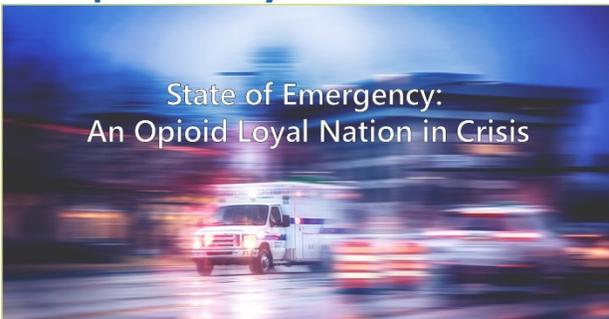




341 Wellness Drive • Myrtle Beach, South Carolina 29579 • (843) 488.5550  
Phone. (843) 488-5550 • Web. [www.ce-prn.com](http://www.ce-prn.com) • Email. [info@ce-prn.com](mailto:info@ce-prn.com) • Fax. (843) 488.5554

## State of Emergency: An Opioid Loyal Nation in Crisis

February 2019



**Faculty**  
Kevin Hope, RPh  
Clinical Pharmacy Education Specialist,  
PharmCon, Inc.

Pharmacy has been thrust into the national spotlight as solutions are sought to manage the inappropriate distribution of prescription medications. This session seeks to explore various tools available to the pharmacy staff to combat illicit distribution, while maintaining appropriate and legitimate patient access to prescribed medications. The effectiveness and limitations of state Prescription Drug Monitoring Programs (PDMPs) are discussed in the context of “red flag” behaviors that may suggest inappropriate distribution. The session further seeks to identify current trends in the use and misuse of controlled substances from multiple professional, sociological, and regulatory perspectives. The role of opioid antagonists, such as naloxone, is discussed in the context of rapidly changing clinical and regulatory environments. This course meets the requirement for the Florida Board of Pharmacy Validation of Controlled Substances credit for pharmacists.

### Learning Objectives

#### Pharmacist

- 1 Identify tools employed in pharmacy practice to detect fraudulent prescriptions or prescriptions not prescribed for a legitimate purpose.
- 2 Recognize common drug/drug interactions and side effects of opiate medications.
- 3 Recognize the role of opioid antagonists, such as naloxone, in emergency treatment of opioid overdose.
- 4 Identify validation mechanisms used to ensure proper patient access when a legitimate prescription exists

#### Pharmacy Technician

- 1 Identify tools employed in pharmacy practice to detect fraudulent prescriptions or prescriptions not prescribed for a legitimate purpose.
- 2 Recognize common drug/drug interactions and side effects of opiate medications.
- 3 Recognize the role of opioid antagonists, such as naloxone, in emergency treatment of opioid overdose.
- 4 Identify validation mechanisms used to ensure proper patient access when a legitimate prescription exists

## Accreditation



PharmCon, Inc. is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education.

PharmCon, Inc. reports CPE credits to CPE Monitor automatically after credit is earned. Your NABP ePID and birthdate must be in your online profile for successful credit submission.

PharmCon, Inc. reports CPE credits to CE Broker automatically after credit is earned. Your license number must be in your online professional profile for successful credit submission.

PharmCon, Inc. is approved by the California Board of Registered Nursing (Provider Number CEP 13649) and the Florida Board of Nursing (Provider Number 50-3515). Activities approved by the CA BRN and the FL BN are accepted by most State Boards of Nursing.

CE hours provided by PharmCon, Inc. meet the ANCC criteria for formally approved continuing education hours. The ACPE is listed by the AANP as an acceptable, accredited continuing education organization for applicants seeking renewal through continuing education credit.

## Target Audience

Pharmacists, Pharmacy Technicians

## Universal Activity Number

Pharmacist

0798-0000-18-158-H04-P

Pharmacy Technician

0798-0000-18-158-H04-T

## Credit Hours

2.0 Hours

## Activity Type

Knowledge-Based

## CE Broker Tracking Number

20-668058

## Activity Release Date

February 1, 2019

## Activity Offline Date

August 8, 2021

## ACPE Expiration Date

August 8, 2021

## Educational Support Provided By

PharmCon, Inc.

All opinions expressed by the author(s) are strictly their own and not necessarily approved or endorsed by PharmCon, Inc.

Consult full prescribing information on any drugs or devices discussed.

CE-PRN is a division of PharmCon, Inc.



341 Wellness Drive, Myrtle Beach, South Carolina 29579

© 2018 PharmCon, Inc.

All rights reserved.

None of the contents of this publication may be reproduced in any form without the written permission of the publisher.

A horse drawn wagon pulls into the town square of Bangor, Maine in 1853. Both the political and regulatory climates in the United States are beginning to change, which will eventually lead the nation into blood stained years of civil war. On this crisp Maine morning, however, another discreet war is unknowingly being waged, a war which will eventually consume more lives than anyone in the town square could have imagined. The anecdotes from the sharply dressed salesman in the town's square has attracted a large crowd. The product being promoted today is quickly gaining traction and has its roots in the immediate Bangor area, Mrs. Winslow's Soothing Syrup. It is well known for its "likelihood to sooth any human or animal, as well as its utility in "quieting restless infants and small children especially for teething", according to the claims touted on the package's label. The sales line begins to form, as enchanted mothers and curious onlookers seek to reap the miraculous benefits being marketed.

The active ingredients for Mrs. Winslow's Soothing Syrup included one grain of morphine per fluid ounce, cannabis, heroin, and powdered opium.<sup>11</sup> Using our 21<sup>st</sup> century lens, it is easy to see the stage of disaster and the multiple failures in protecting public health. The Centers for Disease Control (CDC) has now declared opioid misuse as an 'epidemic', as it has with more familiar epidemics such as tuberculosis, influenza, and Ebola.<sup>28</sup> In an era where benzocaine is now ill advised a teething infant, it is hard to even imagine this opioid being openly marketed for this purpose. It is easy to retrospectively recognize the dangers of what will ultimately become the largest public health crisis in the United States. From this 1853 lens, however, it is perceived as nothing short of a miracle drug that seems to deliver on its promise to soothe.

By the end of the Civil War in 1865, an estimated 400,000 soldiers would find themselves addicted from the liberal use of opium and morphine. Nevertheless, opioids continued to be a mainstay of early medical care. The misconstrued perception of safety is, perhaps, underscored by an article that appeared in the revered New York Medical Journal in 1899 written by a prominent Mt. Sinai physician entitled, "Treatment of Coughs with Heroin".<sup>28</sup> Inevitably, problems quickly arose. And, the solutions to these problems would forever change the face of medicine in the United States.

Officially, it is noted that Mrs. Winslow's Soothing Syrup was removed from the market in 1938. If that year seems familiar from a historical perspective, 1938 is the year that the Food and Drug Administration was established in the United States. Medications marketed and sold in the United States, under this new act, were required to prove safety via the submission of a new drug application (NDA).<sup>9</sup> The establishment of product efficacy will come much later, but history will nonetheless record the 1938 discontinuation of Mrs. Winslow's Soothing Syrup, along with many other similarly sold medicinal recipes.

In a sense, it was the country's first major effort to decrease the impact of dangerous drug ingredients. It would set the stage for many pieces of legislation to follow, including the Durham-Humphrey amendment in 1951 that established the concept of 'legend drugs', so inherent to the daily practice of pharmacy today. It would not be until the introduction of

the Kefauver-Harris amendment in 1963, however, that the concept of drug efficacy would be a required component for medications marketed and sold in the United States! The largest effort to control the use of opiates, however, came in 1970, a time in which drug use and youth were viewed as being synonymous by many in the United States. This, of course, was the establishment of the Comprehensive Drug Abuse Prevention and Control Act introduced under the Nixon administration.<sup>9</sup>

### *Regulation of Controlled Substances*

The act, indeed, would deeply influence pharmacy practice and continues to do so. It was this act that established the five recognized classes of controlled substances, ranging from C-I medications, which were deemed to be highly addictive with no medicinal value to C-V medications which were deemed to have the least addictive potential of all medications identified in these classifications. The act called for tighter control of C-II medications, which are known to be highly addictive, but also carry medicinal value. For example, no refills were to be permitted on C-II prescriptions, a directive that continues to be followed today. C-III – C-IV drugs were allowed up to 5 refills, with a validity of 6 months.<sup>9</sup>

It also defined practitioners who may prescribe a controlled substance. Specifically, a prescriber must be authorized in the state of licensure and must be registered or exempt from DEA registration. The act further specified that the prescription must be issued for a legitimate medical purpose within the scope of the prescriber's professional practice and that the prescriptive authority could not be designated to another individual.<sup>1</sup> Prescription requirements for controlled substances, then, became a rather specific algorithm for pharmacists to verify. Occasionally, however, an error or omission is made by the prescriber. This quickly raised the question, then, regarding what information, if any, a pharmacist is permitted to change on a handwritten C-II prescription after verbal consultation with the prescriber. And, while state requirements may vary, the federal limitations on this area more specifically state what information a pharmacist may NOT change on a C-II prescription. A pharmacist, then, may NOT change the<sup>1</sup>:

- patient's name
- controlled substance prescribed
- prescriber's signature

In addition to the control of distribution, the accountability of controlled substances was also a large part of the act. Complete controlled substance inventories, then, were required for all entities in possession of controlled substances, including pharmacies. A complete inventory is required prior to a new business opening and every 2 years thereafter. State requirements, as always, may be more stringent, but not less stringent, than federal policies. An exact count is required for all C-I and C-II medications. Estimates are permitted, but not necessarily recommended, for C-III, C-IV, and C-V medications unless the container holds

more than 1,000 units. Should a product's status be changed to a controlled substance or if a new controlled substance is introduced into the pharmacy, these drugs are inventoried on the effective date of scheduling.<sup>1</sup>

Should the pharmacy experience a significant loss or theft of controlled substances, a report must be filed with within one business day of discovery of such loss or theft using DEA Form 106. Requests for the destruction of controlled substances, including expired medications, should be submitted using DEA Form 41. The other DEA document most commonly used in pharmacies is the DEA 222 form, which is used to order C-I and C-II medications.<sup>1</sup>

### *Prescription Drug Monitoring Programs*

Despite all of the components introduced by the Comprehensive Drug Abuse Prevention and Control Act, our nation continues to struggle with the delicate balance between reasonable access of these medications to individuals who need them and curbing inappropriate distribution. One of the more recent strategies introduced was the creation of prescription drug monitoring programs (PDMPs). These are electronic state databases used to track the prescribing and dispensing of controlled substance prescription drugs to patients within that particular state<sup>13</sup>. The database, in theory, was to contain the patient's complete controlled substance prescription history and could be accessed by healthcare professionals, including pharmacists. One of the primary goals of PDMPs was to identify patients at high-risk who could benefit from early intervention efforts. In order to be most effective, PDMP systems should be used universally, updated in real time, actively managed, and easy to use and access.<sup>13</sup> In 2004, only 19 states had monitoring programs in place, which according to data from law enforcement officials, the lack of a monitoring program attracted people from neighboring states looking to stockpile drugs. Today, however, all states have developed an internal program, with Missouri being the last state to do so in 2017.<sup>17</sup>

Although specific information maintained in PDMP databases varies by state, data is likely to contain the<sup>13</sup>:

- Patient's name
- Dispensing Pharmacy
- Day's Supply Dispensed
- Cash vs. Insurance Transaction
- Prescribing Provider's Name

A strong prescription drug monitoring program will encompass a wide range of drugs monitored. It may, for example, track other drugs of concern. One such example in recent news has been gabapentin, which has been observed as a diversion concern, despite the



The effectiveness of state PDMP programs has been examined from a variety of angles. Both New York and Tennessee, for example, reported a marked decline in patients seeing multiple prescribers for the same drugs within 1 year of requiring prescribers to check the state's PDMP. The state of Tennessee reported a 36% decline, while the state of New York reported a staggering 75% decline in such incidents<sup>13</sup>. Many states, then, are initiating regulations requiring prescribers to check the state's PDMP as defined circumstances warrant. The states of Wisconsin and South Carolina, for example, have both recently adopted such language. Wisconsin's Department of Regulation and Licensing PDMP Project Manager describes the state's system as being a central hub to connect the law enforcement community, the practitioners, and the pharmacists to fight the opioid abuse epidemic.

Prescribers and Pharmacists alike, however, should recognize that PDMP systems are simply another tool for use in practice. These systems are NOT flawless and the potential for system limitations should not be ignored. There have been reported cases, for example, where a pharmacy error was corrected in the dispensing pharmacy's computer system but did not update to the PDMP database. Pharmacies may select the wrong doctor's name, making it appear that the patient is seeing multiple prescribers, when, in reality, the prescriptions were written by the same prescriber. Errors may also occur when a patient's name is misspelled. This could create separate patient identities when, in reality, both profiles belong to the same individual. All errors, of course, including entering the wrong patient, address, days supply, etc. directly impact the integrity of the data contained in the prescription drug monitoring program<sup>7</sup>.

### *The Opioid Crisis and Our Youth*

One of the more disheartening trends associated with the opiate crisis in the United States is the impact that substance use disorders are having on our nation's youth. Statistically, approximately 9% of US youth between the ages of 12-17 reported being current illicit drug users. Approximately 10% reported using nonprescribed pain relievers at least once. Of this ten percent, approximately 49% of these youth reported having used two or more illicit drugs. Marijuana has long been the most common drug used as a "first high" among youth. Some sources now cite the nonmedical use of prescription opioids as having surpassed this ranking. The phenomenon is referred to as "*pharming*", a slang term used to describe the misuse of prescription drugs<sup>3,8</sup>.

How, one may legitimately ask, are our nation's children gaining such immediate access to controlled substance medications? A survey of dependent respondents between the ages of 18-25 regarding the method of obtaining opioids for nonmedical use yielded the following data<sup>8</sup>:

From a friend or relative at no cost	37.5%
From a friend or relative (paid)	19.9%
From a friend or relative (stolen)	6.3%
Prescription from one prescriber	13.6%
Prescriptions from more than one prescriber	2.8%
Purchased from a dealer or stranger	12.5%
Purchased on the Internet	1.3%
Other	6.1%

The data here is interesting from a number of perspectives. First, notice that the 'evil drug dealer on the street' that often snags the attention of the media accounts for a relatively small portion of all access at 12.5%. That is certainly not a piece that justifies over-looking but consider this: 63.7% of prescription drug access to youth comes from a friend or relative in some manner!<sup>8</sup> Perhaps the greater threat lies closer to home than we wish to believe. Emphasizing the importance of appropriately storing and disposing of controlled substance medications inside the home may play an important role in reducing access to these drugs.

***Storage and Disposal of Controlled Substances***

Some pharmacists have elected to introduce another educational piece to the dispensing of controlled substance medication prescriptions. These pharmacists have chosen to include brochures with such prescriptions that detail special risks and include instructions for prescription disposal. The NABP, in fact, developed such informational pieces, which are freely available on the NABP website as a part of the AWA<sub>R</sub>x<sub>E</sub> efforts (<https://nabp.pharmacy/initiatives/awarxe/>).<sup>19</sup> This website contains a 'drug disposal locator tool', which provides information on nearby approved outlets for the disposal of controlled substances. Proper and timely disposal of unused controlled substances may reduce the likelihood of future diversion.

Patients should be further advised to store controlled substance prescriptions in a secure location which is out of reach of children. Bathroom storage, for example, may not be ideal. Not only does it expose the medication to a potentially degrading moist environment, it opens an avenue for diversion, as this is an area of the home privately assessible to visitors of the home. Locked, temperature controlled, cabinets out of the reach of children are ideal.

The dispensing of controlled substance transdermal patches, such as fentanyl patches, should initiate a special consideration for patient counseling. Deaths of young children due to accidental exposure prompted the FDA to issue a 'Drug Safety Communication' to warn patients, caregivers and health care professionals about the dangers of accidental exposure to and improper storage and disposal of the fentanyl patch. The FDA recommends disposing of used patches by folding them in half with the sticky sides together, and then flushing them down a toilet. They should not be placed in the household trash where children or pets can find them. There are recognized environmental concerns about flushing medicines down the toilet. However, the FDA believes that the risk associated with accidental exposure to this strong narcotic medicine outweighs any potential risk associated with disposal by flushing.<sup>30</sup>

### ***Education as a Preventative Tool***

From an educational standpoint, the data on the abuse of prescription medications by youth is especially revealing. Nearly all illicit drug use can be tracked back to preadolescent and adolescent years. Statistically, if a person has not used illicit drugs during this adolescent period, he/she likely never will<sup>8</sup>. Reaching this audience, then, is of paramount importance. This educational piece is one in which pharmacists may play an active role. Pharmacists are viewed as experts on drug side effects, addictive properties, as well as legal parameters surrounding controlled substance medications. Civic organizations and school organizations frequently welcome guests who are knowledgeable of relevant social issues and can convey important messages in ways that are both realistic and relevant to youth. Professionals are encouraged to actively seek out these opportunities within the local communities. In his book, "The Addiction Solution," author Lloyd Sederer, MD underscores the importance of building meaningful societal relationships with our nation's youth, highlighting programs such as 'Parent Corps' and 'Big Brothers Big Sisters'.<sup>28</sup> The importance of these preventative pieces, particularly among the nation's youth, should not be underestimated in our professional approach to the current crisis. In the words of Maya Angelou, "... let us try to offer help before we have to offer therapy. That is to say, let's see if we can't prevent being ill by trying to offer a love of prevention before illness."

From a patient resource perspective on the topic of drug misuse among youth, professionals may wish to consider the non-profit organization, Partnership for Drug-Free Kids (<https://drugfree.org>). This organization's mission is to support families struggling with a son or daughter's substance abuse. Services through this organization are confidential and free of charge.<sup>18</sup>

### ***The Opioid Crisis: A Global Perspective***

On a global scale, the use of opiates in the United States is grossly more prevalent than in other industrialized nations. Where our standard of practice may be to prescribe opiates for

tooth extractions and relatively minor procedures, many other countries reserve the use of opiates to major post-operative acute pain. In all, the United States population represents a mere 4.6% of the global population. Despite our relatively small presence on the globe, the United States consumes approximately 80% of the world's supply of opiates!<sup>8</sup> It is increasingly urgent, then, that we carefully consider whether we are responding to a true clinical need or fueling a public crisis.

How, then, did the United States soar to the top of the list in terms of opiate use? This, in part, may be attributed to a drastic shift in the way in which clinicians in the United States approached pain control. Prior to the 1990's, patients given prescription opioids for chronic pain were considered to be at high risk of developing an addiction. Some patients, then, arguably went undertreated. In the 1990's, however, the prevailing thought touted professionally was that "the risks of addiction were very low for patients with chronic pain." This change in professional thought led to a false sense of security among our nation's health care professionals. Moreover, while good data is available with acute pain and the use of opiates, more recent results encompassing chronic pain patients were more disappointing for the treatment of chronic pain.<sup>8</sup>

This change in professional direction is thought to have stemmed from a 1980 study that examined opiate addiction. One phrase selectively pulled from this study claimed that there were "only four cases of addiction among 11,882 hospitalized patients." This would, indeed, represent a small percentage of patients at only 0.034%. In case you quickly read over the study results, let's take another look at the basis for that data: "only four cases of addiction among 11,882 **hospitalized** patients<sup>8</sup>." This warrants the obvious question, then, how many patients become addicted to opiates while being in the hospital setting? This study did not examine outpatient settings and did not follow patients after being discharged from the hospital.

There was little evidence to have warranted such a dramatic shift in clinical thought. There had been no studies investigating the experience of pain patients who used opioids for extended periods of time. This limited survey data, however, was frequently taken out of context and inappropriately applied to the treatment realm of chronic pain. Nonetheless, this paradigm shift was readily embraced by the drug industry. Janssen Pharmaceuticals, for example, reported "*relatively rare*" incidents of addiction in treating chronic pain with Duragesic®. Endo Pharmaceuticals reportedly defined the risks to be "*very rare*" in presentations given to hospital pharmacists. Purdue Pharma released this statement: "*Some patients may be afraid of taking opioids because they are perceived as too strong or addictive, but that is far from actual fact. Less than 1% of patients taking opioids actually became addicted.*"<sup>8</sup>

This unwarranted dramatic shift in professional thought, from prescribers to pharmacists to professional accrediting organizations should serve as a reminder that we must continue to ask questions and carefully examine our progress toward overall goals. It is, sadly, analogous to asking a stranger on the side of an interstate highway for directions to New

York and failing to recognize the erroneous directions until the highway ends in Key West, Florida. Professionally, we missed many signs that should have alerted us of the need to ask more relevant questions. Yet, here we are in Key West, many miles from our destination. So, what have we done since? We, of course, are changing directions and making the painstaking trek back toward New York. The experience is a sobering lesson in professional responsibility and the need to continually examine our goals and overall direction.

Yet, continuing our analogy, we find ourselves just outside of Key West on our journey back to New York. The Center for Disease Control and Prevention (CDC) is calling this the *worst drug overdose epidemic in U.S. History*.<sup>16</sup> For added perspective, between the period of 1999-2011, consumption of hydrocodone in the United States doubled. The consumption of oxycodone increased by nearly 500% and opiate related deaths increased four-fold!<sup>16</sup> Many states have issued states of public health emergency and it has grasped the attention of authorities. The state of Florida, for example, recently echoed discussions happening across the country in its passage of HB-21, which limits the permissible supply of schedule II opioids for the treatment of acute pain. The act embraces the concept of electronic prescriptions for controlled substance prescriptions, another concept being broadly discussed and/or implemented by various state boards.<sup>24</sup> Given the dynamic nature of controlled substance initiatives, pharmacists are encouraged to stay keenly tuned in to announcements made by their respective state boards of pharmacy. The coming months and years will likely see broad changes that directly impact pharmacy practice on both the federal and state levels.

### ***Maintenance of a Crisis***

It is easy to place blame at the feet of prescribers. After all, approximately 60% of abused opioids are obtained through a physician's prescription. But this simplistic explanation overlooks other key steering factors. Prescribers face significant challenges and limitations as well. Doctors who refuse to prescribe opioids to certain patients out of concern about abuse are likely to get a poor service rating from those patients. Many facilities place heavy emphasis on these satisfaction surveys, potentially placing the physician's employment status and reputation in jeopardy. As one patient said, *"I know I'm addicted to (opioids), and it's the doctors' fault because they prescribed them. But I'll sue them if they leave me in pain."* It is a tough position for prescribers, as it is for pharmacists and other health care professionals involved in the distribution and administration of controlled substances.

The prescriber faces other significant challenges as well. The treatment of substance use disorder is not handled quickly. Access to resources for such patients may be sparse. In short, treating pain readily pays; treating addiction is a much more convoluted path. Moreover, physicians are frequently evaluated on the number of patients per hour. Extended conversations with patients are often indirectly discouraged<sup>5</sup>. So, the blame cannot be blindly placed exclusively at the feet of the prescriber. There are broader

problems within our hypothetical car's navigation system that must be examined, not to mention our own professional failures to recognize the signs.

Many prescribers, though, are tightening the reins on the issuance of controlled substance prescriptions. One year after hydrocodone/acetaminophen became a schedule II drug, for example, the following trends were noted<sup>20</sup>:

22.9% fewer hydrocodone Rxs from primary care MDs

38.4% fewer hydrocodone Rxs from surgeons

17.2% fewer hydrocodone Rxs from emergency medicine

7.2% more hydrocodone Rxs from pain medicine

This data suggests that prescribers are referring chronic pain patients to pain management practices and that, even among surgeons, the prescribing of hydrocodone/acetaminophen is decreasing.

### ***The Illicit Prescription Drug Market***

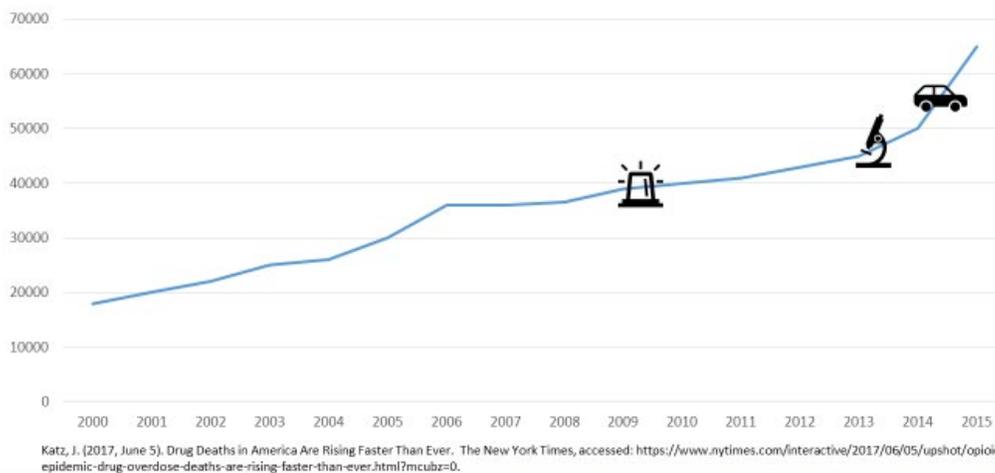
Based on the laws of supply and demand, then, we may presume that the cost of illicit (or 'street') prescription drugs will rise. And, in fact, that is exactly what has been observed. It has even given rise to the illicit job title of being a "pill broker". As explained by an individual claiming to be a pill broker: *"We gather in open-air drug markets, usually strip malls, pharmacy parking lots, and outside methadone clinics to buy, sell, and trade prescription drugs. A variety of transactions occur, including the purchase of prescription drugs for cash, and trades for crack and heroin. We sometimes buy fentanyl patches from nurses who have stolen them from pain patients. Some frequent the market to barter their oxycodone for other opioids or benzodiazepines, typically alprazolam."*<sup>8</sup>

A quick google search on the open internet reveals a surprising amount of data discussing the illicit procurement of prescription drugs. For example, one site (<http://streetrx.com/>) touts itself as being a website that *"allows buyers and sellers to anonymously report prices of prescription pills on the street in communities around the country."* In other words, this is a website that allows the user to enter a specific zip code and read alleged reports of the recent street value of various medications within a specific neighborhood. As a healthcare professional, this should be both alarming and unsettling. The leading cause of death for Americans under the age of 50 is now drug overdose!<sup>8</sup>

In 2017, the New York Times ran an article that provided a unique comparison to better quantitate the scope of the problem before us. The data from this article is presented graphically in the chart below. The line represented on this graph represents the number of drug overdose deaths in the United States during the period of 2000-2015. The exponential spike noted in recent years is especially troublesome. The authors of this article, however, sought to apply other data for comparative and relational purposes. Each

icon placed on this graph represents a historically significant cause of death in the United States. The 'alarm icon' represents the number of gun deaths in the United States. That statistic peaked back in 1993, with approximately 39,000 people being killed by guns in that year. The 'microscope icon' represents the number of HIV/AIDS deaths. HIV/AIDS deaths peaked in 1995, with approximately 47,000 deaths in that year. The 'car icon' represents the number of deaths by automobile crashes. Due to an increased focus on safety features, that number peaked back in 1972 at 55,000 deaths.

## Drug Overdose Deaths

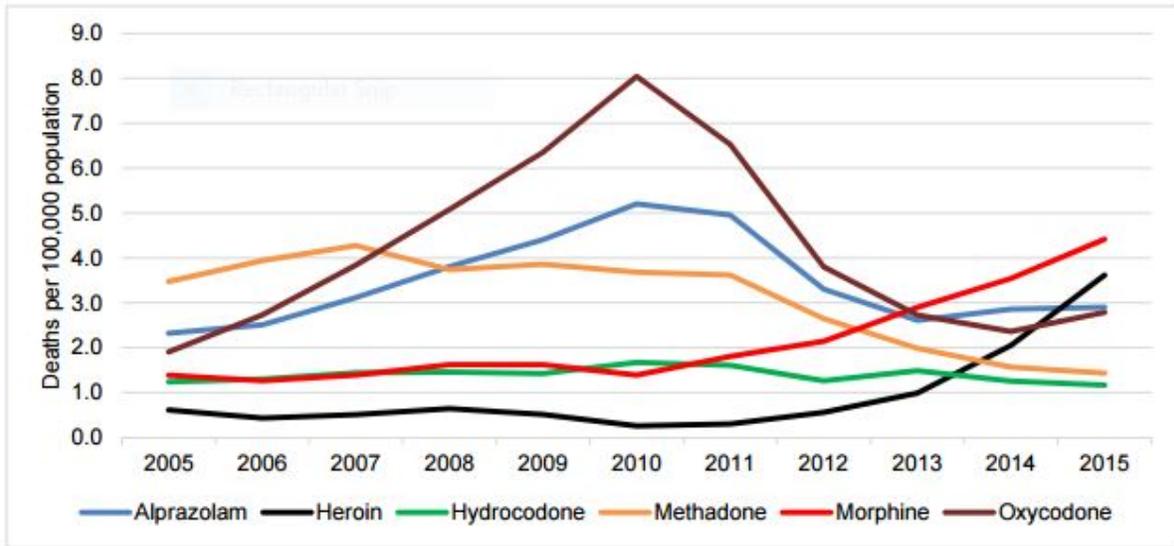


All three of these things have peaked at one point in U.S. history. However, we have yet to reach the peak for drug overdose deaths!<sup>21</sup> The data from the most recent years continues to spiral upward exponentially. This begs the question, of course: How high will this number be driven before a 'syringe icon' can be placed on this graph? When can it be said that this was the year that drug overdose deaths peaked in the United States?

### *Heroin's Link to Prescription Drug Abuse*

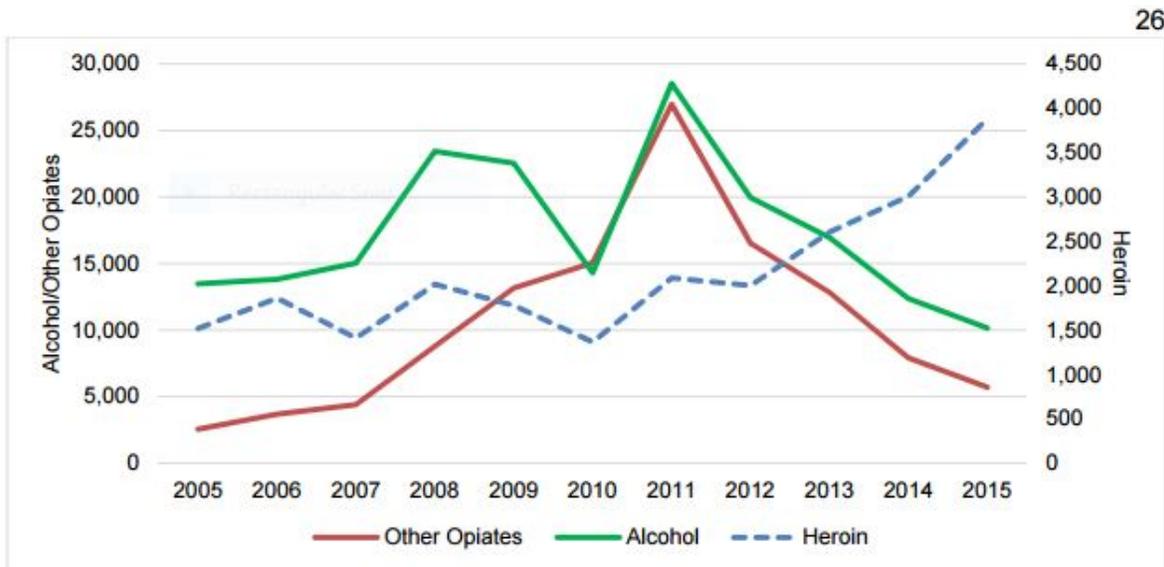
One unintended consequence of tightening access to prescription opiates has, sadly, been the sharp rise in heroin abuse. Four in five new heroin users began by misusing prescription pain medications. Deaths caused by heroin increased 79.7 percent in 2015 alone when compared with 2014. Heroin is often a less expensive option. An avid abuser with a high tolerance, for example, may use 400mg of oxycodone extended release daily, with an estimated street value of \$400. A comparable dosage of around 2 grams of heroin averages between \$132 - \$200.<sup>8</sup> Sadly, this move toward heroin is being reflected in mortality data. In this graphical representation of mortality data from the state of Florida,

while a steep decline in oxycodone fatalities is observed around the time that the state's prescription drug monitoring programs were introduced, a staggering increase in heroin fatalities is observed over this same period.<sup>15</sup>



**Figure 9. Mortality rate for select licit and illicit drugs from 2005 to 2015.**

This point is once again echoed in the state's substance abuse treatment admissions data:



**Figure 11. Florida substance abuse treatment admissions, TEDS, 2005-2014.**

The rise in the misuse of prescription drugs has undoubtedly come with an enormous cost, both in lives lost and in terms of physical dollars. Although the data is difficult to sift out, some estimates place the average annual healthcare costs of abusers at \$15,884 annually, whereas the estimates for non-abusers is \$1,830 annually!<sup>8</sup> Another study, focusing on social impacts, suggests that every additional dollar invested in drug abuse treatment initiatives saves taxpayers \$7.46 in societal costs. The same study further suggests that domestic enforcement efforts cost 15 times as much as treatment to achieve the same reduction in societal costs.<sup>3</sup> This is a conversation, then, that extends well beyond the scope of the pharmacy. It is far reaching, driving national discussions in everything from law enforcement to social welfare.

The noted spike in heroin use since the introduction of PDMP is, in no way, intended to down play the success of state prescription drug monitoring programs at all. The state of Florida, for example, saw a 76.2% reduction in "multiple provider episodes," more commonly recognized as "doctor shopping".<sup>15</sup> But, the data must be examined broadly within the context that approximately 80% of new heroin users begin by misusing prescription pain medications. This broader approach to success, then, depends not upon the number of users transitioning from prescription pain medications to heroin, but upon making initial access more difficult so that the bulk of heroin users are never introduced to the initial catalyst.

### ***Substance Use Disorders Among Medical Professionals***

It would be irresponsible to discuss the topic of opiates with a group of healthcare professionals and ignore the problem that lies within. Professionally, substance abuse disorders occur at approximately the same rate as observed in the general population. As described on the South Carolina Board of Pharmacy's webpage, *"We receive 750 to 1,000 complaints each year involving diversion of controlled substances from legal outlets. About 450-500 of the complaints typically result in the arrest and prosecution of individuals in state or federal court. Approximately 25 percent of those prosecuted are health care professionals."*<sup>14</sup>

An estimated 11-15% of pharmacists are confronted with alcohol or drug dependency problems at some time in their careers. 75% of these impaired pharmacists will be discovered by their local state boards of pharmacy, a peer, or another health care professional.<sup>2</sup> It is critical, then, that professionals exercise care and professional discretion with one another. Some, but not all, of the signs and symptoms of professional drug misuse include<sup>10</sup>:

- Personality changes or mood swings
- Frequent absences from work
- Volunteering to check in narcotics or do inventory on them

- Long or frequent disappearances from the work station
- Increase in medication errors
- Changes in physical appearance (e.g. weight loss or poor hygiene)
- Showing signs of forgetfulness, irritability, and tardiness
- Decrease in work performance
- Excessive ordering of certain drugs
- Overreaction to criticism
- Increased complaints from patients

One study, *McAuliffe et al*, reported that 46% of pharmacists use prescription drugs without a prescription. 62% of pharmacy students surveyed had used a prescription drug with no prescription. And, 20% of pharmacists reported using a prescription drug without a prescription 5 or more times in their lives.<sup>2</sup> While this study does not differentiate between controlled substance medications and other legend drugs, it does highlight a surprising ethical mentality in our professional view of legend drugs for personal use.

Multiple professionals have stated that it only took one incident of use to become addicted. Many acknowledge having worked impaired, only realizing the full risk upon remission of the substance use disorder. Over 100,000 doctors, nurses, and other medical professionals face a substance abuse disorder each year. Many of these individuals will resort to drug diversion to maintain the addiction. Healthcare systems have long been criticized for failure to exercise a unified set of safeguards. Universal drug testing, for example, is often not required among healthcare professionals. Disciplinary procedures can be inconsistent, which sometimes terminates the employment of the affected individual without treatment or follow-up.

For professionals encountering substance use disorders, the Pharmacists Recovery Network (<http://www.usaprn.org>) serves as a central online resource for professional assistance. The site contains links to confidential referral and monitoring programs designed specifically for physicians, nurses, pharmacists, and health care students.

Substance use disorders are increasingly being viewed as a medical disorder. Like other medical disorders, there is a distinct pattern in signs and symptoms and a common tendency for relapse. Cravings may result in repeated relapse, even in the presence of powerful consequences and strong motivators. Substance use disorders, like other medical diagnoses, are known to cause specific changes to key regions of the brain. The medical community, in fact, is moving away from the misconceived notion that substance use disorders somehow stem from a lack of motivation, willpower, and/or character. Substance use disorder is, indeed, a medical diagnosis.<sup>8</sup>

## *Ensuring Access to Legitimately Prescribed Medications*

The Institute of Medicine reports that more than 40% of the U.S. population suffers from some type of chronic pain, defined as pain lasting three to six months or more.<sup>31</sup> In the efforts to reduce inappropriate access to controlled substances, critics have pointed to an unintended consequence: the withholding of controlled substance medications from patients with a legitimate medical need. Such reports have been featured in media outlets across the country. One Orlando news outlet interviewed multiple patients who were reportedly unable to fill legitimately prescribed controlled substance prescriptions, often with no explanation from the pharmacy. An Orlando pharmacist interviewed for one newscast reported being instructed by a DEA agent to avoid dispensing controlled substance prescriptions to certain zip codes, to limit quantities, and to avoid filling certain drug combinations, even when they were legally prescribed. The DEA, in a statement, denied this claim.

In subsequent Florida reports, one Tampa pharmacist blames the wholesalers, in part, for the reluctance of pharmacists to dispense controlled substance prescriptions. The wholesalers, he maintains, are being pressured by the DEA to limit the number of opioids sold to pharmacies. Since the pharmacy's supply is limited, the pharmacist told news reporters that he simply 'could not afford to take chances on patients that he did not know'. Another independent pharmacist in the area reported turning away approximately half of all pain patients who come into the pharmacy.

In response to continued criticism, the DEA issued a response with an agent of the DEA's Tampa district office maintaining that the agency does NOT control the distribution of legitimate drugs. In response to the media's questions, he maintained that, "Everyone is playing the blame game; no one is addressing the problem."

Another similar patient access frustration was given voice by a physician posting to reddit.com:

*"I am a board certified interventional pain management physician. So, the other day I got a referral from a spine surgeon and the patient tells me a few days prior Walgreens refused to fill the hydrocodone prescription he received on the basis of, the spine surgeon who wrote the Rx was no longer taking care of him. I talked to the surgeon's staff, and they verified that Walgreens had called snooping about the patient's plan of care, wanting the ICD 10 code - but Walgreens didn't tell them they were going to cancel the prescription. This guy is basically your grandpa and hadn't had to take any pain medications for 8 months, his prescription record was normal, and his pain was real. Ok, fine. I write a new prescription for him and he takes it to the same Walgreens. He's going to be seeing me on a monthly basis now so surely, they will accept it, right? No, they reject it again. This time they don't even bother to call my office to ask about it. I called the Walgreens to find out what was happening, and the pharm tech told me that their pharmacy manager makes the decision of whether or not they dispense "those kinds of medications." I am incredibly angry. The pharmacist humiliated my patient, twice. I don't think it is up to him to decide*

*whether a pain medication is appropriate when there are no red flags (like a record of multiple different prescriptions at different pharmacies - this guy hadn't fill anything in months).<sup>22</sup>*

And, like every good Reddit post, there is always a conflicting opinion or another perspective that comes into play. For example, in response to this posting, one pharmacist comments:

*"You are absolutely correct about what's going on with the DEA, but I disagree that it's no big deal. The problem is that Pharmacists ourselves have no real legal lobbying protection. That means legislation ends up throwing us under the bus, leaving us as the guy stuck between a rock and a hard place. Fill the scripts and get attacked by the DEA, and your company leaves you out to dry, or don't fill the scripts and fail as health care professionals. I'm not even talking about scripts that are sketchy, we wouldn't fill those anyway. There's a culture of fear in our profession. We are scared to put our career and family income on the line to fill these scripts."<sup>22</sup>*

This informal social media dialogue between pharmacist and physician brings forth a number of concerns. The frustrations, for example, in denying access to patients in legitimate medical need were heard by boards of pharmacy across the nation. The Florida Board of Pharmacy went as far as introducing specific language into the state's practice act to clarify its position: *"The Board of Pharmacy recognizes that it is important for the patients of the State of Florida to be able to fill valid prescriptions for controlled substances. In filling these prescriptions, the Board does not expect pharmacists to take any specific action beyond exercising sound professional judgement ... The pharmacist shall attempt to determine the validity of the prescription and resolve any concerns about its validity by exercising his/her independent professional judgement."* (Florida Statute 64B16-27.831)<sup>15</sup>

Florida statutes proceed to define minimum standards before refusing to fill a Prescription in Florida Statute 64B16-27.831, which specifies that pharmacists, at minimum, should<sup>15</sup>:

1. Initiate communication with the patient or patient's representative to acquire information relevant to the concern with the validity of the prescription.
2. Initiate communication with the prescriber or prescriber's agent to acquire information relevant to the pharmacist's concern with the validity of the prescription.
  - In lieu of either 1 or 2 but not both, the pharmacist may decide to access the Prescription Monitoring Program's Database to acquire relevant information regarding the pharmacist's concern with the validity of the prescription.
  - If a RPh is unable to comply with 1 and 2 due to refusal of the patient or prescriber to cooperate, the minimum standards for refusing to fill a prescription shall not be required.

Additionally, in response to similar concerns, the Ensuring Patient Access and Effective Drug Enforcement Act of 2016 was introduced on a federal level. This act, in part, was intended

to clarify DEA factors for consideration in registering applicants to manufacture or distribute prescription drugs. The act also describes the circumstances under which the Attorney General may suspend a registration, with a greater focus on the establishment of corrective opportunities prior to revocation of registration.<sup>4</sup>

### *Detection of Prescriptions Not Based on a Legitimate Medical Purpose or Therapeutic Value*

The detection of controlled substance forgeries is an important responsibility for pharmacists and pharmacy technicians alike. Professionals are encouraged, then, to know the prescriber and his or her signature, know the prescriber's DEA registration number, know the patient and check the date on the prescription order. Some prescription forgeries involve stolen prescription pads, but this is becoming less prevalent as prescribers become more aware of the need to keep these items secured as well as the increasing use of electronic prescriptions, either by choice or by state mandate.<sup>12</sup>

Another opportunity for forgery exists when a legitimate prescription is altered. A quantity of 15 is changed, for example, to a quantity of 45 with a slight modification. Prescribers are encouraged, then, to write out the quantity dispensed in addition to the digital representation. For example, this quantity of 15 would be written out as #15 (fifteen). An altered prescription may sometimes be written in different colored inks or written in notably different handwriting.<sup>12</sup>

Forgeries may also present as a legitimate doctor printed on the face of the prescription with an altered call back number. The fake office phone number is then answered by an accomplice, ready to verify the prescription details. Written prescriptions may look "too good", with the prescriber's handwriting, perhaps, more legible than usual. Often forged prescriptions differ in quantities, directions or dosage form from typical medical usage. Some states have implemented requirements for electronic prescriptions, which has alleviated some of these concerns. The prescription may not comply with acceptable standard abbreviations or appear to be 'textbook presentations'.<sup>12</sup>

False telephoned prescription orders have also been used as a means of diversion. Callers may provide an unusually excessive amount of information when leaving the prescription order. Use of technology has also been used to create or to copy prescriptions with remarkable precision. The pharmacy staff, then, must often be attuned to even the subtlest variations in prescribing patterns and methods.<sup>12</sup>

The National Association of Boards of Pharmacy (NABP) created a video tool to assist pharmacy professionals in assessing prescriptions for appropriate therapeutic value. Pharmacists and technicians are encouraged to view the 13-minute video using the following link: <https://nabp.pharmacy/initiatives/awarxe/pharmacist-resources/>

The video link offers visual depiction of the most common 'red flags' in assessing prescriptions for validity, including<sup>19</sup>:

- Multiple patients receiving the same controlled substance prescription
- Use of a prescriber at a distant location
- Paying cash for an opioid prescription in lieu of using known insurance coverage
- Customers presenting in groups possessing the same prescription or written from the same prescriber
- Prescriptions written for a 'drug cocktail', which may include an opioid, a benzodiazepine, and a muscle relaxant
- Prescriptions written by a physician not ordinarily associated with pain management
- Requests for early refills
- Use of multiple prescribers
- Prescriptions from clinics under potential federal or state action against the prescriber
- Unusual behavioral characteristics from the patient
- Use of street slang when referring to medication

At times, these measures may leave the pharmacist feeling as if he/she is the bouncer at a night club or a detective hired to certify the validity of a document. In a sense, professionally, we are many things: detectives, counselors, bouncers, mediators, whistle blowers, scribes, organizers, social workers, educators, and even political advocates. The roles can be diverse and can, at times, seem contradictory and even overwhelming. Despite the seeming contradictions, however, our primary role is that of a patient advocate. We team with patients in the best interests of their health. And, the line of titles that follow are, admittedly, innumerable.

### ***Pharmacist Initiated Opioid Counseling Points***

In addition to maintaining a key awareness of diversion issues, pharmacists should carefully counsel patients on the appropriate use of opiates, including key side effects. The most serious side effect noted with opiates is, of course, the possibility of respiratory depression. <sup>(26)</sup> The FDA has issued a black box warning to be included with all opiates to include respiratory depression, respiratory arrest, circulatory depression, cardiac arrest, hypotension, and shock. Patients at an elevated risk of respiratory depression include those taking greater than or equal to 50 MME. <sup>(26)</sup> Patients with existing opiate use disorders

and/or previous opiate overdoses are more susceptible to this potentially fatal side effect. Also, patients who have a heavy alcohol use or take opioids in combination with benzodiazepines or other sedatives are at an elevated risk. Additionally, smokers and patients with respiratory disorders, including sleep apnea, are at an elevated risk of respiratory depression when taking opiates. <sup>(26)</sup>

Among other side effects, one of the more symptomatically troublesome side effects reported by patients is the often severe constipation that may accompany opiate use. <sup>(26)</sup> Opiate induced constipation may be temporarily alleviated by the short-term use of stimulant laxatives, but patients should be advised that constipation is not a side effect that will diminish with continued use of opiates. Chronic opiate users continually experiencing this side effect should be advised to seek longer term solutions from the prescriber, including an objective evaluation of the clinical need to continue long-term opiate therapy.

Other troublesome side effects noted with opiate use include constriction of the pupils, itching, dry mouth, edema, and urinary retention. <sup>(26)</sup> While these side effects are usually manageable, urinary retention can become severe, requiring invasive catheterization of the patient. Opiates may also induce hypogonadism, particularly in male patients. <sup>(26)</sup> Testosterone levels typically are reduced by 50% within hours of opiate dosing, although these levels typically return to normal within a few days of discontinuing the drug. For chronic opiate users, however, this reduction may precipitate a loss of muscle mass, erectile dysfunction, and impotence among other systemic effects.

Another interesting adverse effect of opiates that has made its way into medical journals is the idea of hyperalgesia, or the induction of an increased sensitivity to pain. The condition is characterized by a paradoxical response whereby a patient receiving opioids for the treatment of pain could actually become more sensitive to certain painful stimuli, lowering the overall pain threshold. <sup>(25)</sup> This, of course, is concerning when using opiates for the treatment of chronic pain and this phenomenon should be considered when determining the appropriateness of long-term opiate use.

### ***Common Opioid Drug-Drug Interactions***

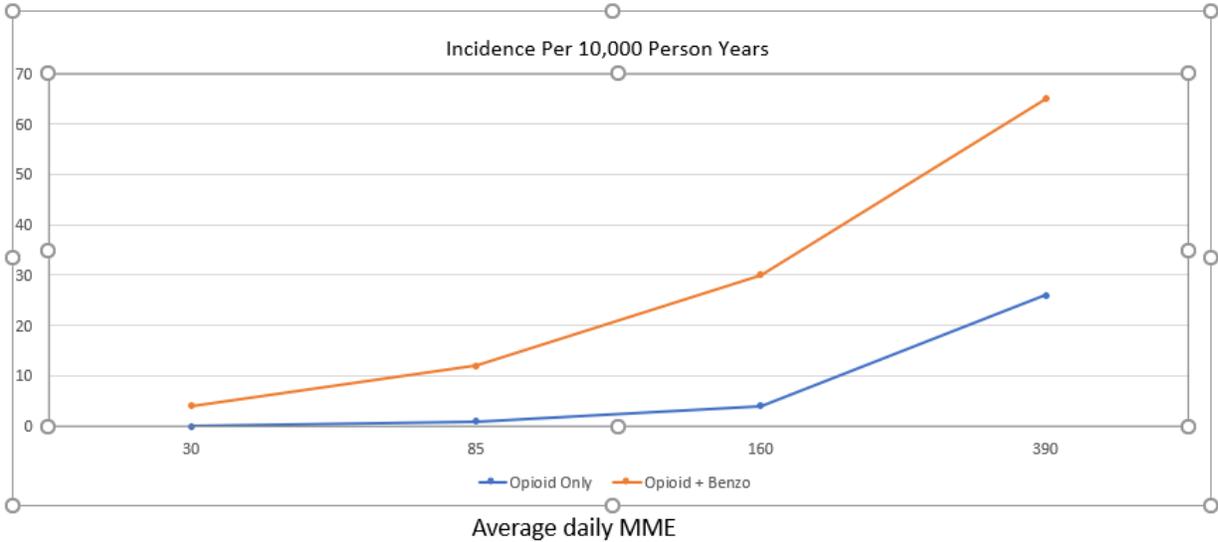
Numerous drug-drug interactions exist with opiates in which pharmacists must remain vigilant. Using methadone as the basis for this discussion, some of the more noted interactions include: <sup>(26)</sup>

Methadone Plus ...	Concern:
<b>HIV MEDICATIONS</b>	
AZT	Increase in AZT concentrations; possible AZT toxicity

Didanosine (tablets)	Significant decrease in didanosine concentrations
Stavudine	Significant decrease in stavudine concentrations
Delavirdine	Increased methadone concentrations
Darunavir	Opiate withdrawal may occur
Efavirenz	Opiate withdrawal may occur
Nelfinavir	Methadone levels are decreased. Opiate withdrawal may occur.
Lopinavir / ritonavir	Opiate withdrawal may occur
<b>TUBERCULOSIS MEDICATIONS</b>	
Rifampin	Opiate withdrawal may occur
<b>ANTI-INFECTIVES</b>	
Fluconazole	Increased methadone plasma concentrations
Voriconazole	Increased methadone plasma concentrations
Ciprofloxacin	Increased methadone plasma concentrations
Clarithromycin	Increased methadone plasma concentrations
<b>ANTIDEPRESSANT MEDICATIONS</b>	
Fluvoxamine	May cause increased methadone plasma levels and discontinuation has been associated with the onset of opioid withdrawal
Amitriptyline	Could be associated with increases in plasma methadone concentrations
St. Johns Wort	Increased metabolism and elimination of methadone
Desipramine	Associated with increased desipramine levels

<b>ANTIPSYCHOTIC MEDICATIONS</b>	
Quetiapine	Increased plasma methadone concentrations
<b>ANTICONVULSANTS</b>	
Carbamazepine	Associated with opiate withdrawal
Phenytoin	Associated with opiate withdrawal
Phenobarbital	Associated with opiate withdrawal
<b>ANTI-HISTAMINES</b>	
Promethazine	May have a synergistic depressant effect
Diphenhydramine	May have a synergistic depressant effect
<b>ALCOHOL</b>	Severe adverse events, including death
<b>BENZODIAZEPINES</b>	Severe adverse events; extreme caution (see below)

Perhaps the most significant interaction that has been in the public spotlight is the relationship between opiates and benzodiazepines. As depicted graphically below, the addition of a benzodiazepine to an opioid regimen significantly increases the risk of respiratory suppression, especially as the dosage of the opioid (MME) increases. <sup>(25)</sup>



Such data prompted the FDA to issue a warning in 2016 which asked practitioners, in part, to: <sup>(26)</sup>

- Limit the combination of opioid and benzodiazepine medications only to patients for whom alternative treatment options are inadequate
- If combined use of an opioid and a benzodiazepine is chosen, limit the dosage and duration of each
- Warn patients and caregivers about the risks and symptoms of respiratory depression and/or sedation
- Avoid prescribing prescription opioid cough suppressant medicines for patients utilizing CNS depressants, including the ingestion of alcohol

### *High Dose / Low Dose Guidelines*

Whether a patient’s opioid therapy is considered to fall within ‘high’ or ‘low’ dosage is determined by the calculated MME’s (Morphine Milligram Equivalents). This calculation serves as a means of comparing potency of opioids and identifying patients who may benefit from closer monitoring, dosage reduction, and/or prescribing of naloxone rescue agents for emergency use.

To calculate the MME for a patient’s regimen, the pharmacist should first identify the amount of each opioid that the patient takes daily. Then, using the conversion factors provided in the CDC table below, each opioid should be multiplied by the appropriate conversion factor to determine MME.

**Calculating morphine milligram equivalents (MME)**

<b>OPIOID</b> (doses in mg/day except where noted)	<b>CONVERSION FACTOR</b>
Codeine	0.15
Fentanyl transdermal (in mcg/hr)	2.4
Hydrocodone	1
Hydromorphone	4
Methadone	
1-20 mg/day	4
21-40 mg/day	8
41-60 mg/day	10
≥ 61-80 mg/day	12
Morphine	1
Oxycodone	1.5
Oxymorphone	3

*These dose conversions are estimated and cannot account for all individual differences in genetics and pharmacokinetics.*

For example, consider the following profile:

- Morphine ER 30mg, Take 1 tablet twice daily
- Tylenol® #3 (Acetaminophen with codeine 300mg/30mg), Take 1 tablet four times daily

For Morphine ER 30mg:

60mg daily x 1 (conversion factor) = 60 MME

For Tylenol® #3:

120 mg daily x 0.15 (conversion factor) = 18 MME

*Then, simply add the two calculated MME's together for the total daily MME for this patient:*

60 MME + 18 MME = **78 MME**

This determination is important, as CDC guidelines recommend extra precautions when dosages are greater than or equal to 50 MME per day. Guidelines further advise avoiding or carefully justifying dosages greater than or equal to 90 MME per day.

### ***Patient Treatment Resources for Opioid Dependence***

Pharmacists should be knowledgeable of resources within his or her own community where patients may be referred for treatment and follow-up. These options will vary from state, as will patient access to these resources. Pharmacists may serve as localized advocates for patients who seek reprise from substance abuse disorder. A pharmacist with local knowledge may help patients avoid exploring nonviable options where new patients may not be seen for weeks or months on end. A pharmacist with local knowledge will have a variety resources available, ranging from free or inexpensive options to those options covered by insurance.

One place that a pharmacist may wish to begin this localized search is by using the Substance Abuse and Mental Health Service Administration's (SAMHSA) behavioral health treatment services locator, in which the pharmacist may enter the zip code of the pharmacy for a listing of local treatment centers (<http://findtreatment.samhsa.gov>). But, pharmacists are encouraged to avoid stopping there. Call the local facilities. Ask questions. What is the center's philosophy of treatment? How quickly may patients expect to receive care? What are the costs associated with treatment and how is this typically billed? The better pre-

armed we are with information, the better we will be in assisting patients who reach out to us for direction.

Narcotics Anonymous (<https://www.na.org>) is another option for referral, especially when patient resources may be limited. Narcotics Anonymous is a well-recognized global community-based organization which uses a twelve-step system, which includes regular attendance at meetings. Membership is free and meeting locations are numerous, with nearly 67,000 meetings held each week in 139 countries. With broad access, Narcotics Anonymous holds only one requirement for membership: the desire to stop using.<sup>27</sup> Pharmacists are encouraged to familiarize themselves with multiple local resources, including Narcotics Anonymous.<sup>23</sup> In the introduction of the program heralded as being 'created for addicts by addicts', the Narcotics Anonymous book introduces themselves as addicts in a simple, yet humble, manner:<sup>27</sup>

*"Very simply, an addict is a man or woman whose life is controlled by drugs. We are people in the grip of a continuing and progressive illness whose ends are always the same: jails, institutions, and death."*

Regardless of resources introduced to the patient, the pharmacist should vehemently encourage the patient to continue to pursue the goal of abstinence and to emphasize the message that setbacks are a normal progression toward success. The National Cancer Society, for example, reports that it takes, on average, 8 – 10 attempts before an individual quits smoking. As with nicotine addiction, we can not expect every attempt at becoming opioid free to be a successful venture. The key in the above statistic is not the 8 – 10 attempts; the key is that the patient quit smoking. Patients should be encouraged to keep trying, using a variety of resources. The numerous stories of success highlighted in the Narcotics Anonymous book are a sobering reminder that success is within reach of those who never quit trying.

Another option is Self-Management and Recovery Training (SMART) which offers a "4-Point Program" that offers tools and techniques in: <sup>28</sup>

1. Building and maintaining motivation
2. Coping with urges
3. Managing thoughts, feelings, and behaviors
4. Living a balanced life

Details on the SMART program, as well as information on local meeting sites, may be obtained by visiting the program's webpage at: <https://www.smartrecovery.org/>

Medication may be used as an adjunctive treatment option to any number of programs. Medication therapy, while not appropriate for everyone, has been shown to reduce rates of relapse and improve functionality.<sup>28</sup> Distinct types of medication may be used for opioid dependence:

Classification:	Examples:	Mechanism of Action:
Agonists	Methadone	Enhance the activity of opioids at specific sites
Partial Agonist / Antagonist	Buprenorphine (Subutex®)	Tightly binds to receptors, blocking the uptake of other opioids
	Buprenorphine + Naloxone (Suboxone®)	
Antagonists	Naloxone	Blocks the action of a substance at the nerve receptor site; May induce a state of immediate withdrawal, but may be life-saving in overdose situations  Dosage forms: nasal spray, IM, Auto-injection syringes
	Naltrexone (Vivitrol®)	Dosage form: oral tablet  Monthly IM preparation
Other		
	Acamprosate (Campral®)	Believed to modulate or inhibit brain glutamate receptors to reduce cravings
	N-Acetylcysteine (NAC)	OTC Dietary supplement that impacts glutamate and dopamine transmission in the brain

None of these medications are intended to be used outside of a more comprehensive support system and cessation plan. If employed, medication therapy should be adjunctive treatment as part of a broader plan. Any use of emergency opioid antagonists should be followed by immediate emergency medical attention. As Dr. Lloyd Sederer surmised in his book, *The Addiction Solution*, "Relapse is to be expected, prevented when possible, and always responded to with support, vigor, and hope."

## *Emergency Use of Naloxone*

### *Florida's General Statute Standing Order for Naloxone (FL section 381.887)*

The emergency use of opioid antagonists, such as naloxone, has quickly been drawn into the public spotlight as the nation's opioid crisis continues to escalate. Increasing access to the life-saving reversal agent has been an issue that has brought about public debate and even regulation. This debate was catalyzed by a 2011 study published in *Pain Medicine* which outlined the results of the 'Lazarus Project' conducted in Wilkes County, North Carolina, which was, at the time, one of the highest areas for drug overdose deaths in the nation. The 'Lazarus Project' essentially introduced intranasal naloxone at no charge to the patient. Ultimately, the project was linked to a reduction in deaths from 46.6 per 100,000 people in 2009 to 29.0 per 100,000 people in 2010.<sup>31</sup> Similar results have since been replicated in large metropolitan areas of the country. Such results have driven regulatory discussions across the nation.

In the state of Florida, for example, changes were recently made to the state statutes which established a state wide standing order for an opioid antagonist to patients and caregivers. The statute allows pharmacists licensed in the state of Florida to dispense naloxone to emergency responders for situations where a patient shows or exhibits signs of an opioid overdose. This includes, but is not limited to: law enforcement personnel, paramedics, and related emergency medical technicians.<sup>29</sup>

According to the state board of pharmacy's website, a patient record system shall be maintained by pharmacies for patients to whom new or refill prescriptions are dispensed. It is further recommended that pharmacists show the "patient" as the emergency responder obtaining the naloxone formulation and the prescriber be shown as "Dr. Celeste Phillip," Florida's Surgeon General and Secretary of the Florida Department of Health. Approved formulations for dispensing under the standing order are intranasal and auto-injector administration options. This state of Florida executive order may be viewed online at: <https://www.flgov.com/wp-content/uploads/2017/05/17146.pdf>.<sup>29</sup>

## *Final Thoughts*

Pharmacists and technicians will likely continue to see rapid regulatory and clinical changes within this arena. It will be increasingly important to stay tuned into both local and federal directives. All of this, however, brings us back to our initial question: Are we delivering health care ... or, are we contributing to a health crisis? There are no simple answers to the question. In our continued quest for answers, we seemingly uncover more questions. How we choose to act today, though, will have a direct impact on tomorrow. So, what can we do professionally? Can we target a youth audience in a meaningful way? Can we take the extra steps to refer patients to appropriate resources? Can we follow up with patients, if only to let them know that we are rooting for them in their journey? Can we encourage a parent to dispose of unused medications in the household? Can we divert fraudulent

prescriptions? Can we courageously assist a colleague in facing his or her own substance use disorder? In the words of Mother Teresa, "Yesterday is gone. Tomorrow has not yet come. We have only today. *Let us begin.*"

## References:

1. Abood, R.A., Burns, K.A. (year). *Pharmacy Practice and the Law, Eighth Edition*, City: J.B. Learning.
2. Combs, J. (2009, June). Pharmacists get addicted, too. *Drug Topics*, retrieved: <http://drugtopics.modernmedicine.com/drug-topics/news/modernmedicine/modern-medicine-now/pharmacists-get-addicted-too>
3. Israkowitz, R.E., Myers, P.L. (2011). *Illicit Drugs*. Santa Barbara: ABC-CLIO, LLC.
4. Johnsen, M. (2016, March). Senate Passes Ensuring Patient Access and Effective Drug Enforcement Act. *Drug Store News*, accessed: <http://www.drugstorenews.com/article/senate-passes-ensuring-patient-access-and-effective-drug-enforcement-act>
5. Lembke, A. (2012). Why Doctors Prescribe Opioids to Known Opioid Abusers. *The New England Journal of Medicine*, (367), pp. 1580-1581.
6. Meier, B. (2013, June). Walgreen to Pay \$80 Million Fine in D.E.A. Inquiry. *The New York Times*, accessed: [https://mobile.nytimes.com/2013/06/12/business/walgreen-to-pay-80-million-settlement-over-painkiller-sales.html?\\_r=0&referrer=http://commonhealth.wbur.org/2013/08/walgreens-painkiller-crackdown](https://mobile.nytimes.com/2013/06/12/business/walgreen-to-pay-80-million-settlement-over-painkiller-sales.html?_r=0&referrer=http://commonhealth.wbur.org/2013/08/walgreens-painkiller-crackdown)
7. *Prescription Drug Abuse and Diversion: The Role of Prescription Drug Monitoring Programs*: Hearing of the Committee on Health, Education, Labor, and Pensions, United States Senate, 108<sup>th</sup> Cong. 2(2004).
8. Seppala, M.D., Rose, M.E. (2010). *Prescription Painkillers: History, Pharmacology, and Treatment*. Center City: Hazelden.
9. Shah, B., Gibson, J.L., Tex, N.L. (2013). *The 21<sup>st</sup> Century Pharmacy Technician*. Burlington: Jones & Bartlett Learning.
10. Terrie, Y.C. (2006, November). Lean on Me: Help for the Impaired Pharmacist. *Pharmacy Times*, retrieved: <http://www.pharmacytimes.com/publications/issue/2006/2006-11/2006-11-6061>
11. Walsh, R.W. (n.a.) The 13 Craziest Things Ever Used as Medicine In America. retrieved: <http://www.ranker.com/list/bizarre-items-actually-used-as-medicine/robert-wabash>

12. U.S. Department of Justice Drug Enforcement Administration Diversion Control Division. (2000). A Pharmacist's Guide to Prescription Fraud [Brochure]. Retrieved June 21, 2017 from <https://www.deadiversion.usdoj.gov/pubs/brochures/pharmguide.htm>
13. <https://www.cdc.gov/drugoverdose/pdmp/index.html>
14. <http://www.scdhec.gov/scripts/>
15. [http://www.floridahealth.gov/statistics-and-data/e-forcse/\\_documents/2016PDMPAnnualReport.pdf](http://www.floridahealth.gov/statistics-and-data/e-forcse/_documents/2016PDMPAnnualReport.pdf)
16. <http://www.annualreviews.org/doi/pdf/10.1146/annurev-publhealth-031914-122957>
17. <https://nabp.pharmacy/initiatives/pmp-interconnect/>
18. <https://drugfree.org/>
19. <https://nabp.pharmacy/initiatives/awarxe/pharmacist-resources/>
20. JAMA Internal Medicine, 1/25/16, published online, accessed 1/30/16
21. Katz, J. (2017, June 5). Drug Deaths in America Are Rising Faster Than Ever. The New York Times, accessed: <https://www.nytimes.com/interactive/2017/06/05/upshot/opioid-epidemic-drug-overdose-deaths-are-rising-faster-than-ever.html?mcubz=0>.
22. [https://www.reddit.com/r/medicine/comments/49xm3y/pharmacy\\_refusing\\_to\\_fill\\_pain\\_medication/](https://www.reddit.com/r/medicine/comments/49xm3y/pharmacy_refusing_to_fill_pain_medication/)
23. <https://www.na.org/>
24. <https://www.flsenate.gov/Committees/bills/summaries/2018/html/1799>
25. *Pain Physician*. 2011 Mar-Apr;14(2):145-61.
26. *Pain Physician*. 2008 Mar;11(2 Suppl):S105-20
27. Narcotics Anonymous. (2008). Van Nuys: World Service Office.
28. Sederer, L.I. (2018). *The Addiction Solution*. New York: Scibner.
29. <https://www.floridaspharmacy.gov/latest-news/state-of-emergency-issued/>
30. <https://www.fda.gov/forconsumers/consumerupdates/ucm300803.htm>
31. [https://www.cdc.gov/drugoverdose/pdf/calculating\\_total\\_daily\\_dose-a.pdf](https://www.cdc.gov/drugoverdose/pdf/calculating_total_daily_dose-a.pdf)
32. Foreman, J. (2014). *A Nation in Pain*. New York: Oxford University Press.

## CE-PRN

341 Wellness Drive  
Myrtle Beach, SC 29579

Fax. (843) 488-5554  
Email. [info@ce-prn.com](mailto:info@ce-prn.com)

**WHEN YOU SEND IN QUIZZES, ALWAYS KEEP A COPY. YOU MAY EMAIL OR FAX THEM.**

FAX. (843) 488-5554 • EMAIL. [INFO@CE-PRN.COM](mailto:INFO@CE-PRN.COM)

**ALL PHARMACISTS AND PHARMACY TECHNICIANS:**

Check your CE activity or print a statement of credit from your CPE Monitor eProfile Account.  
To login, go to <https://nabp.pharmacy>. Enter your username (your email address) & your password. Click on "CE Activity" to view your history and print a CE report.

## A State of Emergency: An Opioid Loyal Nation in Crisis • February 2019 • Volume 41, #2

### Contributing Faculty

Kevin Hope, RPh  
Clinical Pharmacy Education Specialist  
PharmCon, Inc.

### Executive Editor

Kevin McCarthy, RPh



CE-PRN is a publication of PharmCon, Inc. PharmCon, Inc. is accredited by the Accreditation Council for Pharmacy Education (ACPE) as a provider of continuing pharmacy education.

Providers who are accredited by ACPE are recognized by **ALL** states for fulfilling CE requirements.

Participants completing this activity by August 8, 2021 may receive full credit.  
Release Date: February 1, 2019

This lesson furnishes 2.0 (0.2 CEUs) contact hours of credit.  
Universal Activity Number for this activity:

**Pharmacists:** 0798-0000-18-158-H04-P    **Pharmacy Technicians:** 0798-0000-18-158-H04-T  
CE Provider Registered # with CE Broker is 50-3515.

### TO DOWNLOAD LESSONS FROM OUR WEBSITE:

- Go to website [www.ce-prn.com](http://www.ce-prn.com)
- Click on COURSES
- Click on YEAR
- Click on the UAN # "0798-0000-..." for your lesson of interest.

### FLORIDA PARTICIPANTS – READ THIS!

Place your Florida license # on every quiz.

## QUIZ – February 2019 • State of Emergency: An Opioid Loyal Nation in Crisis

In order to receive credit for this activity, fill in the information below, answer all questions, and return Quiz Only for certification of participation to:

CE-PRN

341 Wellness Drive

Myrtle Beach, South Carolina 29579

**WHEN YOU SEND IN QUIZZES, ALWAYS KEEP A COPY. YOU MAY MAIL, EMAIL, OR FAX THEM.  
FAX #. (843) 488-5554 • EMAIL. [INFO@CE-PRN.COM](mailto:INFO@CE-PRN.COM)**

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PHARMACIST

PHARMACY TECHNICIAN

CPE Monitor ePID \_\_\_\_\_

BIRTHDATE (MM/DD) \_\_\_\_\_

IF LICENSED IN FLORIDA, FL LICENSE # \_\_\_\_\_

EMAIL ADDRESS \_\_\_\_\_

### LESSON EVALUATION

Please fill out this section as a means of evaluating this lesson. The information will aid us in improving future efforts. Either circle the appropriate evaluation answer, or rate the item from 1 to 7 (1 is the lowest rating; 7 is the highest).

1a. **PHARMACISTS ONLY:** Does this lesson meet the learning objectives? (Circle choice).

Identify tools employed in pharmacy practice to detect fraudulent prescriptions or prescriptions not prescribed for a legitimate purpose	YES	NO
Recognize common drug/drug interactions and side effects of opiate medications	YES	NO
Recognize the role of opioid antagonists, such as naloxone, in emergency treatment of opioid overdose	YES	NO
Identify validation mechanisms used to ensure proper patient access when a legitimate prescription exists	YES	NO

1b. **TECHNICIANS ONLY:** Does this lesson meet the learning objectives? (Circle choice).

Identify tools employed in pharmacy practice to detect fraudulent prescriptions or prescriptions not prescribed for a legitimate purpose	YES	NO
Recognize common drug/drug interactions and side effects of opiate medications	YES	NO
Recognize the role of opioid antagonists, such as naloxone, in emergency treatment of opioid overdose	YES	NO
Identify validation mechanisms used to ensure proper patient access when a legitimate prescription exists	YES	NO

2. Was the program independent & non-commercial? YES NO
3. Relevance of topic                      Low Relevance                      Very Relevant  
    1                      2                      3                      4                      5                      6                      7
4. What did you like **MOST** about this lesson? \_\_\_\_\_  
 \_\_\_\_\_
5. What did you like **LEAST** about this lesson? \_\_\_\_\_  
 \_\_\_\_\_
6. How would you improve this lesson? \_\_\_\_\_  
 \_\_\_\_\_

**PLEASE MARK THE CORRECT ANSWER(S)**

1. Federal regulations require that a complete controlled substance inventory be taken prior to the opening of business and then, at minimum, \_\_\_\_\_ thereafter.
  - a. Every 6 months
  - b. Every year
  - c. Every two years
  - d. Every five years
  
2. Components of a strong prescription drug monitoring program (PDMP) include all of the following **EXCEPT**:
  - a. An effective training program for users of the system
  - b. The establishment of an advisory board for continuous evaluation of the elements of the program
  - c. Appropriate provisions for protection of confidential patient information
  - d. Restricts data access to users within the boundaries of the state in which the program operates
  
3. PMP interconnect® is a system developed by NABP for the primary purpose of:
  - a. Automatically reporting therapeutic duplications to the appropriate state authority
  - b. Providing political advocacy to protect the liberty of US Citizens
  - c. Facilitating the transfer of prescription monitoring data across state lines
  - d. Educating children about the dangers of drug substance abuse
  
4. The primary means by which youth in the United States obtain opioids for nonmedical use is:
  - a. From a friend or family member at no cost
  - b. From seeking medical care under false pretenses
  - c. From a drug dealer or a stranger
  - d. From an internet transaction

5. **Pharmacist reluctance to fill controlled substance prescriptions has resulted in:**
  - a. Media highlights of legitimate patients who have been denied access to prescribed medications
  - b. The incorporation of minimum standards for refusing to fill a prescription in some state pharmacy practice acts
  - c. The introduction of federal law ('Ensuring Patient Access and Effective Drug Enforcement Act of 2016')
  - d. All of the above are correct
  - e. None of the above are correct
  
6. **Potential 'red flags' that might suggest a forged prescription include:**
  - a. The quantities, directions, or dosages differ from traditional standards
  - b. The prescription does not use appropriate standard abbreviation
  - c. The prescription is written in different colors of ink
  - d. All of the above are correct
  - e. None of the above are correct
  
7. **A pharmacist would like to question the validity of a prescription. The most useful and appropriate telephone number to call would be:**
  - a. The phone number that is printed on the face of the prescription in question
  - b. The phone number for the physician's office that is listed in public directories
  - c. The phone number that the patient provides
  - d. The telephone number for the state's poison prevention number
  
8. **A DEA \_\_\_\_\_ form is used to report the theft or significant loss of a controlled substance.**
  - a. 222
  - b. 41
  - c. 106
  - d. 1040
  
9. **Errors in Prescription Drug Monitoring Programs (PDMPs) may include:**
  - a. Incorrect physician recorded by the pharmacy
  - b. Incorrect days supply recorded by the pharmacy
  - c. Prescription that was filled under the incorrect patient's name
  - d. All of the above are correct
  - e. None of the above are correct
  
10. **Challenges for prescribers of controlled substance medications may include:**
  - a. Limited resources for referral of patients who become addicted to medications
  - b. The threat of the loss of a client and/or poor service ratings on patient surveys
  - c. The lack or scarcity of reimbursement for the treatment of addiction
  - d. All of the above are correct
  - e. None of the above are correct

11. The federal legislation that introduced the idea of 5 classes of controlled substances was:
- The Food, Drug, and Cosmetic Act of 1938
  - The Durham-Humphrey Amendment of 1951
  - The Kefauver-Harris Amendment of 1963
  - The Comprehensive Drug Abuse Prevention and Control Act of 1970
  - Ensuring Patient Access and Effective Drug Enforcement Act of 2016
12. According to federal guidelines as to who may prescribe a controlled substance, which of these situations would constitute a valid prescription?
- Dr. Montoya is a licensed physician but is not registered with the DEA. She prescribes alprazolam to a patient for the treatment of anxiety.
  - Arlene is a receptionist for Dr. Payne. When the pharmacist calls to request a new prescription for Mrs. Brown's diazepam, Arlene immediately gives authorization for 5 refills.
  - Dr. Rhodes is a licensed dentist and holds a valid registration with the DEA. At a routine dentist visit, one of the dentist's neighbors mentions that he has terrible back pain and needs something to relieve his symptoms. Dr. Rhodes proceeds to write a prescription for carisoprodol and hydrocodone.
  - All of the above constitute valid prescriptions
  - None of the above constitute valid prescriptions
13. A regional supervisor tells the pharmacy staff that although federal regulations require an exact count for the C-II drug inventory, the staff may estimate counts for C-II drugs because the state standards where the pharmacy operates are not as stringent. Is the regional supervisor correct in this assessment?
- Yes
  - No
  - Cannot be determined from the information provided
14. CDC guidelines recommend additional precautions when a patient's daily opioid regimen is equal to or greater than \_\_\_\_\_ MME (Morphine Milligram Equivalents).
- 10
  - 25
  - 50
  - 75
  - 100
15. Calculate the daily MME (Morphine Milligram Equivalent) for the following regimen using the appropriate conversion table:  
Oxycodone ER 15mg, Take 1 tablet twice daily  
Methadone 10mg, Take 1 tablet twice daily
- 25 MME
  - 50 MME
  - 100 MME
  - 125 MME
  - None of the above choices are correct

16. In 2016, the FDA issued a warning, asking practitioners to:
- Avoid prescribing opioids and benzodiazepines to the same patient
  - Prescribe benzodiazepines to minimize the occurrence of respiratory suppression in patients concurrently taking opioids
  - Limit the combination of opioid and benzodiazepine medications only to patients for whom alternate treatment options are inadequate
  - The concomitant use of benzodiazepines and opioids may precipitate opiate withdrawal
17. Common side effects of opioid medications include:
- Diarrhea
  - Dilation of the pupils in the eye
  - Increased levels of circulating testosterone in both male and female patients
  - Urinary retention
  - All of the above are correct
18. In the state of Florida, duly licensed pharmacists are permitted to dispense naloxone to \_\_\_\_\_ via the provisions of the state's standing order.
- Law enforcement officers
  - Paramedics
  - EMTs
  - All of the above are correct
  - None of the above are correct
19. The FDA recommends disposing of a used fentanyl patch by:
- Disposal with household garbage
  - Flushing down a toilet
  - Placing the patch in coffee grounds and then disposing with household garbage
  - Mailing the patches back to the manufacturer for proper disposal
  - None of the above are correct
20. After the implementation of state Prescription Drug Monitoring Programs (PDMPs), the mortality rates and admissions into substance abuse treatment centers for heroin use:
- Increased
  - Decreased
  - Remain unchanged