

## 2019 DRUG DIVERSION DIGEST

47.2 million doses lost due to  
healthcare employee misuse  
and theft in 2018

Protenus, Inc.

## Introduction

The *2019 Drug Diversion Digest* equips healthcare leaders with deep insight into how drug diversion occurs in the United States. With this information, healthcare organizations can better protect members of their workforce who might be vulnerable to drug abuse and keep patients safe from potential harms associated with diversion. This is critically important as the industry works to get ahead of this challenge while continuing to improve patient and provider safety.

Drug diversion is [“the transfer of a controlled substance from a lawful to an unlawful channel of distribution or use.”](#) Examples of this could include a nurse stealing pills from an elderly patient or a physician writing fraudulent prescriptions. In especially abominable cases, providers may tamper with vials or syringes of powerful controlled substances, potentially exposing themselves and patients to infectious diseases—as we saw throughout 2018.

While the *Diversion Digest* is groundbreaking in many ways, it represents only a limited set of diversion events carried out by healthcare employees, as there are many incidents that go undiscovered due to the ready access to medications care teams often need in order to treat patients quickly and effectively.

## Overview

Protenus, the healthcare compliance analytics firm that also publishes the widely acclaimed *Breach Barometer*, analyzed 324 diversion incidents reported in online news stories in 2018. These incidents took place at various stages of resolution, including incident discovery, accusations, arrests, charging, and sentencing of diverters. This retrospective shares key insights extracted from the aggregated dataset.

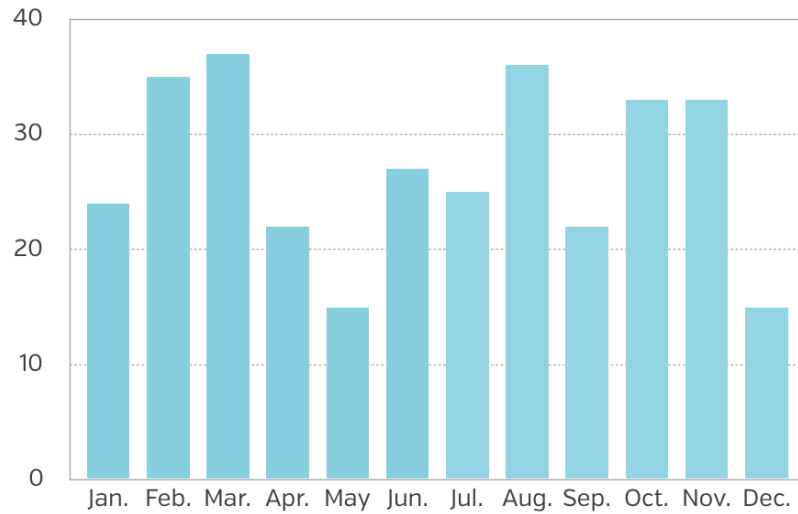


Figure 1: Incidents by month, 2018 public diversion incidents.

When comparing 2018 data to that of 2017, the number of incidents decreased by 11%, from 365 incidents in 2017 to 324 incidents in 2018. However, looking at the volume of dosages lost, there was a 126% increase in total volume lost, from 21 million doses in 2017 to 47 million doses in 2018. Finally, in 2018, healthcare organizations lost nearly \$454 million due to clinical drug diversion—a 50% increase from the previous year’s figure of \$301 million.

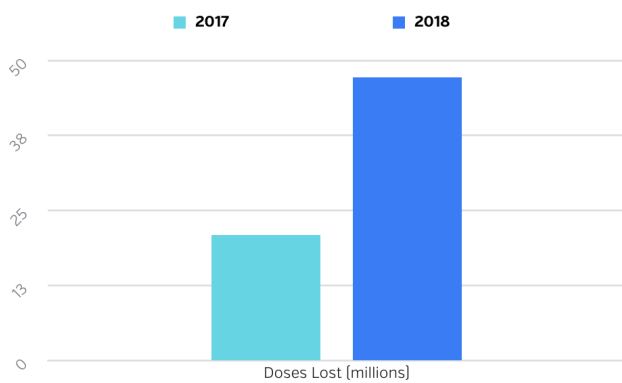


Figure 2: Doses lost due to drug diversion, 2018 and 2017 public diversion incidents.

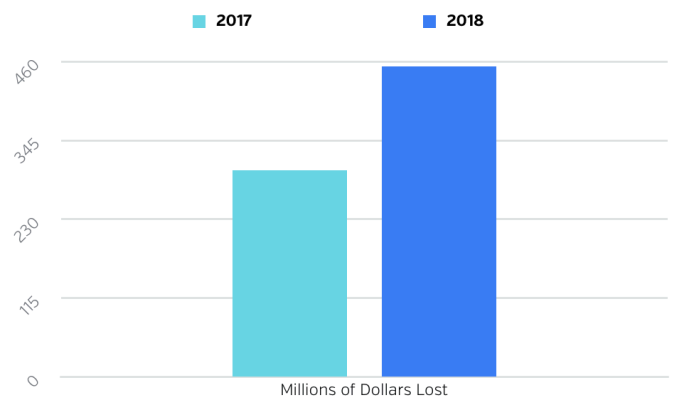


Figure 3: Headline monetary loss due to drug diversion, 2018 and 2017 public diversion incidents.

Our hope is that by equipping healthcare leaders with a new level of insight into this issue, they will be able to better protect members of their workforce who might be vulnerable to drug abuse and keep patients safe from potential harms associated with diversion. Additionally, this report provides actionable recommendations that healthcare organizations can take to improve patient and provider safety.

## Structure and properties of 2018 diversion data

Historically, publicly available data on diversion incidents has been notably sparse and inconsistently aggregated. This includes news articles, which until now, remained largely siloed across hundreds of local news websites. To locate the articles included in this analysis, we tracked a number of keywords related to diversion using public search engines. Based on the results that these searches yielded, the scope was narrowed to include 2018 articles that involved U.S. healthcare workers that had been discovered, reported, arrested, charged, or sentenced for diversion incidents. Note that we only included incidents where the healthcare workers in question were charged in 2018.

While the alerts spanned many news organizations across 46 states, some states publicly reported drug diversion more frequently than others. For instance, the [Michigan Department of Licensing and Regulatory Affairs](#) (LARA), reported the loss or suspension of healthcare workers' licenses with regularity. News outlets in Michigan reported on LARA license suspensions and revocations with a frequency unmatched by any other state. A number of incidents included in our report depend on state and local news outlets, and if different state organizations (like LARA) publish information differently, our dataset will reflect those differences even if they do not reflect the reality of where diversion events are occurring.

Although pill mill or prescription fraud cases might not fall within traditional definitions of drug diversion, they are included in the analysis because they offer another means by which healthcare workers inappropriately interact with controlled substances. Additionally, while most incidents in our analysis for which we have data, involved at least one controlled substance, we also

included incidents that involved prescription drugs more broadly because they can pose dangers similar to those of controlled substances.

After review of this issue of the *Diversion Digest*, Ken Perez, Vice President of Healthcare Policy for Omnicell, Inc., concluded, “While there certainly are more comprehensive sources of information on drug diversion incidents--such as the Drug Enforcement Administration, state departments of public health, and state boards of pharmacy—Protenus is to be commended for providing much deeper and more actionable insight into the significant and worsening problem of drug diversion.”

Additionally, most healthcare organizations are only able to detect a fraction of diversion incidents taking place within their organizations. While legacy technologies can help healthcare organizations understand healthcare workers’ prescribing behaviors, they don’t have the ability to comprehensively monitor every single transaction. Fortunately, increased availability of healthcare technology employing artificial intelligence provides health systems the ability 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 and with other systems to better understand the severity and scale of this ongoing challenge.

## One-third of reported incidents took place in a hospital or medical center setting

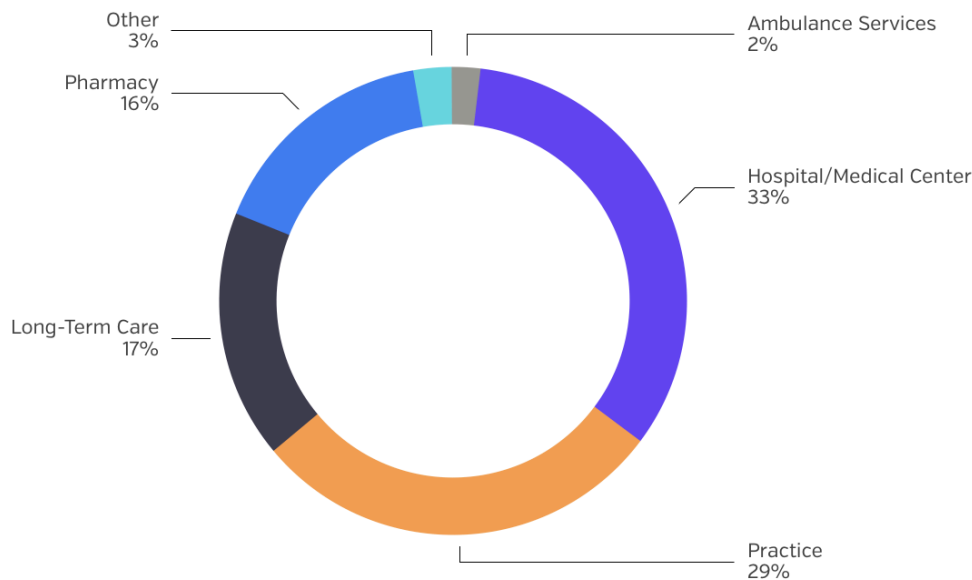


Figure 4: Types of institutions where incidents occurred, 2018 public diversion incidents

Of the 324 incidents publicly reported in 2018, there were available data on institution type for 303 incidents. The single largest category of institution affected by diversion was hospital and medical center category, which accounted for 34% of the publicly reported incidents.

45% of publicly reported incidents occurred in practice and pharmacy settings, as both healthcare settings received increased Drug Enforcement Administration (DEA) and Department of Justice (DOJ) scrutiny in 2018. This finding is consistent with the increase in reported practice and pharmacy diversion incidents in the [first half of 2018](#), representing a trend sustained throughout the whole of 2018.

It's important to note that this doesn't necessarily mean that nearly half of all drug diversion incidents occurred in the practice and pharmacy environments. Rather, the increase in publicly reported incidents likely has to

do with the DEA's focus on investigating doctors and pharmacies that dispense suspiciously high volumes of opioids and other controlled substances. In a January 2018 speech, former U.S. Attorney Jeff Sessions said, "[DEA will surge Special Agents, Diversion Investigators, and Intelligence Research Specialists to focus on pharmacies and prescribers who are dispensing unusual or disproportionate amounts of drugs.](#)" Many of the incidents included in our analysis concern doctors and pharmacists who operate pill mills, which commonly take place within the practice or pharmacy setting and make them unsurprising targets of increased scrutiny from drug enforcement officials.

Physician practices involved in reported diversion incidents comprised 29% of total incidents. This practice environment may be specifically 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 inside practices makes them more vulnerable to drug diversion and other instances or types of noncompliance.

Long-term care facilities accounted for 18% of incidents. These settings are particularly challenging because:

- A high volume of controlled substances move through these facilities since many patients are prescribed them to manage chronic diseases and pain. Yet, long-term care facilities have been largely exempt from the national crackdown on opioid prescriptions for this exact reason. However, [experts are now calling](#) for these institutions to increase vigilance to identify individuals who might be stealing controlled substances.
- In fact, [11% of surveyed senior citizens say they have experienced drug diversion issues](#) while in long-term care. While patient needs are part of this problem, it is also of note that the [adoption of medication safety-focused technologies has not been as widespread in long-term care facilities as it has been in hospitals](#), making medication administration more difficult to track.

In one incident, a doctor pleaded guilty to healthcare fraud for his involvement in a [\\$60 million Medicare scheme](#), which included bulk signing prescription pads for patients in hospice care to receive controlled substances that could hasten their deaths. Because of the high volume of medications and the challenges in imposing regulations, long-term care patients [may be particularly vulnerable to safety problems in the course of their care](#). However, compared to [last year's report](#), the number of incidents we analyzed occurring in long-term care settings has decreased by nearly 46%, from 27% in 2017 to 17% in 2018.

Other types of institutions, such as school nurse and doctors' offices and jail medical offices, comprised 3% of incidents. Finally, ambulance services accounted for 2% of the dataset.

## Doctors highly vulnerable and involved in 37% of publicly disclosed diversion incidents

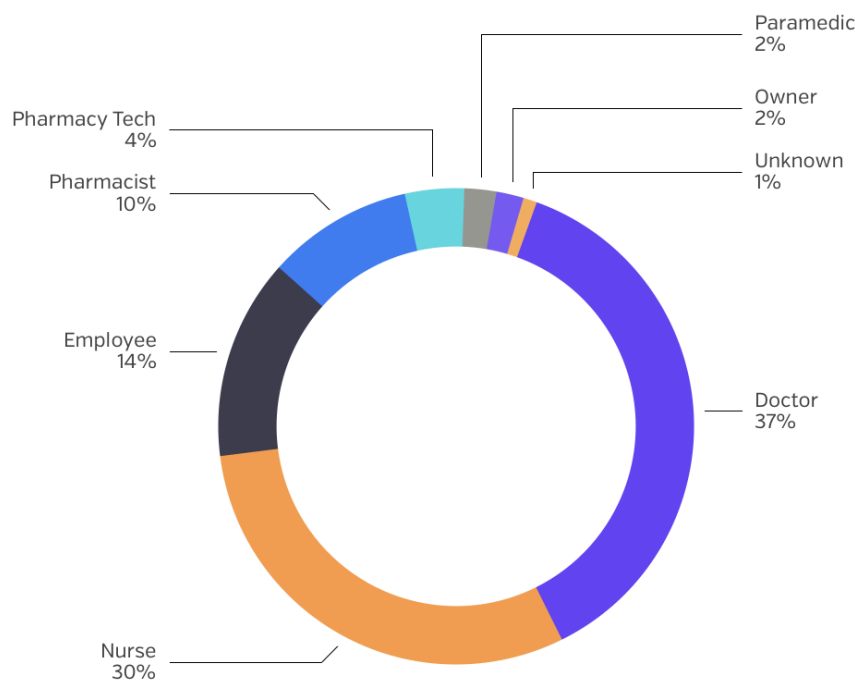


Figure 5: Healthcare worker roles involved in diversion incident, 2018 public diversion incidents



There is data available on the diverter's role in healthcare for 99% of incidents. Doctors were the most common diverters, accounting for 37% of incidents, compared to [26%](#) in 2017. Nurses were found to be the second most common diverters, involved in 31% of cases for which there is data, compared to [41%](#) in 2017. As noted in [our mid-year report](#), this denotes a sizable shift as doctors and nurses seem to have switched ranking in terms of which role is most likely to divert controlled substances in healthcare settings.

Though the uptick in diversion by doctors held through the entirety of 2018, the latter half of 2018 saw a 10% decrease in the rate of diversion among doctors, while the rate of diversion among nurses increased by 4% in that same time span, making it slightly more aligned with what we saw across 2017.

For both doctors and nurses, the high stress of the profession, long shifts, fatigue, physical and emotional pain, along with easy access to controlled substances, contribute to why they might divert medications. Doctors and nurses differ, however, in their relationship to the prescribing process. Doctors have the power to order medications, while nurses, on the other hand, are most often the ones administering the medication to patients. As noted above, the DEA's focus on pill mills, which are most often run by doctors due to their prescribing power, might help to explain this shift.

Our analysis made it clear that there is no unified approach to imposing sanctions on healthcare workers charged with diversion. While there was insufficient data available to quantify the breakdown of whose licenses were revoked versus those whose were not, across 2017 and 2018, [there is anecdotal evidence](#) that healthcare professionals who were convicted of misusing or abusing controlled substances in years prior, keeping their licenses, continuing to practice, and being accused again later of diversion activity. However, in other cases, they were [immediately stripped](#) of their licenses, preventing them from practicing again.

Pharmacists are in charge of dispensing and filling medications and advising doctors and nurses on medication decisions, so they also control a significant stage in the lifetime of a controlled substance. Pharmacists were involved in 10% of incidents, and pharmacy technicians, who assist pharmacists in a range of tasks, were involved in 4%, making their combined involvement 14% of incidents, which is a slight increase from the [12%](#) in 2017.

The increase in pharmacy staff-related incidents held for the whole of 2018, increasing by 3% for the last six months of the year. Employees, a generic title used in articles where specific job function was not provided, were involved in 14% of incidents, but we can assume these include both care providers and non-care providers at healthcare organizations.

The capability of new platforms to audit every transaction that occurs within an automated dispensing system can help organizations understand who is at highest risk for diverting drugs, allowing them to better proactively target these groups with prevention measures, or immediately detect diversion activity right when it starts, minimizing the amount of harm imposed upon everyone.

## 94% of incidents involved opioids

While there were a total of 45 prescription drug types involved in the identified incidents, certain types were more common than others. 252 incidents, 77% of the dataset, included information on drug type. The three most commonly involved drugs were oxycodone (112 incidents), hydrocodone (93 incidents), fentanyl (41 incidents), which are all controlled substances and opioids. In fact, of the incidents for which we have data on drug type, 94% involved at least one opioid. 21% of incidents involved at least one type of benzodiazepine and 17% included both one type of opioid and one type of benzodiazepine. This represents an increase in opioid percentage from our 2017 findings where opioids represented [92% of incidents](#).

A notable finding in the 2018 data is that compounded medications, including scar and pain creams, accounted for 4% of the incidents recorded. Compounded medications are a target for diverters because of their high

cost, and in a number of incidents included in this report, diverters prescribed unnecessary compounded medications in order to collect sizable reimbursements from health insurance organizations, including Medicare and Medicaid. The percentage of incidents where compounded medications were fraudulently prescribed is equal to the percentage of incidents where only benzodiazepines were diverted.

Although not the full list, other types of prescription drugs, including Adderall, phentermine, Fioricet, carisoprodol, codeine, modafinil, methadone, propofol, Nepugen, tramadol, and zolpidem, were diverted.

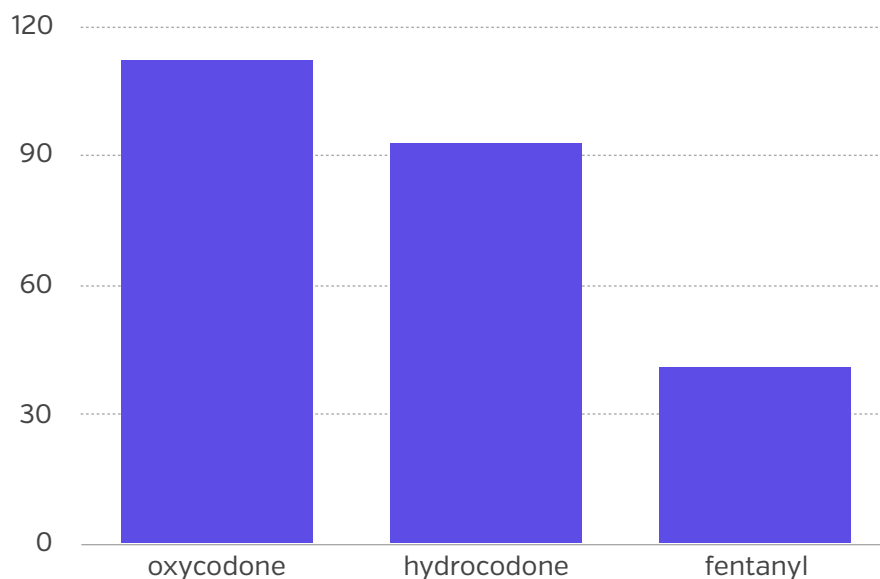


Figure 6: Number of incidents involving the most commonly diverted controlled substances, 2018 public drug diversion incidents

This information reinforces healthcare organizations’ current practice of monitoring controlled substance usage more closely than other drug types. In an ideal situation, organizations would monitor 100% of transactions across all drug types because all instances of diversion pose a danger, but this might not be possible from the outset. Our analysis confirms that focusing on controlled substances, and specifically opioids, is a wise place to start.

## Across 29 incidents, \$453.6M lost to organizations and payors

There are three principal actors who bear costs when it comes to diversion: the diverters themselves, patients, and healthcare institutions.

### Personal Costs to Diverters

Because drug diversion is a criminal offense, diverters can face consequences that include time in prison and fines. Potential maximum jail time information was available for 93 incidents, and on average, diverters could face up to 18 years in prison. It’s important to note here that we only included numbers on incidents that explicitly noted the total actual or total potential jail times and excluded life sentences and incidents that listed potential individual sentences for a string of charges.

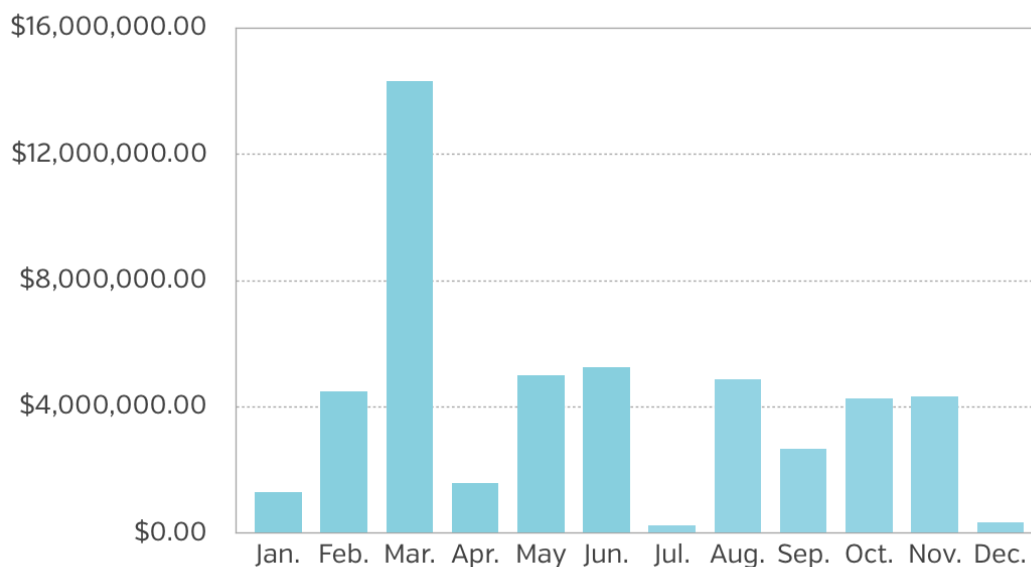


Figure 7: Reported potential fines by month, 2018 public drug diversion incidents.

Fines, which ranged from hundreds of dollars to tens of millions of dollars, were another consequence imposed upon diverters. 63 incidents included information on fines, and the average potential fine was \$795,933. This is much higher than the median potential fine of \$250,000 due to a few

especially large potential fines. Though there were a number of exceptionally high potential fines in 2018, the median fine still increased substantially when compared to the median potential fine of \$17,500 from 2017. In 2018, the most commonly reported potential fine was \$250,000. Like jail time, we included incidents where the maximum total fine was specified and excluded ones that listed potential fines associated with each charge.

Beyond criminal consequences imposed upon diverters, they also face enormous threats to their health and well-being. It's widely 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.

In one case from our report, the home of a nurse who worked at a rehab clinic was found to [have over 300 empty blister packs, which once contained over 10,000 pills of controlled substances](#). The nurse's husband was unsurprised to learn this due to his wife's medical history and he had noticed changes in her behavior months prior to the sheriff's raid of their home. Had the institution where the nurse worked been able to quickly detect her abnormal drug administration behavior within the clinic's dispensing carts, it's likely they could have prevented this incident from escalating to the level of severity it did. In a time when [drug overdoses are the leading cause of death for Americans under 50](#) and accounted for the deaths of [70,237 people](#) in 2017, it's essential that healthcare organizations invest in solutions that contribute to reducing this number.

### **Personal Cost to Patients**

Drug diversion poses a great deal of harm to patients because it puts them at risk of being treated by care providers working under the influence of controlled substances as well as receiving the incorrect amount or type of medications. While essentially all drug diversion cases involve some sort of drug theft, many cases involved healthcare workers physically stealing pills resulting in patients receiving lower amounts of their medication, putting patients at risk. In [one case](#), a doctor was accused of taking medications

reserved for patients under her care. In one instance, her staff found a fentanyl patch on her person while she was seeing in patients in her office.

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 from our analysis](#), a home health nurse was accused of taking a child's medication and replacing it with water, which ultimately resulted in the 4-year-old's death because he did not receive the correct dosage.

### **Institutional Costs to Organizations**

Diversion incidents have numerous impacts 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. Two impacts of diversion on organizations where they occur are relatively easy to quantify: the numbers of lost pills or dosages, and the monetary value of lost controlled substances and fraud against a payor. Organizations lost 47.2M pills or dosages to diversion incidents, a number that is based on data from 87 incidents. The average monetary amount lost to organizations from the worth of prescription drugs and to payors from prescription fraud was \$16.2M, which is based on 29 incidents. Similar to the case with fines, this average is much higher than the median of \$1.7M due to a number of prescription fraud incidents of particularly large magnitude. The total sum of dollars lost was \$452.6M. This is not an inconsequential sum of money, to say the least, and it's unfortunate to see such a large quantity of resources directed away from patient care.

In 2018, we also saw the [largest ever diversion-related settlement](#). In August 2018, the United States Attorney's Office for the Eastern District of Michigan disclosed that a leading health system was required to pay the United States \$4.3 million because it violated provisions of the Controlled Substances Act. The second largest settlement for a diversion incident was issued in May of 2018, a \$4.1M civil penalty to a Georgia health system. 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, making the loss to the institution because of drug diversion ever greater.

## What's happening in Michigan and Pennsylvania?

In the first half of 2018, [our report](#) identified Pennsylvania, Michigan, and Florida as the states with the most public diversion events. This trend held for the rest of 2018 in Michigan and Pennsylvania, with 39 incidents in Pennsylvania, 27 in Michigan, but Texas climbed into the third spot with 20 incidents in 2018. Combined, these three states represented 27% of diversion incidents included in the report.

However, when we looked at the incidents by state, adjusted for population size, we got a different result. West Virginia ranked highest in incidents per capita, followed by Pennsylvania and Vermont. In incidents per capita, Michigan ranked fourth and Texas ranked 35th.

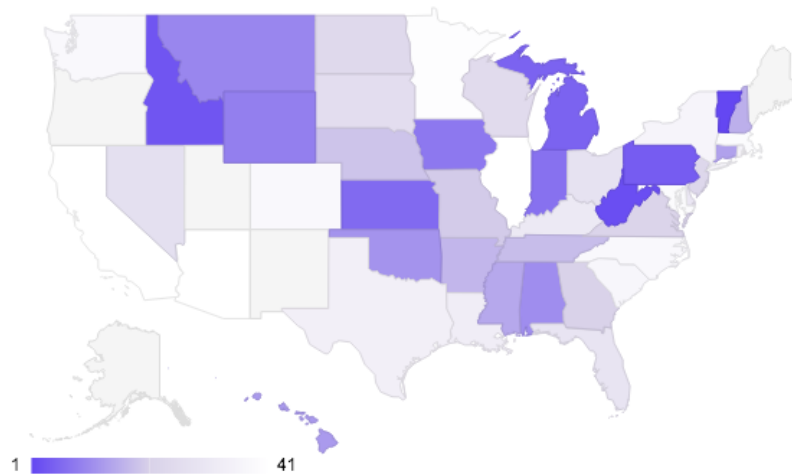


Figure. 8: Incidents per capita, ranked by state, 2018 public diversion incidents.

Pennsylvania, West Virginia, Michigan were all included in a [DOJ-led initiative](#) started in 2017 that assigned Assistant US Attorneys to twelve states for a three-year term. Their job is to focus solely on investigating and prosecuting healthcare fraud including “pill mill schemes and pharmacies that unlawfully divert or dispense prescription opioids of illegitimate purposes.” While it’s expected that these states will see a spike in the number of diversion incidents they detect in the short-term, only time will tell if this effort ultimately leads to a reduction of incidents in the long-term.

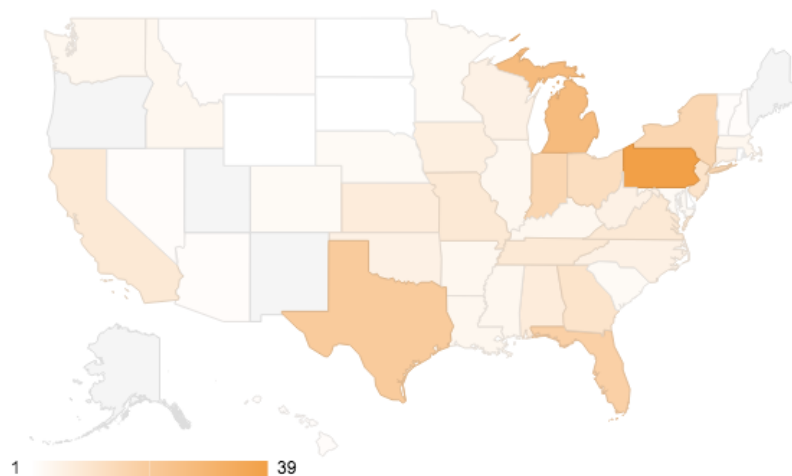


Figure. 9: Number of incidents by state, 2018 public diversion incidents.

State governments are taking steps to combat drug diversion challenges. In Alabama, a state legislator introduced [a bill](#) to curb overprescription and pill mills, [after a major crackdown on a large pill mill in Montgomery](#). This bill would require doctors to give a medical reason for prescribing drugs, something that would eliminate ordering unnecessary prescriptions, the basis of pill mills. Tennessee has a similar law. A Harvard Medical School [study](#) published in December 2018 found that 30% of opioid prescriptions lack a medical reason, and laws like the ones in Alabama and Tennessee would likely lower that percentage. In July of 2018, Michigan, Florida, and Tennessee passed laws that prevent doctors from prescribing more than a



three or seven-day supply of opioid medications for patients in acute pain, depending on the state.

Pennsylvania is also taking important steps to bolster its ability to detect drug diversion and other suspicious medication behavior in the state. Pennsylvania has introduced [a new online tool](#) that makes possible reporting suspicious medication behavior to law enforcement for follow-up.

[All states engage in some sort of prescription drug monitoring program](#), which allow providers to learn about patients' prescription histories across providers. Additionally, 47 state PDMPs draw data from neighboring states to get an even more complete picture of the prescriptions that patients have received.

While state agencies can take important steps to protect doctors, nurses, and patients from drug diversion activity, it is important that healthcare organizations do their part, as well. Organizations must establish drug diversion monitoring programs, allocate staff and technological resources to them, and make sure that all transactions across a system are monitored for suspicious activity. Healthcare organizations have a long way to go in detecting and preventing drug diversion activity carried out by their employees. While we're seeing more organizations develop advanced drug diversion monitoring programs, organizations can always do more.

## A range of employee misuse, theft, and fraud represented in the data

The incidents studied in this report reflected a wide variety of types of employee misconduct involving controlled substances and other medications. The incident types range from [a nurse pocketing a number of pills](#) from the homes of elderly patients to a doctor prescribing [weight-loss drugs for herself](#) using an ex-boyfriend's name, to a pharmacist [trading sexual favors for fake prescriptions](#). Often, the misconduct in prescription orders or administration goes along with other illegal activity, including insurance or billing fraud, kickback schemes, and other abuses of power. In one particularly egregious incident, [a doctor was accused of prescribing compounded medications](#) to patients who did not need them or even know

that the prescriptions were being ordered for them. This doctor would then bill the patients' insurance for expensive, specially compounded medications. Alone, this scheme resulted in more than \$20 million in losses to public benefits programs.

The incidents listed above, and others like them, indicate that drug diversion is but one part of the broader challenge facing healthcare compliance. [Healthcare compliance is a difficult puzzle](#) to solve, and the pieces are often shifting. However, advances in healthcare compliance analytics technology have made it easier for compliance teams, including those who focus on drug diversion, to wield unprecedented levels of insight into any suspicious activity occurring across their systems to their advantage and to proactively identify areas for strategic intervention, increased education, and reassertion of best practices.

## A focus on workflow can help prevent and manage the risks associated with clinical drug diversion

In this report, we analyzed 324 incidents of drug diversion by healthcare workforce members throughout one calendar year. According to the International Health Facility Diversion Association (IHFDA), [3,750 potential arrests](#) for drug diversion by healthcare employees should happen every calendar year. The IHFDA prediction only includes arrests; it does not address healthcare employees who are fired, lose their licenses, or resign due to diversion activity. Thus, the 324 incidents included in this report represent less than 10% of diversion incidents that are likely happening across healthcare organizations nationwide. We are only capturing the tip of the iceberg because only a slice of diversion incidents are detected, and an even smaller slice are publicly reported, making the scale of diversion difficult to measure.

In order to reduce the risk to institutions, workforce members, and patients that drug diversion poses, healthcare organizations must implement measures that will educate, manage, track, and report on their workforce members who are at risk for drug diversion activity. Starting with the workforce, healthcare organizations are empowered to change the culture,

protect patients and employees, and reduce risk to their institutions over time.

### **Identifying key goals**

As we have demonstrated, clinical drug diversion is a huge and costly problem. Combating drug diversion within the healthcare workforce requires organizational alignment around a shared set of goals and measures of success. When establishing or improving upon a diversion monitoring program, it is critical to understand [the risks](#) posed by drug diversion and the need to build a strong cross-departmental consensus around reducing these risks.

As noted above, no member of the healthcare workforce is immune from the temptation to divert controlled substances and other medications. Buy-in across departments is essential to achieve the central goal of protecting organizations, employees, and patients from the harms posed by drug diversion.

### **Understanding organizational structure and building a team**

Combating clinical drug diversion requires coordination across teams. Our work with health systems has taught us that while drug diversion programs most frequently fall within the purview of pharmacy departments, interdisciplinary teams that bring together leaders from multiple teams can most effectively detect and prevent diversion.

Bringing together key team members from pharmacy, nursing, human resources, and risk, for example, allows diversion teams to gather on-the-ground knowledge, understand and protect workforce members' rights, and provide resources given the significant institutional liability while managing and remediating drug diversion incidents. Organizational structure will differ, as will the structure of diversion teams. However, it is important that stakeholders from across the organization are involved because drug diversion affects many different parts of a healthcare organization and requires a comprehensive solution.

## **Building a culture of awareness**

Educational programs that teach employees to identify possible signs of colleagues engaging in drug diversion present a low tech and low cost but highly effective way to detect diversion activity. Because of this, in addition to surveillance and monitoring systems, building a culture of awareness that teaches employees to recognize and report unusual behavior by coworkers must be an organizational priority.

## **Leveraging healthcare compliance analytics technology to review 100% of transactions**

While an interdisciplinary team and educational programming are essential components of any drug diversion program, they should not be the only program components. Healthcare compliance analytics technologies offer a transformative approach to monitoring pharmacy workflows and addressing possible diversion incidents.

Tools for addressing drug diversion have historically required extensive investment in terms of time spent reconciling data from many sources and sifting through this data to identify signals that could point to diversion incidents, a process that emulates looking for a needle in a haystack. When a pharmacist or analyst does find something, it's often a false positive.

However, industry leaders are finding a better way to monitor and prevent drug diversion as technologies that leverage artificial intelligence and big data analytics become available. These technologies can have far-reaching implications on current drug diversion programs in the following ways:

- They give teams an unprecedented ability to understand every provider's normal prescribing behavior in order to recognize anomalous behavioral patterns. These insights can allow teams to detect certain types of diversion activity that were impossible to detect using less advanced technologies.
- Artificial intelligence enables organizations to audit 100% of controlled substance transactions, ensuring that nothing goes unnoticed. Until every transaction is analyzed, potential harms to providers and patients will remain widespread.

- No regular reports are run and reviewed in this model (though they can be run if necessary), as cases are only generated when suspicious behavior has been detected and examined by AI system, which has determined that there is no reasonable explanation for the employee's behavior.
- These solutions incorporate rich clinical context from the EHR into cases, eliminating the hours of work necessary to assemble information from disparate sources. In addition to catching incidents of diversion, they can also detect incidents of sloppy practice, which can lead to fines, allowing you to better understand areas where staff training needs to occur.

When armed with new technology, an interdisciplinary diversion team can focus on the workflows within their organizations that present the highest risk of clinical drug diversion, reducing the time and resources needed to combat diversion and protect their institutions. In 2018, the average time it took to discover an incident was 22 months. In other words, diverters had an average of nearly 2 years to expose their organizations to tremendous potential damage. To prevent drug diversion and its associated harms, healthcare organizations must take a comprehensive approach, incorporating the best tools and practices to address the full scope of the issue, not just the tip of the iceberg.

## Methodology

The purpose of this section is to explain the decisions that were used to guide our analysis. To identify incidents included in this report, we 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, we included incidents 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, we further narrowed our results based on the following criteria.

Incidents must have:

- Involved a healthcare worker being discovered, reported, charged, arrested, or sentenced for drug diversion activity in 2018. Incidents where someone was arrested, indicted, charged, or sentenced prior to 2018 were not

included in the report even if there were news articles published about them in 2018.

- Occurred within the United States
- A healthcare employee is doing the diverting

We included incident information according to the following definitions:

- Jail time: Jail times included in our report encompass real or potential sentencing lengths imposed upon diverters. Incidents explicitly noting the total possible or real sentencing length were included. Incidents providing potential sentences for a number of individual charges were excluded.
- Fines: Fines included in our report encompass real or potential fine amounts imposed upon diverters. Incidents explicitly noting the total possible or real fines were included. 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.
- Worth of diverted controlled substances: 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

might have missed. Despite our diligent efforts, we remain convinced that the incidents included in this report are only the tip of a very, very large iceberg, and any patterns we see in publicly disclosed incidents may not mirror what goes on beneath the tip.

## About Protenus, Inc.

Protenus provides healthcare compliance analytics to help health systems reduce risk and save money. Our approach uses artificial intelligence and automation to develop a deep clinical understanding of health system workflows, allowing for the proactive detection of policy violations, illegal activity, and other anomalous behaviors that could expose an organization and its patients to risk. Learn more at [protenus.com](https://protenus.com) and follow us on Twitter @Protenus.