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Drug diversion program: A comprehensive process for prevention and identification

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Drug diversion is a serious issue for healthcare organizations that's often difficult to detect and underreported.[1] Drug diversion can occur because of addiction or in order to furnish controlled substances to another person for illegal use.[2] Diversion activities can lead to patient care issues, safety issues, legal issues, and financial loss to the organization.[2,3] To prevent drug diversion, an organization should have strong controlled substance tracking and security measures, provide education on drug diversion recognition, and have a process for identifying and handling drug diversion activity.[1,4]

This article takes a closer look at the causes and effects of drug diversion in the healthcare industry and discusses the implementation and development of a drug diversion program at a large healthcare system in Texas.

Background

Drug abuse is defined as "a patterned use of a substance in which the user either intentionally or unintentionally causes harm to themselves or to others," whereas drug addiction is defined as "a chronic, relapsing disorder characterized by compulsive drug seeking and use despite adverse consequences."[1,5] It's estimated that more than 25 million people in the US are illicit drug users and, of those, 7 million misuse prescription drugs.[6] Drug addiction isn't only epidemic in the general population but also within the healthcare arena.[3] An estimated 10% to 15% of healthcare workers abuse drugs.[2,7] Drug abuse in healthcare workers is often related to pressures within healthcare environments, high levels of stress, psychological trauma, and readily accessible controlled substances.[2,8,9]

Diversion is defined as "removal of Drug Enforcement Administration [DEA]-scheduled medication from and within the lawful processes of a hospital or healthcare system to an unlawful channel of distribution or use."[10] Addiction is the number one reason healthcare workers divert controlled substances, but the sale and distribution of controlled substances can also be a motive for diversion activities.[1,3] The US Department of Justice National Drug Intelligence Center estimated that drug diversion in the US costs an average $72 billion annually.[11]

Healthcare workers have access to a number of controlled substances, such as opioids, sedatives, and other addictive drugs, increasing the chance of diversion.[6] Behaviors suggestive of diversion include irritability, nervousness, pupillary changes, uncharacteristic conduct, poor performance, and working an excessive number of additional shifts.[3,6] Healthcare workers often use one of the following methods, or exhibit one or more of the following behaviors, when diverting controlled substances:[2,6]

- taking the wasted portion of the drug
- removing excessive amounts of as-needed drugs compared with peers
- not administering the drug to the patient but documenting that it had been given
- administering to the patient a substitute substance instead of the drug
- removing controlled substances without an order, for patients not assigned to them, or for recently discharged or transferred patients
- compromising product containers
- writing a verbal order for controlled substances without verification from a healthcare provider
- taking a prescription pad and forging prescriptions
- taking expired controlled substances
- falsifying medical records, such as late documentation of only certain medications and "batching" of assessments and pain management
- frequently attempting to help other nurses administer pain medications.

In general, healthcare workers are reluctant to report suspected drug use or diversion for a number of reasons, including a belief that it's someone else's responsibility to address the issue; a desire to protect the reputation of the organization; and a fear of "overreacting," retribution, or labeling someone as an addict.[3,4]

Healthcare organizations have a moral and legal obligation to handle controlled substances. Organizations are required to have storage and distribution mechanisms in place that minimize the risk of diversion.[1] Although the literature lacks research into evidence-based processes to prevent and detect drug diversion, the use of automated dispensing machines and software to detect potential diversion activities, along with limiting access to controlled substances, has been recommended to decrease diversion activities.[1,10] What's clear from a review of the literature is that healthcare organizations should implement multifaceted drug diversion programs and address drug diversion prevention, detection, and response in a timely fashion.[4]

Diversion program decision

To address the issue of prevention and identification of drug diversion within a large healthcare system with over 26 hospitals and 800 outpatient clinics located throughout 40 counties in both rural and urban areas in central and north Texas, best practices were explored and identified as an opportunity for improvement.

In 2017, the chief nurse executive initiated a pilot program to assist nurse leaders and staff in the prevention, detection, and investigation process for drug diversion. This program included hiring a drug diversion officer. At the time of the program's inception, most diversions either went undetected or unreported. Drug diversion activities were often handled at the facility level, usually resulting in termination of employment for the staff member. Program administrators decided that the drug diversion officer would report through the public safety department and would have a primary background as an investigator such as working for federal and state law enforcement agencies and crime prevention programs.

This decision was made to establish an independent investigative process not under undue influence or with the appearance of bias and to promote collaboration between the drug diversion officer and nursing and pharmacy leadership, as well as other departments. To build a firm foundation, the drug diversion officer met with senior leadership to ensure buy-in from all levels and developed a program that focused on preventing diversion through education.

Implementation

The program's initial priority was to develop drug diversion training targeted toward nursing and other staff members who had access to controlled substances. The first step was to provide in-person training to nurse residents and nursing staff, including a slide presentation from the drug diversion officer. Working collaboratively with department leaders in both nursing and throughout the organization helped identify a need to increase reporting and staff training.

In 2016, the year before the program was implemented, there were 37 potential diversion cases throughout the system, and in most of those cases, the source of the diversion couldn't be determined. During the first year of the program, 13 possible diversion cases were investigated. Three cases were proven to be drug diversion. Three cases were undetermined, and the remaining seven cases were found to be procedural or documentation errors. With an emphasis on prevention, the first year of the program resulted in a lower number of potential diversion cases. Because of the success of the pilot, the program was rolled out to the entire healthcare system and a second drug diversion officer with a law enforcement background was brought on board.

During subsequent years, there was an increase in reported cases, with 132 in 2019 and 164 in 2020. Most of these cases were reported by a coworker due to increased awareness of potential diversion behavior and improved reporting practices. Each reported case was investigated by a drug diversion officer, with 13 cases in 2019 and 22 cases in 2020 proven to be diversion.

The development of a proactive program takes time. Education in drug diversion awareness was the initial priority; however, as the program developed, it became apparent that a robust program needed to include detection and a quick response when there was a suspected diversion. The drug diversion program was expanded to include three core components: prevention, detection, and response.

Prevention

The ultimate goal of the program is the prevention of drug diversion. To that end, it was essential to educate employees on diversion awareness and recognizing indicators of impairment and diversion activity. The education portion of the program consisted of developing training for all 50,000+ employees, including training conducted during new employee orientation, the nurse residency program, and annual mandatory education. Training is conducted both in the classroom and through web-based and online learning modules.

Tailoring education to specific departments is an important part of the training process because each department has its own unique flow when accessing and accounting for controlled substances. (See *Table 1.*) Training for nurse residents includes an hour-long lecture covering past diversion cases to provide a real-world and relevant presentation. Training for healthcare providers is also tailored to their unique situations and needs.

Each year since inception of the training program, reporting has increased. As training evolved, reports of possible diversion began to shift from mostly pharmacy records to coworkers reporting suspicious activity based on behavioral indicators discussed in training. Many staff notifications were for suspected coworker impairment. In most

Table 1: Training content

Discipline	Education/training content
Nursing	• What's diversion and why it's important to prevent, detect, and respond • Identification of behaviors indicative of potential diversion, such as: —behavioral changes —unexplained or prolonged absences from the unit —frequent trips to the bathroom —making an excessive number of mistakes —incorrect controlled substance counts —frequent reports of ineffective pain relief from patients —frequently offering to medicate coworkers' patients • Case studies • Process for suspected diversion
Nurse leaders	• Identification of behaviors indicative of potential diversion, such as: —behavioral changes —unexplained or prolonged absences from the unit —frequent trips to the bathroom —making an excessive number of mistakes —incorrect controlled substance counts —frequent reports of ineffective pain relief from patients —frequently offering to medicate coworkers' patients —arriving late for a shift or leaving early —numerous corrections to the medication record —frequent use of verbal orders for controlled substances • Case studies • Process for suspected diversion
Pharmacy	• What's diversion and why it's important to prevent, detect, and respond • Trends in amounts of controlled substances pulled • Removal of drugs without an order or for recently discharged/transferred patients • Compromised waste disposal containers • Incorrect controlled substance counts • Large amounts of controlled substance wastage • Variations in controlled substance discrepancies among shifts or days of the week • Trend in writing verbal orders for controlled substances (policy limits this practice) • Case studies • Process for suspected diversion
Public safety officers/ security officers	• What's diversion and why it's important to prevent, detect, and respond • Identification of behaviors indicative of potential diversion, such as: —behavioral changes —unexplained or prolonged absences from the unit —frequent trips to the bathroom —making an excessive number of mistakes —incorrect controlled substance counts —frequent reports of ineffective pain relief from patients —frequently offering to medicate coworkers' patients • Other indications of potential diversion activities, such as: —staff sleeping in their vehicles —blood splatter in a restroom —found syringes • Case studies • Process for suspected diversion
All employees	• What's diversion and why it's important to prevent, detect, and respond • Behaviors that are indicative of potential diversion, such as a change from one's normal behavior, irritability, and other behavioral indications • Case studies • Process for suspected diversion

of these cases, the investigation revealed no loss of drugs from the organization; however, it allowed the organization to proactively identify early addiction and take appropriate actions that likely deterred drug diversion.

To address the issue of illegal obtainment of prescription drugs through fraudulently using a healthcare provider's DEA number, drug diversion officers worked with the legal department to develop instructions for healthcare providers on how to report to the DEA, local community pharmacies, and local law enforcement if their DEA number was compromised or fraudulently used.

The drug diversion officers conduct frequent medication security rounds at each medical center and clinic within the system. These rounds help staff identify security gaps and provide on-the-spot training opportunities with staff and leaders. Drug diversion officers collaborate with the internal audit and quality management department and system pharmacy leadership to conduct medication security inspections and mock surveys, as well as physical security checks in the inpatient pharmacies, medication rooms, and any other location where controlled or noncontrolled substances may be secured. System policies are put into place to address security gaps or other issues identified during security rounds or through case investigations.

Detection

Most diversion cases are initiated by either pharmacy records or coworker reporting. Other methods are also employed to detect activity indicative of potential drug diversion. Auditing is conducted by both drug diversion officers and the pharmacy using an analytical program that helps quickly identify suspicious trends in an easy-to-read and real-time format.

Trends such as full dose wasting, canceled medication pulls (null transactions), and a high number of controlled substance pulls compared with one's peers are scrutinized and, as needed, elevated for additional investigation. Monthly user reports from automated dispensing machines, such as the standard deviation report, provide a list of those users (persons who pull medications from the machine) who had a higher standard deviation (greater than three) of medication pulls than their peers for the previous month. This is calculated based on a user's daily number of standard deviations from the mean doses per day of all users.

The names of the nurses identified in this process are forwarded to the appropriate leader who then reviews patient medical records to determine if there were appropriate medical indications for the nurse's patients that would account for the need to have a higher-than-average medication pull. Any unusual trends—such as high administration of as-needed doses when the patient didn't require the same amount or required significantly lower doses on other shifts—are elevated to the drug diversion officer and pharmacy for further investigation.

Cameras and badge access readers play a large role in drug diversion investigations. During investigations of drug diversion cases, cameras allow the drug diversion officers to identify staff members, verify opioid counting, identify a theft, and help establish a time frame for the investigation. Cameras not only assist in identifying diversion but may also serve to clear a staff member suspected of diversion. Badge access readers help identify staff members who entered areas such as medication rooms, staff restrooms, storage areas, and soiled utility areas, all of which are high-traffic areas for diversion or substance use activities. Badge readers allow control over those entering restricted areas and assist in controlled substance security.

Other tools used include pill counting machines. A camera above the counting surface captures images of the medications and counts the number of pills being dispensed. If a count is questioned, a review of the video is used to verify if the count was correct.

As the program continues to mature, the healthcare system is in the process of implementing random waste testing in procedural areas. Drug diverters will sometimes take medication out of a vial and replace it with saline or water.[2,6] The witness to the wasting can only attest to the clear substance and not necessarily what the substance was. Technology now allows for on-site testing of medications that are being wasted.

The use of a charcoal-based waste management system has also been implemented to manage wasted medication. The wasted portion of the medication

is placed within this device and then mixes with a charcoal-based substance that inactivates the medication. This deters diversion because the medication is rendered ineffective.

Response

As the program was being developed, it became apparent that there was a need for a documented, standardized, formal response process. A policy was established on how to report and respond to suspected diversion. This policy was developed in conjunction with the development of facility-level controlled substance diversion teams (CSDT).

Upon suspicion of diversion, the pharmacy, assisted by the drug diversion officer, conducts a preliminary investigation at the facility level to determine the facts and attempt to resolve or locate any missing controlled substance discrepancy. If the discrepancy can't be resolved within 1 business day, the facility's pharmacy director or the drug diversion officer coordinates a CSDT meeting with the legal/risk management department. The CSDT meetings are conducted as soon as reasonably possible and include the CNO or chief medical officer, director of the suspected employee's area, drug diversion officer, legal/risk management, pharmacy director, and human resources.

During the meeting, the group discusses relevant facts, as well as action and reporting items that require follow-up. Action items usually include interviews to be conducted by the drug diversion officer, additional auditing, camera and/or badge access reviews, and "for cause" urine drug testing. Reporting may include DEA notification and tracking with internal reporting systems.

At the conclusion of the investigation, the drug diversion officer will provide a summary of the findings to the CSDT. Depending on the results of the investigation, additional reporting requirements, such as to the board of nursing or other licensing boards and/or to local law enforcement, may be completed.

Leadership oversight

One of the highlights of the drug diversion program's success is having senior leadership support. The drug diversion officers meet monthly with the system chief nurse executive and the senior vice president of public safety to brief them on investigations that were opened during the month. The benefit of having these monthly meetings is the ability to request additional resources as needed.

The narcotic oversight committee is the committee responsible for developing and maintaining policies to prevent and respond to potential drug diversion while ensuring system standardization in practice, detection, security, and investigation related to controlled substances. The committee tracks and analyzes data from suspected diversion events, oversees drug diversion education, and considers organizational response to new regulations and requirements as it pertains to drug security. The committee also addresses previous and ongoing drug diversion investigations and discusses best practices or processes for improvement after the conclusion of the investigation. The committee is composed of leadership representatives from anesthesia, nursing, legal/risk management, pharmacy, internal audit, human resources, safety, and compliance.

Implications for nurse leaders

Drug diversion prevention, detection, and response are important to the success of a drug diversion program. Nurse leaders should know the signs of potential diversion and partner with pharmacy and other key stakeholders to detect potential drug diversion activities. When potential drug diversion is identified, drug diversion officers can be instrumental in the investigation to determine if the case is drug diversion or some other issue. Finally, nurse leaders should respond to suspicions of drug diversion early. Nurse executives should consider implementing a formal drug diversion program and the use of drug diversion officers.

Ongoing improvements

This comprehensive drug diversion program incorporates the principles of prevention, detection, and response to address drug diversion using multiple processes. From raising awareness to investigating and reporting drug diversion, drug diversion officers serve as guides throughout the program. Buy-in from senior leadership is paramount to the program's success.

In 2020, the drug diversion officers investigated 164 reported cases. A total of 22 cases were deemed to be diversion. Although the other 142 were determined not to be diversion, the investigations led to process improvements to further deter diversion activities, decrease

count errors, and improve documentation of medication administration and wastage. The process not only emphasizes the importance of patient safety but also that the healthcare system cares about employees and providers. With each new case, new things are learned, and the program further develops. NM

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