Porter Research Study 2020:
A Comprehensive Look at Drug Diversion from the View of Healthcare Executives

commissioned by

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Executive Summary

In 2017, reports surfaced that incidents of missing or stolen prescription medications at Veterans Administration hospitals increased more than 800% in seven years, from 272 in 2009 to 2,457 in 2016.[1] The news alarmed everyone in the healthcare industry, as leaders were beginning to assess the growing problem of healthcare worker drug diversion. Porter Research, an Atlanta-based company that provides market intelligence to healthcare companies, completed their first study of drug diversion detection programs in healthcare facilities around the same time.

The results of that study showed that most healthcare executives were acutely aware of the issue of drug theft by employees. They were also searching for ways to create drug diversion programs and make the ones they had more effective. Nearly all the survey participants in 2017 acknowledged that drug diversion was occurring and that the majority of diversion incidents were going undetected. In 2017, about two-thirds of participants said they were either "not confident" or only "somewhat confident" that the drug-diversion programs in their facilities were effective and efficient.

How are healthcare facilities progressing two years later? Porter Research reached out to a similar number of executives recently and learned that some parts of drug diversion programs are improving, while others are still problematic.
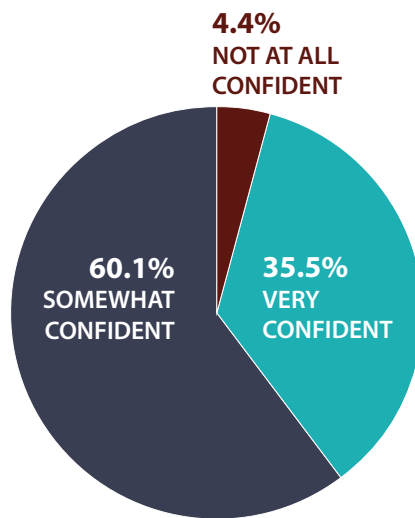
What Remains The Same After Two Years

The vast majority of participants in both 2017 and 2019 have high familiarity with the drug diversion programs in their facilities. That said, the number of individuals who say they're "very confident" in their programs has dropped five percent from 2017 to 2019 (from 41% in 2017 to 36% in 2019).

When asked to compare the effectiveness and efficiency of their diversion program with other healthcare facilities, ratings remained largely the same from 2017 to 2019, with a slight dip in efficiency scores. There could be multiple factors affecting efficiency, such as an increase in the overall numbers of investigations, or a lack of analytics tools to reduce false positives, as healthcare organizations scramble to address diversion. **The bottom line:** The majority of participants still say they are only "somewhat confident" that their programs are working as well as they could.
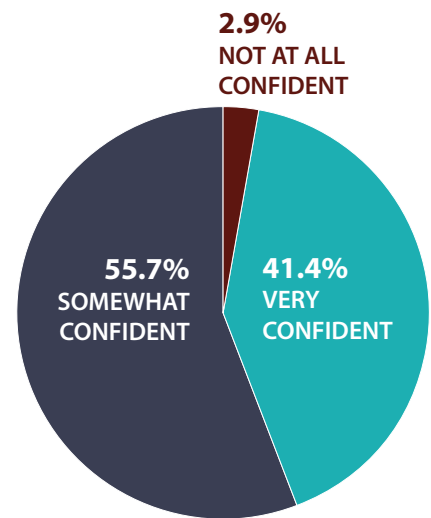
Key Takeaway

Nearly half of executives who started the 2019 survey said their facilities still don't have drug diversion detection programs. Of those who do, **58% say they have at least one full-time equivalent (FTE) assigned to drug diversion detection.** In comparison, **in 2017 only 40% said they had at least one FTE.** It's important to see that hospitals are increasing their resources dedicated to drug diversion detection.

Confidence in Program Effectiveness and Efficiency 2019

4.4% NOT AT ALL CONFIDENT

60.1% SOMEWHAT CONFIDENT

35.5% VERY CONFIDENT

Confidence in Program Effectiveness and Efficiency 2017

2.9% NOT AT ALL CONFIDENT

55.7% SOMEWHAT CONFIDENT

41.4% VERY CONFIDENT

Perhaps most concerning to note is that within the span of two years, the number of drug diversion programs has remained stagnant. In 2017, 39% of the initial sample did not have a diversion program. In 2019, 41% of a similar-sized sample (235 versus 228) reported having no drug diversion program. Extrapolated across the U.S., that would indicate that of the approximately 7,200 hospitals[2] almost 3,000 hospitals still do not have a formal drug diversion detection program.

Drug Diversion Perspectives by Job Function

In both surveys, the goal was to attract executives from three major categories: nursing/patient services, pharmacy and drug diversion/investigation.

- In 2017, departments of pharmacy were well-represented; however, drug diversion specialists only comprised 16% of the audience.

- In 2019, we saw the number of diversion specialists climb to 36% of the total, while nursing/medical executives participation shrunk.

- Pharmacy executives made up a little less than half of the total contributors to the survey.

- Seeing the increase in the number of drug diversion specialists is a welcome sign.

Perspectives: Extent of Drug Diversion Problem

We asked several questions designed to ascertain participants' opinions about the drug diversion issue as a whole, versus what they experience in their own facilities. Nearly all survey participants (98%) either agree or strongly agree that drug diversion is occurring in hospitals. That opinion is validated by research, news stories and industry experts alike. In fact, John Burke, president of the International Health Facility Diversion Association, estimates there are at least 37,000 diversion incidents occurring in U.S. facilities each year and even he says that his number is probably low.[3]

Similarly, Health Canada data show that 9 million doses of controlled substances were reported missing between January 2012 and September 30, 2017, and that number has been steadily growing since 2013. While the Canadian study contributed only 6% of missing drugs to employee theft, over 80% of the incidents are "unexplained."[4] Indeed, more than 86% of the Porter survey participants said they have met or know someone who has diverted drugs.

The elephant in the room is recognized by almost everyone: Drug theft by employees is difficult to catch. Seventy percent of 2019 Porter Research survey participants agree or strongly agree that "most" drug diversion goes undetected, a number that has increased since the 2017 survey.

Along with that, nearly all of the executives surveyed believe that drug diversion has a negative impact on quality of care. Equal percentages of participants from both surveys (97 percent to 99 percent) agree that drug diversion puts patient safety at risk too. The Joint Commission concurs. In its April 2019 Quick Safety bulletin entitled "Drug Diversion and Impaired Healthcare Workers," the Joint Commission points out that risks for patients are multifaceted. "Risks to patients include inadequate pain relief and exposure to infectious disease from contaminated needles and drugs, compounded by potentially unsafe care."[5]

JOB FUNCTIONS	2017	2019
DIRECTORS OF PHARMACY	64%	43%
DRUG DIVERSION SPECIALISTS	16%	36%
NURSING EXECUTIVES	14%	9%
MEDICAL EXECUTIVES	7%	7%

Key Takeaway

Just about every **healthcare executive in the Porter Research** surveys from **2017 and 2019 agree that drug diversion is occurring in U.S. hospitals.**

Beliefs and Opinions About Drug Diversion Within Work Facilities

It's important to note that there is a decline between 2017 and 2019 (from 41% to 36%) among those who say they are "very confident" in the effectiveness of their program and an increase in the number of participants who say they are "not at all confident" in their organization's program. The least confident groups do remain under 5% of the totals. Percentage-wise, the "very confident" category lost about 6%, while the "somewhat confident" group grew about the same percentage from 2017 to 2019.
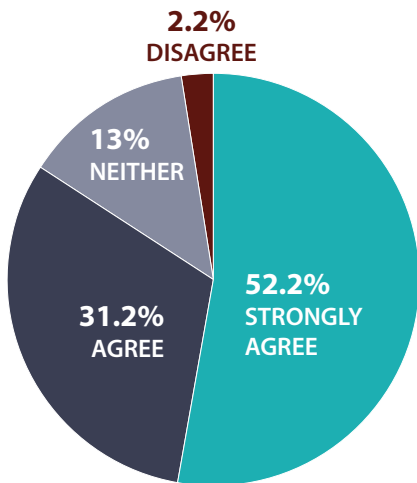
The Costs of Drug Diversion

Ninety-six percent of survey participants say that employee drug diversion negatively impacts quality of care and 97% say that drug diversion has an adverse impact on patient safety. Hospital executives also believe the high costs of drug diversion impacts more than just the clinical departments. Eighty-three percent agreed or strongly agreed that employee drug diversion has a negative impact on finance and billing. Indeed, the estimated costs of diversion to public and private medical insurers is over $72 billion a year according to the Justice Department's National Drug Intelligence Center.[6] Ninety-seven percent also believe that diversion puts their organization's compliance with regulations at risk, not to mention the nightmare of bad public relations that often accompanies diversion incidents.
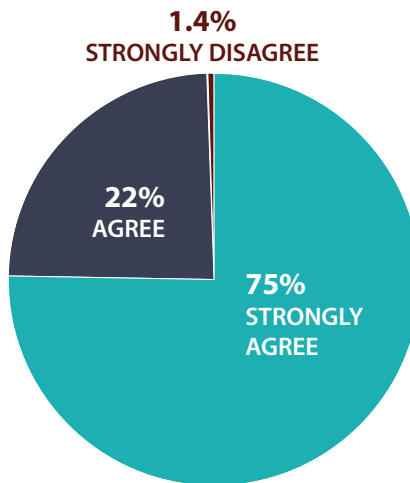
Over There, Not Here: Executives Trust Their Organizations to Handle Drug Diversion

While most participants say they at least somewhat trust their organization to identify individuals that divert drugs, about 70% say they believe strongly that most diversion in the U.S. goes undetected.

Drug Diversion Negatively Impacts Hospital Billing

2.2% DISAGREE

13% NEITHER

31.2% AGREE

52.2% STRONGLY AGREE

Drug Diversion Jeopardizes Compliance; Puts Organization at Risk

1.4% STRONGLY DISAGREE

22% AGREE

75% STRONGLY AGREE

Key Takeaway

7 in 10 survey participants **believe that most incidents of drug diversion in the U.S. go undetected;** however, **64% are confident** or **very confident that their drug diversion program successfully identifies employees who divert drugs.**

Diversion Program Tools Currently In Use

We asked survey participants to share which diversion program tools their organizations use. Executives were able to pick any that apply from a list including:

	2017	2019	+/-
Automated Dispensing Cabinets (ADC)	91%	89%	-2
Internal Audits	90%	87%	-3
Tips from co-workers	81%	84%	+3
ADC Reports (such as anomalous usage reports)	67%	78%	+11
Diversion Awareness Training	66%	75%	+9
Advanced Analytics	54%	59%	+5
Machine Learning	29%	29%	0
Random Drug Screening	27%	28%	+1
None of the Above	0	0	0
Other	4%	6%	+2

These usage statistics are encouraging. When we compare 2019 to 2017, we see that more hospitals are relying on technology to help uncover drug diversion. Hospitals are maturing in the use of ADC reports and advanced analytics. Seeing diversion awareness training increase also proves that hospitals are empowering employees to help uncover diversion actions.

We expect more and more health systems will look to innovative technologies as an integral component of their diversion detection program. For instance, machine learning, a form of artificial intelligence, is used to detect patterns, including behavioral actions over time. As the software "learns" it becomes easier to detect diversion—sometimes even before it happens or while it is happening—a vast improvement over detection times that are weeks, and sometimes months, without machine learning and advanced analytics solutions.

Some versions of advanced analytics software can integrate data from dispensing cabinets, time-keeping systems, electronic medical records and more to give a multi-dimensional view of drug diversion and uncover incidents much faster. What takes humans hours—or even days—to analyze can be done in a fraction of the time with the latest technologies.

Man vs. Machine: How Technology Can Help with Drug Diversion Detection

It is interesting to compare how participants say people who divert are actually caught versus what tools survey contributors think are effective. Right now, the majority of investigations are triggered by human activities, such as tips from co-workers, observations from management, or discovery of missing drugs. Unfortunately, by the time those solutions point to someone who is diverting, a lot of damage can be done. With the use of emerging technologies, we believe time to discovery will be shorter and more accurate, saving healthcare organizations from the cost of diversion, as well as the costs of false positive investigations.

Our survey participants agree, citing technologies like advanced analytics solutions as effective or very effective.

We are also aware that today's outcomes could be related to a lack of staffing to handle diversion detection programs. Forty-nine percent of executives reported that investigations take 5 or more hours to complete. About the same number said their organization has less than one full-time professional working on drug-diversion programs. Adding technology solutions can help hospitals contain the costs of drug diversion programs, while producing better results.

There are signs of change. Survey respondents are losing confidence in the effectiveness of traditional detection methods like monthly ADC reports and anomalous usage reports. In the last two years, the percentage of respondents who said these reports are effective or very effective at the identification and/or prevention of drug diversion dropped from 78% to 52%.

At the same time, survey respondents show growing confidence in advanced analytics to detect drug diversion. These more advanced methods are now the detection technique ranked as most effective. Following advanced analytics as the technique with the most confidence, tips from co-workers and internal audits filled out the top three of solutions rated the most effective. We expect these solutions are gaining momentum, given the confidence in their effectiveness.

Taking Action

As drug diversion incidents continue to grow, it becomes imperative that all hospitals consider solutions that help expose healthcare workers who are guilty of diversion to protect patients, profitability and reputations. What the surveys make clear is that, as an industry, **we are currently failing to expand drug diversion programs as rapidly as needed** when the number of diversion programs remains virtually the same over the course of two years.

We also need to **more closely match resources dedicated to building diversion programs with the amount of time needed to complete investigations.** This problem can be approached from two angles: Expanding staff to increase FTEs dedicated to drug diversion detection and increasing the use of technology—machine learning, ADCs, advanced analytics and automated reports from ADCs—to cut time and make investigations more accurate.

Finally, **recognizing the fully loaded costs of drug diversion is extremely important.** There isn't just the cost of the drugs themselves—although those numbers are breath-taking; we also have to account for organizational fines when regulatory targets aren't met, the costs of lost productivity, the cost of turnover, rehabilitation programs and legal liabilities. It's uncomfortable, yet necessary, to acknowledge that the brunt of those costs are borne by consumers with insurance and taxpayers.

The time has come for healthcare organizations to bring drug diversion into the spotlight and build strategic programs that protect patients, consumers and the organizations themselves.

Key Takeaway

Using machine learning, advanced analytics and automated systems/reporting can give hospitals a better chance to catch healthcare workers who divert before risky scenarios take place. Machine learning can also effectively validate and support human solutions by crunching data in near real-time and "learning" behavior patterns that can be applied to make data more effective.

Survey Methodology

235 healthcare executives participated in the survey, while138 participants who stated that their facility has a diversion program completed the survey. Survey participants included directors of pharmacy, nursing executives, compliance executives and drug diversion specialists.

Endnotes:

1. Jennifer Barrett. "Prescription Drug Diversion an Issue at VA Hospitals." Pharmacy Times, March, 2017.

2. Definitive Healthcare, "How Many Hospitals Are In the U.S." February, 2019

3. Lilly Chappa. "The Dirty Secret of Drug Diversion" ASIS International, August, 2017.

4. Wendy Glauser. "Canadian Hospitals Not Doing Enough to Prevent Opioid Theft." Canadian Medical Association Journal, April, 2019.

5. Quick Safety Issue 48: Drug Diversion and the Impaired Healthcare Worker. April, 2019.

6. "Prescription for Peril: How Insurance Fraud Finances Theft and Abuse of Addictive Prescription Drugs," Coalition Against Insurance Fraud, December 2007