



Health Care's Hidden Epidemic

A Call to Action on Hospital Drug Diversion



New analysis shares perspectives from thought leaders and more than 650 health care executives and providers on hospital drug diversion and its causes, barriers and solutions.

The national opioid epidemic has reached unprecedented depths, with Americans now more likely to die from opioid overdoses than car accidents – nearly 200 people a day, on average, according to a 2019 analysis by the National Safety Council.¹ While other aspects of this devastating public health crisis have caught mainstream attention, drug diversion in U.S. hospitals remains an underreported contributor to the opioid epidemic.

Between 10 and 15% of the general population misuses substances in their lives, including health care providers with access to controlled substances.² Hospital drug diversion, when a health care worker “diverts” opiates and other controlled substances away from patients for personal use or sale, remains a significant, and largely underdiscussed, challenge. Left undetected, diversion can imperil patient safety, harm diverters and generate significant risks for hospitals.

Because hospital drug diversion has been understudied, the BD Institute for Medication Management Excellence commissioned a new national survey of more than 650 hospital executives and providers to better understand health care diversion perceptions, behaviors and solutions.

The following report seeks to shed light on one of the opioid epidemic’s hidden issues, integrating survey findings with personal insights from key opinion leaders to highlight causes, barriers and solutions. We hope to foster a national conversation about this silent crisis – with the goals of spurring additional research and resources for those on the frontlines.



Perry Flowers, RPh, MS
Vice President of Medical Affairs at BD



Kelly Robke, MBA, MS, RN
Vice President of Thought Leadership at BD

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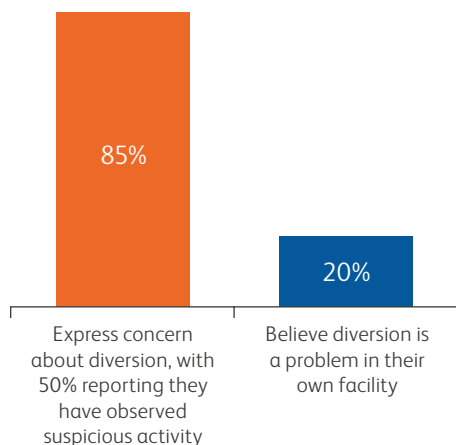
Exposing Hospital Drug Diversion

Most of what we know about drug diversion is extrapolated from isolated cases and anecdotal evidence. Little research is publicly available. Much of the work that has been done is quite dated.

In early 2019, the BD Institute for Medical Management Excellence commissioned KRC Research, a global public opinion research consultancy, to survey health care executives and providers to better understand their perspectives, gain new insights into the problem and identify potential solutions.

Those surveyed recognize diversion is a problem, with one eye-opening caveat: not in their own hospital.

Diversion Recognised as Problem with Major Caveat



Health care executives and providers acknowledge preventing diversion is challenging, and say the tools they are using are only somewhat effective.

- Yet, despite these sentiments, 63% of executives and 59% of providers feel their hospitals are spending the right amount to prevent diversion.

The survey also confirms anecdotal observations that health care providers are often stressed beyond their ability to cope, making them vulnerable to substance use disorder.

Many are high achievers who suffer from long hours, emotional strain and heavy patient volume.

- The survey showed 78% of providers know a peer who may be stressed “to the breaking point.” And while the vast majority of participants acknowledge they have resources to help manage stress, fewer than half have accessed that support.
- This stressful work environment may put hospital staff at great risk, particularly nurses, pharmacists and anesthesiologists with access to drugs.

Many respondents also feel inadequate detection tools are a major barrier.

- They cite the need for better information resources, including more accurate data to reduce false positives, as well as machine learning and advanced analytics capabilities.

In the end, most hospital professionals in the survey said they are confident that, with adequate resources and attention, they can enhance diversion detection efforts in their facilities.

Crises Visible and Hidden

Addiction to prescription narcotics in the United States has reached epidemic proportions. In 2015, according to the National Survey of Drug Use and Health, 97.5 million Americans took prescription pain relievers.³

Embedded in this larger crisis, hospital providers face their own opioid and substance use problems. According to the Drug Diversion Digest, nearly 19 million pills were diverted in the first six months of 2018.⁴

Anecdotal stories indicate a serious issue that endangers patients, but hardly quantify the problem:

- In April 2019, 60 health care professionals in multiple states were indicted for a diversion scheme.⁵
- At a cancer center, several people developed infections when a diverting hospital worker replaced narcotics with water and injected patients.⁶
- An academic medical center paid a \$4.3 million settlement to the Drug Enforcement Administration over diversion.⁷
- A hospital medical technician was sentenced to 39 years in prison after his diversion infected dozens of patients with hepatitis C.⁸

As noted, between 10 and 15% of the general population will misuse substances in their lives, including health care providers with access to controlled substances. According to the Bureau of Labor Statistics, there are nearly 3 million nurses, around 300,000 pharmacists and more than 30,000 anesthesiologists in the U.S. – even at the lower range, an extrapolating 10-15% of this workforce data indicates a potentially significant problem.^{9, 10, 11}

Key Findings

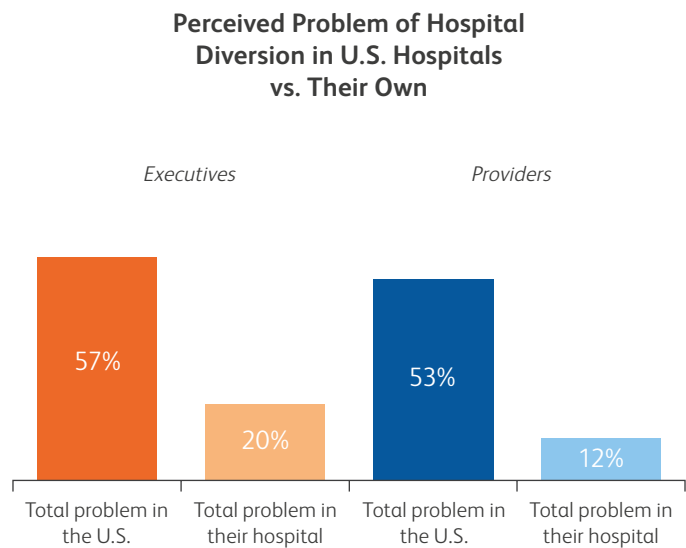
Diversion Is Somebody Else's Problem: The Not-In-My-Backyard (NIMBY) Effect

The initial interviews with thought leaders indicated diversion is a growing concern in hospitals but often does not get the attention it deserves. Diversion may be flying under the radar because it's a taboo subject, budgets are impacted and there's risk to hospital reputation and staff morale.

The survey picked up another possible barrier: Denial about substance misuse itself. While health care providers and executives said they think substance use disorder is a major challenge, they believe it's less of a problem in hospitals in general and specifically in their own facilities.

When asked whether substance use disorder in U.S. hospitals occurs more than, the same as or less than the general population, 26% of executives and 29% of providers believe it is less in hospitals, while 49%/47% believe it is less in their own facility.

Among C-suite executives, 89% said substance use disorder is a significant problem in the U.S.; 53% feel it's a significant problem in hospitals; and 17% feel it's a big problem in their hospital. Among pharmacists, the numbers are 99%/59%/16%. Among nurses, it's 97%/70%/13%. And, among anesthesiologists, 97%/48%/13%.



Despite diversion being a large problem in U.S. hospitals, few health care professionals view diversion as a problem in their own hospital.

Survey Methods

KRC Research, a global public opinion research consultancy, was commissioned by BD Institute For Medication Management Excellence to shed light on this hidden health care crisis. To prepare the survey, KRC Research conducted eight in-depth phone interviews with seven thought leaders in pharmacy, anesthesiology and nursing.

They then surveyed 651 health care executives and providers online between February 20 and February 29, 2019. The sample was randomly drawn from a large group of U.S. health care professionals.

The pool included 100 health care professionals who self-identified as hospital executives with quality, risk and/or compliance and diversion oversight, as well as 151 provider diversion managers who self-identified as nurses, pharmacists or anesthesiologists. This group is responsible for overall diversion prevention or creating and enforcing diversion policies.

Among frontline providers, KRC Research queried 101 anesthesiologists, 139 pharmacists or pharmacy technicians and 160 nurses. The latter included: registered nurses, charge nurses, nurse managers, licensed vocational nurses and certified registered nurse anesthetists.

This research sought to uncover perceptions and attitudes of health care executives and providers towards workplace stress, substance use disorder and diversion; describe the current state of diversion programs and perceived efficacy; quantify perception differences between health care executives, diversion managers and frontline providers, as well as between nurses, anesthesiologists and pharmacists; and identify solutions.

As with all surveys, results should be interpreted within the context of study limitations, which include limited generalizability outside of the specific populations surveyed in this study. The sample of respondents were randomly selected from a large consumer panel of health care providers and screened to determine if they qualified to participate. Coverage bias may be a limitation, as the panel from which the sample was randomly drawn does not include every U.S. health care provider. Non-response bias may represent a limitation because those who responded may have different perceptions than those who did not respond. While social desirability bias may be a limitation of surveys on sensitive topics, an anonymous and confidential online research approach was coupled with neutrally written and carefully ordered survey questions to minimize measurement error.

As noted in the graph above, attitudes about diversion dovetail with those about substance use disorder. While the majority of surveyed executives and providers recognize diversion is a problem in U.S. hospitals, relatively few believe it's a problem in their own facility.

Among executives, 57% acknowledge the overall problem, while only 20% feel it is an issue in their own facility. Among providers, the breakdown is 53% to 12%.

Overall concern about diversion in their own hospitals is 83% among executives and 65% percent among providers.

Among executives, this concern is mostly focused on patient care and safety, followed by employee health, compliance, reputational damage, lawsuits and employee morale.

Circling back to the initial interviews with thought leaders, this disconnect may reflect an unwillingness among health care staff to suspect their colleagues. However, the survey shows 50% of providers have witnessed a suspicious act and 45% have been concerned about a peer.

While health care executives and providers do not believe there is significant diversion in their hospitals, they do feel that some level of diversion is going undetected. In the survey, 63% of executives and 54% of providers believe diversion has happened in their hospital within the past year. In addition, 57%/64% think it goes undetected.

This cognitive dissonance is visible throughout the survey. When asked if diversion is difficult to detect, 80% of executives and 60% of providers say it is very or somewhat difficult to detect. On the other hand, 92%/90% feel the diversion detection tools their hospitals are currently using are very or somewhat effective. In addition, majorities in both groups (63%/59%) feel their hospitals are investing the appropriate resources to fight diversion.

Underlying Causes: Work-related Stress

The reasons behind hospital diversion are complicated; however, thought leaders in the early interviews said demanding work, combined with access to narcotic drugs, creates a risky environment.

The survey affirmed pre-survey interviews, which painted many providers as driven to perform at a high level. Among providers, 100% agree with the statement: *I am a high achiever and set high standards for myself*. 86% strongly agree.



A Path to Diversion

Rodrigo Garcia, APN-BC, MSN, CRNA, MBA

CEO of Parkdale Center for Professionals and Parkdale Solutions

As a chief certified registered nurse anesthetist, I was at the top of my specialty. But as much as I loved my work, it was highly stressful. There were long hours, and I missed my family. Eventually, I found myself sacrificing my mental, physical and emotional health in order to do my job.

I broke my ankle playing baseball and, for the first time in my life, began taking prescription opioid painkillers. When I returned to work, I soon realized I was dependent on the medications. I tried weaning myself off several times, but failed. I asked my doctors to renew my prescriptions, but they turned me down. Without the medication, it was nearly impossible to physically make it through each day.

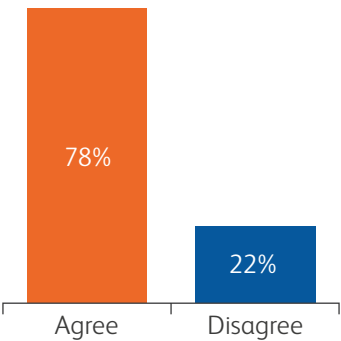
One day, I was reconciling the waste medications that I didn't use for patients and started thinking: I feel horrible and I can barely function, let me see if this helps. I squirted some of the waste medication under my tongue, and within five minutes, not only had the withdrawal completely gone away, but my anxiety, stress, depression and lethargy were also gone.

Over time, I escalated from placing the medication under my tongue to injecting it intravenously. My wife knew something was wrong. Suspicious pharmacy audits earned me several interrogations, but I talked my way out of them each time. They caught me because I stopped trying to avoid the inevitable. I finally said: "I need help. Just stop this insanity, because I can't stop it on my own."

58% of nurses and 52% of anesthesiologists say their jobs are highly stressful. In addition, 78% of all providers have known a peer who has appeared to be stressed nearly *to the breaking point*.

Agree/Disagree: I Am Aware of Colleagues Who Seem Stressed to the Breaking Point

(Among all providers)



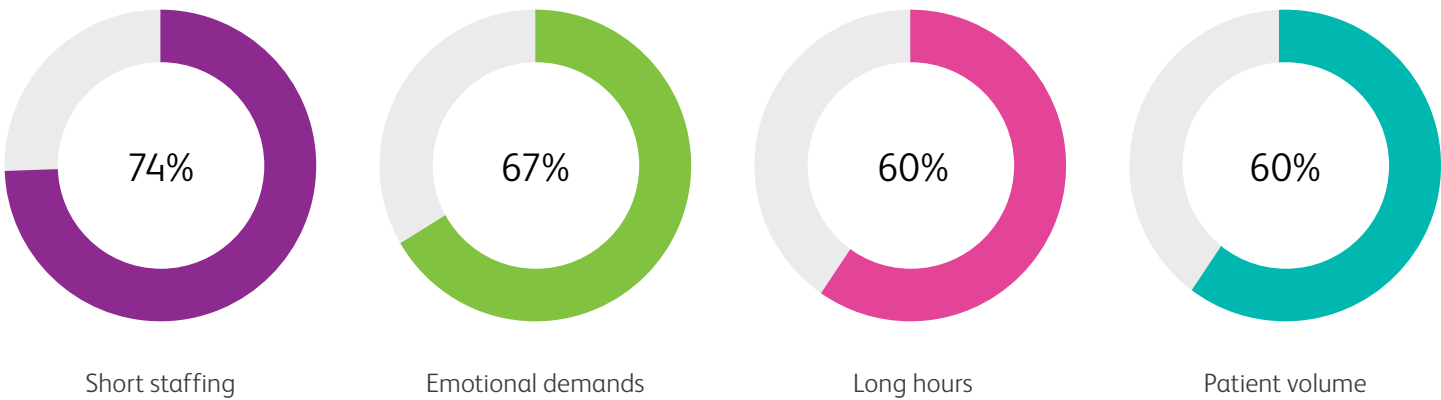
Hospital executives recognize this issue: 98% feel the hospital environment is challenging, while 96% say patient care is stressful. Major stressors include: short staffing, emotional demands, long hours and patient volume.

I was unemployable for a few years. After attending an intensive drug rehabilitation program, I returned to school with my wife and we obtained our MBA degrees. As a result, we are co-founders of Parkdale Center for Professionals in Chesterton, Indiana, a treatment center that assists health care professionals in recovering from both substance use disorders and from the professional consequences associated with the impaired health care provider. Since 2015, more than 450 professionals from around the country have successfully completed the program.

Hospitals have many ways to address diversion, such as moving sharp boxes, placing cameras in vulnerable locations, changing reporting requirements and conducting training and education. We see significant improvements when hospitals make diversion a priority and put the appropriate programs in place. I believe a successful hospital diversion program is based on a proactive rather than a reactionary approach. The challenge is sometimes trying to understand the difference.

What Are the Primary Reasons for Stress in a Hospital?

(Among all providers)



Chief among reasons for stress are short staffing and emotional demands, coupled with long hours and high patient volume.

A strong majority of providers agree stress is difficult to manage. While support is available, providers say they don't always take advantage of it. Among providers, 86% believe they have peer support, 68% feel they have organizational support and 82% know where to get help. And while 74% are comfortable seeking help to manage stress, only 39% of all respondents have actually sought assistance.

Training and Communication

Thought leaders who were interviewed pre-survey said diversion is a taboo subject. However, in the survey, 89% of providers say they are somewhat or very comfortable discussing diversion at work. Among executives, 67% feel their employees are comfortable talking about it at work.

Among all providers who say they are uncomfortable discussing diversion at work, 67% think bringing up diversion sounds accusatory, 51% are concerned it raises suspicions and 40% believe it makes peers distrust them.

The majority of executives say their hospitals have formal drug diversion prevention programs: 40% note their pharmacy departments spearhead anti-diversion efforts, while 26% report it's the executive leadership team.

A Nurse's Perspective

Carol Mallia, RN, MSN

**Associate Director, Division of
Nursing, Massachusetts
Nurses Association**

I help manage a peer program for nurses trying to overcome substance misuse. Over the years, I have heard countless stories about diversion.

The source of the problem is pain – physical, mental, emotional. And then it becomes unhealthy coping with the pain. And then it becomes the pressure to get to work in pain. That starts the vicious cycle.

Of the 19 years I've been answering this helpline, the majority of calls start with: "I hurt my neck" or "I hurt my back" or "I had to have surgery" or "I didn't have surgery."

But there's also the day-to-day stressors: lack of staffing, feeling overworked and the compassion fatigue that comes from caring for patients with traumatic injuries or terminal diseases.

I've heard good analogies from experienced nurses saying you just get a little chip to your heart every time you have one of these situations, and you have to just swallow it down. That's what you do, you swallow it down. I can tell you clearly the times I've had to swallow some horrible sad situations in my career, and to this day if I start to talk about it... I tear-up and re-live the trauma.

In order to be effective as a nurse, to choke it down, it's survival.



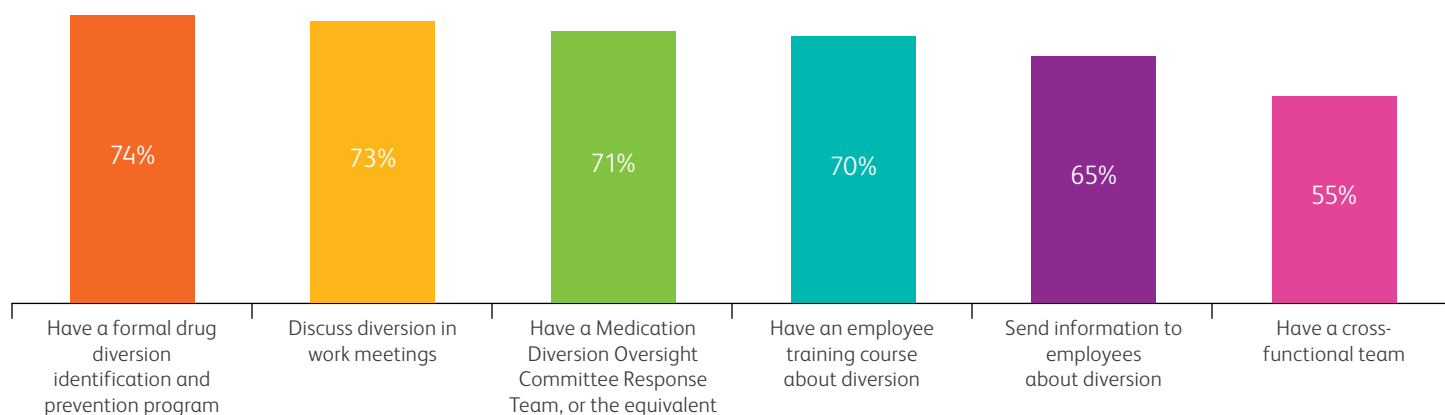
We are working to support nurses and help them avoid diversion. I think education about the risk factors is huge. We can show our nurse colleagues what the risk factors are and why they are personally at risk. There's also the need to help nurses who have been injured. For many, it can be disconcerting, and depressing, to be away from work.

While nurses are out on injury leave, we can proactively keep them engaged. They can come to staff meetings. They can be part of a team, and they don't have to feel disconnected from the unit.

We also want to change the culture to make it more acceptable for people to self-report. The first part of enforcement is making it acceptable for people to seek help and offer recovery support and be more in tune with helping nurses gain recovery.

Hospital Diversion Best Practices and Activities

(Among all executives)



Most executives report their hospitals have a formal drug diversion identification and prevention program and a diversion oversight committee response team.

The majority report their hospitals have between one and five full-time employees dedicated to diversion detection and enforcement. The number of diversion-focused FTEs appears unrelated to hospital size.

Nearly 60% of providers have either taken a formal diversion training course, talked about it in a work meeting and/or received information from their hospital. However, 40% report they have not had any formal training, and more than a third have not received diversion information from their hospital or discussed the topic in a work setting.

This highlights another perception gap among executives, who say – at their hospital – 95% of employees with access to controlled substances, and 87% of clinical staff, have taken a diversion training course.

Among those who participated in diversion training or discussion, the vast majority found it helpful. In addition, among those who had not received any training or communication, 60% would like that to change.

Current hospital diversion communication, according to providers, is focused on raising awareness about the problem, ways to get help, reporting suspicious activity and potential consequences.

Current Anti-Diversion Efforts

Among survey respondents, 65% of executives and 58% of providers acknowledge diversion prevention is difficult, and the tools they are using to combat it are only somewhat effective.

When a diversion incident is confirmed, facilities shape their responses case-by-

case, depending on the severity of the offense, negative effects it might have on patients or the facility and the diverter's willingness to cooperate.

Most hospitals surveyed use electronic medical records, automated dispensing cabinets (ADCs) and internal controlled substance audits. Seventy-one percent of respondents said they also had diversion prevention committees in place. Just over half say they use internal inventory systems. Few use ADC reports, machine learning, advanced analytics or wholesaler purchasing systems.

Tools Utilized to Manage Diversion

(Among all respondents)



The majority utilize electronic medical records, internal controlled substance audits, automated dispensing machines and internal inventory systems.

The majority of surveyed executives and providers believe these tools are only somewhat effective: 67%/66%. The biggest perceived barriers to timely enforcement are inadequate real-time detection and reliable tools.

Consolidating Anti-Diversion Tools

Katelyn Hipwell, PharmD, MPH

Pharmacy Clinical Operations Manager
for the University of Virginia
Health System

Day-to-day, I receive a variety of reports tracking drugs through automated dispensing cabinets, electronic health records, waste, and other sources. We use these reporting tools to alert us to issues, but they're all separate. We have to look

at them individually and try to link and trend across locations and transactions within the entire health system.

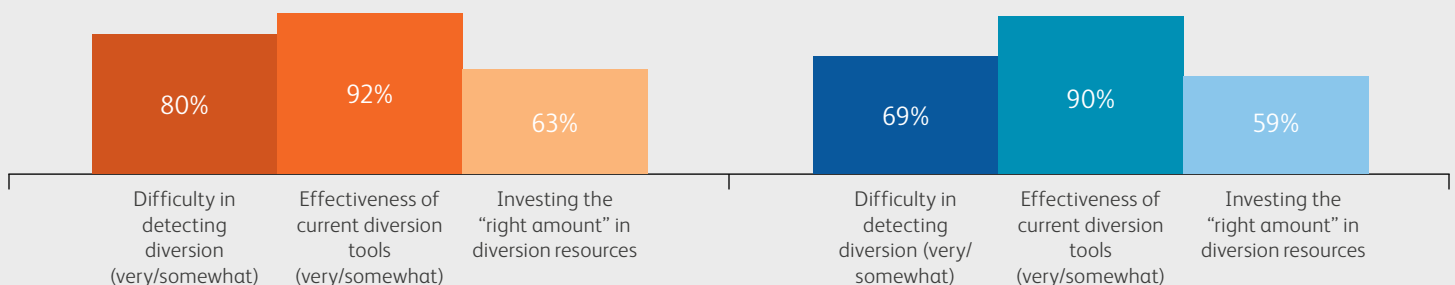
While it's quite possible the data produces enough evidence to manage diversion, it becomes a numbers game – how much time can we spend on reconciling these disparate reports at the expense of other tasks? We have to make hard choices about what we believe is going to give us the biggest bang for our buck. What report, what kind of trending am I going to do? And what am I not

going to be able to get to because we only have two people allocated to do this?

I have complicated feelings about false positives. On one hand, I would like to be proven wrong. However, I also don't want anyone slipping through the cracks.

Given the magnitude of the opiate problem in the general population, I believe this problem has to also be significant in hospitals. If a hospital is not finding cases, it may be because they're just not looking hard enough.

Difficulty in Detecting Diversion, Tool Effectiveness and Appropriate Resource Investment

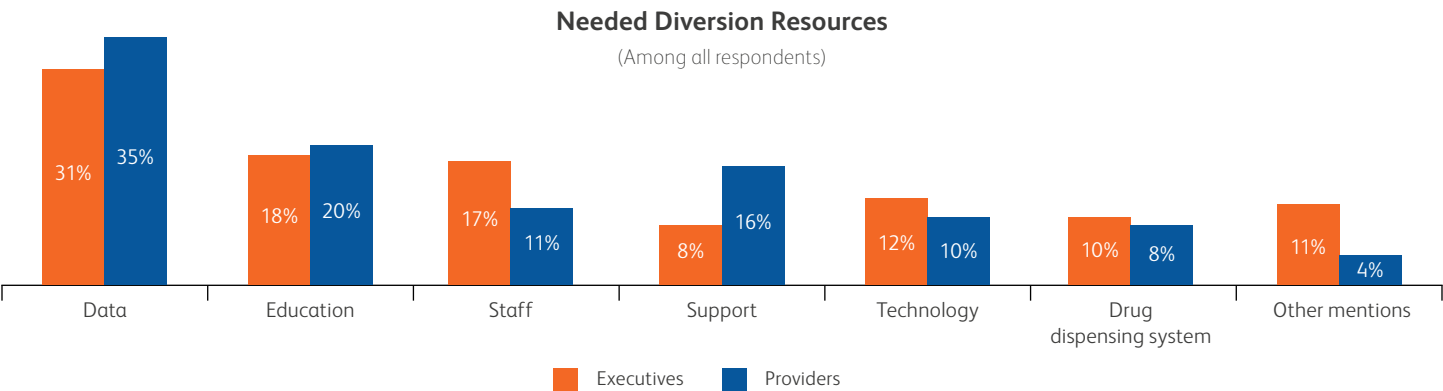


There is wide agreement that diversion is difficult to detect, yet nearly all say that their current tools to combat diversion are effective.

Solutions

Health care executives and providers cite a variety of tools that could help them, including: better drug dispensing systems, improved technology, increased staff and more robust education. However, they say their greatest need is for more accurate data, machine learning technology and advanced analytics.

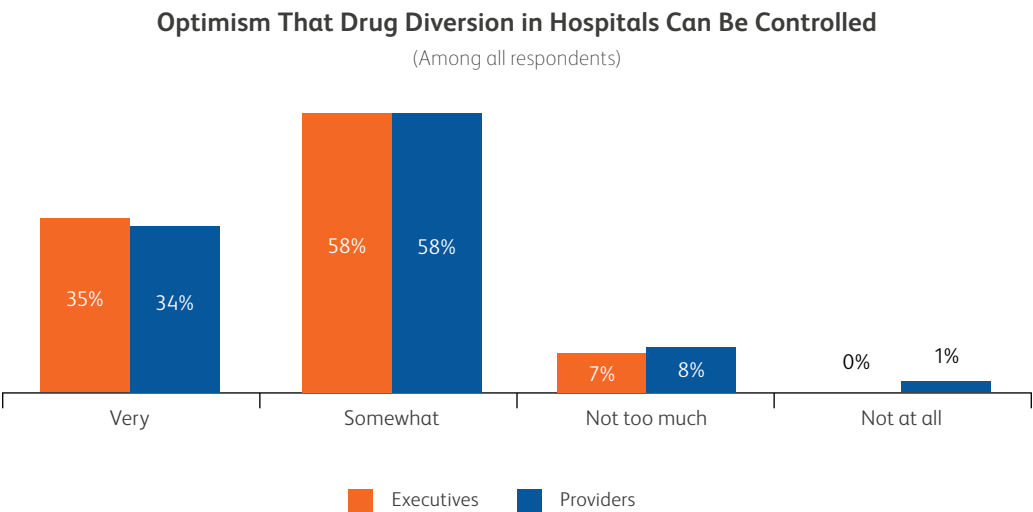
There are many points where diversion may occur and many diversion methods. Tight control is needed through process checks and balances, diligent surveillance and timely interventions to prevent, promptly identify and investigate suspected diversion.



The biggest need to prevent, detect, and control diversion, according to health care professionals unaided, is data resources.

Surveyed executives are split on whether their facility will increase its diversion budget, with 42% believing it will go up and 46% thinking it will stay the same. A significant majority – 63% of executives and 59% of providers – believe their hospitals are spending the right amount. About a third think they are spending too little. However, many executives say they are spending too little on specific measures, such as: random drug screenings; more accurate data to reduce false positives, machine learning, advanced analytics and mandatory diversion training.

The University of Virginia Health System, for example, has been moving towards a system that automatically reconciles the information, putting it on a single screen rather than different reports. The system makes it easier to put together information from multiple sources and has the potential to streamline detection. The vast majority of both executives and providers believe that, with enough resources, they can mitigate diversion risk.



Most executives are somewhat optimistic that with adequate resources and attention, drug diversion in hospitals can be controlled. A third are very confident.

Closing Thoughts: A Safety-Focused Culture

Hospital drug diversion is complicated. Enforcement can be difficult because suspected diverters are good at avoiding detection and peers are reluctant to accuse friends. Few people want a dedicated colleague to lose their career. In addition, enforcement efforts can produce negative consequences. False positives can lead to wrongful accusations, which can impair staff morale in an already-stressed workplace.

The interviews that informed this survey, and the survey itself, illustrate an environment where providers can be vulnerable to diverting drugs. In some cases, it could be just one injury away.

On the other hand, diversion reduces public faith in the health care system and can impose financial burdens on hospitals. Ultimately, it's a safety issue – for patients and staff.

One challenge is a lack of readily adoptable best practices. These might include multidisciplinary teams tightly focused on diversion, closing subtle gaps in chains of custody, advanced data techniques and improved education and training.

Education, in particular, may have great potential to move hospital cultures to actively reduce diversion by reinvigorating their focus on safety. Sharing information can also build loyalty within the workforce.

During initial survey interviews, several health care professionals cited the need to aggressively communicate a rehabilitation pathway. They noted that many diverters, once caught, express relief. If given an honorable opportunity to self-report, they may take it.

With so many believing diversion is a problem – just not in their hospital – these survey findings show an obvious, and possibly dangerous, disconnect. What is the motivation to commit resources to a problem they don't believe exists in their own facility? Once again, education and training can help correct these misconceptions.

Institutions must embrace new approaches to ensure diversion does not fly under the radar. Like diversion itself, this must be a dynamic process.

This survey should not be the last word on diversion. Rather, it should spark a national conversation, spur much-needed research and ultimately lead hospitals and health systems to adopt comprehensive diversion prevention programs. Through technology, communication and training, cultural shifts and other means, diversion risk can be addressed in a meaningful way.

The time has come to shine a light on hospital drug diversion and develop solutions.

For more information, insights and tools, please visit the: [BD Institute for Medication Management Excellence](#)

About the BD Institute for Medication Management Excellence

The BD Institute for Medication Management Excellence is helping to advance the safe and efficient management of medications across the care continuum. The Institute works with customers and industry thought leaders to transform medication management in meaningful ways and engages others to join the effort. The goal of the Institute is to identify and support evolutionary – and revolutionary – advancements by encouraging new ways of thinking, new methods, processes, guidelines and best practices to create a foundation for measurable improvements.

The institute strives to consistently deliver high impact thought leadership initiatives. It also works to engage with health systems, clinicians, technology partners, regulatory organizations and thought leaders to create a forum for insightful research and best practices to directly impact patient safety.

Meet the Experts



W. Perry Flowers, RPh, MS

As vice president of Medical Affairs and Enterprise Medication Management at BD, Perry Flowers has a deep clinical understanding of diversion and potential solutions. Prior to joining BD, Flowers was vice president, Acute Care and Infusion Pharmacy Programs at Kaiser Permanente. Before that, he was system executive, Patient Care Support & System Pharmacy at Memorial Hermann Healthcare System in Houston.



Rodrigo Garcia, APN-BC, MSN, CRNA, MBA

Rodrigo Garcia has been a provider in emergency management, intensive care, education, surgical services, and anesthesia for more than 20 years. He has extensive experience in addiction, treatment, management, advocacy and recovery. He is currently the CEO of Parkdale Center for Professionals and Parkdale Solutions, a diversion consulting program for health care facilities.



Katelyn Hipwell, PharmD, MPH

Katelyn Hipwell is manager of Pharmacy Clinical Operations at the University of Virginia Health System, where diversion enforcement is one of her main responsibilities. She was a Health System Pharmacy Administration resident at Allegheny General Hospital in Pittsburgh, Pennsylvania. She earned her PharmD at the West Virginia University School of Pharmacy.



Carol Mallia, RN, MSN

Carol Mallia has worked as a registered nurse for over 30 years, delivering care in high acuity settings as a Staff Nurse, Clinical Leader Clinical Specialist in acute and critical care units. She is currently an Associate Director at the Massachusetts Nurses Association (MNA) and leads the MNA efforts to support nurses suspected of diversion. She also leads the MNA Peer Assistance program, a novel program that allows impacted nurses the opportunity to confidentially self-report into a rigorous rehabilitation program that aligns with Alternative to Discipline programs.



Kelly Robke, MBA, MS, RN

Kelly Robke is vice president of Thought Leadership at BD, where she leverages her experience as a frontline provider to find solutions for diversion and other issues. Prior to this role, she was Director of Product Management for Dispensing Technologies at BD. Robke earned her BSN at West Virginia University, an MBA from the University of Houston and MS in Regulatory Sciences from the University of Southern California.

Appendix

Survey Method

KRC Research, a global public opinion research consultancy, conducted a national quantitative survey among 651 health care executives and providers from February 20 to February 29, 2019. The survey sample was randomly drawn from a large U.S. panel of health care professionals, who were screened to qualify for this study. The survey was conducted online and required an average of twenty minutes to complete.

Hospital Executives, 251

- 100 C-Suite Executives
This group self-identified as hospital executives with oversight for quality, risk and/or compliance and diversion oversight.
- 151 Provider Diversion Managers
This groups self-identified as nurses, pharmacists or anesthesiologists.

Both groups are responsible for diversion programs, or are key decision-makers, creating and enforcing diversion policies at their hospitals.

Hospital Providers, 400

- 101 Anesthesiologists
- 139 Pharmacists – pharmacists or pharmacy technicians
- 160 Nurses – Registered Nurses, Charge Nurses, Nurse Managers, Licensed Vocational Nurses or Certified Registered Nurse Anesthetists.

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