BLUESIGHT™

2025 DIVERSION TRENDS REPORT

An Analysis of Drug Diversion
Data From 1,100+ Hospitals

INTRODUCTION

ControlCheck™ is the market-leading diversion monitoring solution from Bluesight, currently in use at more than 1,500 hospitals as of 2025. It supports the identification and prevention of controlled substance diversion across nursing, procedural, and pharmacy settings. In addition, it helps organizations improve documentation compliance through a closed-loop auditing system that integrates data from procurement records, automated dispensing cabinets (ADCs), electronic health records (EHRs), and human resources systems. This comprehensive integration enables ControlCheck to trace each controlled substance dispense through all associated documentation – administration, waste, and return – ensuring the full volume is accounted for across systems, providers, and handoffs.

This report analyzes data collected by ControlCheck throughout 2024 and, where applicable, includes trend data dating back to September 2018. The dataset comprises more than 266 million controlled substance transactions from over 1,100 hospitals and health systems nationwide. Additional insights are drawn from Bluesight's 2024 Hospital Pharmacy Operations Survey, conducted in February 2025, which collected responses from 159 pharmacy professionals – 95 of whom are directly involved in diversion monitoring and prevention.

Over **266M** controlled substance transactions tracked across **1,159 hospitals**

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KEY THEMES

TREND 1
INVESTING IN STAFF AND SOFTWARE
Hospitals are investing in cross-functional diversion committees, full-time staff, and software to monitor for drug diversion.

TREND 2
IMPROVING DOCUMENTATION COMPLIANCE
With a heavy focus on compliance, diversion staff and teams are seeing variances decrease over time.

| TREND 3 |
| --- |
| **EVALUATING DIVERSION INDICATORS** |
| Most variances of controlled substance transactions take place in Nursing settings while handling Fentanyl. |

TREND 4
CONFIRMING DIVERSION
Over 700 cases of drug diversion have been confirmed over the past year.

HOSPITALS CONTINUE INVESTING IN STAFF AND SOFTWARE TO COMBAT DIVERSION

Hospitals and health systems are continuing to use both personnel and technology to respond to drug diversion. In both 2024 and 2025, 75% of survey respondents said their facility had full-time staff dedicated to drug diversion monitoring – most commonly one or two individuals. Unsurprisingly, larger organizations tend to staff more heavily in this area. In 2024, **53% of hospital staff overseeing diversion surveillance reported using software** to detect documentation discrepancies, monitor staff behavior, and investigate potential cases. By 2025, 40% of respondents indicated plans to increase resource investment for diversion prevention and detection over the next 12 months.

NUMBER OF STAFF DEDICATED TO FULL-TIME MONITORING

None or No Full Time	1-2	3-5	6-10	11+
25%	40%	21%	8%	5%
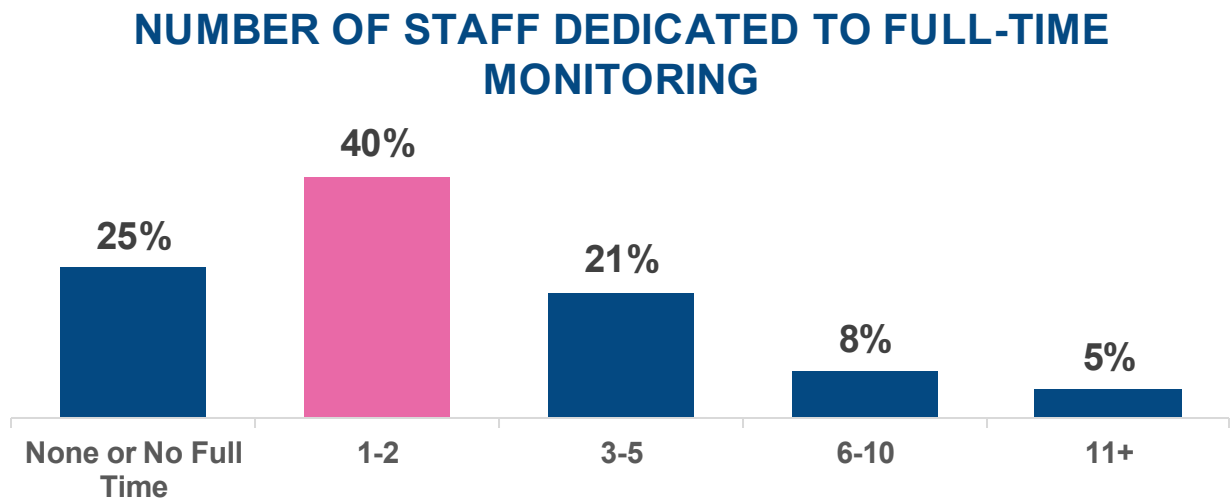
40% plan to invest in more diversion resources within the next year

PHARMACY AND NURSING ARE THE MOST INVOLVED IN DIVERSION COMMITTEES

About **two-thirds (67%) of diversion-focused staff report having a diversion committee** at their organization, with most others planning to form one within two years. Cross-functional committees remain a core strategy in building effective diversion surveillance programs.

While pharmacy has traditionally taken the lead in diversion detection, nursing's role is expanding. Many organizations are recognizing that engaging nursing leadership helps foster a stronger culture of controlled substance accountability. Participation from compliance and anesthesia rose 20% and 11%, respectively, over the past year. The "other" category – including representatives from security, law enforcement, and HR – is also gaining prominence.

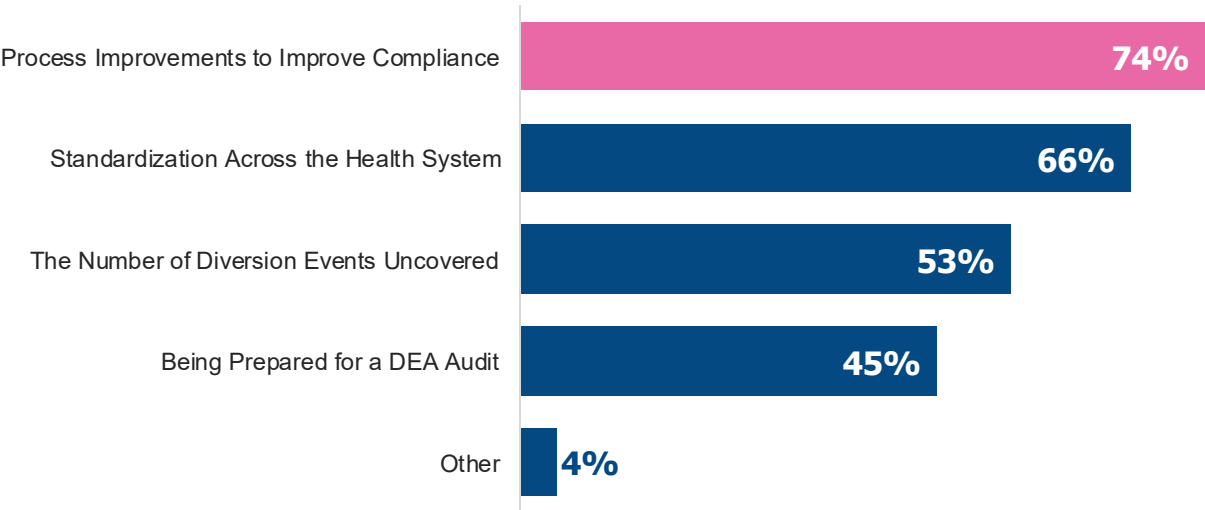## DEPARTMENTS AND ROLES PARTICIPATING IN DRUG DIVERSION OVERSIGHT COMMITTEES

Department	2024	2025
PHARMACY	84%	90%
NURSING	66%	72%
COMPLIANCE	46%	63%
EXECUTIVE LEADERSHIP	48%	56%
ANESTHESIA	33%	44%
LEGAL	31%	36%
OTHER	10%	17%

74% SAY THAT IMPROVING COMPLIANCE IS THE MOST IMPORTANT SUCCESS METRIC

Although diversion detection is the stated goal of most programs, the majority of hospitals and health systems view compliance improvement as the most important measure of success. In fact, 74% of staff overseeing diversion efforts rank process improvements as a top priority, while **45% also prioritize preparedness for a DEA audit**. Notably, improving compliance also reduces financial risk, with **penalties of $18,759** per identified incident of incomplete medication records lacking proper oversight*.

Hospitals are focusing on improving documentation workflows and reinforcing protocols among staff who handle controlled substances. This not only reduces work for diversion surveillance teams but also helps avoid noncompliance fines and better isolates true diversion risks.

HOW THE SUCCESS OF DIVERSION PROGRAMS IS MEASURED

Metric	Percentage
Process Improvements to Improve Compliance	74%
Standardization Across the Health System	66%
The Number of Diversion Events Uncovered	53%
Being Prepared for a DEA Audit	45%
Other	4%

*DOJ Penalty under 21 U.S.C. 842(c)(1)(B)
Source: Code of Federal Regulations

6% OF ALL CONTROLLED SUBSTANCE TRANSACTIONS HAD VARIANCES

Auditing controlled substance transactions is a critical way for hospitals and systems to both detect documentation noncompliance and possible diversion.

Of the 266 million medication transactions tracked by ControlCheck, **94% were automatically closed with all medication volumes fully accounted fo**r. The remaining 6% represented variances — or discrepancies between the ordered amount and what was dispensed, administered, wasted, or returned — that require further investigation.

Maintaining a high rate of auto-closed transactions allows hospitals to save substantial time and improve documentation compliance. In fact, **most hospitals (70%) report spending fewer than 10 hours per week** resolving variances in controlled substance transactions.

TOTAL TRANSACTIONS BY STATUS
September 2018 – December 2024

6%
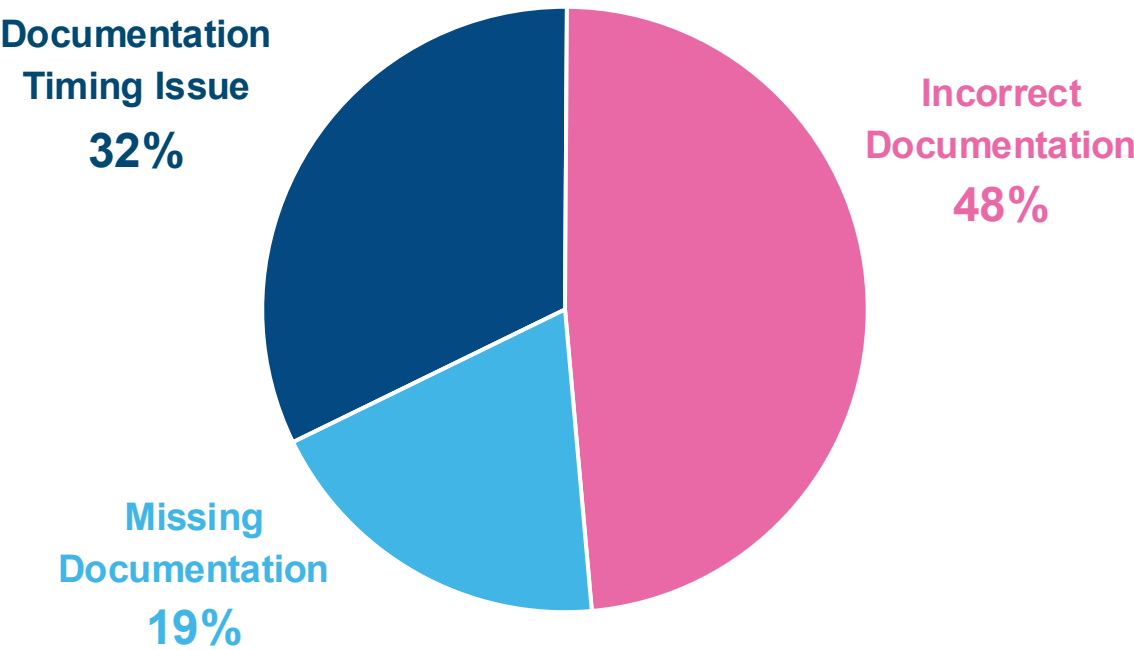**Transactions with Variance**

94%
No Variance
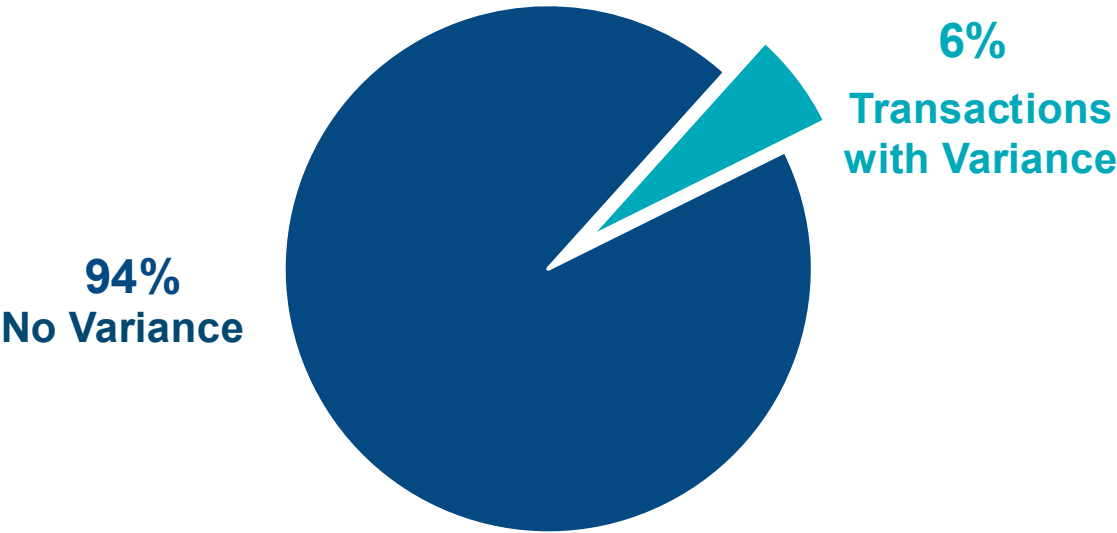
AND HALF OF THE VARIANCES ARE DUE TO INCORRECT DOCUMENTATION

Since 2023, ControlCheck has categorized variance close reasons during resolution. Throughout this period, *Incorrect Documentation* has consistently accounted for approximately half of all variances – slightly decreasing from 50% at the end of 2023 to 48% by the end of 2024. This category includes errors such as **wrong patient, mischarting, wrong drug, or incorrect amount.**

Meanwhile, *Documentation Timing* increased by 4% year over year, suggesting a growing need for timely entries, while *Missing Documentation* — the least common category — declined by 3%. These trends highlight ongoing opportunities to improve the accuracy and timeliness of controlled substance documentation.
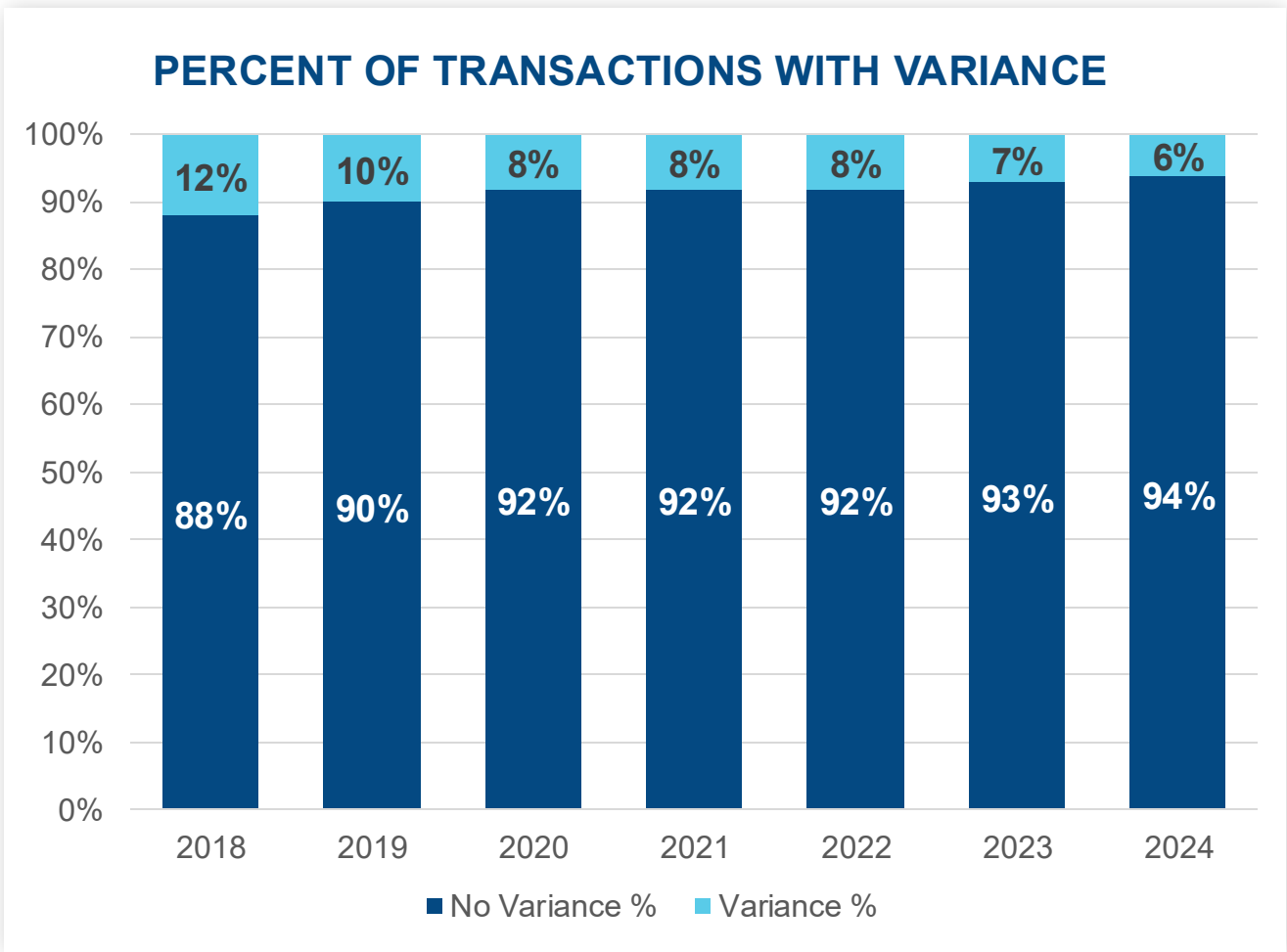
VARIANCES BY CATEGORY
November 2023 – December 2024

Documentation Timing Issue
32%

Incorrect Documentation
48%

Missing Documentation
19%

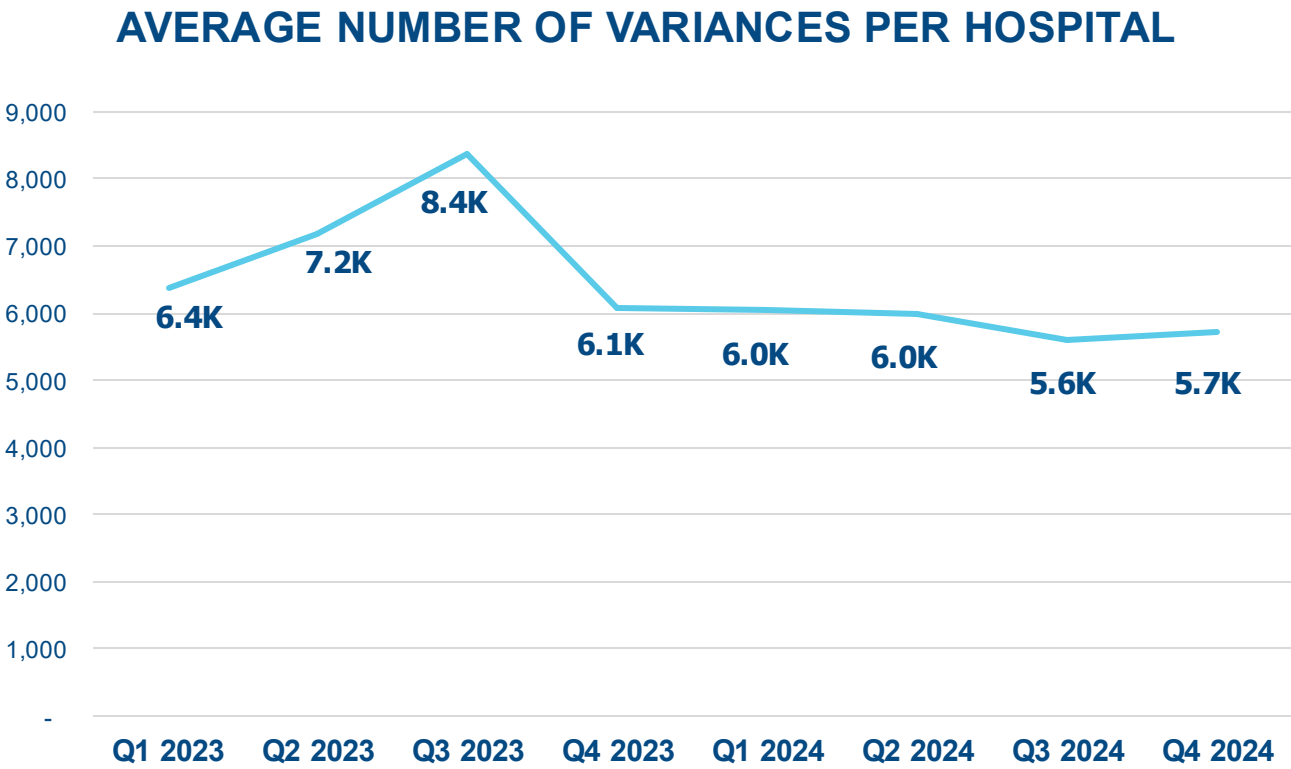# THE RATE OF VARIABLE TRANSACTIONS CONTINUES TO TREND DOWN

The rate of variances in controlled substance transactions has shown a steady downward trend since 2018 and most recently declined from 7% to 6% from 2023 to 2024. Because these figures represent cumulative rates through the end of each year, even small shifts indicate meaningful change. For example, the 1% drop from 2023 to 2024 translates to approximately 2.6 million additional transactions with complete and compliant documentation. This sustained improvement likely reflects both **increased documentation compliance** across hospitals and continued refinement of ControlCheck's machine learning algorithms to more effectively identify true variances.

PERCENT OF TRANSACTIONS WITH VARIANCE

Year	No Variance %	Variance %
2018	88%	12%
2019	90%	10%
2020	92%	8%
2021	92%	8%
2022	92%	8%
2023	93%	7%
2024	94%	6%

■ No Variance % ■ Variance %

MEANWHILE, QUARTERLY VARIANCES PER HOSPITAL HAVE STEADIED

When averaged across all hospitals, the number of variances detected per hospital each quarter has remained relatively stable – especially since mid-2023. By the end of 2024, the average hospital recorded approximately 5,700 variances over a three-month period.

At the same time, the overall number of variances increased by more than 11 million between 2023 and 2024, driven largely by growth in the number of hospitals using ControlCheck. Despite this expansion, the average number of variances per hospital has not increased, and the overall variance rate has continued to decline. This suggests that even **as more transactions are being monitored, a larger share are being accurately documented** and auto-closed without requiring manual review.

AVERAGE NUMBER OF VARIANCES PER HOSPITAL

	Q1 2023	Q2 2023	Q3 2023	Q4 2023	Q1 2024	Q2 2024	Q3 2024	Q4 2024
	6.4K	7.2K	8.4K	6.1K	6.0K	6.0K	5.6K	5.7K

MOST VARIANCES OCCUR IN NURSING SETTINGS, WITH RNs MOST FREQUENTLY FLAGGED

Variances occur most often in **nursing settings, accounting for 67%** of cases, followed by 30% in procedural or OR areas. Only 3% are linked to inpatient pharmacy settings, likely due to lower transaction volume to clinical care areas. In nursing and OR settings, variance data draws from electronic medical records and automated dispensing cabinets, while in pharmacy settings, it draws from wholesaler data and inventory records from the controlled substance vault.

Consistent with this distribution, **the majority of variances are associated with nursing staff** — particularly registered nurses (RNs), followed by certified registered nurse anesthetists (CRNAs) and anesthesiologists. As RNs are involved in most controlled substance transactions, medication administration, and waste events, this trend is expected.
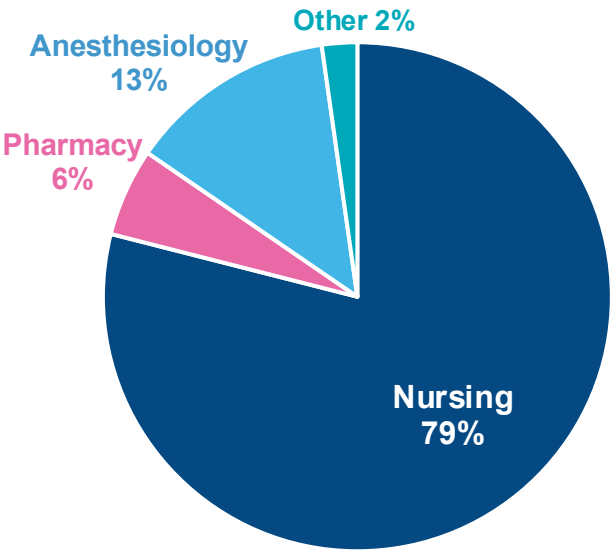
VARIANCES BY SETTING
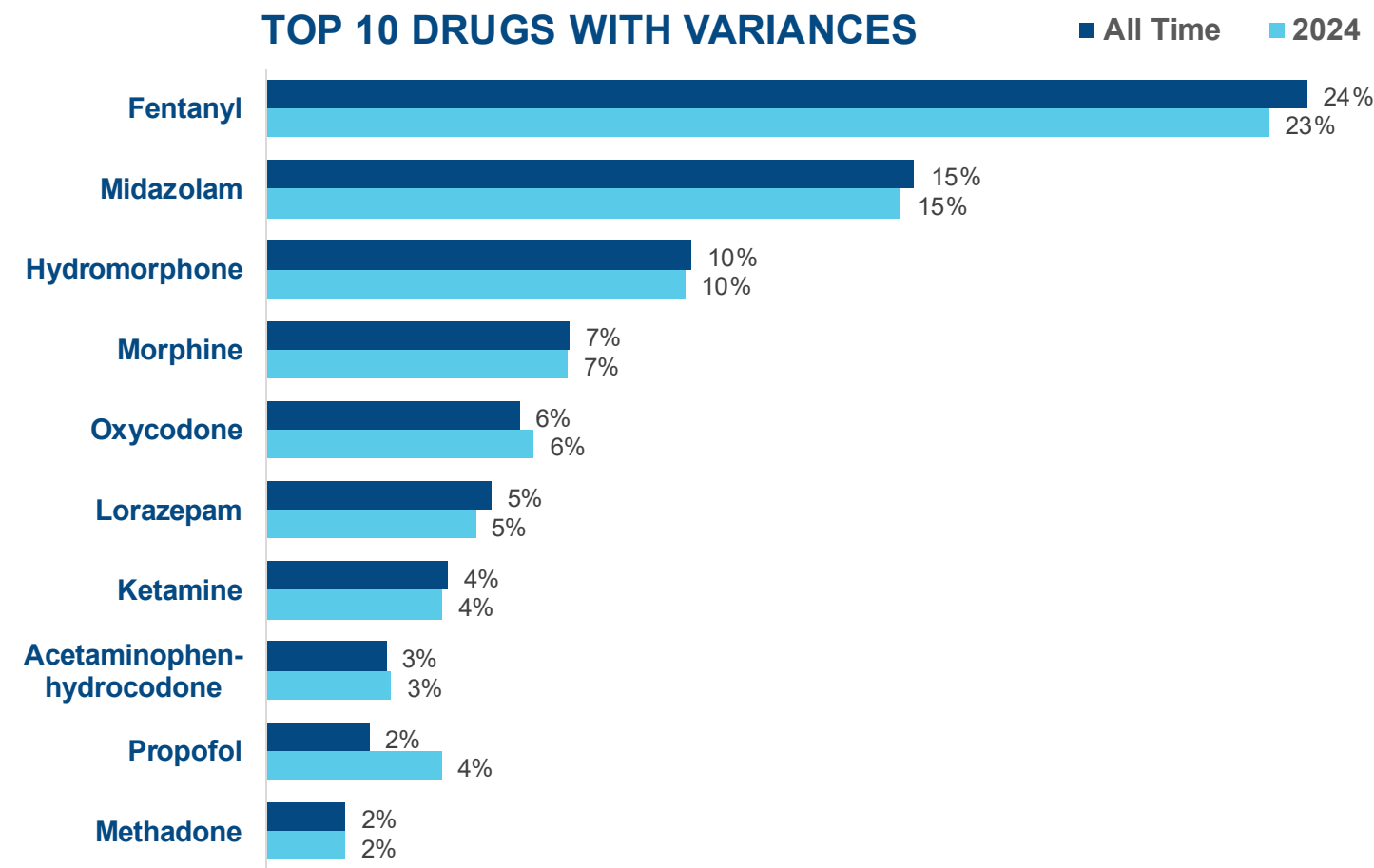### January 2024 – December 2024

OR 30%

Nursing 67%

Pharmacy 3%
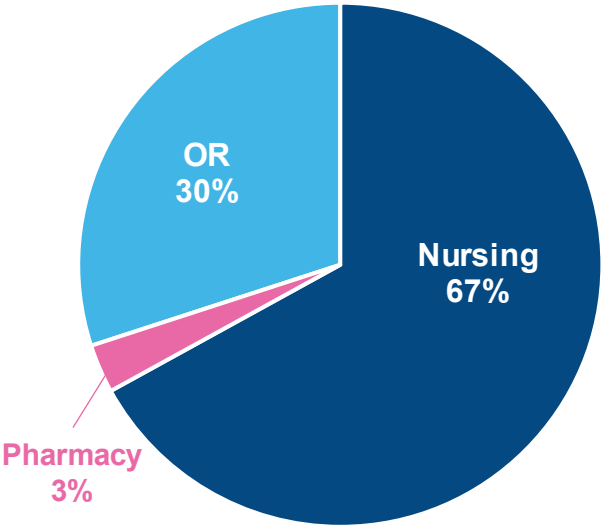
VARIANCES BY ROLE
January 2024 – December 2024

Anesthesiology 13%

Other 2%

Pharmacy 6%

Nursing 79%

# FENTANYL IS THE TOP DRUG ASSOCIATED WITH VARIANCES

Since 2018, nearly one-quarter of all controlled substance transactions with variances have involved Fentanyl, making it the **most frequently associated drug**. Midazolam (15%) and Hydromorphone (10%) follow as the next most common. This pattern continued in 2024, suggesting these three drugs will likely remain the most frequently associated with variances in the foreseeable future. In 2024, the distribution of variances by drug closely mirrored historical trends, with one notable exception. While **Propofol accounts for only 2%** of variances overall, **its proportion doubled to 4% in 2024**, suggesting a rising potential for diversion. Although not classified as a controlled substance by the DEA, some states and organizations treat Propofol as such due to its potential for misuse.

TOP 10 DRUGS WITH VARIANCES

Legend: ■ All Time ■ 2024

Drug	All Time	2024
Fentanyl	24%	23%
Midazolam	15%	15%
Hydromorphone	10%	10%
Morphine	7%	7%
Oxycodone	6%	6%
Lorazepam	5%	5%
Ketamine	4%	4%
Acetaminophen-hydrocodone	3%	3%
Propofol	2%	4%
Methadone	2%	2%

8% OF VARIANCES REMAIN UNRESOLVED AFTER REVIEW

As previously noted, 6% of all controlled substance transactions contained data variances suggestive of potential drug diversion and warrant further investigation. Among these discrepant transactions, **63% were successfully resolved upon review**, **while 8% could not be reconciled** – down slightly from 9% in 2023. Unreconciled cases typically prompt a formal investigation to determine the cause of the discrepancy and assess the likelihood of actual diversion. The remaining 29% of discrepant transactions are still open and have not yet been reviewed by hospital staff.

OUTCOME OF VARIANCE REVIEWS
September 2018 – December 2024

Reviewed but unable to reconcile
8%

Open yet to be
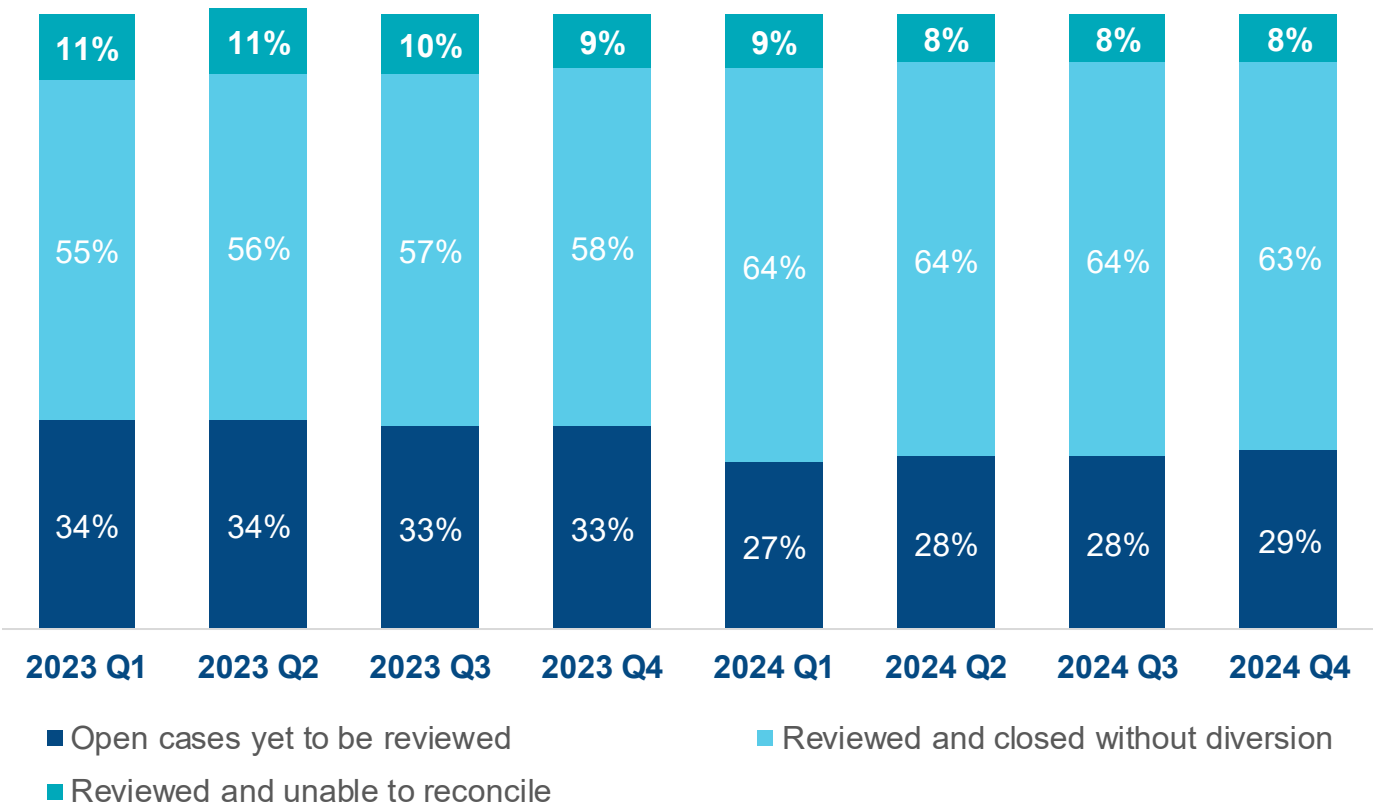reviewed
29%

Reviewed and closed
63%
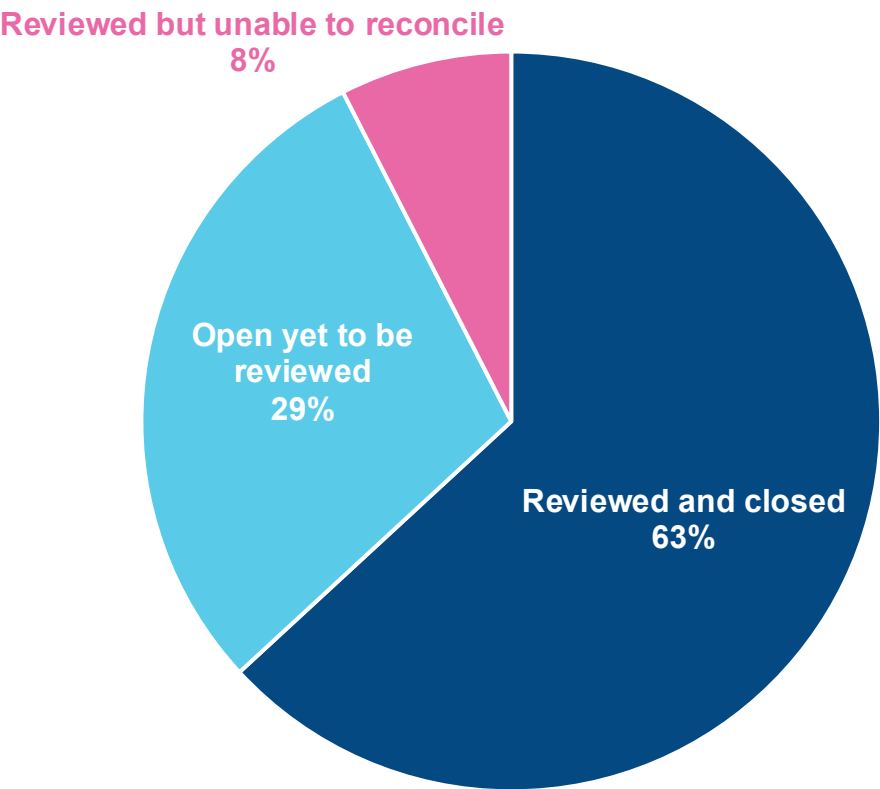
UNRECONCILABLE VARIANCES CONTINUE TO DECLINE

Hospitals are improving their ability to investigate and resolve discrepancies involving controlled substances, resulting in a steady decline in unreconcilable variances. Looking at cumulative, all-time data, the percentage of **variances that could not be resolved fell from 11% to 8%** over the past two years. Monthly snapshot data from 2024 reinforces this trend: the percentage of variances marked unreconcilable in each individual month declined **from 7% in January to 5% by December**. Similarly, the percentage of open cases continues decreasing over time. Together, these trends suggest improved workflows for variance resolution and more efficient use of diversion surveillance software.
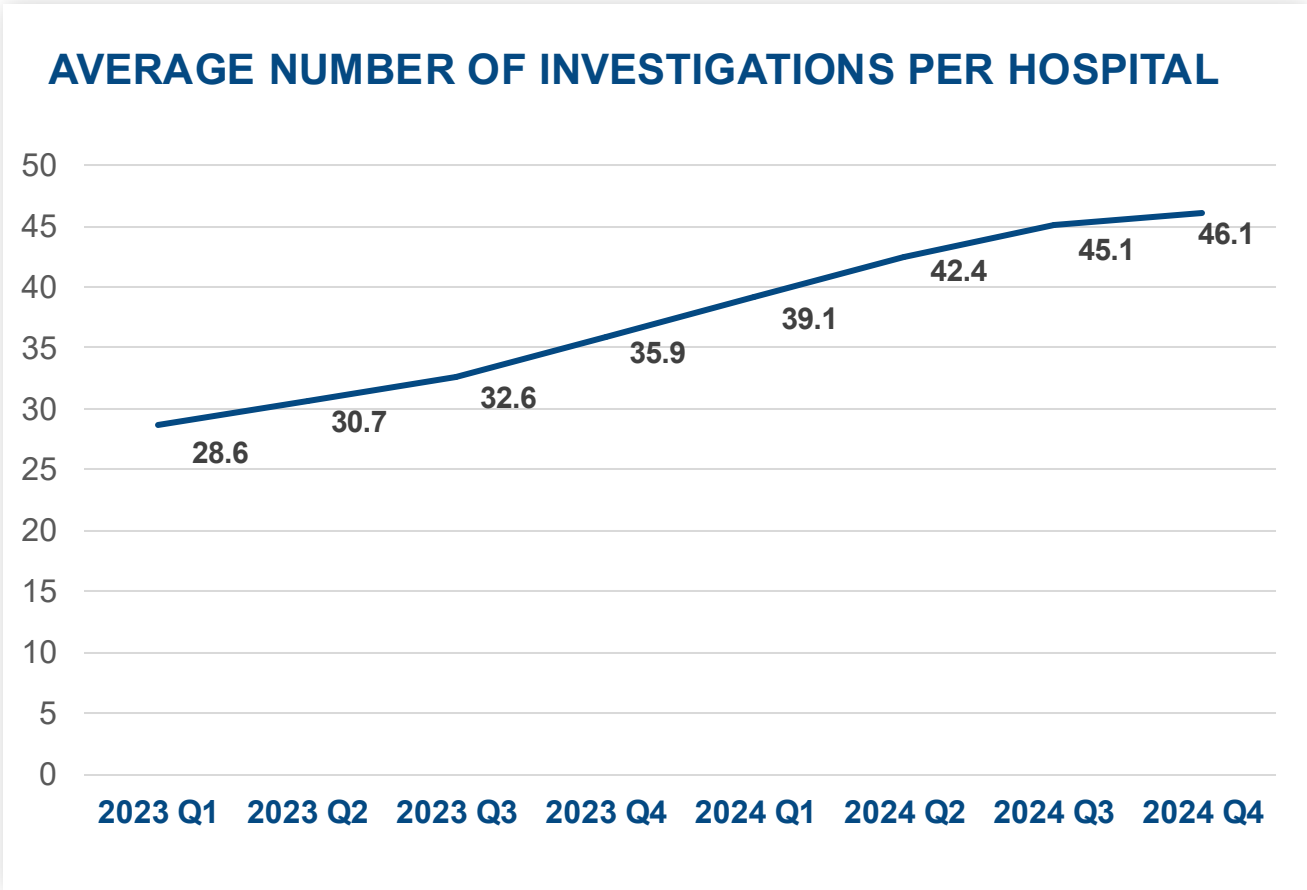
OUTCOMES OF VARIANCE REVIEWS (CUMULATIVE DATA)
September 2018 – December 2024

	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2024 Q1	2024 Q2	2024 Q3	2024 Q4
Reviewed and unable to reconcile	11%	11%	10%	9%	9%	8%	8%	8%
Reviewed and closed without diversion	55%	56%	57%	58%	64%	64%	64%	63%
Open cases yet to be reviewed	34%	34%	33%	33%	27%	28%	28%	29%

Legend:
- ■ Open cases yet to be reviewed
- ■ Reviewed and closed without diversion
- ■ Reviewed and unable to reconcile

THE AVERAGE HOSPITAL IS CONDUCTING MORE INVESTIGATIONS

When a variance cannot be reconciled or other unusual activity is observed, hospitals open investigations to conduct further review. Since the beginning of 2023, the average number of investigations per hospital has **increased from 29 to 46** – a 61% rise. While this trend has not slowed, increased investigations may indicate **more comprehensive monitoring and cross-functional support**.

61% increase in investigations per hospital since the beginning of 2023

AVERAGE NUMBER OF INVESTIGATIONS PER HOSPITAL

| Quarter	Value
2023 Q1	28.6
2023 Q2	30.7
2023 Q3	32.6
2023 Q4	35.9
2024 Q1	39.1
2024 Q2	42.4
2024 Q3	45.1
2024 Q4	46.1

MEANWHILE, EACH INVESTIGATION IS CLOSING MORE QUICKLY

Even as the number of investigations has risen, the time required to complete each case has decreased significantly. On average, investigations are now **closing 40 days faster** than they were at the start of 2023. Quarter over quarter, the **average duration has dropped by approximately six days**, reflecting a consistent downward trend.

This acceleration may point to improvements in investigative processes, such as streamlined workflows, faster access to key data, or more effective evidence collection and coordination across teams.

AVERAGE INVESTIGATION LENGTH (DAYS)

2023 Q1	2023 Q2	2023 Q3	2023 Q4	2024 Q1	2024 Q2	2024 Q3	2024 Q4
91	84	78	72	64	58	54	51
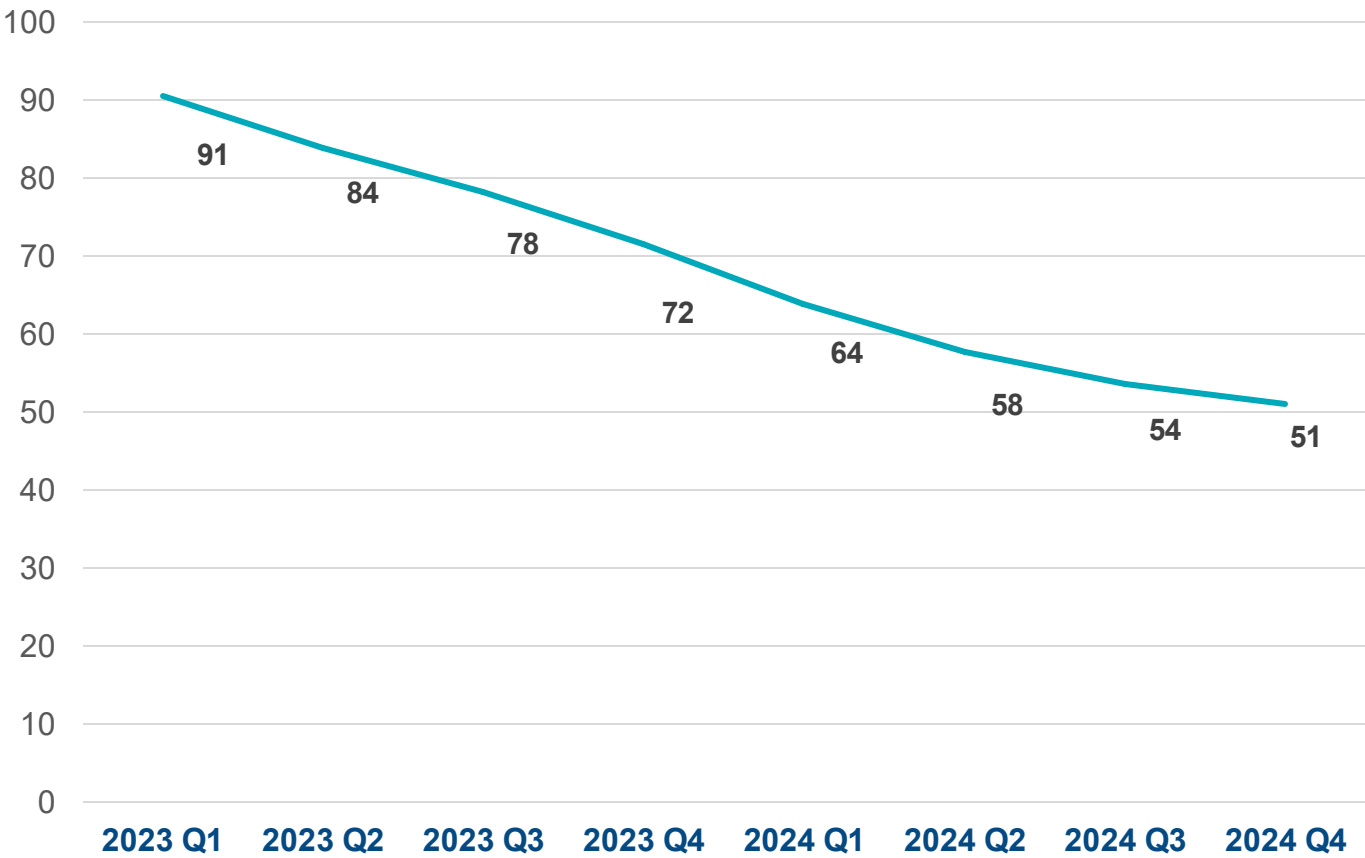
A THIRD OF HOSPITAL STAFF ARE AWARE OF A COLLEAGUE WHO HAS DIVERTED OPIOIDS

Thirty four percent of hospital staff reported being aware of at least one colleague who has diverted controlled substances. Among the same surveyed group, 66% shared that the most recent diversion incident occurred **within the past year** – highlighting that diversion is not a distant or rare concern, but an ongoing risk.

Meanwhile, 16% believe it would be "easy" to divert opioids within their organization, while only 10% said it would be "very difficult." The perception that *diversion could be easy* points to **potential weaknesses in security, oversight, or internal controls.**

34% are aware of at least one colleague who has diverted opioids

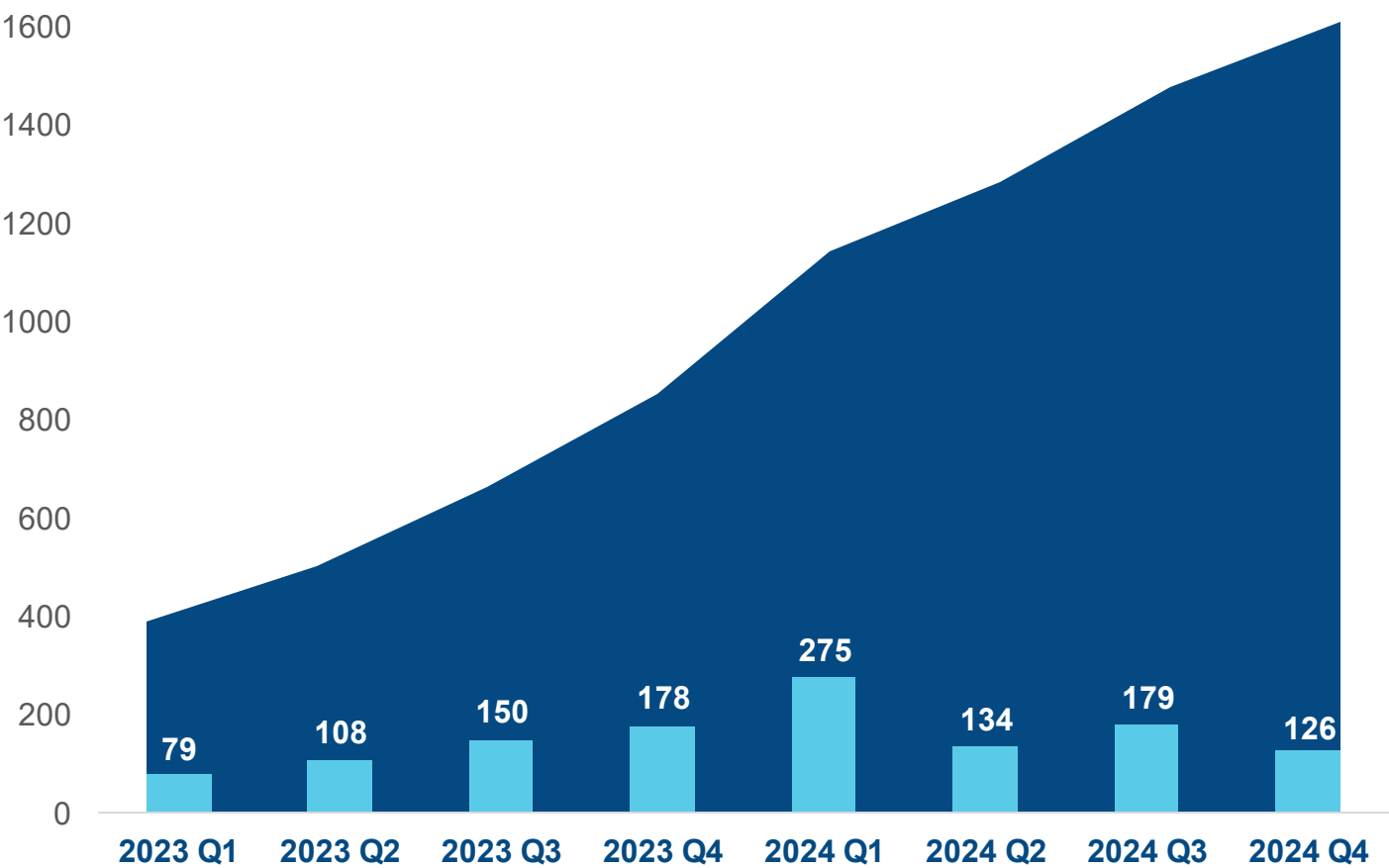**66%** say their most recent diversion event took place within the last year

16% believe it would be "easy" to divert opioids in their organization

HOSPITALS HAVE CONFIRMED 1,517 CASES OF DIVERSION

Since September 2018, hospitals using ControlCheck have confirmed 1,517 cases of drug diversion. A case is classified as confirmed when it has either been formally reported as diversion or has resulted in disciplinary action against the involved individual following an internal investigation. The data indicates a consistent rate of detection, with an average of **approximately two confirmed diversion cases identified per day** across participating facilities. This reflects both the prevalence of diversion and the role of surveillance systems in facilitating its identification.

TOTAL AND QUARTERLY DIVERSION CASES CONFIRMED

Quarter	Cases
2023 Q1	79
2023 Q2	108
2023 Q3	150
2023 Q4	178
2024 Q1	275
2024 Q2	134
2024 Q3	179
2024 Q4	126

DIVERSION CASES MOST COMMONLY INVOLVE RNs

As previously noted, most variances occur in nursing settings and are primarily associated with registered nurses (RNs), who routinely handle controlled substances. Confirmed diversion cases follow a similar pattern: **RNs account for 90% of identified diverters**, with **travel RNs contributing an additional 3%**. Other top roles flagged for diversion include licensed practical nurses (LPNs), certified registered nurse anesthetists (CRNAs), and anesthesiologists.
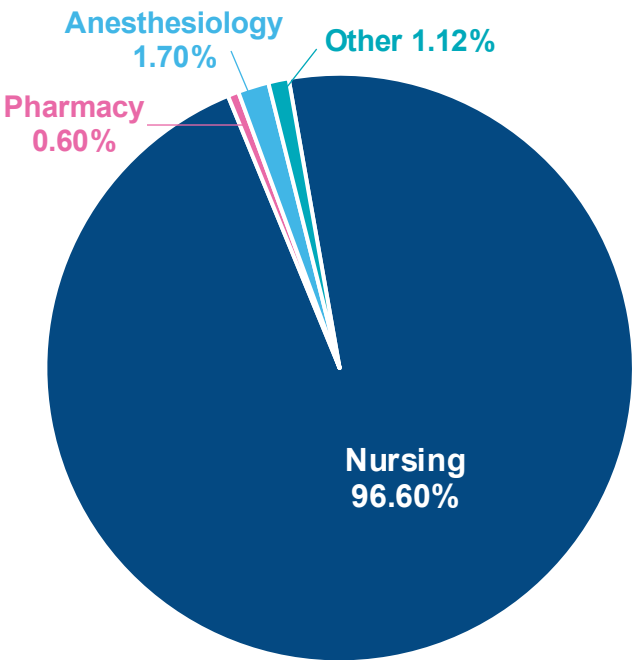
TOP ROLES WITH CONFIRMED DIVERSION
September 2018 – December 2024

1. **Registered Nurse** (89.6%)

2. **Registered Nurse, Traveler** (2.6%)

3. **CRNA** (2.2%)

4. **Licensed Practical Nurse** (2.1%)

5. **Anesthesiologist** (1.7%)

DIVERSION BY ROLE TYPE
September 2018 – December 2024

Anesthesiology 1.70%
Other 1.12%
Pharmacy 0.60%
Nursing 96.60%

Other combines role types with less than 0.5% of diversion

REPORTS FROM PATIENTS AND STAFF LEAD TO THE HIGHEST CONFIRMATION RATES

Fifty three percent of all diversion investigations opened in ControlCheck have been triggered by data-driven alerts within the platform. Another 42% originate from routine surveillance, in which providers are reviewed without a specific trigger. **Data-flagged investigations are three times more likely to result in confirmed diversion** than those from routine reviews.

Although less common, investigations initiated by reports from patients, colleagues, or self-disclosures yield significantly higher confirmation rates. Specifically**, patient and colleague-reported cases result in confirmed diversion 30% of the time** – higher than both routine surveillance and ControlCheck data flags. In fact, these reports have led to more confirmed cases than routine surveillance, despite representing a smaller share of total investigations.

INVESTIGATION OPEN REASONS
September 2018 – December 2024

	Investigations	Average Days to Investigate	Percent confirmed*
ControlCheck Data	17,466	63.0	5%
Patient or Colleague Reported	1,329	76.7	30%
Routine Surveillance	13,879	34.6	2%
Self Reported	318	52.9	9%

*Percent confirmed excludes the investigations that had not yet been closed by December 31, 2024.

AND EACH DIVERTER IDENTIFIED REDUCED THE RISK OF WASTE AND FEES

The confirmed cases of diversion represent 1,517 instances in which action was taken to improve patient safety, prevent additional waste, and avoid fees.

If each of these instances of diversion were identified by a regulatory organization rather than detected by each hospital, then – based on the **average fine of $565,000** per case of detected diversion* – the total cost in fees would accumulate to over 857M.

$565,000

average fine per case of diversion

$857,105,000

of potential fines avoided by hospitals (2018–2024)

*Source: (2020). U.S. Department of Justice National Drug Intelligence Center (NDIC)

KEY TAKEAWAYS

- Most hospitals and health systems rely on both **diversion committees and software tools** to detect and prevent diversion – and define success primarily through compliance improvement.

- The rate of variances in controlled substance transactions continues to decline, as does the share of unresolved variances, suggesting **overall improvements in documentation accuracy and compliance**.

- Hospitals are conducting more diversion-related investigations, but **each case now closes an average of 40 days faster** than in 2022 – indicating greater efficiency in review and resolution workflows.

- **Fentanyl, Midazolam, and Hydromorphone** remain the top drugs associated with variances, while Propofol has seen a modest increase in involvement, despite not being a DEA-controlled substance.

- As **nursing staff**, particularly RNs, play a leading role in controlled substance handling – they also continue to represent **the majority of confirmed diversion cases** across hospitals.

BLUESIGHT™

CONTROLCHECK™

Learn how the **most effective & most comprehensive** drug diversion monitoring software can help your organization.

BEST IN KLAS®
DRUG DIVERSION MONITORING
2025

Monitor across settings:

Nursing

Procedural & OR

Inpatient Pharmacy

Retail Pharmacy

Auto-reconcile

95%

of transactions

Identify diversion

6.6x

more effectively

Learn more at
bluesight.com/controlcheck

BLUESIGHT™