

# Prevention of Drug Diversion in the Healthcare Setting



**Prevention of Drug Diversion in the Healthcare Setting**

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**Learning Objectives**

Following completion of this activity, participants will be able to:

- Identify practices that support medication safety and eliminate risks for drug diversion.
- Discuss interventions to minimize diversion of controlled substances through supply chain management.
- Recognize components of a diversion stewardship program that are essential in light of the recent increase in job-related stressors.



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# Prevention of Drug Diversion in the Healthcare Setting

**Diversion and the Healthcare Practitioner**

- 1 in 10 health professionals struggle with addiction or abusing drugs not prescribed
- Healthcare workers pattern of drug abuse and dependency is unique to the general population
  - Tends to follow drug availability
  - See the positive effects drugs have on patients
  - Comfort level with use
  - *I'm in control*



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**Faces of Diversion**

- Kerri
- Worked in the ED for 15 years
- Loved her job and was well liked
- Didn't show up for a family event
- Found deceased in her apartment with an arsenal of used syringes



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**Faces of Diversion**

Diverters	Patients	Organizations
Staff Working with Diverter	Patients' Families	Diverters' Families



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# Prevention of Drug Diversion in the Healthcare Setting

**Expect Diversion**

- No news is not good news
  - *We are lucky, we don't have any issues*
- Outcomes of diversion
- Opioid stewardship



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**Error Reduction Strategies and Diversion Prevention**

- Forcing functions
- Barriers and fail-safes
- Automation and computerization
- Redundancies
- Standardization and protocols
- Performance shaping factors (e.g., checklists, reminders)
- Rules and policies
- Education
- Information
- Don't make mistakes! / be careful



**Improve system reliability**

**Improve human reliability**



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**Supporting Safety and Eliminating Risk**

- Structure
  - Response process
- Procurement
  - Ready-to administer; exact dose required; single dose; avoid waste; avoid dilution
- Compounding
  - Avoid if possible; if necessary, avoid partial vials/bottles and consider overfill
- Technology
  - Maximize use of technology throughout the process



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# Prevention of Drug Diversion in the Healthcare Setting

ISMP Resources to Support Safety

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ISMP  
Institute for Safe Medication Practices  
AN ISMP AFFILIATE

## Creating a Culture of Controlled Substance Oversight and Hospital Wide Engagement

Christina Michalek, BSc Pharm, FASHP  
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The Catalyst for Change

ISOLATED SHOWERS  
High: 64  
Low: 52  
20% chance of rain

Friday: Sunny, 70/47  
Saturday: Sunny, 79/59  
Sunday: Sunny, 84/58

Complete weather: 810

# The Atlanta Journal-Constitution

Credible. Compelling. Complete.

## How theft ring stole millions of drugs from Emory

By Willoughby Mariano, The Atlanta Journal-Constitution

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# Prevention of Drug Diversion in the Healthcare Setting

“Pharmacy trusts us it’s ok”      “It’s a lot of waste, but it is what it is”

“I purchased this order but I can go ahead and receive it too if you are busy”

“I’ll just use the vial to compound and hang onto the rest of the drug for the next patient. I’m not sure how much pharmacy cares anyway!”

“Just go ahead and pull it now”

“Just go ahead and submit we will deal with it later”

“I carry the controlled substance in my pocket its just more convenient”

“I brought the PCA key home with me”

“He is a great nurse who is always willing to witness for colleagues”

“There is a discrepancy but I have to go to lunch”

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### “Trust” but “Verify”

“Doverey, No Proverey” – President Ronald Regan

- Patient care was often cited as one of the reasons why workaround needed to be utilized
- There were less restrictions on buyer access in case they needed to above and beyond and help with receiving too
- Procedural areas historically lacked automation and “just in time” processes were seen as more provider friendly
- Checks and balances existed but meaningful accountability did not always back them up
- No diversion problems detected could mean a bigger problem is brewing

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### The Culture Shift

A comprehensive overhaul of controlled substance programmatic oversight and involvement

- Identify the team to lead the initiative and what additional or repurposed positions are needed** (Execute)
- Engage hospital leadership and the C-suite sponsors recognizing it takes more than pharmacy for a comprehensive program** (Engage)
- Perform a Gap analysis utilizing tools from leading best practice organizations** (Assess)
- Develop action plan and determine risk stratification** (Plan)

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# Prevention of Drug Diversion in the Healthcare Setting

### The Art of Perpetual Inventory

Lifecycle of controlled substances

- When it comes to controlled substances healthcare facilities should be able to account for every dosage form from order generation to administration.
- Utilization of controlled substance management system within an integrated automated dispensing cabinet
- Controlled substance order generation based on specific hospital unit utilization or established par levels
- All par level adjustments can be tracked and documented in the automated dispensing cabinet systems
- Medication can be requested and tracked through software preventing medication from disappearing from safe to floor



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### Traceability of Controlled Substance Management

Controlled Substance Movement

- Most all transactions occur through automated dispensing cabinet
  - Even PRN and patient specific doses
- Direct hand to hand delivery of non-automated dispensing cabinet stock with signature confirmation
- All issues and comments document in the automated dispensing cabinets

Controlled Substance Reconciliation

- Documentation of waste within the electronic system
  - Mechanism of witness also within system
- Controlled Substance Administration Record linked to patient EMR for documentation
- Returns can also be linked to healthcare employee and patient

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### Segregation of Duties

Reduce opportunity for diversion and concealment



Automation helps propose the order based on validated pars

Pharmacy buyer reviews the proposed order and splits it to WAC, GPO, 340B

Pharmacy Leader reviews and submits the final order each day

Pharmacist receives order and against initial order submission

Automation verifies what was proposed as the order is received inside the vault

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# Prevention of Drug Diversion in the Healthcare Setting

## Proactive Process Review and Monitoring

Becoming more proactive rather than reactive

- Selecting a third party software to establish an ongoing review of automated dispensing cabinet data
  - Selection has migrated from third party auditing software to now artificial intelligence that has learning capabilities
- Running reports with relevant frequency and create robust follow up
  - Being intentional with the data and requiring real time review and feedback
- Establishing benchmarks for all areas of the hospital
  - Continuously reassessing as changes in practice or treatments occur



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## Safe Handling of Controlled Substances

Best practices for administration of medications

- Utilization of closed loop technology regarding all transactions to insure appropriate dose was administered
- Utilizing the smallest dosage form possible to reduce waste or medication error
- Consistently utilize same NDC and dosage form to create consistent practice across the hospital areas
- Avoiding bulk dosage forms but sending up all doses in patient specific forms
- Ensuring barcode scanning on all products administered throughout the hospital utilizing RFID tracking when possible
- Using pre-filled ready to administer syringes to reduce compounding and product manipulation after dispense



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## COVID-19 Considerations

How controlled substance management may change during a pandemic

- Individuals wearing face masks may be less likely to be identified
  - Utilization of individual username and biometric id is important
- Increase number of traveler nurses or health professionals
  - Establish temporary privilege to access automated dispensing cabinets
- Controlled substances may be stored in non-traditional areas
  - Utilize medications with tamper resistant packaging or shrink wrap
  - Purchase medications that deter diversion by reducing waste and have hard plastic shell. Especially in areas with less oversight



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# Prevention of Drug Diversion in the Healthcare Setting

### Warning Signs

Situations to be aware of that can be associated with diversion

<p><b>Characteristics</b></p> <ul style="list-style-type: none"> <li>- Individuals who frequently volunteer to witness or administer controlled substances on behalf of their colleague</li> <li>- Excessive late/early administrations</li> <li>- Constant use of large dosage forms requiring significant waste</li> <li>- Carrying medications around in pockets while not caring for a patient</li> </ul>	<p><b>Symptoms</b></p> <ul style="list-style-type: none"> <li>- Major life changes or injuries</li> <li>- Frequent disappearances from the floor</li> <li>- Periods of high and low productivity that is not consistent with colleagues on the same unit</li> <li>- Float or Night Shift staff not familiar with the unit</li> </ul>
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### Internal Control Escalation Pathway

When your processes and detection work

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    graph TD
      A["• Identification of unusual activity or behavior:  
• Empty/Broken vial  
• Tampered CS  
• PCA Pump Malfunction  
• Aberrant employee behavior  
• Late administration  
• Outside standard device"] --> B["• Cycle Count stock if necessary  
• Patient case review and response  
• Interview Personnel if needed"]
      B --> C["• Perform review utilizing data and trending  
• Protect Patient  
• Contact CNO and Pharmacy Administrator on Call  
• Nursing Unit Director"]
      C --> D["• Notify CS Program Coordinator  
• Notify HR and/or Risk Management as appropriate  
• Access data reports and product (if relevant)"]
      D --> E["Therapy Administrator On-Call"]
      E --> A
  
```

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### End Goal

Outcomes we are looking for as measures of success

- Executive sponsors receive a report out on controlled substance management regularly
- There is tight control within pharmacy operations and several different segregation of duties
- Technology is leveraged for oversight and security controls
- Medications are supplied in the smallest ready to use dosage form possible including controlled substances used in procedural areas
- Pharmacy has a reputation for following up and investigating suspicious behavior or medication utilization
- Data is readily available, retrievable, and in a useful format. Dashboards provide real-time detection statistics and cases investigated

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# Prevention of Drug Diversion in the Healthcare Setting



**"I feel like pharmacy is always watching"**  
"That was quick follow up"

**"Whenever you have a discrepancy make sure to document in the system"**  
"This new unit will need a few automated dispensing cabinets"

"Pharmacy makes my job easier by giving me a pre-filled syringe with the exact dose"

"I'm only going to witness you if I can evaluate it myself"

"I feel better knowing my medication order is being reviewed by someone else"

"Our procedures are very clear"

**"Our data can be pulled easily, let me show you"**

"If you follow the system pharmacy has laid out you will feel safer as a nurse and practice without worry"

"This is a unique situation, let me reach out to pharmacy for their recommendation"



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**Mass General Hospital**

- 1,100 bed academic medical center and clinics across Boston-metro area
- 2.5 million control substances dispensed annually
- 28,000 employees
  - 3,800 nurses, 2,400 physicians, 400 pharmacy employees, 450 anesthesia providers
- Automation
  - 180 automated dispensing machines
  - 90 anesthesia workstations



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# Prevention of Drug Diversion in the Healthcare Setting

**Critical Program Requirements**

1. Drug diversion task force
2. Staff education and competencies
3. Machine learning surveillance
4. Investigations
5. Reporting



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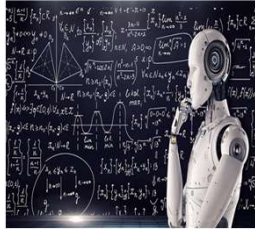
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**Machine Learning Surveillance**

- Missing drug alerts
- Gaps in documentation
- Full waste transactions
- Delays in administration
- Delays in documentation
- Dispense off clock
- Pain scales
- Monitor in eScribe data



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**Critical Program Requirements**

6. Auditing
7. Use of technology
8. Pharmacy controls
9. Human resources
10. Multi-disciplinary collaboration



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# Prevention of Drug Diversion in the Healthcare Setting

**Pharmacy Controls**

- Ordering, receiving, distribution, storage, returning
- Product selection to reduce risk
  - Ready-to-use
  - Tamper evident
  - Error-reduction
  - Ability to reduce product waste and waste documentation



The screenshot shows the ISMP website header with navigation links: HOME, RESOURCES, ABOUT, CONTACT, NEWS, SUPPORT. Below the header is a blue navigation bar with links: Pharmacy and Distribution, Tools and Resources, Publications and Alerts, Drug Sampling, and a search icon. The main content area features the article title 'Partially Filled Vials and Syringes in Sharps Containers are a Key Source of Drugs for Diversion' with a date of 'MAY 11, 2016'. An image of a partially filled vial is shown below the title.

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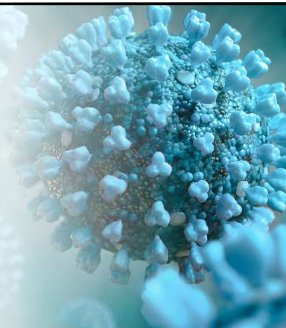
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**Impact of COVID-19**



A microscopic image of a virus particle, likely COVID-19, showing its characteristic spherical shape with a textured surface of spike proteins. The background is a soft, out-of-focus blue and white.

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**COVID-Related Considerations**

- Expansion of ICU units
- Redeployed nurses and physicians
  - More discrepancies, overrides
  - Travelers
  - Areas closed that store control substances
- High volume of control substance purchases and utilization
  - Remote storage location security and surveillance
- Practice changes – limited access into patient room
  - Wasting and witnessing
- Lax federal and state requirements
- Field hospitals



The ISMP logo is located at the bottom left of the slide. The background of the slide is a light blue gradient.

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# Prevention of Drug Diversion in the Healthcare Setting

**COVID-Related Considerations**

- Mental health impact to healthcare providers and opportunities for diversion and abuse
- Maintain daily surveillance and evaluate trending reports
- Consider accountability audit
- Password and access cleanup
- Recovery - reverting back to the new normal



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**Challenges**



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**Challenges**

- Goal to have comprehensive drug diversion program
- Manual process with limited resources
- Strategies to reduce the risk
  - Product selection
  - Surveillance system
- Little direction from DEA
- Multidisciplinary collaboration



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