also had pain management educational media such as videos and monographs published on TJC's website (Brennan, 2015). The collaboration between private pharmaceutical companies and accrediting organizations made it evident that such a partnership could lead to adverse outcomes (Chhabra & Leikin, 2017).

PHYSICIAN OPIOID PRESCRIPTION PRACTICES AFTER 2001

Initial Promise

Initially, the *TJC Pain Standards for 2001* showed promise for better pain management. They were deemed "a rare and important opportunity for widespread and sustainable improvement in how pain is managed in the United States" (Berry & Dahl, 2000, p. 3). Despite the standards' potential to have a large-scale impact on healthcare, no comprehensive national studies were conducted to evaluate the standards' efficacy (Baker, 2017a).

However, smaller studies prompted openness to alternative pain treatments and exposed pain assessment discrepancies between patients and healthcare professionals (Baker, 2017a). Frasco and colleagues conducted a study evaluating the impact of *TJC Pain Standards for 2001* in their perioperative care unit (Frasco et al., 2005). The group implemented protocols such as a mandatory numeric pain scale in the post-anesthesia care unit (PACU) and PACU discharge contingent on having an "acceptable" pain score (Frasco et al., 2005). The study revealed that the average consumption of opiates (morphine equivalents) increased to 40.4 mg in 2000 from 26.6 mg in 2002 without any increases in length of stay, naloxone use, or nausea and vomiting (Frasco et al., 2005). Another study found that emergency department nurses significantly underestimated patients' pain based on patient's self-reports of pain using numerical scales (4.2 versus 7.7 on a ten-point scale) (Puntillo et al., 2003). One study found that distraction therapy with nature sights and sounds significantly decreases pain in patients during flexible bronchoscopy (Diette et al., 2003).

Mixed Reception and Outcomes

TJC Pain Standards for 2001 were designed for healthcare organizations, but some physicians were not receptive to how the guidelines would change their practice (Baker, 2017a). A 2002 study reported that worries largely stemmed from the "lack of clarity of some Examples of Implementation" (American Medical Association, 2002; Baker, 2017a, p. 4). With instructions to screen all patients for pain and regard pain treatment as a "patients' rights" issue, some became concerned about excessive dependence on opioids (G Hansen, 2000). These concerns were labeled as "opioidphobic" by opponents (Brennan et al., 2007). Some healthcare facilities started to adopt fixed algorithms for adjusting pain medications, which were not a requirement under the *TJC Pain Standards for 2001* (Baker, 2017a). Another point of confusion was the use of the "fifth vital sign" analogy. The phrase was intended to raise awareness for the need for better pain assessment, but some organizations interpreted the recommendation as instructions to measure pain each time vitals were assessed (Baker, 2017a). While there is evidence that pain management and assessment is beneficial, a study in the April 2020 issue of *Journal of Urgent Care Medicine* states that "there is a lack of evidence to indicate implication of physiologic process as with the other traditional vital signs" (Pruitt et al., 2020).

A faction of physicians quickly became overzealous in pain treatment following the release of *TJC Pain Standards for 2001* (Baker, 2017a). With pain as the highest priority patient concern, clinicians nation-wide were constantly finding new ways to manage it. A survey by Jeffrey L. Apfelbaum et al. reported that 80% of respondents had postoperative pain, 86% of these assessed their pain to be moderate to "extreme," and that postoperative pain was the most common concern for 59% of participants. Although many patients experienced and were worried about pain, 90% of

respondents were satisfied with their pain medications (Apfelbaum et al., 2003). The authors, unconvinced that pain was managed satisfactorily, concluded that too many patients experience unacceptable levels of pain and that more measures needed to be taken to alleviate it (Apfelbaum et al., 2003).

The implementation of numerical pain assessment scales catalyzed the formation of treatment protocols and algorithms based on the patient's response (Rathmell et al., 2006). One hospital reported an alarming increase in opioid oversedation (11.0 to 24.5 per 100,000 inpatient days) after applying a numerical pain treatment algorithm (Vila et al., 2005). Only one year after the *TJC Pain Standards for 2001* went into effect, the Institute for Safe Medication Practices (ISMP) reported a link between overaggressive pain management and an alarming increase in oversedation and fatal respiratory depression events (Institute for Safe Medication Practices, 2002).

The publication of *TJC Pain Standards for 2001* immediately garnered criticism for its potential to catalyze opioid misuse; but, physicians that were conservative about prescribing opioid analgesics risked losing federal funding and being labeled as inhumane (G Hansen, 2000; Tucker, 2004b). Pharmaceutical companies advocated for an increase in opioid use and patients reported higher satisfaction rates with hospitals that liberally provided opioids (Fenton et al., 2012). Medical professionals in both pain medicine and other specialties received training on incorporating opioids more readily in their pain treatment protocols (Hwang et al., 2015). Pharmaceutical companies created new formulations of opioids such as OxyContin and advertised lower risks for abuse (Hwang et al., 2015). All of these factors contributed to the quadrupling of prescription opioid sales and mortality in both men and women, as well as the increase in side effects such as hyperalgesia, increasing disability, and endocrine and psychological comorbidities (Jones et al., 2018).

Opioid prescriptions dispensed by U.S. retail pharmacies had increased from 126 million in 2000 to 207 million in 2013, peaking at 219 million in 2011 (Wolkow, 2014). With many factors concurrently promoting opioid prescriptions, one cannot confidently isolate the independent effects of *TJC Pain Standards for 2001* (Baker, 2017a).

Revisions to *The Joint Commission Pain Standards for 2001*

TJC Pain Standards for 2001 underwent many changes over the years. One such revision was the 2001 example of implementation, "pain is considered a 'fifth' vital sign in the hospital's care of patients" (Baker, 2017b, p. 1118). The phrase was later revised in 2002 to state, "pain used to be considered the fifth vital sign" (Baker, 2017b, p. 1118) before ultimately being omitted from the accreditation standards manual in 2004.

Universal pain assessment was still highly debated due to two key arguments: pain was unrelated to the patient's chief complaint and no other symptoms required such repetitive and comprehensive evaluation (Baker, 2017a). The requirement for universal pain assessment was eliminated in 2009 except for behavioral health care patients due to concerns that they would be less likely to report experiencing pain and would need a more aggressive approach (Baker, 2017a).

To address the concern that the standards advocated for opioid use, TJC published an addendum to the standards in 2011 clarifying the expected treatment protocol: "both pharmacologic and nonpharmacologic strategies have a role in the management of pain. The following examples are not exhaustive, but strategies may include the following: Nonpharmacologic strategies: physical modalities (for example, acupuncture therapy, chiropractic therapy, osteopathic manipulative

treatment, massage therapy, and physical therapy), relaxation therapy, and cognitive behavioral therapy; Pharmacologic strategies: nonopioid, opioid, and adjuvant analgesic" (Baker, 2017a, p. 6).

Nearly two decades later, the culmination of changes to the *TJC Pain Standards for 2001* made the need apparent to revise them thoroughly (Baker, 2017a). In early 2016, TJC commenced a major project to improve the pain assessment and management standards and create standards on safe opioid prescribing (Baker, 2017a). The revision focused specifically on evaluating and managing acute pain, chronic pain, and opioid addiction patients (Baker, 2017a). TJC's first priority was acute pain in the hospital setting (Baker, 2017a). TJC established a Technical Advisory Panel to identify potential conflicts of interest and provide feedback on the changing standards (The Joint Commission, n.d.-a). The panel nominees were evaluated for potential conflicts of interest (The Joint Commission, n.d.-a). Later in 2016, another draft of pain standards was created based on a literature review, feedback from the Technical Advisory Panel, and learning visits to organizations that succeeded in pain management (Baker, 2017a). In January 2017, the draft standards were released and became available for public comments a month later (Baker, 2017a).

The revised *Pain Assessment and Management Requirements* became effective starting January 2018 (The Joint Commission, 2017). Example recommendations include pain assessment with "identification of psychosocial risk factors that may affect self-report of pain; involve patients to develop their treatment plan and set realistic expectations and measurable goals; focus reassessment on how pain impairs physical function (e.g., ability to turn over in bed after surgery); monitor opioid prescribing patterns; and promote access to nonpharmacologic pain treatment modalities" (Baker, 2017b, p. 1118). Other opioid-specific recommendations include "safe opioid use during and after hospitalization and to prevent diversion include the following: identify high-risk patients; have equipment available to monitor high-risk patients; facilitate clinician access to prescription drug

monitoring program (PDMP) databases and encourage PDMP use prior to prescribing opioids; and educate patients and families regarding the safe use, storage, and disposal of opioids" (Baker, 2017b, p. 1118). The new standards also recommended that hospitals educate their clinicians about local addiction treatment programs so that they can refer opioid-addicted patients for treatment (Baker, 2017a).

Prescription Opioids: Recent Trends and Attitudes

Opioid prescribing rates peaked in the early 2010s, plateaued in 2012, and have been declining ever since (Centers for Disease and Control Prevention, 2019). From 2006 to 2017, the annual opioid prescribing rate decreased by 19% (Centers for Disease and Control Prevention, 2019). The CDC attributes the decreases in opioid prescribing rates since 2012 and high-dose prescribing rates (≥90 morphine milligram equivalents [MME]) since 2008 to healthcare providers becoming more prudent while prescribing opioid analgesics (Centers for Disease and Control Prevention, 2019). However, compared to 1999, the amount of opioids (MME) prescribed per person in 2017 is still three times greater (Guy et al., 2017). Below are 2017 statistics published by the Centers for Disease Control in the *2018 Annual Surveillance Report of Drug-Related Risks and Outcomes*.

- "More than 17% of Americans had at least one opioid prescription filled, with an average of 3.4 opioid prescriptions dispensed per patient.
- Per prescription, the average daily amount was more than 45.3 MME.
- The average number of days per prescription continues to increase, with an average of 18 days in 2017" (Centers for Disease Control and Prevention, 2018b).

In 2019, the dispensing rate decreased to a 14-year low at 46.7 prescriptions per 100 persons, totaling over 153 million opioid prescriptions (Centers for Disease Control and Prevention, 2020b).

There is great variation at the county-level for opioids received per resident (Guy et al., 2017). Although the national opioid dispensing rate has decreased, several counties still show very high rates – up to six times higher than the national rate in 2019 (Centers for Disease Control and Prevention, 2020b). The CDC states that "in [five percent] of U.S. counties, enough opioid prescriptions were dispensed for every person to have one" (Centers for Disease Control and Prevention, 2020b). Several characteristics were identified in the counties with higher opioid prescription rates:

- "Generally smaller cities or larger towns
- Higher percentage of white residents
- Higher number of dentists and primary care physicians per capita
- More people who are uninsured or unemployed
- More residents who have diabetes, arthritis, or a disability" (Guy et al., 2017).

Overall, physicians are still concerned about the risks of opioid addiction and inadequate pain management training (Centers for Disease and Control Prevention, 2019). These worries are addressed through revised guidelines, such as the TJC's 2018 *Pain Assessment and Management Standards* (The Joint Commission, 2017) and the 2016 *CDC Guideline for Prescribing Opioids for Chronic Pain* (Dowell, Haegerich, et al., 2016), and interactive training series, such as *Applying the CDC Guideline for Prescribing Opioids* (Centers for Disease Control and Prevention, 2020a).

The Joint Commission and the Modern Opioid Epidemic

In March 2017, Dr. Baker published "History of The Joint Commission's Pain Standards: Lessons for Today's Prescription Opioid Epidemic" in the Journal of the American Medical Association (JAMA) (Baker, 2017b). The paper outlined critical lessons from the revisions of the *TJC Pain Standards for 2001* (Baker, 2017b). He hoped that reflecting on past mistakes can prevent similar mistakes from being made as the opioid epidemic worsens (Baker, 2017b). As defined by the CDC, an epidemic is "the occurrence of more cases of disease than expected in a given area or among a specific group of people over a particular period of time" (Floret et al., 2006, p. 543).

Baker's first lesson states, "engage all stakeholders when creating standards and not just those who passionately favor action" (Baker, 2017b, p. 1118), meaning that advocates and critics alike should collaborate in the formation of standards to best predict and analyze unintended consequences. Baker also cautioned not to let the opioid epidemic lead to the undertreatment and stigmatization of chronically ill patients that may need adjunctive opioid therapy (Baker, 2017b).

Baker's second lesson emphasized the importance of monitoring programs, especially at the initial adoption of new strategies that may have unintended consequences that early detection could have prevented (Baker, 2017b).

The third lesson recommended paying closer attention to organizations' plans to meet the new standards (Baker, 2017b). Some previously used procedures should have raised more alarm (Baker, 2017b). For example, some organizations used an algorithm for treatment based on numerical pain scores (Baker, 2017b). Baker also confessed that some of TJC's examples of implementation "may not have been as rigorously developed, vetted, or consistently disseminated to The Joint Commission surveyors as they should have been" (Baker, 2017b, p. 1118). He also

commented that other guidelines to fight the opioid epidemic might need additional details for their execution (Baker, 2017b). Examples of such approaches include the Centers for Disease Control and Prevention's (CDC) chronic pain guidelines or that all physicians receive pain management education (Baker, 2017b). Without thorough enough research on potential benefits and consequences, organizations may use workarounds to meet the proposed guidelines (Baker, 2017b).

Finally, Baker emphasized that literature for pressing subjects should be greater than the "simple [repetition of] the claims of experts in previous articles" (Baker, 2017b, p. 1118). An example of such substandard literature includes the highly referenced 1980 Porter and Jick letter to the editor (Porter & Jick, 1980), cited over 1000 times (Baker, 2017b). Despite its brevity and lack of scientific rigor, the publication has been used to support the claim that addiction is rare in patients treated with narcotics (Baker, 2017b). Baker encourages other researchers to use prudence in their analysis and sharing of studies, calling for increased investigation if necessary before conclusions can be drawn (Baker, 2017b). After stating his key lessons, Baker also voiced that researchers should not feel discouraged to pursue their "noble" goals because they are worried about unintentional consequences (Baker, 2017b). The need to practice due diligence should not stop others from facing formidable obstacles such as the modern opioid epidemic (Baker, 2017b).

Some physicians have criticized TJC over its role in the opioid epidemic (Chhabra & Leikin, 2017). In 2017, Dr. Neeraj Chhabra, MD, and Dr. Jerrold Leiken, MD, wrote to the JAMA editor in response to Baker's article. Chhabra and Leiken believe that Baker fails to acknowledge the extent of TJC's role in the opioid epidemic in several ways (Chhabra & Leikin, 2017). First, they do not believe that the healthcare community did not desire a "regulatory-based approach to pain management" (Chhabra & Leikin, 2017, p. 91) to address pain undertreatment. Second, they criticized the partnership between TJC and Purdue Pharma for creating pain management education

programs and materials because such a relationship could become a conflict of interest (Chhabra & Leikin, 2017). Next, they also think that TJC should have acted in a much more expedient manner to combat the opioid epidemic (Chhabra & Leikin, 2017). Sixteen years had passed between the *TJC Pain Standards for 2001* and their revision, a time during which the opioid epidemic continued to intensify (Chhabra & Leikin, 2017). Finally, Chhabra and Leikin also believed that TJC's recommendation to make pain a "patients' rights issue" will shift focus to "symptomatic treatment of pain" (Chhabra & Leikin, 2017, p. 92) rather than trying to solve the underlying medical problem. The authors criticized TJC for their lack of initiative to prevent the escalation of the opioid epidemic and their poor implementation of evidence-based medicine to craft their pain standards (Chhabra & Leikin, 2017).

Baker published a rebuttal to Chhabra and Leikin later that year (Baker, 2017c). He agreed that TJC should have acted more proactively and that the organization will be taking care not to repeat its mistakes. Baker professed that past criticism of TJC's pain standards might have contributed to the hesitancy to address the modern opioid epidemic. He also reiterated that the *TJC's Pain Standards for 2001* emerged after several campaigns for increased assessment and treatment of pain by researchers such as Max (1990) and organizations such as the U.S. Congress with their passage of the 2000 bill that established the "Decade of Pain Control and Research" (Baker, 2017c; Brennan, 2015). He also highlighted that TJC was only one of the thousands of organizations that used Purdue Pharma funding (Baker, 2017c; United States General Accounting Office, 2003). At the time, parties, including TJC, were unaware of Purdue's claims that "iatrogenic addiction was 'very rare' and that the delayed absorption of OxyContin reduced the abuse liability of the drug" (Baker, 2017c, p. 92) were erroneous (Van Zee, 2009). These claims were already widely accepted and studies refuting them did not emerge until years later (Baker, 2017c). Since then, TJC has

implemented a more rigorous protocol to assess corporate sponsorship of education programs and to minimize potential conflicts of interest amongst their advisors (Baker, 2017c).

Other Groups' Responses to the Opioid Epidemic

In response to the crisis, many organizations sought to decrease opioid overdose deaths and treat opioid use disorders (OUD). One of the earliest strategies to treat opioid dependence started with The Drug Addiction Treatment Act of 2000 (DATA 2000) (Jones et al., 2018). DATA 2000 allowed physicians to prescribe schedule III, IV, and V medications to treat opioid dependence if they had a waiver from the Center for Substance Abuse and Mental Health Services Administration (Jones et al., 2018). In 2002, specially-trained primary care physicians (PCPs) could obtain buprenorphine and buprenorphine/naloxone following their FDA approval (Jones et al., 2018). Access to opioid dependency treatment increased thanks to the 2006 Reauthorization Act, which allowed PCPs to have a maximum of 100, instead of 30, buprenorphine patients (Jones et al., 2018).

The FDA implemented new strategies of their own. In 2016, they announced new policies such as "re-examination of the risk-benefit paradigm for opioids with strict emphasis on the large public health ramifications; expanded access to and encouraged development of abuse-deterrent opioid formulations; expert advisory committee assembly prior to new applications for opioids lacking abuse-deterrent properties; improved access to naloxone and other treatment options for OUD; inclusion of safety information and warnings on immediate-release (IR) opioid labeling; and support for alternative pain management modalities" (Jones et al., 2018, p. 17). The FDA has sought to develop new abuse-deterrent opioid formulations (Jones et al., 2018). The FDA's Risk Evaluation

and Mitigation Strategies (REMS) encompasses the collection of modified opioids developed over the past two decades and strategies such as tamper-resistant preparation (DePriest & Miller, 2014; Gudin, 2016; Gudin et al., 2015; Jones et al., 2016, 2018; Morlion et al., 2018). As of 2017, less than a dozen FDA-approved Abuse-Deterrent Formulations (ADFs) were identified, but plans for further development are in motion (Pergolizzi et al., 2018).

Other strategies such as prescription drug monitoring programs (PDMPs) and the National All Schedules Prescription Electronic Reporting Act (NASPER) have decreased opioid prescriptions by 8% and prescription opioid overdose deaths by 12% (Dowell, Zhang, et al., 2016). Despite those programs' success, drug overdose deaths have increased from 52,000 in 2015 to 64,000 in 2016, including 42,000 opioid deaths (Center for Health Statistics, 2017; Dowell et al., 2017). While most opioid deaths are related to illicit opioids, prescription opioids still accounted for almost 15,000 deaths (Jones et al., 2018).

As opioid misuse in pain management garners more attention as a pressing public health concern, annual publications of pain-related research continue to grow at rapid rates (Luo, 2012). Compared to the last 40 years, there has been a 66% increase in new randomized, double-blind, placebo-control trials for neuropathic pain medications in the past five years (Luo, 2012). While the number of publications and studies grows, pain medication development has been relatively stagnant due to limited knowledge of pain relief mechanisms (Finnerup et al., 2010). Growth of pain research is primarily driven by opioid misuse, a growing aging population suffering from chronic pain (from 11% to 47% among 40 to 75-year-olds) (Kopf, 2010), the financial burden of lost productivity by workers due to pain conditions (Katz, 2002), and demand for better medications (Luo, 2012).

Strategies to address OUD include preventing OUD and increasing accessibility and efficacy of treatment (Jones et al., 2018). Government policies and legislation can be effective at overcoming

barriers to care. The Patient Protection and Affordable Care Act (*H.R.3590 - 111th Congress (2009-2010): Patient Protection and Affordable Care Act*, 2010), passed in 2010, reduced the number of uninsured patients, providing access to health benefits such as substance use disorder services and rehabilitative services. Also, the Mental Health Parity and Addictions Equity Act (U.S. Centers for Medicare & Medicaid Services, n.d.), effective in 2010, ensured that health insurance companies could not invoke "greater restrictions on mental health and substance abuse disorder treatment benefits than benefits for medical and surgical care" (Jones et al., 2018, p. 18).

OUD treatment efficacy is also augmented when pharmacotherapies are coupled with psychosocial interventions (Krawczyk et al., 2018). Such interventions include "peer-led support groups, community-wide prevention strategies, and stigma-reducing initiatives" (Jones et al., 2018, p. 18), which have all resulted in various amounts of success and are being continuously developed (Ringwalt et al., 2018; Wen & Warren, 2018). A study based in Baltimore, MD detailed the various initiatives to combat the opioid epidemic at a city-level (Wen & Warren, 2018). The local Baltimore government focused on public health coalitions, overdose prevention, expansion of naloxone access, increased scope of Good Samaritan laws, streamlined resource access, and anti-stigma education that adapt based on data (Wen & Warren, 2018). As researchers gathered more data, strategies were adapted, such as switching naloxone training from the public libraries to locations where the most at-risk populations congregated, such as jails, bus shelters, and specific street corners (Wen & Warren, 2018). The Health Department also addressed physicians' role in the opioid epidemic by sending letters on the best opioid prescription practices to every doctor and sending outreach workers to physicians for opioid prescribing education (Wen & Warren, 2018). The Health Department also worked with citizens to adopt black box warnings about the concurrent use of opioids and benzodiazepines, stating that taking them together "reduces the margin of safety for

respiratory depression and contributes to the risk of fatal overdose, particularly in the setting of misuse" (Baltimore City Health Department, 2016). Baltimore's protocol and flexibility can be mirrored in other cities with proper alterations to best suit their populations. If such a campaign were to be endorsed by an organization as influential as The Joint Commission, health care organizations and facilities could work together to integrate the aforementioned strategies into their plans for pain management.

Lawmakers are also adapting opioid legislation to limit opioid doses during the first week of acute pain management (Jones et al., 2018). To still provide pain relief to those who need it, opioids are being titrated while multimodal pain regimens and ADFs are being increased (Jones et al., 2018). For post-operation recovery, methods such as "nerve blocks, non-steroidals, gabapentinoids, acetaminophen, and ketamine" (Jones et al., 2018, p. 18) are being used to minimize the need for opioids and decrease hospital stays. Acknowledging the unique biopsychosocial aspects of chronic non-malignant pain compared to cancer pain will also be key (Jones et al., 2018). Multidisciplinary involvement, including "multimodal analgesia, interventional therapies, and outcomes stressing improvement in physical function" (Jones et al., 2018, p. 18), will also benefit pain patients by preventing overreliance on opioids.

In a 2018 survey compiling data of seven public opinion national polls on the opioid-abuse epidemic conducted in 2016-2017, 53% of respondents consider prescription analgesic addiction to be a significant national problem (Politico & Harvard T.H. Chan School of Public Health, 2017). When polled, 33% percent of people blame the epidemic on physicians who are inappropriately prescribing medication (Blendon & Benson, 2018). Only 28% of respondents blamed people who illicitly sell prescription analgesics and only 13% blame pharmaceutical companies (Blendon & Benson, 2018). The most supported methods for OUD prevention included increasing pain-

management training for medical students and doctors, public education and awareness programs, increasing pain and pain management research, and monitoring doctors' prescription pain-killer prescribing habits (Blendon & Benson, 2018).

A popular pain management education strategy is to provide physicians with educational seminars and training on the updated recommendations for pain management. Dr. Gary W. Pushkin, MD, and Rohanit Singh argue that education should begin at the medical school level should include structured and comprehensive training on safe opioid prescribing practices that consider the patient's needs and the dangers of opioid misuse (Singh & Pushkin, 2019). Medical school training should include expert faculty and practical assessment of students' learning (Singh & Pushkin, 2019)

CONCLUSION

This investigation aimed to examine the literature regarding physicians' prescriptions of opioid analgesics before and after *The Joint Commission Pain Standards for 2001*. As complaints of undertreatment of pain became more vocal, healthcare organizations began formulating guidelines to guide physicians to treat pain better. Pressures from researchers, the pharmaceutical industry, and healthcare organizations pushed physicians to prescribe opioids more liberally for their pain patients, despite early concerns about OUD and opioid overdose. At the turn of the 21st century, opioid dispensing rates steadily increased as the medical community's concerns about opioids quieted due to public pressure and a paradigm shift on opioid safety.

As adverse patient outcomes came to light, it became evident that the *TJC Pain Standards for 2001* needed revisions. As the government and physicians realized the consequences of the *TJC Pain Standards for 2001* and other campaigns for increased opioid use, the public and healthcare sectors had to work together to devise strategies to decrease inappropriate opioid prescriptions, OUD, and overdose deaths.

Reflecting on the results of the *TJC Pain Standards for 2001* revealed several key lessons. Guidelines and regulations will need to be crafted with prudence and input from multiple parties to limit conflicts of interest. Governing healthcare bodies, such as the TJC, should investigate which strategies healthcare facilities and physicians implement to meet guidelines. Using a multidisciplinary healthcare team may help patients receive better individualized pain management plans. Relationships between pharmaceutical companies and medical organizations should also be disclosed so that physicians and patients can be well-informed about the origins of their public health recommendations. The scientific rigor of research should also be held to the highest

standards to prevent the dissemination of unsubstantiated claims. Most importantly, each of the contributing parties to the opioid epidemic should reflect on their contributions to the public health crisis and work not to repeat the same mistakes.

Since 2012, opioid dispensing rates have decreased, likely due to physicians becoming more cautious about opioid analgesic prescriptions. However, success in reducing OUD and improving patient care has to be assessed beyond solely evaluating opioid dispensing rates. Adequate pain management requires balancing between over-prescription of opioid analgesics and undertreatment of pain of patients. Physicians can accomplish this goal by either opting for abuse-deterrent opioid formulations, multimodal interventions, and alternative treatments or coupling them with closely monitored prescription opioids.

One future strategy to improve the safety and efficacy of opioid analgesic use is to increase data collection on prescription opioids. As of 2019, only 98.5% of counties have readily available data on opioid dispensing (Centers for Disease Control and Prevention, 2020b). While 98.5% is a large proportion, the wide variation of opioid dispensing rates at the county-level makes it necessary for local healthcare providers to have specific data on their community. Opioid training education should also begin in medical school by experts so that future physicians recognize the responsibility and dangers of prescription opioids. Educational materials should also be readily available and continuously updated for practicing physicians to keep them abreast of pain medicine developments. Prescribing practices should also be compliant with well-researched legislation and guidelines crafted by the government and medical organizations. All in all, the future of responsible pain management will have to be a coordinated effort between the medical community, government agencies, the pharmaceutical industry, and the public.

REFERENCES

American Medical Association. (2002). *Report 4 of the Council on Scientific Affairs. Pain management standards and performance measures*. American Medical Association.

American Pain Society. (1990). Principles of analgesic use in the treatment of acute pain and chronic cancer pain, 2nd edition. American Pain Society - PubMed. *Clinical Pharmacology*, *9*(8), 601–612. https://pubmed.ncbi.nlm.nih.gov/2201478/

American Society of Anesthesiologists. (2020). *Chronic Pain: Definition & Management - Made for This Moment*. American Society of Anesthesiologists. https://www.asahq.org/madeforthismoment/pain-management/types-of-pain/chronic/

Apfelbaum, J. L., Chen, C., Mehta, S. S., & Gan, T. J. (2003). Postoperative pain experience: Results from a national survey suggest postoperative pain continues to be undermanaged. *Anesthesia and Analgesia*, *97*(2), 534–540. https://doi.org/10.1213/01.ANE.0000068822.10113.9E

Baker, D. W. (2017a). *The Joint Commission's Pain Standards: Origins and Evolution*. https://www.jointcommission.org/-/media/tjc/documents/resources/pain-management/pain_std_history_web_version_05122017pdf.pdf?db=web&hash=E7D12A5C3BE9DF031F3D8FE0D8509580

Baker, D. W. (2017b). History of The Joint Commission's Pain Standards. *JAMA*, *317*(11), 1117. https://doi.org/10.1001/jama.2017.0935

Baker, D. W. (2017c). The Joint Commission and the Opioid Epidemic—Reply. *JAMA - Journal of the American Medical Association*, *318*(1), 92. https://doi.org/10.1001/jama.2017.6701

Baltimore City Health Department. (2016, February 22). *Public Health Officials Urge FDA to Issue Warnings for Dangerous Combination of Medications Amid Prescription Drug Overdose Crisis | Baltimore City Health Department*. Baltimore City Health Department. https://health.baltimorecity.gov/news/press-releases/2016-02-22-public-health-officials-urge-fda-issue-warnings-dangerous-combination

Berry, P. H., & Dahl, J. L. (2000). The new JCAHO pain standards: Implications for pain management nurses. *Pain Management Nursing*, *1*(1), 3–12. https://doi.org/10.1053/jpmn.2000.5833

Blendon, R. J., & Benson, J. M. (2018). The Public and the Opioid-Abuse Epidemic. *New England Journal of Medicine*, *378*(5), 407–411. https://doi.org/10.1056/NEJMp1714529

Bonica, J. J., & Hoffman, J. F. (1954). The Management of Pain with Special Emphasis on the Use of A... : Anesthesia & Analgesia. *Current Researches in Anesthesia & Analgesia*, *34*(5), 57–58. https://journals.lww.com/anesthesia-analgesia/Citation/1954/09001/The_Management_of_Pain_with_Special_Emphasis_on.1.aspx

Breivik, H., Collett, B., Ventafridda, V., Cohen, R., & Gallacher, D. (2006). Survey of Chronic Pain in Europe: Prevalence, Impact on Daily Life, and Treatment - PubMed. *European Journal of Pain*, 287–333. https://pubmed.ncbi.nlm.nih.gov/16095934/

Brennan, F. (2015). The US Congressional "Decade on Pain Control and Research" 2001-2011: A Review. *Journal of Pain and Palliative Care Pharmacotherapy*, *29*(3), 212–227. https://doi.org/10.3109/15360288.2015.1047553

Brennan, F., Carr, D. B., & Cousins, M. (2007). Pain management: A fundamental human right. *Anesthesia and Analgesia*, *105*(1), 205–221.

https://doi.org/10.1213/01.ane.0000268145.52345.55
Center for Health Statistics, N. (2017). *Provisional Counts of Drug Overdose Deaths, as of 8/6/2017*.
Centers for Disease and Control Prevention. (2019). *Prescribing Practices*. Centers for Disease and Control and Prevention. https://www.cdc.gov/drugoverdose/data/prescribing/prescribing-practices.html
Centers for Disease Control and Prevention. (2018a). *Overdose Death Rates Involving Opioids, by Type, United States, 2000-2017*. https://www.cdc.gov/drugoverdose/images/data/OpioidDeathsByTypeUS.PNG
Centers for Disease Control and Prevention. (2018b). *2018 ANNUAL SURVEILLANCE REPORT OF DRUG-RELATED RISKS AND OUTCOMES UNITED STATES*. https://www.cdc.gov/
Centers for Disease Control and Prevention. (2020a). *Applying the CDC Guideline for Prescribing Opioids*. American Medical Association. https://doi.org/10.1001/jama.2016.1464
Centers for Disease Control and Prevention. (2020b, December 7). *U.S. Opioid Dispensing Rate Maps | Drug Overdose | CDC Injury Center*. Centers for Disease Control and Prevention. https://www.cdc.gov/drugoverdose/maps/rxrate-maps.html
Chhabra, N., & Leikin, J. B. (2017). The Joint Commission and the Opioid Epidemic. *Journal of the American Medical Association*, *318*(1), 91–92. https://doi.org/10.1001/jama.2017.6694
Cicero, T. J., Ellis, M. S., & Kasper, Z. A. (2017). Psychoactive substance use prior to the development of iatrogenic opioid abuse: A descriptive analysis of treatment-seeking opioid abusers. *Addictive Behaviors*, *65*, 242–244. https://doi.org/10.1016/j.addbeh.2016.08.024
Clarke, J. L., Skoufalos, A., & Scranton, R. (2016). The American Opioid Epidemic: Population health implications and potential solutions. Report from the national stakeholder panel. *Population Health Management*, *19*(S1), S1–S10. https://doi.org/10.1089/pop.2015.0144
Cleveland Clinic. (2017, January 26). *Acute Pain vs. Chronic Pain: What it is & Differences*. https://my.clevelandclinic.org/health/articles/12051-acute-vs-chronic-pain
Department of Veterans Affairs. (2000). *Pain as the 5Th Vital Sign Toolkit*.
DePriest, A. Z., & Miller, K. (2014). Oxycodone/Naloxone: Role in Chronic Pain Management, Opioid-Induced Constipation, and Abuse Deterrence. *Pain and Therapy*, *3*(1), 1–15. https://doi.org/10.1007/s40122-014-0026-2
Diette, G. B., Lechtzin, N., Haponik, E., Devrotes, A., & Rubin, H. R. (2003). Distraction therapy with nature sights and sounds reduces pain during flexible bronchoscopy: A complementary approach to routine analgesia. *Chest*, *123*(3), 941–948. https://doi.org/10.1378/chest.123.3.941
Dowell, D., Haegerich, T. M., & Chou, R. (2016). CDC Guideline for Prescribing Opioids for Chronic Pain - United States. In *Emergency Medicine* (Vol. 48, Issue 4). Quadrant Healthcom Inc. https://doi.org/10.15585/mmwr.rr6501e1er
Dowell, D., Noonan, R. K., & Houry, D. (2017). Underlying factors in drug overdose deaths. *Journal of the American Medical Association*, *318*(23), 2295–2296. https://doi.org/10.1001/jama.2017.15971
Dowell, D., Zhang, K., Noonan, R. K., & Hockenberry, J. M. (2016). Mandatory Provider Review And Pain Clinic Laws Reduce The Amounts Of Opioids Prescribed And Overdose Death Rates. *Health Affairs*, *35*(10), 1876–1883. https://doi.org/10.1377/hlthaff.2016.0448
Fenton, J. J., Jerant, A. F., Bertakis, K. D., & Franks, P. (2012). The cost of satisfaction: A national study of patient satisfaction, health care utilization, expenditures, and mortality. *Archives of Internal Medicine*, *172*(5), 405–411. https://doi.org/10.1001/archinternmed.2011.1662

Fields, H., & Martin, J. (2005). *Harrison's Principles of Internal Medicine* (16th ed.). McGraw-Hill.
Figueroa, L. (1999, June 21). *AB 791 Assembly Bill - Bill Analysis*. http://leginfo.ca.gov/pub/99-00/bill/asm/ab_0751-0800/ab_791_cfa_19990624_172800_sen_comm.html
Finnerup, N. B., Sindrup, S. H., & Jensen, T. S. (2010). The evidence for pharmacological treatment of neuropathic pain. *Pain*, *150*(3), 573–581. https://doi.org/10.1016/j.pain.2010.06.019
Florence, C. S., Zhou, C., Luo, F., & Xu, L. (2016). The economic burden of prescription opioid overdose, abuse, and dependence in the United States, 2013. *Medical Care*, *54*(10), 901–906. https://doi.org/10.1097/MLR.0000000000000625
Floret, N., Viel, J. F., Mauny, F., Hoen, B., & Piarroux, R. (2006). Negligible risk for epidemics after geophysical disasters. *Emerging Infectious Diseases*, *12*(4). https://doi.org/10.3201/eid1204.051569
Frasco, P. E., Sprung, J., & Trentman, T. L. (2005). The Impact of the Joint Commission for Accreditation of Healthcare Organizations Pain Initiative on Perioperative Opiate Consumption and Recovery Room Length of Stay. *Anesthesia & Analgesia*, *100*(1), 162–168. https://doi.org/10.1213/01.ANE.0000139354.26208.1C
G Hansen. (2000). Assessment and management of pain. *JAMA*, *284*(18), 2317–2318. https://doi.org/10.1001/jama.284.18.2317
Goldberg, D. S., & McGee, S. J. (2011). Pain as a global public health priority. *BMC Public Health*, *11*. https://doi.org/10.1186/1471-2458-11-770
Gudin, J. (2016). Oxycodone DETERx®: A Novel Abuse-Deterrent, Extended-Release Analgesic Option for the Treatment of Patients with Chronic Pain. *Pain and Therapy*, *5*(2), 171–186. https://doi.org/10.1007/s40122-016-0062-1
Gudin, J., Levy-Cooperman, N., Kopecky, E. A., & Fleming, A. B. (2015). Comparing the Effect of Tampering on the Oral Pharmacokinetic Profiles of Two Extended-Release Oxycodone Formulations with Abuse-Deterrent Properties. *Pain Medicine (United States)*, *16*(11), 2142–2151. https://doi.org/10.1111/pme.12834
Gureje, O., Von Korff, M., Kola, L., Demyttenaere, K., He, Y., Posada-Villa, J., Lepine, J. P., Angermeyer, M. C., Levinson, D., de Girolamo, G., Iwata, N., Karam, A., Luiz Guimaraes Borges, G., de Graaf, R., Browne, M. O., Stein, D. J., Haro, J. M., Bromet, E. J., Kessler, R. C., & Alonso, J. (2008). The relation between multiple pains and mental disorders: Results from the World Mental Health Surveys. *Pain*, *135*(1–2), 82–91. https://doi.org/10.1016/j.pain.2007.05.005
Guy, G. P., Zhang, K., Bohm, M. K., Losby, J., Lewis, B., Young, R., Murphy, L. B., & Dowell, D. (2017). Vital Signs: Changes in Opioid Prescribing in the United States, 2006–2015. *MMWR. Morbidity and Mortality Weekly Report*, *66*(26), 697–704. https://doi.org/10.15585/mmwr.mm6626a4
Højsted, J., & Sjøgren, P. (2007). Addiction to opioids in chronic pain patients: A literature review. *European Journal of Pain*, *11*(5), 490–518. https://doi.org/10.1016/j.ejpain.2006.08.004
Hwang, C. S., Chang, H. Y., & Alexander, G. C. (2015). Impact of abuse-deterrent OxyContin on prescription opioid utilization. *Pharmacoepidemiology and Drug Safety*, *24*(2), 197–204. https://doi.org/10.1002/pds.3723
Institute for Safe Medication Practices. (2002). Avoiding opiate toxicity with PCA by proxy. *ISMP Medication Safety Alert*.
Institute of Medicine (US) Committee on Pain, Disability, and C. I. B., Osterweis, M., Kleinman, A., & Mechanic, D. (1987). *Pain and Disability: Clinical, Behavioral, and Public Policy Perspectives*.

National Academies Press. https://doi.org/10.17226/991
Inturrisi, C. E., & Jamison, R. N. (2002). Clinical pharmacology of opioids for pain. *Clinical Journal of Pain*, *18*(4 SUPPL.). https://doi.org/10.1097/00002508-200207001-00002
Joint Commission on Accreditation of Healthcare Organizations. (2001, December 18). *Joint Commission on Accreditation of Healthcare Organizations Pain Standards for 2001*. The Joint Commission. https://www.jointcommission.org/-/media/tjc/documents/resources/pain-management/2001_pain_standardspdf.pdf?db=web&hash=C11475CEAF841C3117874C83193FE8B6
Jones, M. R., Carney, M. J., Kaye, R. J., Prabhakar, A., & Kaye, A. D. (2016). Drug Formulation Advances in Extended-Release Medications for Pain Control. *Current Pain and Headache Reports*, *20*(6). https://doi.org/10.1007/s11916-016-0565-9
Jones, M. R., Viswanath, O., Peck, J., Kaye, A. D., Gill, J. S., & Simopoulos, T. T. (2018). A Brief History of the Opioid Epidemic and Strategies for Pain Medicine. *Pain and Therapy*, *7*(1), 13–21. https://doi.org/10.1007/s40122-018-0097-6
Joranson, D. E., & Engber, D. (1986). Wisconsin Initiative for Improving Cancer Pain Management: Progress Report. In *Journal of Pain and Symptom Management INFORMATION EXCHANGE* (Issue 4).
Joranson, D. E., Gilson, A. M., Dahl, J. L., & Haddox, J. D. (2002). Pain management, controlled Substances, and State Medical Board Policy: A decade of change. *Journal of Pain and Symptom Management*, *23*(2), 138–147. https://doi.org/10.1016/S0885-3924(01)00403-1
Katz, N. (2002). The impact of pain management on quality of life. *Journal of Pain and Symptom Management*, *24*(1 SUPPL. 1), 38–47. https://doi.org/10.1016/S0885-3924(02)00411-6
Kopf, A. (2010). Chapter 35 Pain in Old Age and Dementia. In *Guide to Pain Management in Low-Resource Settings* (pp. 269–275). International Association for the Study of Pain.
Kosten, T. R., & George, T. P. (2002). The neurobiology of opioid dependence: implications for treatment. *Science & Practice Perspectives*, *1*(1), 13–20. https://doi.org/10.1151/spp021113
Krawczyk, N., Negron, T., Nieto, M., Agus, D., & Fingerhood, M. I. (2018). Overcoming medication stigma in peer recovery: A new paradigm. *Substance Abuse*, *39*(4), 404–409. https://doi.org/10.1080/08897077.2018.1439798
Luo, Z. D. (2012). Advancements in pain research. *Methods in Molecular Biology*, *851*, 1–8. https://doi.org/10.1007/978-1-61779-561-9_1
Marks, R. M., & Sachar, E. J. (1973). Undertreatment of medical inpatients with narcotic analgesics. *Annals of Internal Medicine*, *78*(2), 173–181. https://doi.org/10.7326/0003-4819-78-2-173
Max, M. B. (1990). Improving outcomes of analgesic treatment: Is education enough? *Annals of Internal Medicine*, *113*(11), 885–889. https://doi.org/10.7326/0003-4819-113-11-885
Mayo Clinic Staff. (2018). *Chronic pain: Medication decisions - Mayo Clinic*. https://www.mayoclinic.org/chronic-pain-medication-decisions/art-20360371
Meldrum, M. L. (2003a). Opioids and Pain Relief: A Historical Perspective. In *eweb:255192*.
Meldrum, M. L. (2003b). A Capsule History of Pain Management. *Journal of the American Medical Association*, *290*(18), 2470–2475. https://doi.org/10.1001/jama.290.18.2470
Melzack, R. (1990, February). The tragedy of needless pain. *Scientific American*, *262*(2), 27–33. https://doi.org/10.1038/scientificamerican0290-27
Morgan, J. P. (1985). American opiophobia: customary underutilization of opioid analgesics. *Advances in Alcohol and Substance Abuse*, *5*(1–2), 163–172. https://doi.org/10.1300/J251v05n01_11

Morlion, B. J., Mueller-Lissner, S. A., Vellucci, R., Leppert, W., Coffin, B. C., Dickerson, S. L., & O'Brien, T. (2018). Oral Prolonged-Release Oxycodone/Naloxone for Managing Pain and Opioid-Induced Constipation: A Review of the Evidence. *Pain Practice*, *18*(5), 647–665. https://doi.org/10.1111/papr.12646

National Institute on Aging. (2018, February 18). *Pain: You Can Get Help | National Institute on Aging*. National Institutes of Health. https://www.nia.nih.gov/health/pain-you-can-get-help

National Institute on Drug Abuse. (n.d.). *Opioids*. National Institute on Drug Abuse. Retrieved November 15, 2020, from https://www.drugabuse.gov/drug-topics/opioids

National Pharmaceutical Council Inc, & Joint Commission. (2001). *Pain: Current Understanding of Assessment, Management, and Treatments*.

Pergolizzi, J. V., Taylor, R., LeQuang, J. A., & Raffa, R. B. (2018). Managing severe pain and abuse potential: The potential impact of a new abuse-deterrent formulation oxycodone/naltrexone extended-release product. *Journal of Pain Research*, *11*, 301–311. https://doi.org/10.2147/JPR.S127602

Phillips, D. M. (2000). JCAHO Pain Management Standards Are Unveiled. *JAMA*, *284*(4), 428. https://doi.org/10.1001/jama.284.4.423b

Politico, & Harvard T.H. Chan School of Public Health. (2017). *THE PUBLIC'S PRIORITIES FOR CONGRESS AND PRESIDENT TRUMP IN THE POST-THANKSGIVING PERIOD*.

Portenoy, R. K., & Foley, K. M. (1986). Chronic use of opioid analgesics in non-malignant pain: Report of 38 cases. *Pain*, *25*(2), 171–186. https://doi.org/10.1016/0304-3959(86)90091-6

Porter, J., & Jick, H. (1980). Addiction Rare in Patients Treated with Narcotics. *New England Journal of Medicine*, *302*(2), 123. https://doi.org/10.1056/NEJM198001103020221

Pruitt, M., Wen, Y., Pallaci, M., & Dogbey, G. (2020). Is Pain the Fifth Vital Sign? Higher Triage Patient-Reported Pain Score Does Not Predict Increased Admission or Transfer Rates | Journal of Urgent Care Medicine. *The Journal of Urgent Care Medicine*, *14*(7), 22–24. https://www.jucm.com/is-pain-the-fifth-vital-sign-higher-triage-patient-reported-pain-score-does-not-predict-increased-admission-or-transfer-rates/

Puntillo, K., Neighbor, M., O'Neil, N., & Nixon, R. (2003). Accuracy of emergency nurses in assessment of patient's pain. *Pain Management Nursing*, *4*(4), 171–175. https://doi.org/10.1016/S1524-9042(03)00033-X

H.R.3590 - 111th Congress (2009-2010): Patient Protection and Affordable Care Act, (2010) (testimony of Charles B. Rangel). https://www.congress.gov/bill/111th-congress/house-bill/3590

Rathmell, J. P., Wu, C. L., Sinatra, R. S., Ballantyne, J. C., Ginsberg, B., Gordon, D. B., Liu, S. S., Perkins, F. M., Reuben, S. S., Rosenquist, R. W., & Viscusi, E. R. (2006). Acute Post-Surgical Pain Management: A Critical Appraisal of Current Practice. *Regional Anesthesia and Pain Medicine*, *31*(4 SUPPL.), 1–42. https://doi.org/10.1016/j.rapm.2006.05.002

Ringwalt, C., Sanford, C., Dasgupta, N., Alexandridis, A., McCort, A., Proescholdbell, S., Sachdeva, N., & Mack, K. (2018). Community Readiness to Prevent Opioid Overdose. *Health Promotion Practice*, *19*(5), 747–755. https://doi.org/10.1177/1524839918756887

Rischitelli, D. G., & Karbowicz, S. H. (2002). Safety and efficacy of controlled-release oxycodone: A systematic literature review. *Pharmacotherapy*, *22*(7), 898–904. https://doi.org/10.1592/phco.22.11.898.33628

Schiffrin, M. (1956). *The management of pain in cancer*.

Simon, L. S. (2012). RELIEVING PAIN IN AMERICA: A BLUEPRINT FOR TRANSFORMING PREVENTION, CARE, EDUCATION, AND RESEARCH. *Journal of*

Pain & Palliative Care Pharmacotherapy, *26*(2), 197–198. https://doi.org/10.3109/15360288.2012.678473

Singh, R., & Pushkin, G. W. (2019). How should medical education better prepare physicians for opioid prescribing? *AMA Journal of Ethics*, *21*(8), 636–641. https://doi.org/10.1001/amajethics.2019.636

Stein, C. (1997). Opioid Treatment of Chronic Nonmalignant Pain1 : Anesthesia & Analgesia. *Anesthesia & Analgesia*, *84*(4), 912–914. https://journals.lww.com/anesthesia-analgesia/Fulltext/1997/04000/Opioid_Treatment_of_Chronic_Nonmalignant_Pain1.38.aspx

Task Force on Taxonomy of the International Association for the Study of Pain. (1994). *CLASSIFICATION OF CHRONIC PAIN* (2nd ed.).

The Joint Commission. (n.d.-a). *Pain Management Standards for Accredited Organizations | The Joint Commission*. The Joint Commission. Retrieved November 17, 2020, from https://www.jointcommission.org/resources/patient-safety-topics/pain-management-standards-for-accredited-organizations/

The Joint Commission. (n.d.-b). *What is Accreditation*. Retrieved February 13, 2021, from https://www.jointcommission.org/accreditation-and-certification/become-accredited/what-is-accreditation/

The Joint Commission. (2014). *Clarification of the Pain Management Standard*. https://www.jointcommission.org/-/media/deprecated-unorganized/imported-assets/tjc/system-folders/topics-library/clarification_of_the_pain_management__standardpdf.pdf?db=web&hash=D6E33A902EC38D23474E6ACFEAAC1EE5

The Joint Commission. (2017). *Pain Management Standards for Accredited Organizations*. Pain Assessment and Management Standards. https://www.jointcommission.org/resources/patient-safety-topics/pain-management-standards-for-accredited-organizations/

The Joint Commission. (2020a). *Facts About The Joint Commission*. The Joint Commission. https://www.jointcommission.org/about-us/facts-about-the-joint-commission/

The Joint Commission. (2020b). *Why Achieve Accreditation*. The Joint Commission. https://www.jointcommission.org/accreditation-and-certification/become-accredited/why-achieve-accreditation/

Treede, R. D., Rief, W., Barke, A., Aziz, Q., Bennett, M. I., Benoliel, R., Cohen, M., Evers, S., Finnerup, N. B., First, M. B., Giamberardino, M. A., Kaasa, S., Kosek, E., Lavand'homme, P., Nicholas, M., Perrot, S., Scholz, J., Schug, S., Smith, B. H., … Wang, S. J. (2015). A classification of chronic pain for ICD-11. *Pain*, *156*(6), 1003–1007. https://doi.org/10.1097/j.pain.0000000000000160

Trescot, A. M., Datta, S., Lee, M., & Hans, H. (2008). Opioid pharmacology. In *Pain Physician* (Vol. 11, Issue SPEC. ISS. 2, pp. 133–153). https://doi.org/10.1097/ajp.0000000000000710

Tucker, K. L. (2004a). Medico-Legal Case Report and Commentary: Inadequate Pain Management in the Context of Terminal Cancer - The Case of Lester Tomlinson. *Pain Medicine*, *5*(2). https://papers.ssrn.com/abstract=1272842

Tucker, K. L. (2004b). The Debate on Elder Abuse for Undertreated Pain. *Pain Medicine*, *5*(2), 214–217. https://doi.org/10.1111/j.1526-4637.2004.4029_2.x

U.S. Centers for Medicare & Medicaid Services. (n.d.). *The Mental Health Parity and Addiction Equity Act (MHPAEA) | CMS*. U.S. Centers for Medicare & Medicaid Services. Retrieved February 20, 2021, from https://www.cms.gov/CCIIO/Programs-and-Initiatives/Other-Insurance-

Protections/mhpaea_factsheet
United States General Accounting Office. (2003). *Report to Congressional Requesters PRESCRIPTION DRUGS OxyContin Abuse and Diversion and Efforts to Address the Problem*. www.gao.gov/cgi-bin/getrpt?GAO-04-110.
Vadivelu, N., Singh-Gill, H., Kodumudi, G., Kaye, A. J., Urman, R. D., & Kaye, A. D. (2014). Practical guide to the management of acute and chronic pain in the presence of drug tolerance for the healthcare practitioner. *The Ochsner Journal*, *14*(3), 426–433. http://www.ncbi.nlm.nih.gov/pubmed/25249810
Van Zee, A. (2009). The promotion and marketing of oxycontin: Commercial triumph, public health tragedy. *American Journal of Public Health*, *99*(2), 221–227. https://doi.org/10.2105/AJPH.2007.131714
Vila, H., Smith, R. A., Augustyniak, M. J., Nagi, P. A., Soto, R. G., Ross, T. W., Cantor, A. B., Strickland, J. M., & Miguel, R. V. (2005). The efficacy and safety of pain management before and after implementation of hospital-wide pain management standards: Is patient safety compromised by treatment based solely on numerical pain ratings? *Anesthesia and Analgesia*, *101*(2), 474–480. https://doi.org/10.1213/01.ANE.0000155970.45321.A8
Wen, L., & Warren, K. (2018). Combatting the opioid epidemic: Baltimore's experience and lessons learned | Journal of Public Health | Oxford Academic. *Journal of Public Health*, *40*(2), 107–111. https://academic.oup.com/jpubhealth/article/40/2/e107/3979146
Wolkow, N. D. (2014). *America's Addiction to Opioids: Heroin and Prescription Drug Abuse | NIDA Archives*. America's Addiction to Opioids: Heroin and Prescription Drug Abuse. https://archives.drugabuse.gov/testimonies/2014/americas-addiction-to-opioids-heroin-prescription-drug-abuse
World Health Organization. (1986). *Cancer pain relief*. World Health Organization. https://apps.who.int/iris/handle/10665/43944
Zöllner, C., & Stein, C. (2007). Opioids. In *Handbook of Experimental Pharmacology* (Vol. 177). Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-540-33823-9_2