

June 18, 2015

ECRI Institute's Top 10 Patient Safety Concerns for Healthcare Organizations 2015



Learning Objectives

- ▶ Participants will be able to:
 - Describe why ECRI Institute created its list of top 10 patient safety concerns.
 - Use the list to help review patient safety concerns in their own organization.
 - Discuss ECRI Institute's top 10 patient safety concerns for 2015.
 - Access the full report.

This activity has been approved for 1.0 California State Nursing contact hour by the provider, Debora Simmons, who is approved by the California Board of Registered Nursing, Provider Number CEP 13677.

All faculty members involved in this June 18, 2015 live webinar have disclosed in writing that they do not have any relevant conflicts or financial affiliations.

To qualify for credit:

Credit will only be issued to individuals that are registered and participate. Registered participants must attend the entire program. Each participant must logon at the start of the program and remain on for the entirety of the program. This is how your attendance is verified. In addition you must complete an attestation included in the post webinar evaluation. Once all the information is verified, a certificate will be e-mailed to you.

ECRI Institute's List of Top 10 Patient Safety Concerns



ECRI Institute PSO

- ▶ One of the first federally certified patient safety organizations (PSOs)
- ▶ Collecting event reports since 2009
- ▶ Nearly one million event reports submitted by end of 2014
- ▶ Data contributed by partner PSOs and member healthcare organizations
- ▶ Top 10 report is one initiative to share findings and lessons learned



How We Created the Top 10 List

- ▶ We reviewed information submitted to us and our partner PSOs
 - Patient safety event reports
 - Custom research requests
 - Root-cause analyses
- ▶ We also asked
 - Our team of ECRI Institute PSO analysts
 - Other ECRI Institute experts in patient safety, health devices, and other topics
 - Our PSO advisory council

How You Can Use the List

- ▶ Use as a starting point for
 - Conducting patient safety discussions
 - Setting patient safety priorities
- ▶ Determine whether
 - Your organization is facing similar issues
 - The concerns should be targeted for improvement
- ▶ Create risk mitigation strategies
 - See the full report
 - Consult other ECRI Institute resources

The List

ECRI Institute's Top 10 Patient Safety Concerns for 2015

- 1 Alarm hazards: inadequate alarm configuration policies and practices*
- 2 Data integrity: incorrect or missing data in EHRs and other health IT systems
- 3 Managing patient violence
- 4 Mix-up of IV lines leading to misadministration of drugs and solutions*
- 5 Care coordination events related to medication reconciliation
- 6 Failure to conduct independent double checks independently*
- 7 Opioid-related events
- 8 Inadequate reprocessing of endoscopes and surgical instruments
- 9 Inadequate patient handoffs related to patient transport*
- 10 Medication errors related to pounds and kilograms*

*New to the 2015 list.

10

Medication errors related to pounds and kilograms

Sample Event:

Toddler weighed in pounds, entered as kilograms into EHR...

- Actual weight 27 lbs.
- Entered in EHR as 27 kg
- Equivalent to 60 pounds
- **Twofold medication overdose**

27 lbs.



27 kg =
60 lbs.



Example Strategies

Pound-Kilogram Errors

- ▶ Purchase only scales that display in kilograms, or adjust scales so that they display only in kilograms.
- ▶ Ensure that pediatric scales are readily available.
- ▶ Record and display weight only in kilograms in the EHR.
- ▶ Integrate digital scales with the EHR to eliminate or reduce the need for data entry.
- ▶ Use clinical decision support functions that compare entered weight with expected weight.
- ▶ Buy infusion pumps with dose error reduction features.

Thoughts from Our Experts

Pound-Kilogram Errors

Chart audits and observation can help the organization explore further. “How are patients being weighed, what scales are used, how is the weight entered into the EHR, where are the chances for error?”

One of the most effective strategies is to “get rid of scales that measure in pounds. . . . If you can get rid of that mix-up at the very first step in the process, pounds are never introduced into the equation.”

Sheila Rossi, MHA

Patient Safety Analyst

ECRI Institute PSO

9

Inadequate patient handoffs related to patient transport

Reported Event

Patient Transport

Immediately after undergoing a surgical procedure, the infant was transported to the neonatal intensive care unit (NICU) in an open crib. Staff in the unit had not been informed that the infant's body temperature dropped in the operating room (OR), or that the infant was transported directly from the OR to the unit, and that the infant had not been monitored in a recovery unit. A nurse preparing the infant for the NICU stay expressed concern about the infant's pale coloring and slowed respiration. The baby was given vigorous spinal stimulation in an effort to restore breathing and return body temperature to normal, and required intubation when breathing did not fully respond to the spinal stimulation.



Example Strategies

Patient Transport



- ▶ Standardize transport and handoff processes.
- ▶ Consider:
 - Safety hazards specific to each unit
 - Criteria for determining the “level” of transport team needed
 - Training, experience, and competency for transport personnel
 - Equipment availability, responsibility for maintenance of therapies, and troubleshooting during transport
 - Development of tools to support handoff communication
 - Guidelines from applicable professional associations
- ▶ Capture transport-related and “off unit” incidents and near misses in the event-reporting system.

Thoughts from Our Experts

Patient Transport

“Transporting a patient within the hospital to another clinical setting or between units within the facility presents risk of harm to the patient and, depending on the needs of the patient, can be an unsettling experience for nurses charged with caring for the patient, and for the transporter.”

“Ideally, the level of care provided during transport pairs with the care the patient receives in the unit.”

Kelly Graham, BS, RN
Patient Safety Analyst
ECRI Institute

8

Inadequate reprocessing of endoscopes and surgical instruments

Reported Events

- Bone and tissue were observed in the instrument tray for joint replacement surgery. The tray was removed, and a new sterile field and replacement instruments were set up in the room. The replacement instrument tray had fluid on several instruments and bone fragments. The second setup was broken down, and a new setup was opened using sterile technique.
- During a surgical procedure, part of an implant was dropped. The implant was flash sterilized so that it could be used, but the proper flash sterilization process was not followed. Inadequate time was allotted for cleaning the implant.



Example Strategies

- ▶ Address surgical device cleaning issues before purchase to ensure they can be properly cleaned and maintained.
- ▶ Provide appropriate space, equipment, resources, and environmental conditions (e.g., water filtration).
- ▶ Emphasize to staff that devices must be thoroughly cleaned before they can be disinfected or sterilized.
- ▶ Confirm that an appropriate reprocessing protocol exists and is readily available for all instrument models.
- ▶ Have a change management system where staff is notified of changes in reprocessing protocols.

Example Strategies

- ▶ Verify that protocols address and document all reprocessing steps, from precleaning through storage.
- ▶ Quality Assurance program that monitors each step in cleaning, decontamination, inspection, disinfection, storage.
- ▶ Provide supervision on all shifts to manage work volume and flow.
- ▶ Ensure that there is a competency-based training program and employee incentives.
- ▶ Foster collaboration between reprocessing department members and other staff.

Thoughts from Our Experts

Reprocessing

- Healthcare facilities reprocess thousands of reusable surgical instruments and devices every day for subsequent use. Not only are reusable surgical instruments and devices difficult to clean, but “multiple steps are often required to get it right.”
- Today, instruments for procedures ranging from colonoscopies to robotic-assisted laparoscopic surgery are more complex and often have movable parts to disassemble and have narrow channels to clean.

Gail M. Horvath MSN, RN, CNOR, CRCST

Patient Safety Analyst

ECRI Institute PSO



Opioid-related events

Reported Event

Opioids

A patient presented to the emergency department (ED) with abdominal pain. The patient's pain was poorly relieved with morphine 4 mg; the attending physician changed the orders to hydromorphone 4 mg intravenously every 4 hours as needed. The nurse administered a dose of hydromorphone. Shortly after, the nurse noticed decreased responsiveness, the patient became apneic, and code blue was called. Two doses of naloxone were given. The patient became responsive and was transferred to the intensive care unit for monitoring.

Example Strategies

Opioids

- ▶ Educate prescribers about opioid safety.
 - Consider nonopioid options.
 - Distinguish between opioid-tolerant and opioid-naïve patients.
 - ▶ Consider creating different order sets for each group.
 - Emphasize that hydromorphone is about seven times as potent as morphine.
- ▶ Train staff to monitor for sedation.
- ▶ Show patients and home caregivers how to appropriately store and dispose of opioids.
- ▶ Track adverse events but also use trigger tools (e.g., daily reports of naloxone use) to identify potential events.

Thoughts from Our Experts

Opioids

“Does the patient really require an opioid? Sometimes that’s not the first choice that we need to go to.”

“A lot of times, people don’t monitor for sedation and don’t recognize sedation as a problem until the patient is already experiencing respiratory depression.”

Stephanie Uses, PharmD, MJ, JD

Patient Safety Analyst

ECRI Institute PSO

6

Failure to conduct independent double checks independently

Reported Events

Double Checks

A patient was receiving a heparin drip, which required a double check per policy. The dosing nomogram and rate were double-checked appropriately, but there was no double check when the nurse changed the rate on the infusion pump. The drip rate was changed to 18 mL/hr instead of 15 mL/hr, resulting in an elevated partial thromboplastin time with bleeding from the site of the intravenous (IV) line.

Example Strategies

Double Checks

- ▶ Avoid “double check fatigue:” Use double checks only for processes that could harm the patient very quickly.
- ▶ Eliminate the potential for confirmation bias.
 - Check every aspect independently, such as patient identity, indication and appropriateness, drug or blood type, dose, programmed infusion rate, and route.
- ▶ Investigate systems issues (e.g., availability of a second provider).
- ▶ Educate staff on why independent double checks are done independently.
- ▶ Observe the process during patient care.

Thoughts from Our Experts

Double Checks

How can organizations investigate whether they are performing independent double checks in a way that is truly independent? “The only way, really, is to begin to audit and observe the actual process. You have to be out there in the patient care areas and observe.” This approach is labor-intensive, but “it’s also your opportunity to link with the individuals to explain the importance of doing it properly.”

Elizabeth Drozd, MS, MT(ASCP)SBB, CPPS
Patient Safety Analyst
ECRI Institute PSO

5

Care coordination events related to medication reconciliation

Reported Event

Medication Reconciliation

The patient was admitted through the ED. The patient brought a list of current medications. The list was compared with the patient's medication list from a previous stay. Two other medications from the previous stay, an antipsychotic drug and a diabetes medicine, were not on the patient's medication list and were ordered. No one went over the patient's current medication list with the patient. During the patient's stay, the patient's wife reported the patient was having hallucinations and seemed continually drowsy when that wasn't the patient's norm. It was determined that the patient had not taken the two additional medications for a year, so they were discontinued.

Example Strategies

Medication Reconciliation

- ▶ On admission, verify stated medications against another source
 - The Primary Care Physician (PCP) and patient's pharmacy are examples but recognize that this approach is not fail-safe.
- ▶ Re-evaluate the patient's medication needs
 - as the patient's condition changes and
 - at every care transition.
- ▶ Encourage patients to keep an accurate medication list.
- ▶ Proactively evaluate the organization Medication Reconciliation process using failure mode and effects analysis (FMEA).
- ▶ Work with care partners.
 - Put practices in place to mitigate risks related to medication reconciliation across care transitions.

Thoughts from Our Experts

Medication Reconciliation

“Records from a previous stay may not be a good source for information if it’s been a long time since the patient’s last hospitalization or if the patient has had medication changes by their primary care physician and/or specialists.”

“By the time the patient is ready for discharge, they should be on the right medications and the healthcare providers should know that the patient can tolerate the medications when taken together.”

**Mary Beth Mitchell, MSN, RN, CPHQ, CCM,
SSBB**

Patient Safety Analyst and Consultant
ECRI Institute PSO

4

Mix-up of IV lines leading to misadministration of drugs and solutions

Reported Event

IV Mix-Ups

An ED patient was suspected of having a heart attack and was started on a high-risk protocol for IV heparin. After the patient was transferred to the unit, the nurse noticed that the heparin bag was almost empty. The nurse checked the pump and saw that it was running at the faster rate intended for the saline solution. The tubing lines were mixed up, and the heparin ran for four hours at the faster rate, resulting in the patient receiving seven times as many units of heparin as intended. The patient was treated for a heparin overdose and transferred to the critical care unit.

Example Strategies

IV Mix-Ups

- ▶ Trace all lines back to their origin before making connections.
 - Recheck lines on the patient's arrival in a new setting or service and at shift changes as part of the handoff process.
- ▶ Develop a policy of positioning different lines on different sides of the patient.
- ▶ Label each infusion line with the name of the drug or solution being infused.
- ▶ Do not force connections. If a connection is difficult to make, chances are it should not be made.

3

Managing patient violence

Reported Event

Patient Violence

Thirty minutes before shift change and after the physician had assessed a patient for psychiatric placement, the patient became agitated and uncooperative. The patient refused access to his IV line and ordered the sitter from the room. The patient was very confused; his talking did not make sense. The patient began roaming the unit and entering clean rooms, becoming violent, and hitting and pushing the sitter.

The afternoon nurse refused to care for the patient, telling the charge nurse to do so. The charge nurse called the physician for new orders because the afternoon nurse refused to complete the original orders.

Example Strategies

Patient Violence

- ▶ Recognize the reality of patient violence.
- ▶ Require reporting of incidents and threats.
- ▶ Train staff in violence recognition and de-escalation.
- ▶ Medication order sets signed by physicians—ensure that this does not constitute chemical restraint.
- ▶ Standardize security measures; conduct drills.
- ▶ Communicate relevant patient behavioral health status information during handoffs.

Example Strategies

Patient Violence

- ▶ Have a facility-wide safety plan that considers all levels of risk, from the single acute episode of threatening behavior to an active-shooter situation.
 - Physical security and response
 - Inspections for weapons
 - Configuration of ED waiting areas
 - Emergency legal processes for commitment or treatment
 - Rapid response team to assess behavior and intervene

- ▶ Understand the risks posed by your patient population—working with local police may help identify areas of risk or peak periods when risk may be greater.

- ▶ Consider the pressure that lack of psychiatric services places upon nurses and frontline staff. De-escalation training can help.

- ▶ Aggressive or agitated behavior signals a high-risk, high-acuity situation that needs immediate clinical attention.

2

Data integrity: Incorrect or missing data in EHRs and other health IT systems

Reported Event

Incorrect or Missing Data

- ▶ A patient's peanut allergy was listed in the EHR, but the information did not cross over to the dietary department's system. The patient questioned whether the food allergy information had been received by the dietary department after receiving a food tray that was not identified as free of peanut products.

- ▶ Other Examples:
 - Order information added to free text fields that does not go to fields within the workflow of other healthcare professionals.
 - Diagnostic testing results delayed or missing.

Example Strategies

Incorrect or Missing Data

- ▶ Test health information technology (IT) systems to ensure that failure points for missing or incorrect data are identified and addressed.
- ▶ Ensure that event reporting facilitates recognition and reporting of potential factors related to health IT.
- ▶ Empower frontline workers and health IT system users to report all types of health IT-related incidents, including
 - those that do not cause any harm,
 - near-miss incidents,
 - circumstances that could cause data to be incorrect or missing.
- ▶ Apply fixes to prevent similar problems.



PARTNERSHIP *for*
HEALTH IT PATIENT SAFETY
Making healthcare safer together

For more information, e-mail: HIT@ecri.org

Thoughts from Our Experts

Incorrect or Missing Data

“As EHRs become more interoperable, incorrect information is more readily available, more easily shared, and harder to eliminate. In order to get a return on the investment we’ve made in EHRs and clinical-decision support, we now need to tackle the more mundane problem of making sure the data in the EHR is accurate.”



Robert C. Giannini, NHA, CHTS – IM/CP
Patient Safety Analyst and Consultant
ECRI Institute PSO

1

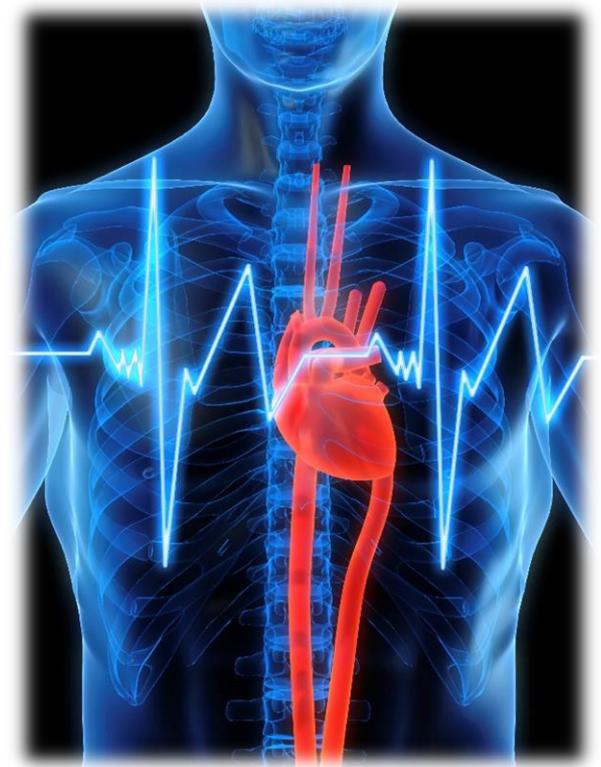
Alarm hazards: Inadequate alarm configuration policies and practices

Sentinel Events

Alarm Configuration

The Joint Commission found 98 alarm-related events between January 2009 and June 2012 in its Sentinel Event Database (82% of which resulted in death and 13% of which resulted in permanent loss of function).

Improper alarm settings were deemed a major contributing factor in 21% of all 98 events.



Source: Joint Commission. Medical device alarm safety in hospitals [online]. Sentinel Event Report 2013 Apr 8 [cited 2014 Aug 27]. http://www.jointcommission.org/assets/1/18/SEA_50_alarms_4_5_13_FINAL1.PDF.

Example Strategies

Alarm Configuration



- ▶ Establish a policy describing care-area-specific standard alarm configuration practices that addresses:
 - Default parameters and volume settings
 - Processes and authorization for changing default and patient-specific alarm settings
 - Settings for use during and after transfers and transports
 - Reactivation of default alarm settings on changing patients
 - Staff training
- ▶ Periodically audit alarm configuration settings.

Thoughts from Our Experts

Alarm Configuration



“Our accident investigations have found that hospitals have either not had consistent or not had any practices to determine how alarms are set by care area or by patient type. . . . It doesn’t make sense to use the same default alarm settings in pediatric intensive care as in adult intensive care.”

Jim Keller, MS

Vice President

Health Technology Evaluation and Safety

ECRI Institute

ECRIInstitute
The Discipline of Science. The Integrity of Independence.

“New or revised policies should review responsibilities and guidelines for setting, changing and disabling alarms ... as well as include a clear process for attending to the various alarms and verifying that they are set and functioning appropriately.”

Source: Addis LM, Cadet VN, and Graham KC. Sound the Alarm. Patient Safety & Quality Healthcare, May/June 2014; 11(3):40-44.

The Joint Commission. (2013). Hospital National Patient Safety Goals. Effective January 1, 2014: Hospital Accreditation Program.

ECRI Institute's Top 10 Patient Safety Concerns for 2015

- 1 Alarm hazards: inadequate alarm configuration policies and practices*
- 2 Data integrity: incorrect or missing data in EHRs and other health IT systems
- 3 Managing patient violence
- 4 Mix-up of IV lines leading to misadministration of drugs and solutions*
- 5 Care coordination events related to medication reconciliation
- 6 Failure to conduct independent double checks independently*
- 7 Opioid-related events
- 8 Inadequate reprocessing of endoscopes and surgical instruments
- 9 Inadequate patient handoffs related to patient transport*
- 10 Medication errors related to pounds and kilograms*

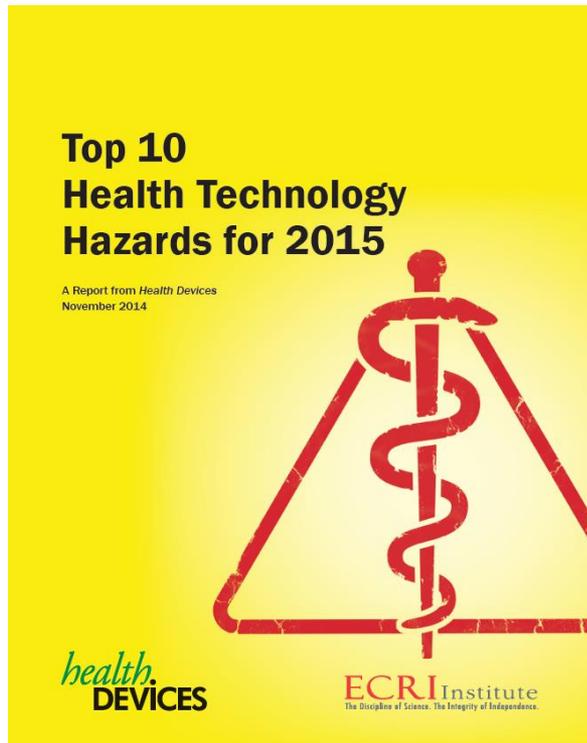
MS15138

*New to the 2015 list.

How to Get the Report

ECRI Institute's *Top 10 Patient Safety Concerns for Healthcare Organizations for 2015* is available for download at <http://www.ecri.org/PatientSafetyTop10>.

ECRI Institute's Other Top 10 Reports



Top 10 Health Technology Hazards

<https://www.ecri.org/2015hazards>

Top 10 Hospital C-Suite Watch List

<https://www.ecri.org/Pages/ECRI-Institute-2015-Top-10-Hospital-C-Suite-Watch-List.aspx>



Upcoming ECRI Institute PSO Webinars

July 16, 2015

**Proven Strategies for Achieving
Healthcare Security Program Excellence**

August 20, 2015

PSO Deep Dive™: Care Coordination

PSO Deep Dive™ 2016: Patient Identification

- ▶ **What:** Patient Identification Safety Events
- ▶ **When:** June 18, 2015 to July 31, 2015
- ▶ **How:** Manually submit a minimum of 10 events related to Patient Identification
- ▶ **Where:** PSO Event Reporting System

Deep Dive™ 2016: Why Patient Identification?

- ▶ Patient misidentification has the potential to occur during multiple procedures and processes, including:
 - patient registration
 - medication administration
 - invasive procedures
 - neonatal services
 - blood transfusions
 - health information technology
 - emergency medical services

ECRI Institute. Patient Identification. *Healthc Risk Control* 2007

Nov. Also available at:

<https://www.ecri.org/components/HRC/Pages/RiskQual16.aspx>

Deep Dive™ 2016: Next Steps

- ▶ A webinar will be posted to all PSO portals with instructions on how to enter patient identification events.



Questions?

PSO Members and Partners:

psohelpdesk@ecri.org

Non-PSO Members:

clientservices@ecri.org

Thank You