THE STATE OF HOSPITAL PHARMACY OPERATIONS
INTRODUCTION

At Kit Check, we believe that tomorrow’s innovations come from thoroughly understanding the challenges of today. This solution oriented model has helped our network of more than 500 hospitals achieve success through operational efficiency, patient safety, and medication visibility.

We weren’t satisfied with turning to our own experiences and perspectives for answers, so we developed our proprietary annual survey to derive key insights and intelligence from pharmacy decision makers and those on the front lines. We think of the Hospital Pharmacy Operations Report survey as our road map forward—shedding light on the state of the industry to inform and equip leaders for what’s to come.

This report takes us inside the minds of those leading the Hospital Pharmacy industry. It shares with us their vision for the future, the challenges they’re facing, and their road map for navigating their health systems forward. As technology continues to drive industry innovation, Hospital Pharmacists recognize the promise of automated software solutions and they’re ready to embrace change.
2020 TRENDS

This year’s Hospital Operations Report highlights four emerging trends that will shape businesses over the next three years. In each trend, you will see how technology is raising expectations and abilities, and how Hospital Systems are seeking new ways to streamline operations while continuing to focus on patient care.

**TREND 1**
**Medication Intelligence**
Hospital Systems are still seeking the best way to reduce the headaches of inventory management.

**TREND 2**
**Diversion Strategies**
Hospital leaders looking at software solutions to create a holistic plan for drug diversion.

**TREND 3**
**Patient Safety**
This is by far the common concern for all Hospital leaders as they manage operations.

**TREND 4**
**Time and Accuracy**
Hospital systems are putting technology at the forefront of solving these major pain points.
## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHODOLOGY</td>
<td>05</td>
</tr>
<tr>
<td>NEW TECHNOLOGIES</td>
<td>06</td>
</tr>
<tr>
<td>DRUG SHORTAGES</td>
<td>08</td>
</tr>
<tr>
<td>DRUG RECALLS</td>
<td>09</td>
</tr>
<tr>
<td>INVENTORY MANAGEMENT</td>
<td>10</td>
</tr>
<tr>
<td>MEDICATION INTELLIGENCE</td>
<td>13</td>
</tr>
<tr>
<td>SOFTWARE AUTOMATION</td>
<td>14</td>
</tr>
<tr>
<td>DRUG DIVERSION</td>
<td>15</td>
</tr>
<tr>
<td>DSCSA 2023 REGULATIONS</td>
<td>21</td>
</tr>
<tr>
<td>SUMMARY</td>
<td>22</td>
</tr>
</tbody>
</table>
Each year our survey data is gathered from a collective wealth of pharmacy and hospital experience. Kit Check’s methodology takes information from a diverse and experienced group of respondents across the country. Over 36% of respondents have been in the pharmacy space for more than twenty years.

The answers collected from Kit Check’s Hospital Pharmacy Operations Report were largely gathered from those in supervisory roles, such as directors, managers, and buyers. The represented health systems range from one to 20+ locations.

Respondents
Over 10 years of experience in the hospital pharmacy

Respondents
All of the survey participants are in the 48 contiguous U.S. States
<table>
<thead>
<tr>
<th>Top Technology Initiatives</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV prep tracking software</td>
<td>47%</td>
</tr>
<tr>
<td>Controlled substance tracking</td>
<td>44%</td>
</tr>
<tr>
<td>Automated dispensing cabinets</td>
<td>37%</td>
</tr>
<tr>
<td>Automated anesthesia workstations</td>
<td>32%</td>
</tr>
<tr>
<td>Smart pumps</td>
<td>30%</td>
</tr>
<tr>
<td>Inventory management software</td>
<td>30%</td>
</tr>
<tr>
<td>Replenishment automation</td>
<td>28%</td>
</tr>
<tr>
<td>Carousels or box pickers</td>
<td>20%</td>
</tr>
<tr>
<td>Computerized physician order entry</td>
<td>14%</td>
</tr>
<tr>
<td>Clinician decision support system</td>
<td>9%</td>
</tr>
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</table>
PHARMACY LEADERS ARE PLANNING FOR NEW TECHNOLOGIES IN 2020

Hospital Pharmacy leaders recognize the power of technology to help streamline operations, protect patient safety, and increase medication visibility throughout the supply chain. They told us that their top technology initiatives for 2020 are:

1. IV prep tracking software/cleanroom automation (46%)
2. Controlled substance tracking technology (44%)
3. Automated dispensing cabinets (37%)

While many share a similar vision, most are at different points in their journey toward implementation as they work to source funds for new tech. When it comes to driving budget approval, 80% consider patient safety a very important factor. As the top driver by a significant margin, improved patient safety as an output of automation was a consistent theme throughout the study. Following patient safety, 61% consider regulatory compliance very important, as they strive for total transaction-level audit coverage. Interestingly, only 29% cited additional revenue as an important driver of budget approval, the lowest of all drivers.

80% consider patient safety a very important factor in determining budget approval for new tech.
DRUG SHORTAGES REMAIN THE #1 CHALLENGE TO ADDRESS IN 2020

For the second consecutive year, our Hospital Pharmacy leaders listed drug shortage management as the biggest challenge facing them today, and their top issue to address. It’s no surprise that shortages are high on their list, with 66% currently experiencing up to 20 shortages impacting their pharmacy.

Drug shortages go beyond impacting patient care, but managing these scenarios also becomes a major time commitment. Shortages can send hospital staff scrambling as they look for alternative medications or attempt to reallocate the drug on short supply. Handling each shortage can consume up to 10 staff hours which plays a major role in efficiency.

62% say that handling each shortage can consume up to 10 staff hours

CURRENT NUMBER OF SHORTAGES

- 1-10: 24%
- 10-20: 42%
- 20-30: 13%
- 30+: 17%
- None: 1%
DRUG RECALLS CONTINUE TO CONSUME MORE & MORE STAFF HOURS

Another pain point and cause of unplanned staff hours is drug recalls, an unexpected occurrence that’s becoming increasingly common.

Recalls can send hospital staff into a scavenger hunt, as they search through inventory in all locations across the health system to ensure the recalled medication has been completely removed. Thirty-five percent of Hospital Pharmacy leaders experience more than 10 recalls each year, with 79% saying that each recall can require up to 10 staff hours.

79% report that each recall can require up to 10 staff hours.

35% report that they are experiencing more than 10 recalls annually.
MANUAL INVENTORY MANAGEMENT SYSTEMS LEAVE HOSPITAL PHARMACIES UNPREPARED FOR THE UNEXPECTED

The time required to handle events like drug shortages and drug recalls can vary significantly based on the sophistication of a hospital’s inventory management system. While Hospital Pharmacy leaders strive for complete, unit-level visibility across the full drug supply chain, many are still struggling to get there.

These gaps in visibility not only result in more time spent restocking medications, addressing recalls, and navigating drug shortages; they can also lead to errors and put patient safety at risk.

45% of Hospital Pharmacy leaders consider integration between systems a very important challenge and a top issue to address.

44% consider pharmacy inventory and reconciliation to be a very important challenge and a top issue to address.
INVENTORY VISIBILITY VARIES AS MEDS MOVE THROUGHOUT THE HOSPITAL

Pharmacy Leaders have the clearest view when they’re closest to the medications. The best scores came from inpatient pharmacy and from ordering and receiving, where still only a small percentage of this group would consider their visibility to be excellent.

It’s clear in the results that pharmacists begin losing clarity as drugs are distributed throughout the hospital.

The most problematic gap is in the OR and other procedural areas, where these groups are reporting their visibility to be poor. As medication is moved from storage to dispensing locations, this is where the fundamental breakdowns will occur along the lifecycle.

EXCELLENT INVENTORY VISIBILITY

Ordering and receiving 24%
Inpatient pharmacy 20%
Nursing floors 16%
Transfers between storage and dispensing 15%
OR and other procedural areas 14%
INVENTORY MANAGEMENT AND THE DECLINE OF VISIBILITY AS MEDICATION MOVES TO THE OR

For non-controlled medications, the majority of pharmacies are managing in-room dispensing cabinets, while another 29% are managing case trays or kits. When it comes to controlled medications, the reliance on in-room dispensing cabinets increases dramatically and day trays or kits move to a distant second as a management or distribution method.

DISPENSE APPROACHES FOR MEDICATIONS GOING TO THE OR

<table>
<thead>
<tr>
<th>NON-CONTROLLED</th>
<th>CONTROLLED</th>
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<tbody>
<tr>
<td>In-room dispensing cabinet</td>
<td>58%</td>
</tr>
<tr>
<td>Case tray or kit</td>
<td>29%</td>
</tr>
<tr>
<td>Day tray or kit</td>
<td>21%</td>
</tr>
<tr>
<td>Anesthesia owned restocking</td>
<td>20%</td>
</tr>
<tr>
<td>I don’t know</td>
<td>8%</td>
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</tbody>
</table>
Our Pharmacy Leaders made clear that inventory management can become a headache. Manually restocking medications, monitoring expiration dates, and tracking down recalled drugs can feel like a tedious distraction from their primary focus of patient safety and care.

As technology drives innovation and hospitals turn to software solutions to remain efficient and secure, the notion of Medication Intelligence emerged as a key trend in the research.
SOFTWARE AUTOMATION SOLUTIONS ARE PARAMOUNT TO HOSPITALS ACHIEVING MEDICATION INTELLIGENCE

Through industry leading solutions, like leveraging RFID tags to track medications, hospitals are now able to streamline and automate their inventory management processes. Medication Intelligence represents a promising solution to the Pharmacy Leader’s desire for full inventory visibility, reduced errors, and staff hours that are dedicated to patient care.

Recognizing the promise of these innovations, many of the health systems have already started using kit and tray inventory systems, with another 30% planning on implementing them in the future.

40% of Hospital Pharmacists are using kit and tray inventory systems

AREAS CURRENTLY USING KIT AND TRAY INVENTORY MANAGEMENT SYSTEMS

- Crash Carts: 48%
- OR: 37%
- Ancillary: 21%
THE THREAT OF DRUG DIVERSION PUTS STRESS ON LOW VISIBILITY POINTS OF THE SUPPLY CHAIN

As Hospital Pharmacists work toward achieving Medication Intelligence across the full drug supply chain, any points of lower visibility remain susceptible to drug diversion, a risk with serious consequences.

Diversion events can damage a hospital's reputation and put patients and staff at risk. They’re not only extremely serious but they’re also an all too common occurrence. Respondents are reporting to have experienced a diversion event in the past 3 months, 37% have in the past 6 months, and only 9% have not experienced any.

A staggering 37% are aware of a colleague who has diverted opioids, and 22% have observed colleagues changing their behavior in order to evade diversion prevention technology.
THE RISK OF DRUG DIVERSION VARIES THROUGHOUT THE HOSPITAL

The observed risk for diversion varies based on the location of controlled substances. When asked about the most commonly targeted areas, Hospital Pharmacists cited medication waste, the highest by a significant margin.

RANKING THE MOST COMMONLY TARGETED AREAS FOR DIVERSION
While Pharmacy Leaders agree on the importance of implementing a diversion prevention strategy, 52% still say it would only be “somewhat difficult” to divert opioids in their organization and 9% say it would be “easy.”

The most common prevention tactic already in place is physical security, followed by the formation of a multi-disciplinary task force. These task forces most commonly include staff from Pharmacy, Nursing, Compliance, and Anesthesia.

Despite engagement from a diverse group, Pharmacy Leaders do not have any staff dedicated to prevention, and surprisingly, only half have a formalized post-diversion event response plan, with some that have engaged external consultants for a diversion risk assessment.

**STRATEGIES ALREADY IN PLACE**

- Physical security: 38%
- Multi-disciplinary task force: 34%
- Diversion detection software: 31%
- 100% audits between EMR and waste documentation: 30%
- Education: 29%

**Respondents Have a formalized post diversion plan**

49%
HOSPITALS TO DEDICATE MORE RESOURCES TO DIVERSION PREVENTION IN 2020

With the prevalence of diversion events and the lack of formalized procedures surrounding them, just under half of Hospital Pharmacists plan to dedicate more resources to improving prevention and discrepancy analytics within the next 12 months.

A logical first step on many of their roadmaps is education. While a small number are already actively planning an education initiative to increase awareness of drug diversions and to train staff on how to prevent and respond to diversion events, 31% say that an education initiative is highly likely in the next 12 months.

19% say they have plans to implement 100% Audits as a diversion prevention strategy
HOSPITALS EYE **DIVERSION DETECTION SOFTWARE TO APPROACH PREVENTION**

After education, hospital pharmacies will likely turn to diversion detection software, and report that it is already in the works or to be implemented in the next two years. The shift toward automated diversion prevention brings us back to the trend of Medication Intelligence, as hospitals look to automated solutions for preventing, detecting, and even predicting future diversion.

**RANKING THE REASONS FOR SEEKING DIVERSION MONITORING SOLUTIONS**

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Patient Safety</td>
<td>23%</td>
</tr>
<tr>
<td>Bad PR</td>
<td>64%</td>
</tr>
<tr>
<td>Regulatory Compliance</td>
<td>8%</td>
</tr>
<tr>
<td>Employee Safety</td>
<td>5%</td>
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*Ranked #1  Ranked #2  Ranked #3  Ranked #4*
DIVERSION MONITORING SOFTWARE HOLDS POTENTIAL FOR SEAMLESS CONNECTIONS AND EARLY DETECTION

The promise of drug diversion monitoring software to improve patient safety, better secure controlled substances, and free up staff hours is not lost on Hospital Pharmacy leaders. Even if they’re not quite there yet, an automated solution is very likely an important goal on their road map.

When it comes to the features of a monitoring system, the integration between automatic dispensing cabinets and electronic medical records is cited as the most appealing by respondents.

The appeal of an automated integrated inventory solution is becoming more of a necessity, and there is an inherent desire to layer in an investigation workflow and proactive alerting, which can help alleviate the burden of manual investigations and monitoring, while also flagging suspicious activity before diversions occur.

Top 3 Perceived Benefits of Automated Diversion Monitoring

1. ADC / EMR Integration
2. Investigation Workflows
3. Proactive Alerting
PHARMACIES PREPARE FOR COMPLIANCE WITH DSCSA 2023 REGULATIONS

As the DSCSA 2023 Regulations approach, it’s no surprise that Hospital Pharmacists are looking to technology for help with securing their supply chain and remaining compliant with federal regulations. Pharmacists are already preparing for 2023 and are finding their largest gaps exist with products from specialty pharmacies and secondary wholesalers. Medications from primary wholesalers are closer to meeting compliance, but are not entirely up to standards.

As for their concerns about remaining compliant once the DSCSA 2023 Regulations are in place, 45% of Hospital Pharmacists worry about their ability to generate reports upon request and 33% are most concerned about their ability to find suspicious products once they’re distributed in the hospital. These worries are heightened by the manual effort and inventory visibility challenges. For Pharmacy Leaders, compliance with federal regulations represents yet another motivation for automated inventory solutions.

LARGEST GAP RELATIVE TO DSCSA 2023 REGULATIONS

- Products obtained from specialty pharmacies: 29%
- Products obtained from secondary wholesalers: 27%
- Products compounded internally: 25%
- Products obtained from primary wholesaler: 19%
- Products obtained from the gray market: 18%
As rapid technological advancements are introduced to the pharmacy operations industry, the demand for a seamless and secure drug supply chain has become an achievable goal for institutions of all sizes.

Automation and unit-level visibility among medication assists this end goal of reducing costs, mitigating loss through recalls and diversions, and contributing to overall patient and staff safety. Understanding this need in light of survey data makes it critical for hospitals using manual tracking and analytics to upgrade their technologies for the sake of patient safety, which was reported as a top concern and priority.

Among 21 questions and 237 industry leaders, the striking commonality uncovered was hospital pharmacists’ unwavering commitment to patient safety. The way forward in the industry will ensure each effort, whether technological or procedural, ladder up to this ultimate goal.

The key theme of the report shows up in every area; hospital leaders are seeking Medication Intelligence to aid in their increasingly demanding roles. This key trend that we have identified is similar across the spectrum of health systems and adoption of Medication Intelligence is within reach today.
ABOUT KIT CHECK

Kit Check’s focus is on helping pharmacists improve operational efficiency, patient safety, and medication visibility throughout the hospital. Since 2012, more than 500 hospitals have implemented a Kit Check solution to over 100 million medications annually.

Kit Check helps hospital pharmacies cut costs, reduce risk, and get more done. We provide the industry leading solutions for medication kit, tray, and syringe tracking as well as the most advanced controlled substance monitoring and management software that includes 100% automated audit, streamlined discrepancy resolution, and diversion detection driven by machine learning.

Our Hospital Pharmacy Operations Report made clear that advanced solutions like Kit Check’s are on the minds of industry leaders, as they represent a promising answer to their most difficult challenges.

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