

Strategies Physicians in U.S. Emergency Departments Can Use to Combat Opioid
Use Disorder

By

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Abstract

There are a multitude of studies confirming that structured guidelines and continual education implemented in the emergency room result in improvements in pain management and patient satisfaction. The studies and reports published between 2004 – 2019 were analyzed regarding the different methods and tools emergency physicians should have at their disposal to combat the opioid crisis. The goal of this thesis was to highlight as well as examine the strategies and tools emergency room physicians can use when treating pain in efforts to effectively reduce opioid use disorder. The ability to correctly identify drug seeking behavior (DSB) was the first strategy addressed in the thesis. Physicians generally have accurate sensitivity (62.3%) in suspecting drug seeking behavior (Weiner et al, 2013). According to the study reviewed regarding Prescription Drug Monitoring Programs, PDMPS prove to be extremely useful in determining patterns of DSB, doctor shopping, and prescription drug abuse; with the caveat being only when most up-to-date systems were available and required to be used. The effectiveness, shortcomings and future prospects of urine drug screens were analyzed. Studies on alternative modes to treat pain proved to have same powerful pain desensitizing effect as opioids without the added symptoms and risks, including future addiction. Lastly, an essential part of properly treating pain without placing pressure on physicians to prescribe opioids was found to be effective communication and transparency between physician and patient. With pain being one of the most common complaint from patients in the emergency room, physicians need to take responsibility and do their part to combat the opioid crisis and push back against the pressure to prescribe and by using the tools necessary including, but not limited to, the tools and strategies reviewed in this thesis. This will aid physicians in reducing rates of unnecessary opioid prescription and eliminating the adverse symptoms and drawbacks of opioids while maintaining high patient satisfaction.

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Introduction

As the opioid crisis continues to play a detrimental role in the lives of many across the United States, it is important to understand some of the statistics regarding the opioid epidemic and the potential avenues in which solutions can be sought. According to the Centers for Disease Control and Prevention (CDC), beginning from 1999 to 2018, there have been approximately 450,000 deaths due to opioid overdose. This significant spike in opioid overdoses can be attributed to an increase in the prescriptions of natural, semi-synthetic and synthetic opioids. Just recently, with regards to 2018, the amount of deaths caused by drug overdose has decreased by four percent compared to the previous year, but the number of drug overdoses was still four times higher in 2018 than it was in 1999. In addition, seventy percent of the drug overdoses in 2018, which totaled 67,367, were opioid overdoses (CDC₁ 2020). In light of the drastic increase in opioid overdoses there has been a nineteen percent reduction in the annual rate of opioid prescriptions which signifies that physicians and other healthcare providers are becoming more aware of the consequences of prescription drug addiction as well as more cautious in their opioid prescriptions (CDC₂ 2019).

One of the several avenues prescription drug abusers take to obtain their opioid prescription is through emergency departments (ED). Emergency physicians across the United States are frequently faced with the challenge of having to decipher between patients that are seeking to abuse prescription drugs and patients who are genuinely looking for medicinal relief. According to the CDC, in 2017, there were a total of 139.0 million visits to the emergency room throughout the United States and roughly twenty percent of those visits can be categorized as

having been with patients displaying drug seeking behavior (Grover 2019). Of the estimated twenty percent of these emergency room visits, it has been estimated through a previous study that 2.3 percent of patients making up the twenty percent of the visits that were considered to have had drug seeking behaviors displayed. (Hansen 2005). This small subset of the patient population is difficult to distinguish from the rest because of their deceptive behaviors and convincing lies, but with the proper tools and training physicians and nurses alike in the emergency department will be able to better identify drug seeking patients from therapy seeking patients.

As the rates of opioid addiction and overdose continues to be a prevalent issue, there still lacks a universal consensus amongst physicians as to how or when opioid analgesics should be prescribed (Volkow & McLellan, 2016). There needs to be an increase in resources, strategies, and education available for physicians within the emergency room to combat the crisis and mitigate the risk of addiction and overdoses in US. This thesis takes aim at how physicians across the United States working within Emergency Department can be better equipped to face these challenges and only prescribe opioids and other addictive narcotics when absolutely necessary. The rates of opioid prescription, the confidence of practicing physicians, and patient satisfaction were evaluated to determine which strategies would be most helpful and effective in reducing levels of opioid use disorder (OUD) and preventing future opportunities for addiction. Within this thesis, a guideline that can be adapted at the local level is offered. The guideline highlights the effective tools and strategies, which are suggested to be effective based on previous studies and relevant literature, ED physicians can practice to prevent OUD.

Analysis of Results & Discussion

Drug Seeking Behavior

First, it is important to define drug seeking behavior (DSB) and Therapy seeking behavior, allowing for the differentiation of the two. Drug seeking behavior is a term used by physicians and nurses alike to describe a myriad of manipulative and deceptive behaviors displayed by patients in efforts to obtain a certain medication, usually a narcotic, muscle relaxant or a benzodiazepine (Shakrokh 2008). On the other hand, patients displaying therapy seeking behavior are focused on the alleviation of symptoms and not on the medication prescribed or used to treat the pain or symptoms. Therapy seeking behavior and drug seeking behavior often begin closely intertwined but unfortunately some patients begin to only seek the euphorogenic effects of a particular medication and are less concerned with safer and more effective alternatives to treat their symptoms (Roth 2011). Listed below are many, but certainly not all, of the “classical” drug seeking behaviors common amongst patients across emergency rooms worldwide, not just the United States, that emergency physicians and nurses alike can use to better assess and determine the treatment plan for a patient.

“Classical” drug seeking behaviors include

- Requesting a specific medication by name
- Reporting their medication lost or stolen
- Asking for an increase in dosage of current medication
- Claiming to be allergic to alternative medications
- Irritability or avoidance when asked to elaborate on pain
- Visiting multiple clinics or emergency departments

- Calling emergency department to find out which doctors are working (doctor shopping)
- Requesting early refills for prescription
- Rude and disruptive behavior while waiting to be seen
- Unwilling to try alternative medications
- Taking a larger and more frequent doses of the medication than recommended
- Reporting most pain ever experienced (10/10 pain)
- Requesting medication be administered parentally
- Admitted for headache, backpain, and other hard to diagnose illnesses such as fibromyalgia

A retrospective study investigating the effectiveness of using DSBs as an indicator for prescription drug abusing patients was performed by Grover et al. in 2012. They chose a 205-bed hospital located in a suburban area which serves several nearby cities, approximately totaling a population of 100,000. The criteria patients had to meet to be included in the study were; patients with five or more ED visits in a month, patients identified as having committed prescription fraud or forgery, and patients referred and enrolled in case management for chemical dependency, specifically opioids, benzodiazepines, muscle relaxants and other narcotics. A retrospective chart review was performed. This review included of the patient's history from the previous year. This resulted in the study including a total of 178 patients with an average age of 43 years. In a one-year period these 178 patients accounted for 2,488 ED visits which averages to about 14 visits a year per patient (Grover et al.2012). In the review, they chose ten of the previously listed classical DSB and recorded the number of these behaviors displayed by the 178 patients. The results of their studies concluded drug seeking patients seem to display the classically listed DSB at a relatively infrequent rate.

This is a very significant finding because it points out the fallacy in having physicians rely on drug seeking patients to exhibit DSBs. Although these displayed behaviors can be helpful cues for medical staff to identify a potential drug abusing patient, the study's results conclude that there is no certainty that DSBs displayed will result in a drug abusing patient. Some drug seeking patients can seem like the perfectly normal work up for a physician and some patients displaying DSBs can genuinely be in pain and have no history or intention of abusing prescription. Basing the treatment plan solely on the appearance of DSB is inadequate and can be harmful to patients who actually need a prescription to help manage their pain because the true source of pain is never treated. Other research suggests that EDs over relying on DSB as a tool to identify prescription drug abusers causes the stigmatization of all patients displaying any DSB, which ultimately results in the under treatment of patients in true need of narcotics and patients with pseudoaddiction (Hansen, 2005). These are reasons why EDs across the United States need to develop a more systematic and holistic approach to addressing pain, other potential solutions will be addressed later in this thesis.

Grover et al. (2012) does address his study's limitations, because it is a retrospective study chart review, the quality of the data collected depends on the quality of the of documentation on behalf of the doctors and nurses. Because there is not a clear objective means of confirming which patient are prescription drug seeking, setting the parameters for the patients observed was not fool proof in only isolating prescription drug seekers. According to the data from the study there was an average of 1.1 DSB per patient for each ED visit, few times were there multiple DSBs displayed in one visit. One critic could be that they failed to make clear was the amount of DSBs a patient not suspected of seeking prescription drugs would display per visit, which would have been a good reference to compare their data to. This study was conducted in 2012, which is

an interesting time frame because it was at this point that Prescription Drug Monitoring Programs (PDMPs) were developed and hospitals began to utilize PDMP as an alternative to the unreliable assessment of DSBs.

The unfortunate truth for physicians, especially those working in the emergency room is that the level of pain patients is experiencing is extremely difficult to objectively gauge. One of the primary roles of the physician is to heal and reduce a patient's pain to a manageable level. The dilemma between undertreating genuine pain and wrongfully prescribing to a "professional patient" quickly arises and it is no easy task for physicians to decipher true pain and the level at which patients are being affected by their pain. Physicians should consider cues that might signal a patient's true pain besides what is being expressed by the patient. They should place emphasis on observing patient function, not only relying on what the patient is communicating, or the numerical score given to rank pain (Pentin, 2013). For example, if a patient is seen freely ambulating in the waiting room, eating, or displaying a lack of pain until the physician walks in to assess the patient, then these functional cues should be taken into consideration when developing an appropriate treatment plan. There has to be a level of judgement performed by the physician regarding the patient's pain, especially if they suspect DSB. Although judgment does open up room for error and bias, studies show that physicians, more often than not (62.3%), can successfully predict which patients are exaggerating and objective tools such as PDMPs support their judgement (Weiner et al 2013). Ideally, physicians should use their judgement, along with other objective tools at their disposal to gather a holistic interpretation of the patient's pain and treat them, accordingly, avoiding unnecessary opioid administration and or prescription.

Prescription Drug Monitoring Programs

An additional tool that has been recently added to the physician's toolbox are prescription drug monitoring programs (PDMPs). PDMPs were originally created in Florida, as Florida was and continues to be an opioid hotspot. In 2009, leading up to the creation of PDMP, it was reported that 1 in 8 deaths in Florida were related to prescription drug overdoses (Younget al. 2017). PDMPs were made as an effort to address and mitigate the opioid epidemic in the United States with different variants of PDMPs have been adopted across all States except for Missouri. The main purpose of PDMPs are to aid doctors from over prescribing and helping medical and state institutions detect unusual patterns indicating drug abuse and or doctor shopping. PDMPs serve as a statewide database monitoring all prescriptions of controlled substances (Ayres & Jalal 2018). PDMPs give physicians the chance to view a patient's history of prescriptions and aids them in making their plan for treatment. Some states require doctors check their variant of the program while others do not. Where states vary the most is in how often they require dispensaries to update their databases. In this study the effects of the time delay in updating the PDMPs are discussed by evaluating Ayres and Jalal (2018).

Ayres and Jalal (2018) analyzed the impact of PDMPs on opioid prescription in the United States. The study aimed to focus on prescription rates relative to opioid overdose deaths and visits to the ED. The study was conducted at the national level whereas previous studies have only addressed the state level and the study also incorporates data spanning from 2006 to 2015 which makes it a fairly inclusive, longitudinal study. The opioid prescription data was collected at the county level, provided by the CDC. The data gathered by the CDC was collected from a company that specializes in pharmaceutical market intelligence which gathers their data from roughly 59,000 nonhospital retail pharmacies which are responsible for supplying approximately 88% of the retail prescriptions in the United States. The specific prescriptions of

interest were various forms of opioid analgesics. The study collected its data regarding the legislation and use of PDMPs at the state levels and from the PDMP Training and Technical Assisting Center (Ayres & Jalal 2018).

Ayres & Jalal (2018) found that the opioid prescription rates dropped about two percent in high prescribing area that utilizes PDMPs. Moreover, in these same areas, if there was a “must-access” policy regarding the PDMPs, meaning doctors are obligated to check the PDMPs before prescribing, the rate of opioid prescriptions drops significantly by eight percent. The study also analyzed must-access PDMPs effectiveness in areas varying in class and race. The study found that PDMPs are not significantly effective in counties that fall below the national median with regards to average income and proportion of white population. Results from the study show that wealthier counties and counties with a higher proportion of the white population show significant rates of PDMPs effectiveness. The study adds that this disparity can be a consequence of fact that opioid use disorder (OUD) disproportionately effects the white population. Resulting in counties and states with a greater proportion of the white population being more responsive to programs put in place to address OUD, programs such as PDMPs. The study also revealed that the frequency at which the PDMP databases are updated do not significantly affect the rates at which opioid analgesics are prescribed (Ayres & Jalal 2018). This finding might seem counterintuitive, but it highlights that what is most effective, is when there is a must access policy present, not the frequency at which the data bases are updated. With findings such as these, that illustrates the effectiveness of PDMPs, in specific must access PDMPs. There should be serious consideration into making hospitals and emergency departments nationwide use some form of PDMPs and enforce policies that require physicians to check the PDMP before prescribing any opioid related prescription.

The study does come with its limitations, the data only reveals where the opioids were prescribed and not consumed. Meaning that some patients could travel across state borders to a specific physician or ED which causes some discrepancy in the prescription rates relative to where they were prescribed. Secondly the study lacked the amount and durations of the prescriptions which could have revealed any underlying patterns in the prescription rates (Ayres and Jalal 2018). The study analyzed the effectiveness of PDMPs which, as we know serves as a data base of prescriptions physician can reference before prescribing. A future interesting study would be the quality of charting or documentation (which remains in the hospital's data system) of a prescription drug abusing patient or a suspected prescription drug abusing patient as it relates to their sequential rates of prescribed opioid.

Drug Screens

Drug screening via urine test is another asset emergency physician, and other physicians as well, can use to help determine their course of action when treating a patient. Urine analysis is extremely helpful because it is one of the few tools physicians have at their disposal that offers an objective and measurable results. Some of the other means doctors might use to determine the likelihood of a patient being a prescription drug abuser are subjective and are susceptible to flawed judgment. Urine drug tests can also reveal information that was not communicated from the patient during the physician's initial assessment. There is the possibility of a false reading i.e. a false positive or false negative but with the proper training and sufficient communication with the lab technicians the likelihood of error can be reduced to minimal levels (Ducharme & Moore 2019). The drug screen can inform the physician of illicit drug use and it could reveal the excessive consumption opioids. On the other hand, the results could comeback negative leaving the option of prescribing opioids in the acute setting if necessary, on the table.

At first glance, urine screening for illicit drug use before treating the patient with opioids or other medications sounds like a reasonable idea, but there are some drawbacks physicians need to take into account before choosing to order a urine screen. A few issues arise when relying solely on a urine screen to determine the proper course of action in regard to treating the patient's pain. First being that placing the order for the urine screen and waiting until the results come back takes time. As an emergency room physician, sometimes waiting for test results is not a viable option especially when the patient is demonstrating high levels of pain. Secondly, urine tests are not always accurate, of the frequently used drug tests used in emergency departments, only roughly 1% give a false positive, and 6-26% of the time a true drug presence can be missed (Franzen 2013). The goal is to determine which, if any, illicit drugs are being abused. Most urine drug tests can only recognize drugs that have been taken within the last 1-3 days, additionally they only signal if certain prescription medications and illegal substance are present, rather than specifying which drug is present in the urine (Tellioglu, 2008). Additional specific immunoassays or other techniques such as high-performance liquid chromatography and gas chromatography are required to precisely identify the substance, but these are usually more time consuming and less cost effective.

On the other hand, there are some advantages and there continues to be improvements made in the techniques used for urine drug tests. Recently developed "dip sticks" are noninvasive, more cost effective, and quicker than gas or high-performance liquid chromatography, although not as sensitive with possible false negatives (Tellioglu, 2008). The field of medicine and science is always evolving with new innovations being made. There is hope and a high probability that new ways to perform accurate, specific, accurate, time and cost effective urine drug tests will arise when they do, physicians should take advantage of these

innovations to ensure they are creating a treatment plan that is best for the patient. In the meanwhile, physicians should still use urine screening in the emergency room at their discretion as they are still very useful and provide a lot of information about patient and their overall health. Urine drug tests should remain be utilized at by pain management centers to ensure their patients are not abusing their prescriptions or mixing their medications with other harmful substances that could cause additional, unnecessary damage to their health.

Similar to using a drug screen to decide proper treatment for a patient claiming pain, physicians can use what is called a Screening, Brief Intervention, Referral and Treatment (SBIRT) as part of their approach and treatment when dealing with a patient that is known or highly likely to use illicit drugs or abuse prescription drugs. SBIRT is a public health service that grants physician's the opportunity to preventatively intervene with high-risk drug abuse patients before addiction and other negative associated consequences arise. The screening portion of the treatment quickly assesses the patient's current level of substance use and sets the floor for the treatment plan. The brief intervention involves communicating the dangerous of substance abuse and encouraging a change in current behavior. Based on the information gathered the physician can then refer the patient at risk for substance abuse to proper specialty care so they can receive the treatment that is right for them (McCance-Katz & Satterfield 2012). SBIRTs are currently used in primary care offices, specifically targeting alcohol abuse disorders, but there has been growing evidence that the use of SBIRT are effective for lowering levels of substance abuse when used in the primary care setting so there is potential for the use of SBIRT in the emergency room as suggested by (McCance-Katz & Satterfield (2012).

Alternative Modes to Teat Pain

With acute pain being the most common reason for visiting the emergency department, it is imperative for emergency room physicians to be well versed in alternative methods to treat acute pain. A multimodal approach to treating acute pain in the emergency department should be encouraged as it offers numerous benefits over opioid consumption. There are several alternatives to parental opioids that are safer and just as effective in reducing acute pain. A commonly used pain reliever in the emergency room are oral analgesics, which are a broad group of pain-relieving medications that are taken orally. An example of common oral analgesics are non-steroidal anti-inflammatory drugs (NSAIDs). NSAIDs reduce pain and swelling by inhibiting the production of prostaglandins, enzymes that cause swelling and inflammation. NSAIDs can be very effective, but there are limitations, patients with kidney disease should avoid the use of NSAIDs because it can result in chronic kidney complication such as interstitial nephritis (Howley 2018). Common NSAIDs include ibuprofen, acetylsalicylic acid (Aspirin) and naproxen sodium (Aleve). Another frequently used oral analgesic is acetaminophen (Tylenol). Acetaminophen is not classified as an NSAID, but it has a similar effect. The use of acetaminophen needs to be carefully regulated because overuse can result in acute liver failure which would negate its intended purpose and cause more harm than good. It is reported that acetaminophen overdose is, single handedly, the leading cause of liver failure in the United States (Howley 2018). Limitations of these drugs are a slight delay in which the effects are felt by the patients because they are taken orally and need to be activated and absorbed whereas parental opioids are administered intravenously and have an immediate effect. That is not to take away from the usefulness and effectiveness of oral analgesics as they should be routinely considered as an alternative to treat pain in the emergency department.

Anticonvulsants, like gabapentin and pregabalin, are most commonly used as a sedative before operation and to treat chronic neuropathic pain because of their ability to inhibit the release of excitatory neurotransmitters. Gabapentin and pregabalin can also be used to treat acute pain and reduce the amount of necessary opioid consumption. Side effects of excessive gabapentin and pregabalin use are weight gain and swelling of the peripheral extremities. Similar to those anticonvulsants, ketamine is a nonbarbiturate that has been traditionally used to treat chronic neuropathic pain but can be also used in the acute setting to effectively treat pain. Ketamine, like most other medications, has its side effects and limitations, it causes an elevation in intracranial pressure, an increase of sympathetic activity, and hallucination. This should be taken into consideration especially when treating patients with underlying cardiac complications, intracranial pathology and psychiatric issues (Graff & Grosh 2018).

Administering local anesthesia is another option for ED physicians when treating acute pain. Local anesthetics can be utilized in the form of nerve blocks. In a nerve block, a local anesthetic (common local anesthetics are lidocaine derivatives) is injected near the site of the target nerve where the local anesthetic blocks the sodium channels which impedes the depolarization mechanism of the neurons, thus not allowing for the action potential to propagate and effectively stopping the communication between the affected area and the processing regions within the brain (Graff & Grosh 2018). The use of gabapentin, ketamine and local anesthetics should be considered alternative medications to treat pain and to mitigate the harmful effects of opioid consumption. The use of opioids may ultimately be necessary to properly treat a patients pain, but alternative, less addictive and less harmful medications should be taken into consideration by ED physicians when developing a treatment plan as they can be used in synergy

to safely and effectively treat acute pain. Avoiding the prescription opioids and choosing to treat pain with alternative medications also eliminates chances for addiction.

Duncan, et al. (2019) assessed the effectiveness of an alternative to opioids (ALTO) first approach and how its implementation affected opioid use and patient satisfaction. A guideline for doctors was implemented that encouraged them to seek alternative treatments, if possible, first before using opioids to treat acute pain. These alternative methods to treat pain include but were not limited to the multimodal options mentioned previously including oral analgesics (NSAIDs & acetaminophen), gabapentin anticonvulsants (gabapentin & ketamine) and local anesthetics. The participating emergency department averaged more than 60,000 visits per year and the hospital serves as a level 1 trauma medical center. A retrospective chart review was performed between October through December of 2015, which totaled 14,918 emergency room visits. The information gathered from that group of emergency room visits was before the ALTO first approach was implemented. The following year, October through December of 2016 a total of 14,634 emergency room visits were recorded and during this time the ALTO first approach was being implemented by physicians. Throughout both observational periods, patient satisfaction and their perception of how their pain control was managed were measured (Duncan, et al. 2019). The study does address its limitations, the trauma medical center's emergency department's patient population may not be representative of the general patient population. With such a large sample size and with a year's span between the observation it is difficult to identify and account for any confounding variables that would have lowered the rate of opioid administered to the patients (Duncan, et al. 2019). But as other hospitals and states begin to implement similar approaches to medicine in the emergency department, it is suspected that the same trend of lower levels of opioid use and administration will be observed, validating the study's promising results.

After the implementation of an ALTO first approach in the emergency room, there was over a twenty percent decrease in parenteral opioid administration, while simultaneously maintaining the same level of patient satisfaction (Duncan, et al.2019). The majority of emergency departments across the United States do not have a standardized protocol regarding the administration of opioids, but with the supporting evidence from studies such as this one, it could be assumed that a broader implementation of guidelines that encourage ED physicians to use alternative, multimodal methods to treat acute pain when possible, would result in a decrease of opioid addiction, furthermore lowering the rate of opioid abuse and opioid related drug overdoses. The goal of an ALTO first approach style of treatment is not to completely eliminate the use of opioids, but rather to lower the unnecessary prescription and administration of opioids because of their unwanted side effects all while maintaining a high level of patient satisfaction and proper pain management in in the emergency room.

Physicians should also consider the drawbacks of treating pain with opioids in the emergency room. There are the common unwanted side effects of opioids such as constipation, nausea vomiting, tiredness, and impairment of cognizance (King et al., 2005). There are also less known but very significant implications when relying on opioids to treat pain. The first being the development of antinociceptive tolerance to the medication, requiring a higher dosage to reduce the pain. In addition, prolonged and or excessive consumptions of opioids can cause abdominal pain, which in turn would require additional medication to alleviate the pain (King et al., 2005). These issues are more common with patients suffering from chronic illnesses who are prescribed opioids through pain management.

An issue more specific to the emergency room setting that is often overlooked is potentially masking or misdiagnosing undifferentiated abdominal pain by administering opioid

analgesia. If patients are under the effects of pain numbing medications like opioids, they will mistakenly perceive that the original cause for their pain is resolved, or not respond accurately to certain diagnostic tests such as Murphy's sign which is useful for physicians in diagnosing the root cause of abdominal pain (Nelson et al., 2004). Discharging patients and sending them home with a misdiagnosis is a serious danger as the true culprit of their pain can quickly evolve into a more life-threatening issue while the patients remain unaware because of the pain medication they were given. This adds the list of reasons why physicians should always prescribe opioids with caution and look for alternative ways to effectively manage the patient's pain

Pressure to Prescribe

Along with pain management, high levels of patient satisfaction are one of the top priorities across emergency departments nationwide. There is an interesting relationship between the Centers for Medicare and Medicaid Services (CMS) and hospitals that has come under scrutiny because of its unintended consequences. CMS is a federal agency that looks over public health programs like Medicare and Medicaid and that try to ensure quality care for patients. One of the main methods they use to coerce hospitals to pursue and maintain high levels of patient satisfaction is through their reimbursement program. In essence, Medicare and Medicaid act as insurance companies that reimburse the patient's costs to hospitals according to the levels of patient satisfaction reported by the patient. CMS records gathers feedback from patients through a survey created titled, "Hospital Consumer Assessment of Healthcare Providers and Systems" (HCAHPS) which is composed of a series of question rated on a scale from 1-10, each question designed to measure a different aspect of the patients experience, one being a poor experience and ten being an excellent experience (Feke 2017). If hospitals receive a high score, reflecting a positive patient experience, they are reimbursed a larger amount of money from CMS. Similarly,

if a hospital receives a poor patient experience score, CMS withholds and reimbursements. This model was created with good intent to ensure hospitals treat each and every patient with the proper level of care by holding hospitals and physicians accountable, but it is easy to see where problems with this model might arise. There has been concern that physicians, particularly in the emergency room, feel pressured to prescribe opioids to patients because they are in fear of receiving a bad score and being reprimanded by the hospital if they do not prescribe the patients' desired medication.

In search for possible answers, Kelly et al. (2016) conducted a study which sought out the opinions of emergency room physicians currently practicing in the United States regarding the impact of the regulatory factors imposed on them concerning their treatment of patients displaying DSBs. The study was a descriptive cross-sectional study, that utilized an online tool to survey a sample of 141 emergency room physicians, specifically throughout Florida and Georgia. The results of the study were quite significant and raise questions about the current regulatory climate in the emergency department.

The survey questioned doctors on their methods and ability to identify opioid use disorders, including use of drug screens, access to PDMPs, and physical examination. Of the 141 emergency physicians surveyed, only 25% had the luxury of performing drug screens in the emergency department. The rest had to send out the samples for screening which, as a consequence would elongate the patients stay, back up the flow of the emergency department and ultimately lead to a lower patient satisfaction score (Kelly et al. 2016). And as previously discussed, the patient satisfaction score is largely what CMS uses as a metric to discern what it is going to reimburse the hospital. Leaving physicians discouraged to perform a drug screen of patients they suspect to be prescription shopping if they know the amount of time it takes for the

results to come in is a burden. PDMPs use was also questioned in the survey, specifically factors discouraging physician from utilizing them. According to the survey, only 18% reported always accessing their states PDMPs as a way to identify opioid use disorder. Of the participants who did reference their states PDMP 68% reported seeing doctor shopping behavior according the PDMP. 76% of the ED physicians reported the use of PDMPs being too time consuming and 74% of physicians reported being too busy to reference the states data base, and 36% reported of lacking the knowledge to access PDMPs (Kelly, et al. 2016). This lack of utilization of PDMPs could reflect a lack of proper education and training on the use of PDMPs.

The participating ED physicians were asked their opinions on the regulatory and administrative factors that affect their opioid prescription practices. According the responses, 40% of the participants themselves or a colleague they knew firsthand had been formally reprimanded for failing to prescribe opioids. The majority of participants (72%) reported feeling a pressure to prescribe opioids in order to avoid having patients submit a complaint to administration for having their pain inadequately treated (Kelly et al. 2016). This puts ED physicians in a unique dilemma, in what was created as an initiative to ensure better patient care and support has now serves as an exploitable avenue for prescription drug abusers and doctor shoppers to use to obtain their desired medications. There has to be some reform to the current model where a balance is found, keeping patient care and satisfaction a top priority while allowing doctors to work to their full potential, enabling them to use their best judgment without having to worry about being formally reprimanded.

Kelly et al. (2016) explains the significant trends as well as some limitations. Emergency room volume has increased over the last few years. As the opioid epidemic gains attention there have been closures of “pill mills” which were previously large producer of opioids. Additionally,

there has been a decrease in the number of private practices accepting Medicare and Medicaid because of the CMS transition from “fee-for-service” reimbursement to a “pay by performance” brought by the Patient Protection and Affordable Care Act of 2010 (Kelly et al. 2016). This ED volume increase can also be attributed to patient awareness that ED’s are required by law to take them regardless of insurance. This adds to the significance of the study because patients that might have previously prescription shopped elsewhere are now being funneled into emergency department because of the previous factors listed and doctors in the ED are now under administrative regulatory factors to prescribe the desired opioids to maintain high levels of satisfaction so that hospitals can be fully reimbursed by CMS. As far as limitations the study, the sample size and restriction to only ED physician in Florida and Georgia could reduce the ability to generalize the results, acting as a limitation. The surveys were voluntarily completed online, making the number of participant and potential for bias uncontrolled. In efforts to reduce bias in the results, all the questions in the survey had an option for a free response in case the multiple-choice options did not align with their opinion.

There is a silver lining for physicians in the emergency room who are worried about administration coming down on them if they receive poor reviews for refusing to prescribe opioids. These physicians can negate the damaging reviews by making sure they thoroughly chart their reasoning for choosing not to treat with opioids. If a physician is sufficiently able to articulate that the patient was displaying drug seeking behavior, if the patient was of an altered state of mind or if the patient was being combative or threatening when first refused the pain killers (which is a DSB) then they can use their descriptive charting as evidence for their decision to not prescribe if a complaint is ever filed against them. This policy helps protect

physicians who are trying to use their best judgment from administrative penalties and helps to alleviate the pressure to prescribe within the emergency department.

Education for Physicians & Patients

The final major resource physicians have at their disposal to combat the opioid epidemic and unnecessarily prescribing opioids in the emergency room is continual education. There have been many studies supporting the effectiveness of continual education. One study in particular looked into the effectiveness of a continual education which assessed the attitudes and knowledge levels of practicing physicians before and after the three hours of continual education (Daniel et al., 2016). The results showed that after watching the required continual education, 67% of physicians reported feeling more comfortable in safely prescribing opioids and 86% of physician reported having changed their practicing methods (Daniel et al., 2016). This study emphasized the importance and added benefit of continual education for physicians. With the opioid epidemic being pertinent issue relevant to the emergency department, continual education should be utilized by physicians to better themselves as providers and help combat the epidemic.

Just as continual education is essential for physicians, education for the patients regarding the goals of pain management within the emergency room is equally as important. There is a misconception amongst many patients that the goal for physicians in the emergency room is to completely alleviate them of their pain. Physicians are concerned with identifying and addressing the cause of the pain and physicians have the responsibility of communicating that message to the patients. Physicians are still responsible for treating the pain, but rather than giving medication that numbs the patient of the pain completely, physicians should focus on bringing it down to an adequate or manageable level. Patients also need to be educated on the potential side effects and risks of treating pain with opioids like potentially masking the pain as mentioned

before. For example, if a patient comes in with a sprained ankle, it would be much better for the patient if the pain is adequately managed with NSAIDs because it would reduce the pain to a manageable level, but there would still be tenderness, reminding the patient not to put weight on the foot or agitate it in any way that would hinder the healing process (Loguidice, 2019).

Establishing good communication between physicians and their patients regarding the patient's treatment plan for their pain is going to be critical in maintaining high levels of patient satisfaction while minimizing the unnecessary use of opioids to treat pain.

Strategies for Physicians

Many emergency rooms across the United States lack a defined protocol as to how and when opioids should be used to treat acute pain in the emergency setting. The choice is often left up to the physician. The goal of this study is to provide emergency physicians a list of strategies they can use at their disposal to minimize the unnecessary use of opioids as a method of pain management. Previous studies support the idea that having continual education and a set protocol within emergency departments regarding pain management have led to improved pain management and patient satisfaction within emergency departments where it was implemented (Decosterd et al., 2007). The methods included in this guideline have been previously discussed in this study.

Strategy

Application & Reasoning

Attention to drug seeking behaviors - Physicians generally have accurate sensitivity (62.3%) in suspecting drug seeking behavior. Should always check PDMPs to verify suspicion. Avoid stigmatization of patient with other staff members. Continue with fair and unbiased evaluation keeping common DSB's in mind.

Prescription Drug Monitoring Programs – PDMPs should be required to access when determining whether using opioid as part of treatment plan for pain. Physicians should have access to most up-to-date data. Drops opioid prescription rates by 8% when used. Extremely helpful tool in determining patterns of DSB, doctor shopping, and prescription drug abuse.

Urine Screen - Urine screening opportunities does not always present itself in the ED. Do not want to prolong patients' pain or increase cost of hospital stay. Use with caution to determine use of illicit drugs or current opioid use disorder. Anticipated that new, quick, specific, and cost-efficient methods of urine analysis will be available.

Alternative Modes to Treat Pain – Weighing and using NSAIDS, certain anticonvulsants, regional anesthetics, and nerve blocks as alternatives to opioids. Can be used in synergy to have same powerful pain desensitizing effect as opioids without the added symptoms and risks, including future addiction.

Careful Dictation when Charting to avoid – Physicians are faced with a pressure to prescribe opioids in order to keep patients and administration happy because of the switch to a “pay by performance” style of reimbursement. Making sure they chart their patients with precision and clarity as to why they chose not to prescribe is essential to avoid backlash from management. Be familiar and up to date with State's codes and statues regarding opioid prescription.

Continual Education for Physicians – Evidence suggests 67% of physicians reported feeling more comfortable in safely prescribing opioids and 86% of physician reported having changed their practicing methods after having completed continual education relating to opioid use as part of pain treatment.

Patient education on Opioids – Communication and transparency between physician and patient is key. Education on symptoms and risks when using opioids to relieve pain, i.e. constipation, nausea vomiting, tiredness, and impairment of cognizance along with potential masking of true pain source as well as addiction. Goal is to maintain high levels of patient satisfaction by bringing pain to tolerable levels and treating the source of the pain.

Conclusion

Pain is one of the most common, if not the, most common complaint from patients in the emergency room (Janati et al, 2018). In the emergency room, patients report both acute and chronic pain. It is a priority for emergency room physicians to adequately treat the patient's pain, and more importantly address the source of the pain, as this will improve their quality of life, and increase the patient satisfaction level (Janati et al, 2018). Objectively gauging patient's pain in the emergency room becomes the challenge for physicians, as pain is subjective to each patient. Physicians do not want to overtreat or undertreat pain as each of those situations have their own set of negative complications. Physicians in the emergency room also have to keep in mind that there is always the possibility for "professional patients" who are just there to seek prescription pain killers. This is where the list of methods and tools ED physicians have at their disposal become very beneficial in gauging pain and treating pain in the most appropriate and effective manner possible that is safest for both the patient and the physician.

Opioids have their value as an effective pain killer, but they should be prescribed with caution and only when absolutely necessary. There has been a 300 percent increase in opioid prescriptions within the United States and emergency room continues to be a major player in the

opioid crisis (Pentin, 2013). This problem arises as physicians are caught in the middle between believing they are obligated to relieve patients of all their pain and being in fear of inadequately treating pain, which results in a patient complaint reaching administration, consequently reprimanding the physician. Once physicians begin to cave to the pressures of administration and demands of patients by freely prescribing opioids, it might seem like a quick fix to their immediate problem, but they are only contributing to a greater issue. This is where raising awareness for the opioid epidemic, continual education, and transparent communication for physicians with administration and patients become imperative.

Physicians need to be empowered by administration and the medical community to stand up against the pressure to freely prescribe opioids. Physicians often know best; they tend to know when patients are displaying drug seeking behaviors and are more often than not able to decipher which patients are experiencing true excruciating pain that may require stronger pain medication like opioids. They need to have the tools necessary to combat the opioid epidemic, tools like prescription drug monitoring programs that provide the most current and up to date information regarding the patient's previous prescriptions and history. PDMPs have proven time and time again to be effective tools for physicians, yet they are not required to be used, or even available to all ED physicians across the U.S.. Physicians have a vast arsenal when it comes to ways in which they can treat pain, and they should be encouraged to exhaust different options, that are less harmful than opioids yet provide the same pain relief to patients. As previously mentioned, this also eliminates the chances for future addiction which is the core issue in prescription drug abuse.

These steps towards combating and defeating the opioid crisis can only be taken if the tools and proper education for physicians are made available and used synergistically. There are

a multitude of studies confirming the notion that structured guidelines and continual education implemented in the emergency room result in improvements in pain management and patient satisfaction. Physicians need to take responsibility and do their part to combat the opioid crisis by using the tools necessary including, but not limited to, the tools and strategies discussed in this thesis. Physicians, as well as the rest of the medical and scientific communities should advocate for future studies to identify factors that contribute to the opioid crisis as well as factors that are effective in combative the opioid crisis.

As the prevention and treatment of opioid use disorder starts to make its way to the spotlight, physicians must remember to approach patients battling addiction with compassion. Opioid use disorder is notoriously difficult to treat, the strength of the addiction can be seen as those under the control of addiction begin to prioritize getting their next fill over their families, their work, and their own personal health. Additionally, individuals who exhibit high levels of low self-esteem and criticism are more at risk to developing opioid use disorder than their counter parts (Carlyle et al, 2019). Physicians, as well as medical staff and the community outside of the medical field need to become aware of the struggle's opioid addition causes. Instead of creating a negative stigma for addiction, that might drive those addicted to hide their symptoms, compassion and empathy should be used. This will then create awareness of opioid use disorder, in the process, advocating for those struggling with addiction to seek treatment. For effective treatments, cognitive behavioral approaches need to be utilized, and this can come in the form of education on treatment and relapse prevention. It requires motivation from those around the person affected with addiction, and more importantly self-motivation (Saxon 2018). This is where compassion and meaningful communication from physicians and family is necessary and most helpful for those addicted.

The strategies highlighted in this study may need some modification when applied to individual emergency departments. It is not intended to serve as a blanket strategy for all EDs, but rather as a list of resources that should be adapted, tweaked as necessary, and complemented with additional resources in order to better fit EDs on an individual level. The message of this study is to err on the side of caution when prescribing opioids, not eliminating them. With the rapid changes and innovation in the scientific community, maybe there will be future pain medications that have the positive effects of opioids while leaving behind the negative symptoms including addiction. Until then, physicians need to stay resolute in their commitment in doing what is best for the patient and their community.

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