

The Opioid Crisis and its Connection to Dentistry



Harry Charles

Harry Charles is a junior from Rock Hill, South Carolina. He is the Drum Major for Band company, and is majoring in Biology with the intent to become a dentist after graduating. In his free time, Harry enjoys playing piano and juggling.

Abstract

The correlation between dental prescriptions and the opioid crisis has long been established, but poorly understood. This paper will discuss the history, techniques, and trends that explain how the modern dental industry has inadvertently contributed to the opioid crisis, and what measures should be or have already been taken in order to address this problem.

I. Introduction

The opioid crisis has been on the rise since the 1990s and has only become more prominent as opioids have become more readily available as a medication. Dentistry is a common contributor of opioids to the public as dentists are capable of and often expected to prescribe opioids to patients. Opioids are frequently a go-to medication for common dental pains/aches. Dentists have a responsibility to prescribe opioids to patients who need this medication; the only problem is that there are many who seek out dentists for the sole purpose of acquiring opioids with the intent to abuse them. While it may seem like the opioid crisis does not affect everyone, this could not be further from the truth; “In 2017, 11.4 million US citizens misused prescription opioids, resulting in 46 overdose deaths daily and a \$78.5 billion burden on the economy” [8].

For these reasons, the opioid crisis has become an issue relevant not only to dentists but the general public as well. This report will identify the different classes of opioids relevant to dentistry and what can be done in response to the crisis by the dental community. The most common opioids are codeine, oxycodone, and tramadol. To combat the opioid crisis, dental education should require knowledge of the opioid crisis, as well as how to recognize those patients who are potentially addicted to opioids. In addition to this, dentists should seek to prescribe other effective but less addictive medications before resorting to prescribing opioids. Only through this increased awareness and alternative routes can dentists do their part to combat the opioid crisis.

II. History

To know how to end the opioid crisis, it is important to know how it began. The opioid crisis is generally said to have begun in the 1990s, when doctors began prescribing opioids to patients complaining of aches and pains. It was not long after this that people began dying due to overdoses on opioids. In fact, during the time between 1999 and 2010, over 630,000 people in the United States died due to drug overdoses, most of which were due to use of opioids prescribed for pain [1]. The government has taken many measures to try and lessen the effects of opioids on our society, most of which have been increased control of these sorts of substances [1]. Some of these measures have been

somewhat successful, but the opioid crisis is still an issue as many gain opioids through legal means. The writer asserts that this problem must be handled at the source, that being one of America's primary sources of opioids: dentists.

III. The Crisis' connection to Dentistry

1. *Are Dentists really contributing to the Opioid Crisis?*

The origin of scandalous activity is often ambiguous, as those who participate intend it to be that way. Thus, the above question must be asked; attacking a falsely perceived cause will do nothing to hinder the effect. Unfortunately, the evidence overwhelmingly points to dentists as an inadvertent but prominent source for opioid abuse in America. According to the Journal of the American Dental Association, "an estimated 23 percent of prescribed doses are used nonmedically" [2]. 1 out of every 5 people leaving a dentist's office with opioids are inappropriately using that medication to get "high," which as the history of the opioid crisis demonstrates, can have less-than-desirable effects on society. Furthermore, the Australian Prescriber writes that "In the United States a pre-filled opioid prescription, given for the extraction of wisdom teeth, has been found to be an independent risk factor for persistent opioid use" [7]. It seems unmistakably obvious, but it must be acknowledged by all medical professionals: giving patients opioids increases their risk of opioid addiction. All of this is not to say that dentists are acting irresponsibly with their prescribing



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of opioids. They are an efficient medication at their intended purpose (pain alleviation), and often do a huge service to those patients with strong pain after intense procedures. But the Australian Prescriber goes on to say that "Dentists may...be targets of 'doctor shopping', in which drug-dependent people seek drugs for misuse from multiple prescribers" [7]. Dentists cannot read minds, so when a patient says they are experiencing dental pain, there is no choice but to try and treat it. For a long time, this has meant giving patients codeine, oxycodone, and tramadol (which constitute the 3 most

misused pharmaceutical products) [7]. Dentists must be aware that not all patients

truly need the prescribed medicine, and that many negative effects can arise from erroneous prescription of opioids. Dentists must then respond to this burden of responsibility by doing what they can to mitigate the opioid crisis.

2. *Do Dentists have an obligation to fight the opioid crisis?*

The goal of a dentist is simple: treat medical issues of the mouth. With the opioid crisis in mind, however, the question must be asked: What should a dentist do when their treatment of a single person is potentially decreasing the health of the overall population? If there is any sort of substance which they deem an adequate medication for use on their patients, one would generally agree that they should use it. After all, the Hippocratic Oath (a covenant taken by all medical professionals upon graduating

from medical school) states “I will apply, for the benefit of the sick, all measures [that] are required” [4]. But the Hippocratic Oath also says, “I will prevent disease whenever I can, for prevention is preferable to cure” [4]. The responsibility of a dentist is not solely to uphold the health of one person, but to uphold the health of all. By continuing to prescribe opioids despite the evidence that it is worsening the opioid crisis, dentists are ironically undermining populational health. For these reasons, dentists have a clear and undeniable obligation to do what they can to combat the opioid crisis. The writer’s answer to the previously asked question: Dentists should consider methods of providing pain alleviation to their patients without overprescribing opioids if it is possible. This paper will elaborate on those possibilities.

3. Is lessening the prescription of opioids feasible?

It is easy to slander opioids and call for them being taken off the market when one looks at any data concerning the opioid crisis. But anyone who has ever undergone an intense medical procedure will surely testify to the importance of pain medication. So, is increased risk of addiction as opposed to suffering patients really just the lesser of two evils? The data suggests otherwise. “In 2016, the proportion of prescriptions written by US dentists that were for opioids was 37 times greater than the proportion written by English dentists” (Table 1) [6]. America is very advanced in many ways, but it seems to be lagging when it comes to the opioid crisis. Dentists in England typically try to prescribe nonsteroidal anti-inflammatory drugs (NSAIDs) and acetaminophen rather than opioids, which is obviously a preventative measure for opioid addiction. The effectiveness of these alternatives to opioids will be discussed later

in this paper. Furthermore, this same study found that while “the codeine derivative dihydrocodeine was the sole opioid prescribed by English dentists, US dentists prescribed a range of opioids containing hydrocodone (62.3%), codeine (23.2%), oxycodone (9.1%), and tramadol (4.8%)” [6]. This is very worrisome because as previously stated, codeine, oxycodone, and tramadol constitute the 3 most misused pharmaceutical products [7]. These opioids with high potential for abuse are far less likely to be prescribed in England [6]. The evidence shows that it is completely feasible to decrease the number of opioids prescribed for dental pain, but that American Dentists simply are not making the effort to do so.

IV. Recommendations

1. Dentists must be more skeptical of patients

Patients lie to dentists sometimes. This is nothing new, seeing as many dentists must frequently interrogate as to just how often their patients are really flossing. As previously cited, “Dentists may...be targets of ‘doctor shopping’, in which drug-dependent people seek drugs for misuse from multiple prescribers’ [7]. When it comes to opioids, being aware of human nature and being somewhat mistrustful of patients could be the difference between life and death. If dentists are to ever be capable of doing their part to end this opioid crisis, they must be willing to question returning patients constantly complaining of mouth pain and wanting opioids. Of course, there would be far less worry for addicted patients if dentists could simply prescribe only non-addictive drugs. Luckily, this is an entirely possible solution, and should be put into practice.

Table 1. Dental Prescribing Rates and Frequencies in the United States and England in 2016 [6]

| Prescribing Outcomes | United States | England |
|---|------------------|----------------|
| Number of Dental Opioid Prescriptions | 11,440,198 | 28,082 |
| Population-based Opioid Prescribing Rate, Number of Prescriptions per 1,000 Population (95% CI) | 35.4 (25.2-48.7) | 0.5 (0.03-3.7) |
| Clinician-based Opioid Prescribing Rate, Number of Prescriptions per Dentist (95% CI) | 58.2 (44.9-75.0) | 1.2 (0.2-5.6) |

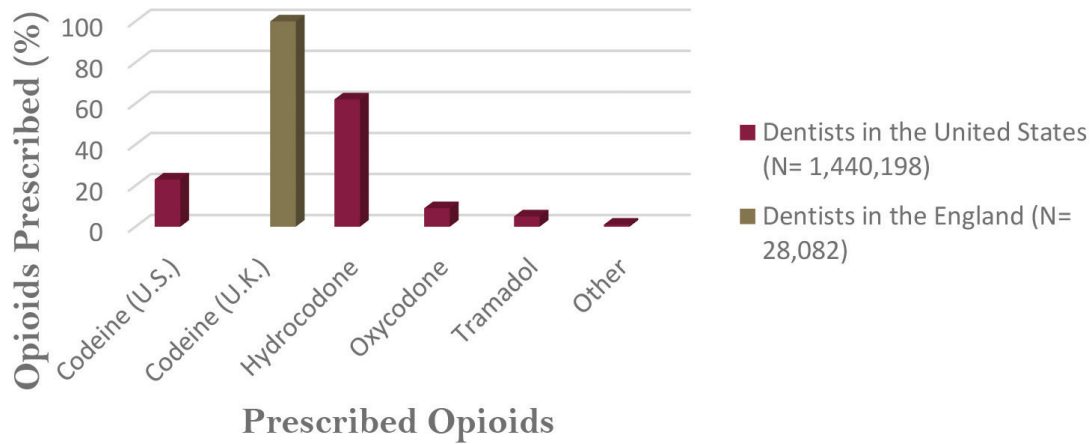


Fig 1. A bar graph showing the variety in opioid prescriptions made in the United States and England [6].

2. Alternative Medications

The easiest way to prevent opioid abuse is to stop giving people opioids. It seems so obvious as to not even be worth mentioning, but as the previously mentioned data shows, American dentists have not yet made a coordinated effort to avoid opioid prescription where possible. Dentists must consider alternative methods for pain alleviation, of which there are many: “results from reviews published respectively in 2018 and 2016 help confirm that NSAIDs and NSAID-acetaminophen combinations are as effective as or more effective than opioids for controlling dental pain and cause significantly fewer adverse effects” [8]. NSAIDs are nonsteroidal anti-inflammatory drugs, and they account for most analgesic prescriptions in Europe, where opioids only account for 0.6% of dental prescriptions [8]. This contrasts greatly with America, where “22.3% of US dental prescriptions were for opioids” [8]. Multiple studies have found that NSAID and acetaminophen are just as effective for dental pain alleviation if not more so than opioids, yet so many American dentists still prescribe opioids. Why? One could argue that many dentists are simply sticking with what they know/are comfortable with and are unenthusiastic about having to increase their knowledge set. But medicine is a constantly growing field, and doctors must be made aware of new developments that improve the field.

3. Increased Education about opioids

There must be a large-scale campaign by the American Dental Association to ensure all dentists are aware of the potential determinants associated with

prescribing opioids, as well as being made aware of the alternative medicinal options available. Luckily, some areas of the country have already begun efforts to make this idea reality. For instance, in 2017, “Governor [of Massachusetts] Charles D. Baker... challenged the state’s four medical schools and three dental schools to improve their curricula to prepare the next generation of clinicians to deal with this crisis in an evidence-based, effective, and sympathetic way” [3]. Awareness is the most important thing when dealing with a large-scale issue like this one, and Charles Baker’s initiative is a great start. Thankfully, the data in the past couple of years, shows that most dental students are being made aware of their role in the opioid crisis in dental school.

Mitigation plans like this one are effective, too. According to the scientific journal entitled Substance Abuse, “Dentists reporting prior training in drug diversion were significantly more likely to have accessed their [Patient’s] PDMP [prescription drug monitoring program], $P < .01$ ” [5] The prescription drug monitoring program is a running file on all patients which shows what medication they have been prescribed and when, which assists in avoiding over-prescription (especially of opioids). Dentists have been known to rarely bother in accessing these files, but as the evidence demonstrates, increased education about opioids can change this. Dentists must be advised to be wary of patients who might deceive them to obtain opioids.

V. Discussion

The opioid crisis has had devastating effects on our society, and it is clearly in everyone's best interest that it be taken care of. But dentists, one of the biggest providers of opioids in America, have yet to do that which is in their power to mitigate the abuse of opioids by Americans. Dentists must acknowledge that patients may lie to them to obtain opioids, as awareness of this phenomenon will allow them to avoid being manipulated. They must be aware of the alternative but equally effective medications which patients are less likely to become addicted to, such as NSAIDs. Most importantly, as awareness is key, every state should do as Massachusetts has done, and ensure that no dentist can become certified without being made fully aware of the opioid crisis and the power that they must use to fight it. If dentists continue to practice and prescribe as they have done in the past (which is more comfortable for them), opioids will continue to run rampant, and continue to spread its negative effects on society. But with these new implementations, dentists can become smarter and thereby safer with their prescriptions and help to create a better economy built by better people to make our nation a better place to live.

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