PROTENUS

2020

DIVERSION DIGEST

Over 148M Doses Diverted in Healthcare, with Doctors and Nurses Responsible for 77% of All Reported Incidents

As seen in: CBS THIS MORNING   FOX NEWS channel   CBS NEWS

Acting to prevent diversion is critically important as the industry works to get ahead of this challenge.

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Introduction

The 2020 Protenus Drug Diversion Digest equips healthcare leaders with useful insight into the extent to which drug diversion occurs throughout the U.S. healthcare industry. With this information, healthcare organizations can understand what must be done to prevent diversion in their systems, while identifying and supporting members of their workforce who have substance use disorders and protecting patients from the harms diversion can create. Acting to prevent diversion is critically important as the industry works to get ahead of this challenge.

Drug diversion is "the transfer of a controlled substance from a lawful to an unlawful channel of distribution or use." Examples of this include a nurse stealing pills from a nursing home or a physician writing fraudulent prescriptions. In especially contemptible cases, clinicians or other staff may tamper with vials or syringes that contain controlled substances for their own use, potentially exposing patients to infectious diseases or failing to adequately treat their pain—a situation that was frequently reported throughout 2019. Detecting drug diversion is a challenge for healthcare organizations. While legacy technologies can help them understand healthcare workers'

prescribing behaviors, such systems cannot comprehensively monitor every single transaction. Fortunately, the new generation of healthcare compliance analytics leverages artificial intelligence (AI) to audit 100% of transactions taking place within their organizations. This level of insight is critical to getting ahead of this challenge. It continues to be essential for healthcare leaders to collaborate within their organizations to better understand the severity and scale of this ongoing challenge.

The Diversion Digest presents only a limited set of diversion incidents carried out by healthcare workers: those that are reported in the media, which are often limited to those that involve arrests, indictments, and trials. Many incidents go undiscovered, and in some cases, a practitioner may divert medications for years before being caught. In the interim, harm is done to patients, while organizations and other members of the workforce are exposed to significant risks.

Overview

Protenus, the healthcare compliance analytics firm that also publishes the Breach Barometer®, analyzed 208 diversion incidents reported in online news stories in 2019. These incidents took place at various stages of resolution, including incident discovery, accusations, arrests, charging, and sentencing of diverters.

When comparing 2019 data to that of 2018, the number of incidents decreased by almost 36%, from 324 incidents in 2018 to 208 incidents in 2019 (figure 1). However, there is an alarming trend emerging that shows a significant increase in the volume of doses lost year over year (YOY). There was a 215% increase in total volume of doses lost, from 47 million doses in 2018 to 148 million doses in 2019 (figure 2). Finally, in 2019, healthcare organizations reportedly lost $183 million (figure 3) due to clinical drug diversion—a substantial decrease from 2018. However this may simply reflect a lack of publicly available information considering the volume of diverted doses substantially increased.
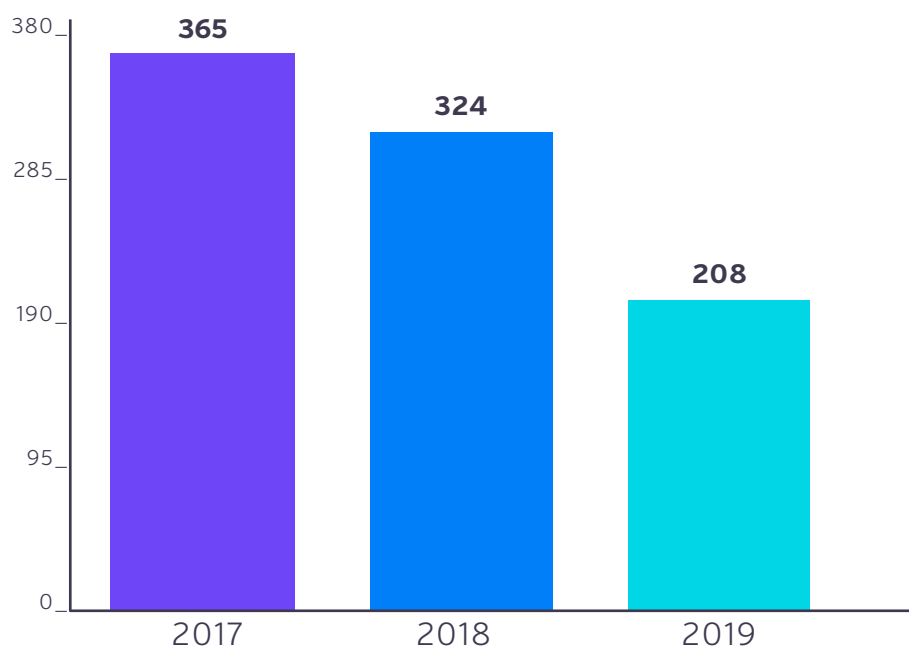
Figure 1. Total incidents, 2017-2019 publicly-reported diversion incidents

Although "pill mill" or prescription fraud cases might not fall within traditional definitions of drug diversion, they are included in this analysis because they offer another means by which healthcare workers inappropriately interact with controlled substances. Additionally, while most incidents in the analysis for which there was data involved at least one controlled substance, incidents that involved other prescription drugs more broadly were also included because they can pose dangers similar to those of controlled substances.
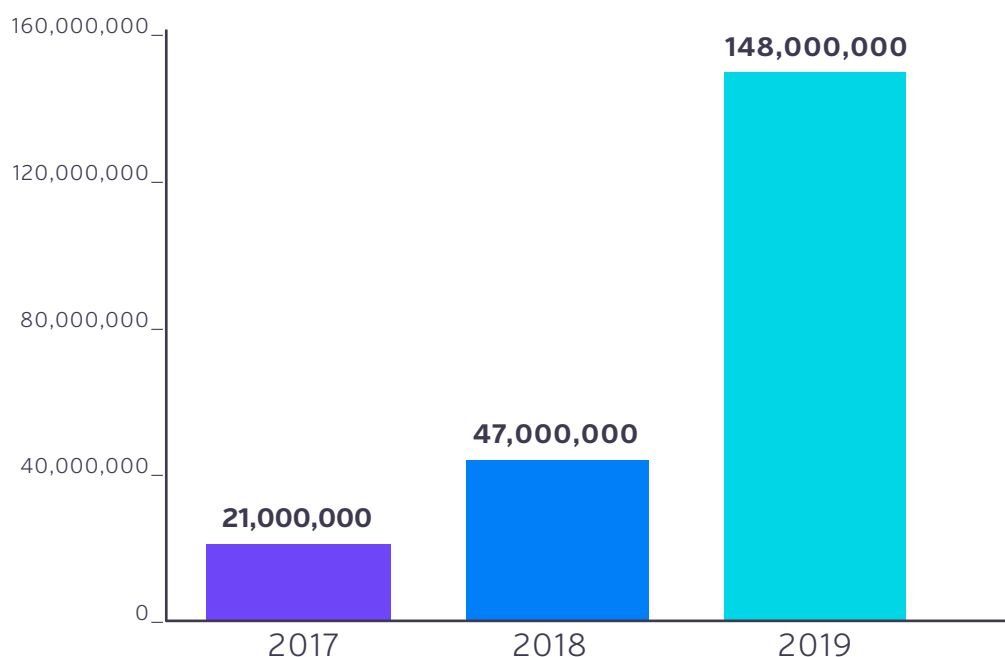

Figure 2. Total doses lost, 2017-2019 publicly-reported diversion incidents
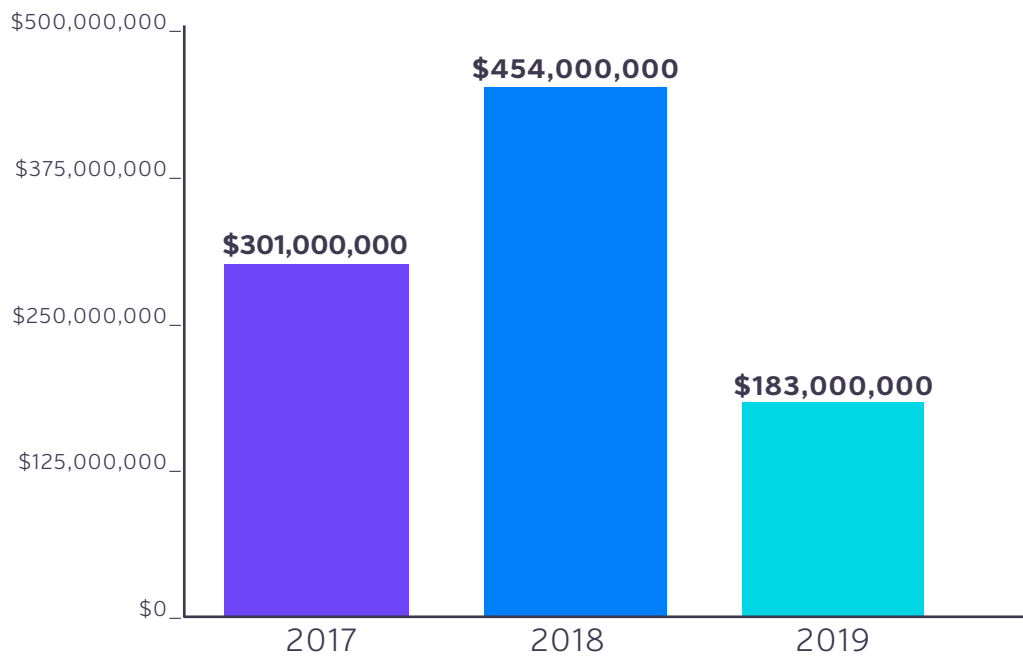
Figure 3. Monetary loss, 2017-2019 publicly-reported diversion incidents

Over half of diversion incidents take place in hospital or physician practice settings

Of the 208 incidents publicly reported in 2019, data was available on institution type for 175 incidents. The largest categories of institutions affected by diversion were the hospital, medical center, and clinic category and the practice category, which each accounted for 31% of the publicly reported incidents, for a combined total of 62% of publicly disclosed incidents (figure 4).
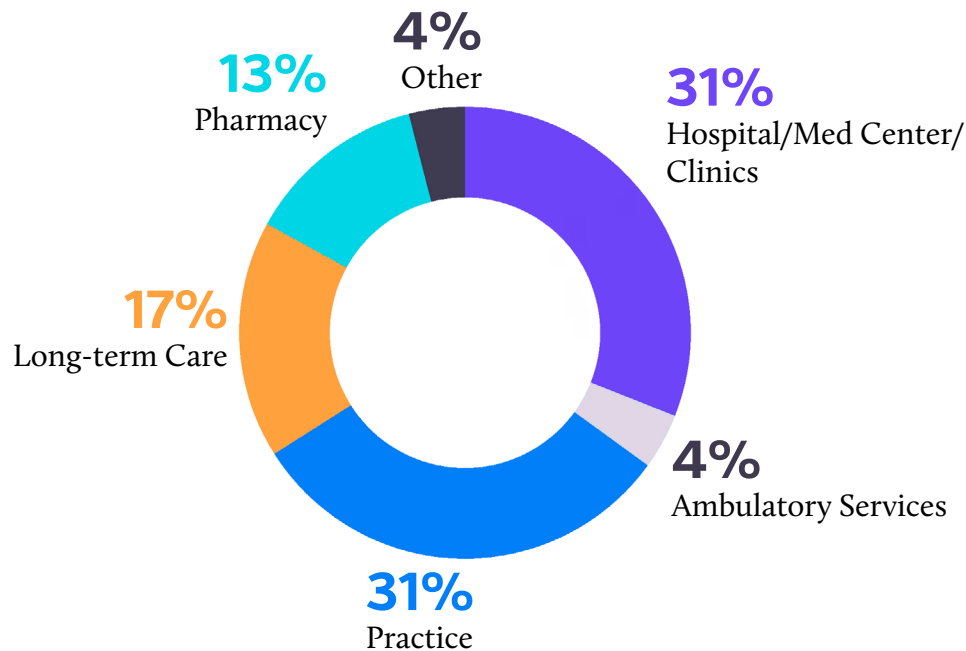

Figure 4. Institution type, 2019 publicly-reported diversion incidents

Hospitals, medical centers, and clinics are known to be environments ripe for drug diversion, given the high-stress environment and unfettered access healthcare workers need to quickly and effectively treat patients. Hospitalized patients are also usually sick or recovering from a procedure, making it more difficult for them to identify unusual behavior by their care team or recognize that they aren't receiving the necessary medications. Patients may expect to be in pain post-surgery, and not realize that their pain is, in fact, not being treated because they are not being given the correct dose of pain medication (or even the right medication).

Pill mills contributed to the larger percent of practice-involved diversion incidents. Unfortunately, many of these incidents publicly reported in 2019 resulted in several overdoses and associated deaths. In one incident reported in 2019, a medical office employee stole a prescription pad to write prescriptions for tramadol. Investigators believe she was able to divert approximately 3,000 pills, the investigation is ongoing. Physician practices may be especially vulnerable to risky behavior by staff because practices often do not have the resources to dedicate compliance staff or implement advanced technologies to monitor physicians, nurses, and other employees for anomalous behavior. This lower level of scrutiny makes them more vulnerable to drug diversion and other compliance issues, such as fraud.

Long-term care facilities accounted for 17% of incidents, remaining consistent with what was reported in 2018. These settings are particularly challenging because many patients are prescribed controlled substances to manage chronic pain and disease, resulting in high volumes of these drugs moving through facilities. An Iowa-based nursing home recently discovered an employee was diverting medication from its patients for personal use. The employee admitted to documenting the administration of oxycodone pills to her patients but was taking them for personal use. She is facing three counts of acquiring a controlled substance by misrepresentation, fraud, deception and subterfuge, and three counts of false statements related to healthcare matters.

Other types of institutions, e.g., school nurses and jail medical offices, comprised 4% of incidents. Pharmacies accounted for 13% of incidents and ambulance services accounted for 4% of the dataset.

Doctors and nurses responsible for 77% of diversion activity

There is data available on the diverter's role in healthcare for 98% of incidents. Doctors were the most common diverters, accounting for 42% of incidents, compared to 37% in 2018. Nurses were found to be the second most common diverters, involved in 35% of cases (figure 5) for which there is data, compared to 31% in 2018.
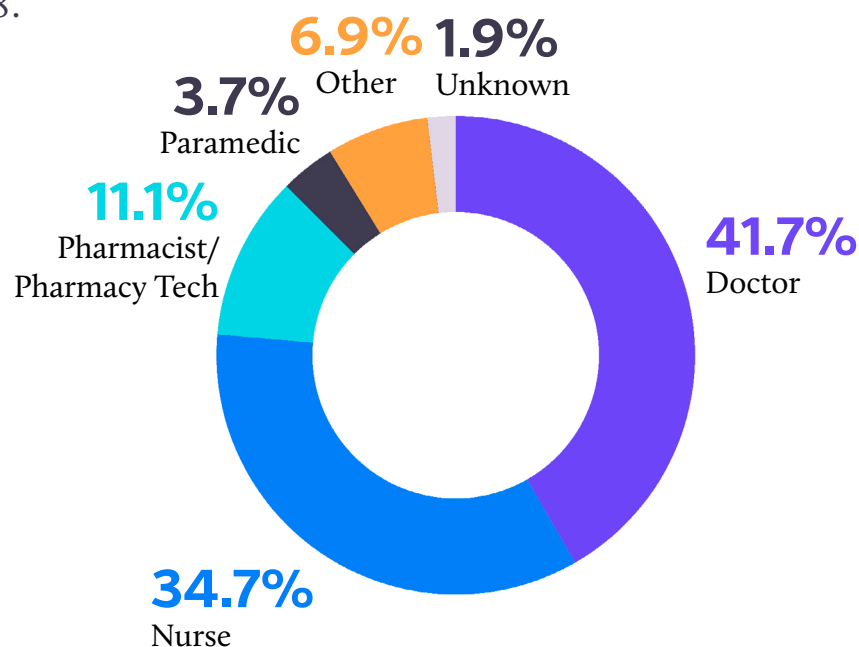

Figure 5. Diverter's healthcare employment role, 2019 publicly-reported diversion incidents

Doctors and nurses are not immune to the problems of addiction, but other factors may make them more susceptible to opioid use disorder, including the high stress of the profession, long shifts, fatigue, physical and emotional pain, as well as easy access to controlled substances.

One alarming example is of a series of pill mills that were taken down by the Health Care Fraud Unit, in partnership with the FBI, U.S. Attorney's Offices, Health and Human Services-Office of Inspector General (HHS-OIG) and the Drug Enforcement Administration (DEA). This pill mill resulted in $66 million in losses and 6.2 million diverted pills. The incident ended up with 58 healthcare members charged in their role in the pill mill, of that 16 were doctors and nurses.

To reinforce evidence first discovered in 2017 data, there is anecdotal evidence that some healthcare professionals who were convicted of misusing or abusing controlled substances in years prior, kept their licenses, continued to practice, and were accused again later of diversion activity. However, in other cases, those who were convicted were immediately stripped of their licenses, preventing them from practicing again. It's important to note that there was insufficient data available to quantify the breakdown of whose licenses were revoked versus those whose were not, across 2017, 2018, and 2019 data.

Opioids continue to be most popular diverted drug type in 2019

There were a total of 45 prescription drug types involved in the publicly reported incidents in 2019. Of the 208 total incidents included in the analysis, 181 incidents included information on the type of drug diverted. The three most commonly involved drugs were all opioids: oxycodone (68 incidents), hydrocodone (53 incidents), and fentanyl (29 incidents) (figure 6). In fact, of the incidents for which we have data on drug type, 160 incidents (77% of all incidents) involved at least one opioid. This represents a decrease in opioid percentage from our 2018 findings where opioids represented 98% of incidents.
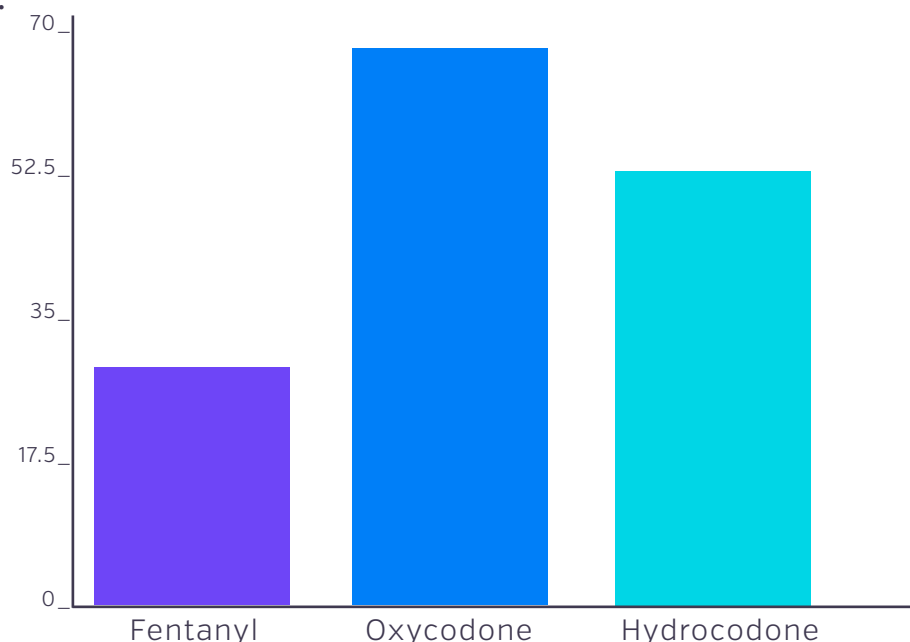
Figure 6. Most commonly diverted substances, 2019 publicly-reported diversion incidents

This information reinforces the common current practice of monitoring controlled substance usage more closely than other drug types. In an ideal situation, healthcare organizations would monitor 100% of transactions across all drug types because all instances of diversion pose a risk to the organization and potential harm for patients and members of the workforce. If the organization does not have a diversion program in place, focused monitoring on controlled substances is a good place to start.

Average fine to diverters is $575K

Healthcare employees found guilty of drug diversion may face jail time because diversion is a criminal offense. Potential maximum jail time information was available for 59 incidents in 2019, and on average, diverters could face up to 16 years in prison. It's important to note here that this analysis only includes numbers on incidents that explicitly reported the total actual or total potential jail time and excluded life sentences and incidents that listed potential individual sentences for a string of charges.

Fines, which ranged from hundreds of dollars to millions of dollars, were another consequence imposed on healthcare workers who diverted drugs. Twenty-nine incidents included information on fines; the average potential fine was $575K, less than the average fine of $796K in 2018 (figure 7). Even though a number of articles mentioned large potential fines in 2019, this average is a good indicator for the financial consequences diversion incidents can have on the diverter.

As with jail time, incidents were included where the maximum total fine was specified; those that listed potential fines associated with each charge were excluded. Beyond criminal consequences diverters face, they also face enormous threats to their own health and well-being. It's important to reemphasize the importance of this data, as it is believed that most diverters in healthcare steal drugs for self-use rather than resale, and 10-15% of healthcare personnel will misuse drugs or alcohol at some point during their careers.
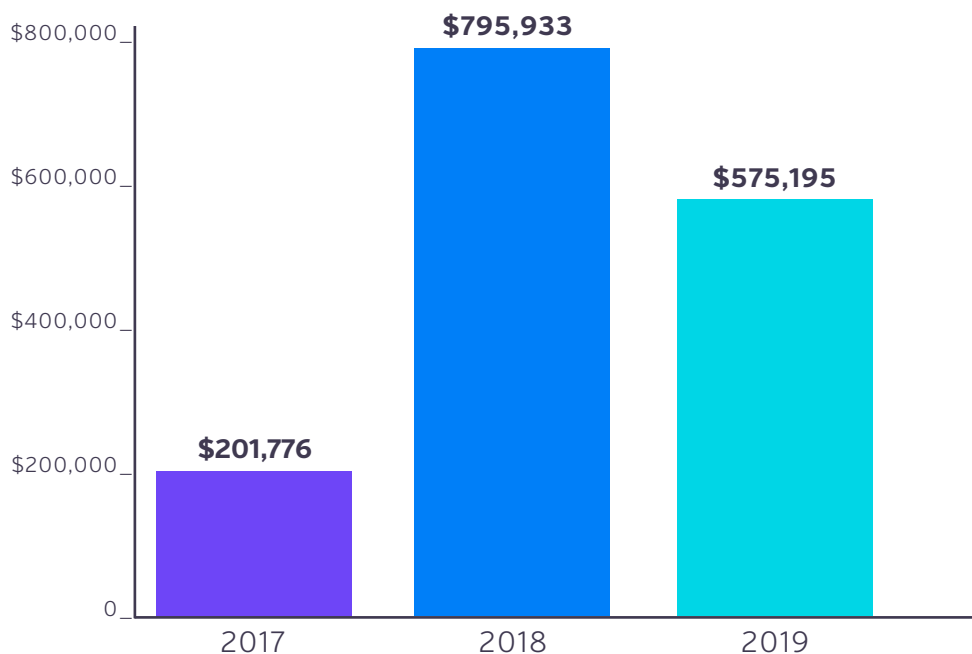

Figure 7. Average fine per incident, 2017-2019 publicly-reported diversion incidents

Drug diversion poses a great deal of harm to patients because it puts them at risk of being treated by care providers who are working under the influence, of receiving inappropriate or harmful care, and for receiving the incorrect amount or type of medications. Many cases involved healthcare workers physically stealing pills resulting in patients receiving lower amounts of prescribed medication, or none at all.

Drug tampering, where healthcare workers alter the state or type of drug prescribed to the patient, can present even more nefarious situations. A tampering incident could involve a healthcare worker replacing lifesaving medication with water or saline, which dilute the doses given to patients to unsafe or ineffective levels. For example, in one incident, a paramedic replaced ketamine and fentanyl with saline. These drugs were intended for patients during emergency air-vac situations, meaning that patients might have experienced significant unnecessary pain during their emergency treatment.

Costs to Organizations

Diversion incidents have numerous effects on the organizations where they occur. These include costs that are hard to quantify, such as reputational damage and the number of patients who no longer seek treatment at an institution due to this damage, in addition to the quantifiable number of pills or doses, and the monetary value of lost controlled substances.

Organizations lost over 148M pills or dosages to diversion incidents, a number that is based on data from 56 incidents. This is an alarming increase over the volumes seen in past years. What is more alarming is that while the volumes of drugs diverted has increased, the number of reported incidents has decreased, meaning that incidents of diversion are resulting in more doses stolen or misused per incident.

The total sum of dollars lost was $183M. While the total of reported monetary loss in 2019 is considerably less than in what was reported in 2018, this is most likely only because of the lack of publicly available information and the fact that the doses or pill volumes are much higher would indicate that this number should also be much higher.

[In one incident in 2019](), a pharmacist working for the VA system was diverting highly addictive medications away from the intended patients. This pharmacist could face up to four years of jail time in addition to a potential fine of $250K per count, totaling $5M. While these represent significant monetary penalties, the provider organizations, and other institutions that undergo these kinds of investigations, also face negative press surrounding the event, magnifying the loss to the institution and creating a long-lasting effect on its reputation.

State Frequency

The analysis has identified Texas, Tennessee, and Ohio as the states with the most publicly reported diversion events in 2019. Texas and Tennessee both had 20 incidents, while Ohio had 22 (figure 8). Combined, these three states represented 30% of diversion incidents included in the report.
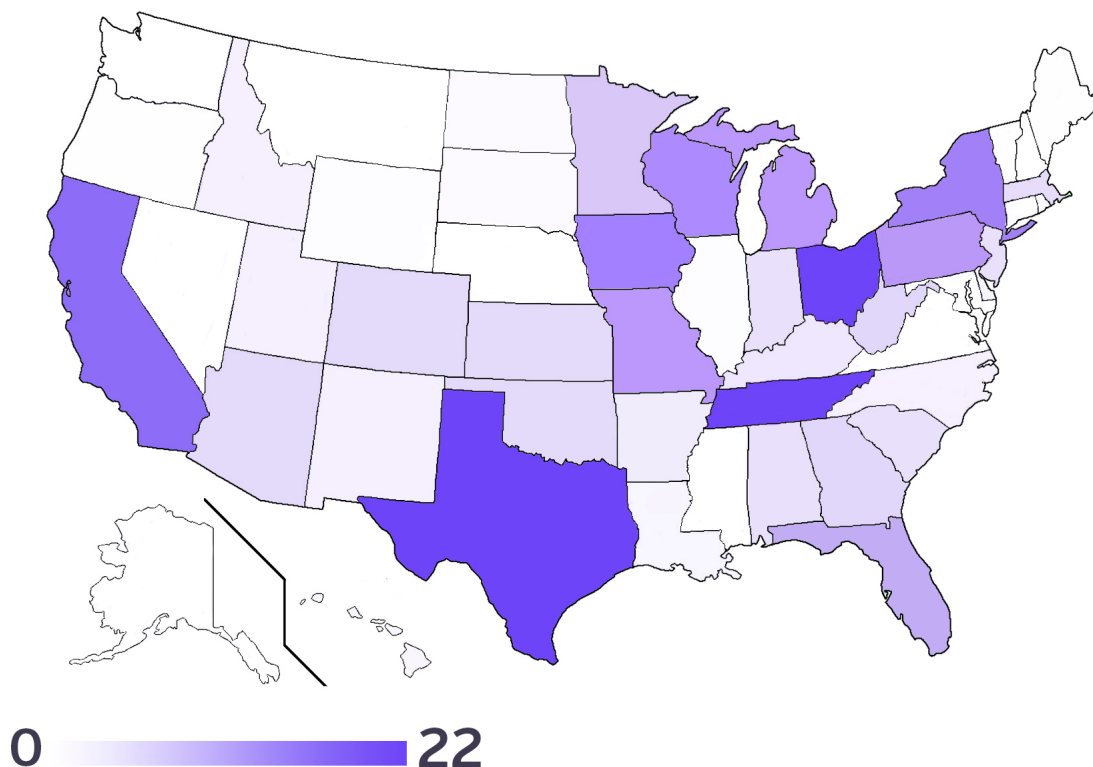

Figure 8. Number of incidents per state, 2019 publicly-reported diversion incidents

While state agencies have been making strides to better protect healthcare workers and patients from the harm that can occur as a result of drug diversion, it is important that healthcare organizations do their part, as well. Organizations must establish drug diversion monitoring programs that will detect early warning signs of diversion behavior, allowing staff to intervene before something catastrophic happens. It's vitally important to allocate the appropriate levels of staff and technological resources to this program, also ensuring that every single medical transaction across the electronic health record (EHR), automated dispensing cabinet (ADC), and ancillary systems is monitored for suspicious activity. Healthcare compliance analytics is allowing healthcare organizations to gain the necessary insight into user behavior workflows to accurately detect and ultimately prevent drug diversion, making patient care settings safer for everyone involved.

Methodology

The purpose of this section is to explain the decisions that were used to guide the analysis. Incidents included in this analysis for this report were compiled and analyzed by Protenus.

SOURCES

To identify incidents included in this report, researchers used daily alerts to track the mention of a number of keywords related to drug diversion by healthcare workers. Based on the results that these searches populated, incidents were included that fell within our definition of drug diversion: the transfer of drugs by healthcare workers from a legal use to an illicit one. From here, the results were narrowed based on the following criteria.

Incidents must have:
- Involved a healthcare worker being discovered, reported, charged, arrested, or sentenced for drug diversion activity in 2019.
- Incidents where someone was arrested, indicted, charged, or sentenced prior to 2019 were not included in the report even if there were news articles published about them in 2019.
- Occurred within the United States.

Incident information was included according to the following definitions:

Jail time: Incidents explicitly noting the total possible or actual sentencing length were included. Incidents providing potential sentences for a number of individual charges were excluded.

Fines: Actual or potential fine amounts imposed upon diverters, when explicitly noted. Incidents providing potential fines for a number of individual charges were excluded.

Pills and dosages: Incidents reporting the total amount of lost pills or dosages were included. When a possible range was noted, the average of the two numbers was used. Numbers of vials or prescriptions were excluded due to the range of quantities that these might refer to.

Diverted controlled substances worth: Incidents reporting the total worth of diverted controlled substances diverted were included. When a possible range was noted, the average of the two numbers was used. Incidents noting the worth of the controlled substances specifically on the black market were not included.

Healthcare worker role: For cases involving numerous individuals occupying a variety of healthcare roles, the role of the incident leader or the specific role of the charged individual was included.

DISCLAIMER

This report is made available for educational purposes only and "as-is." Although we have tried to provide accurate information, as new information or details become available, any findings or opinions in this paper may change. We welcome feedback as well as additions of incidents we may have missed. Despite our diligent efforts, we remain convinced that the incidents included in this report are only the tip of a very large iceberg, and any patterns we see in publicly disclosed incidents may not mirror what goes on beneath the surface.

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