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Partnering for Safety

Acknowledgments

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Safe Ambulatory Care
Strategies for Patient Safety & Risk Reduction

Executive Brief

For its eighth deep dive analysis, ECRI Institute PSO has extended the focus beyond the hospital to ambulatory care—a setting that represents the largest and most widely used segment of the healthcare system. Ambulatory care settings provide a diverse array of services to patients, from consultation and diagnosis to treatment and intervention.

In recent years, many ambulatory care practices have evolved from being largely independent operations to becoming part of accountable care organizations (ACOs) or entering into affiliations with—or becoming owned by—local regional hospitals or larger health systems. Processes and policies between and among organizations can be disjointed, making care coordination difficult at times; for example, consultation reports may not be available to primary care physicians, or centers within the same healthcare organization may have different record-keeping systems. Whether a care setting is part of an ACO, is affiliated with or owned by a larger system, or operates independently, all staff must possess or develop skills to strengthen teamwork, communication, and collaboration. Training, support, and organizational culture must echo these goals, just as they must in a hospital environment.

As more healthcare encounters and procedures shift from hospitals to smaller, less expensive ambulatory settings, such as physician practices and community health centers, as part of achieving the Institute for Healthcare Improvement’s (IHI) Triple Aim Initiative—better care for individuals, better health for populations, and lower per capita costs—a health system’s patient safety efforts must reach and embrace these settings of care. Challenges in this endeavor include the following:

- Rapid acquisition of new, geographically dispersed locations or practices
- Fewer resources or still developing utilization of system resources dedicated to safety, quality, and risk compared with hospitals
- Divergent processes, procedures, and workflows across settings
- Less formal training and experience in safety and quality improvement methods among clinical staff
- A need for a cultural shift toward improving safety reporting and monitoring
Key Risk Categories

Based on an analysis of data reported to ECRI Institute PSO between December 2017 and November 2018, we have identified four key risks in the ambulatory care setting:

- Diagnostic testing errors
- Medication safety events
- Falls
- Security and safety incidents

Although many of these risks are shared by all healthcare settings, their presence in the ambulatory care setting poses several unique challenges, such as the following:

- While many hospitalized patients have diagnostic testing performed during their stay, ambulatory care facilities typically refer patients to specialists or to off-site laboratories or clinics for testing, which can create gaps in care if tests are not tracked well or results are not followed up.
- The ambulatory care setting has fewer resources available to it compared with hospitals. For example, bar-code administration systems—a staple technology for medication safety in the hospital environment—are not commonly used in physician practices.
- Because adverse events may occur after the patient has left the ambulatory care setting—for example, after a patient returns home, he or she may have an adverse reaction to a medication a physician prescribed earlier that day that necessitates a visit to the emergency department—it can be difficult to track these events.
- The process of extending patient safety, risk management, and quality control resources to ambulatory care facilities may still be evolving, or organizations may have only minimal access to such resources.
- Events that occur in ambulatory care settings are often more subtle, and sometimes the results of unintended harm do not appear until years later (ECRI Institute PSO).
- Errors that occur in ambulatory care are less likely to lead to immediate harm, and often involve patient actions or inaction and patient adherence, which can be difficult to monitor (ECRI Institute PSO).

Although a large majority of patient care in the United States occurs in the ambulatory care setting, most studies around patient safety have focused on the inpatient setting. This Deep Dive summarizes ECRI Institute PSO’s analysis of more than 4,300 events submitted to the event report database between December 2017 and November 2018 by ambulatory care facilities in three settings (ambulatory care centers, community health centers, and physician practices), with a focus on diagnostic testing errors, medication safety events, falls, and security and safety, and offers recommendations for how to mitigate the risks associated with these events.

The Importance of a Culture of Safety

Creating a strong, nonpunitive culture of safety that encourages the reporting of patient safety events is one of the cornerstones of safe patient care. According to the Agency for Healthcare Research and Quality (AHRQ), a culture of safety encompasses the following features (AHRQ “Culture of Safety”):

- Acknowledgment of the high-risk nature of an organization’s activities and the determination to achieve consistently safe operations
- An environment where individuals can report errors or near misses without fear of reprimand or punishment
- Encouragement of collaboration across ranks and disciplines to seek solutions to patient safety problems
- Organizational commitment of resources to address safety concerns

A necessary component of a culture of safety is maintaining an open, fair, and just culture. Such a culture does not dismiss accountability entirely, as clinicians and staff are still held responsible for reckless or willful disregard of protocols and procedures. However, a culture of safety embraces human fallibility and responds to unintentional errors, lapses, near misses, and adverse events with counseling or coaching,
A culture of safety embraces human fallibility and responds to unintentional errors, lapses, near misses, and adverse events with counseling or coaching, depending on the circumstances, and a focus on systems issues and proactive solutions. This approach can help improve the quality and safety of care and can reduce the risk of similar errors occurring in the future.

Event reporting is another important part of a culture of safety. Ambulatory care facilities and the care organizations of which they are a part should set in place a system for confidential reporting and review of adverse events, near misses (also known as “good catches”), and unsafe conditions. According to AHRQ, key components of an effective event reporting system include the following (AHRQ “Reporting Patient Safety Events”):

- The institution must establish a supportive environment for event reporting that protects the privacy of staff who report occurrences.
- Reports should be received from a broad range of personnel.
- Summaries of reported events must be disseminated in a timely fashion.
- A structured mechanism must be in place for reviewing reports and developing action plans.

For an example of a structured process for event reporting by role, see Figure 1 Responding to an Event: Sample Process.

Barriers that may discourage ambulatory care staff from reporting events include the following (ECRI Institute PSO):

- Fear of blame or malpractice
- Lack of understanding as to what to report, why to report, and how to report
- Lack of time to report
- Lack of an easily accessible reporting tool
- Lack of reinforcement of the importance of reporting from leadership
- Lack of meaningful change, which can lead to a “Why bother?” attitude from staff if leadership fails to follow up, in terms of both gaining the insights of the reporter and sharing how the reported issue would be mitigated

In its 2018 User Database Report on its Medical Office Survey on Patient Safety Culture, AHRQ examined data from 35,523 medical-office staff respondents from 2,437 medical offices. Approximately 68% of respondents gave their medical offices an overall patient safety rating of either excellent (29%) or very good (39%). Of the 10 patient safety culture composites in the survey, respondents rated teamwork (86% positive) and patient care tracking and follow-up (86% positive) as areas of strength for their practices, while work pressure and pace (only 46% positive) was noted as an area for potential improvement. (Famolaro et al.) Every organization will have its own areas of strength and weakness; fostering open communication regarding errors and incidents can help organizations identify and address areas of opportunity for improvement.

Implementing a culture of safety in the ambulatory care setting requires time, dedication, and effort across all sites and roles. Successful implementation of a culture of safety requires an accurate assessment of current practices and culture, the creation or adoption of patient safety goals that align with the health system or are standardized across the ambulatory care organization, and compliance with the new goals. (Saxton et al.) The tenets of a culture of safety must also be tailored to each individual organization.
Figure 1  Responding to an Event: Sample Process


Note: The above is a sample process. For smaller or stand-alone practices, some of the above roles may be combined.
Scope and Methods

ECRI Institute PSO searched its event report database for safety incidents reported by ambulatory care centers, community health centers, and physician offices occurring between December 2017 and November 2018. The relatively short and contemporary 12-month time period was chosen to reflect the current depth of a culture-of-safety mindset, as ambulatory care settings are beginning to report safety events more robustly.

A total of 4,355 events were analyzed. ECRI Institute PSO’s event reporting system uses an enhanced version of AHRQ’s Common Formats (version 1.2), which allow PSOs to collect information from providers and standardize how patient safety events are represented. Event reports described incidents, near misses, and unsafe conditions. Using definitions from the PSO Privacy Protection Center (PSOPPC), these events can be classified as follows:

- Incident—a patient safety event that reached the patient, whether or not the patient was harmed
- Near miss—a patient safety event that did not reach the patient
- Unsafe condition—any circumstance that increases the probability of a patient safety event

In this Deep Dive, the terms “event,” “report,” and “incident” are often used to refer to any of these situations.

Events were submitted under the AHRQ Common Format for Hospitals categories. These categories were chosen based on an analysis of the types of events submitted to ECRI Institute PSO; they do not necessarily mirror AHRQ event type classifications.

After an initial analysis of the events, the events were regrouped into the following categories:

- Diagnostic testing
- Medication safety
- Falls
- Security and safety

In selecting the risk areas covered in this Deep Dive, ECRI Institute PSO relied both on data regarding the events and on expert judgment. The first three categories listed above—diagnostic testing, medication safety, and falls—reflect the top three categories of events in ambulatory care reported to ECRI Institute PSO between December 2017 and November 2018. Security and safety, although not as frequently reported as the first three categories, was chosen because it is a particular area of concern among PSO members. For example, the risk of workplace violence for healthcare workers is greater than for workers in other disciplines, and it has the potential to cause...
Risk of workplace violence for healthcare workers is greater than for workers in other disciplines.

Great harm to patients and staff if not addressed properly. Staff may not know, however, whether to report an instance of workplace violence, particularly if the situation is de-escalated or has resolved; as a result, the data may not accurately reflect how often such incidents occur.

The analysis of the events reported also included a fifth category: events related to privacy concerns and to the Health Insurance Portability and Accountability Act (HIPAA). Although HIPAA- and privacy-related events were reviewed in the analysis of ambulatory care events reported, the data submitted did not offer sufficient detail about current practices and related system gaps to drive recommendations. See “HIPAA- and Privacy-Related Risks” for a summary of the findings.

Once the data were categorized into the above topics, ECRI Institute PSO developed taxonomies for each of the event categories for analysts to use when classifying events. Each category includes several subcategories, and analysts could select more than one taxonomy category and more than one subcategory.

INSIGHT® ASSESSMENT FINDINGS

ECRI Institute’s INsight® Risk Assessment for Physician Offices measures ambulatory care staff members’ perceptions of the organization’s patient safety risks, with the goal of identifying processes that are working effectively to foster a culture of safety and to identify gaps between culture-of-safety initiatives and staff perceptions of their effectiveness. INsight data included in this Deep Dive are drawn from assessments conducted between 2016 and March 13, 2019.

INsight data demonstrate that ambulatory care organizations have systems in place that encourage patient safety. For example, positive responses to questions that evaluate staff perception of patient safety risks in the physician practice setting include questions about feeling safe at work (92% positive response), understanding what to do in case of an emergency (91% positive response), and staff perceptions about education offered regarding worker safety (89% positive response). Opportunities for improvement reflected in the data include less positive results (e.g., only 64% of staff report monthly staff meetings, 72% report receiving training on how to deal with potentially violent patients, 78% report having a structured process to address patient complaints, and only 78% report consistently educating patients on their medications). Data showing the gaps between office policies and protocols and staff perceptions about what is actually done are invaluable in helping direct effective and impactful education.

If you are interested in administering or have questions about either the Physician Office Assessment or the Agency for Healthcare Research and Quality’s (AHRQ) Medical Office Survey on Patient Safety Culture, please contact ECRI Institute’s INsight® Assessment Services at Insight@ecri.org.
one subcategory for each event; as a result, the percentages in certain categories may not add up to 100.

The National Coordinating Council for Medication Error Reporting and Prevention’s (NCC MERP) Index for Categorizing Medication Errors is a tool used to categorize patient harm. Although originally designed for medication errors, the index—with its nine categories for harm, labeled A through I—is often used for non-medication-related events to indicate the event’s effect on the patient (e.g., an error reaches the patient but does not cause harm; an error contributes to temporary harm; an error contributes to permanent harm). Events with a harm score of E through I are associated with patient harm. We use the NCC MERP scale to report harm because it is the most widely used scale in our members’ risk management information systems.

Limitations

Data reported to PSOs are provided voluntarily, based on spontaneous reports from staff. It is likely that many other events involving ambulatory care issues occurred during the period of the analysis but were not recognized or reported. The data in this report provide important insights but do not represent the incidence or prevalence of events involving ambulatory care settings. Furthermore, event report narratives often do not provide all the information analysts would like, making it difficult to identify all the factors that contributed to a particular event.

We excluded from further analysis events outside the scope of this Deep Dive and events that could not be coded under any category (or subcategory) in the taxonomy. We also excluded events reported by ambulatory surgery centers because the services provided in these settings are dissimilar to those provided at the ambulatory care settings studied.

MEDICAL PROFESSIONAL LIABILITY ASSOCIATION CLAIMS DATA

Three of the four categories covered in this Deep Dive—diagnostic errors, medication errors, and falls—are also among the primary allegations reported to the Medical Professional Liability (MPL) Association through its Data Sharing Project (DSP). The MPL Association DSP has been in existence since 1985 and is a database of medical liability claims and lawsuits resolved with or without an indemnity payment. Data are submitted voluntarily from a subgroup of domestic member companies of the MPL Association. A preliminary review of 13,429 claims and lawsuits closed between 2016 and 2018 in the DSP showed that 4,887 closed claims (36%) alleged a diagnostic error, 1,077 (8%) alleged a medication or intravenous (IV) fluid error, and 144 (1%) alleged a patient accident (including falls). The data analysis is provisional; additional data submissions will modify this information.

— For diagnostic errors, 1,278 of the closed claims (26%) paid an average indemnity of $494,000, and claims cost $55,000 on average to defend. More than half (2,882) of the closed claims identified the diagnosis as incomplete or inadequate.

— For medication/IV fluids, 287 of the closed claims (27%) paid an average indemnity of $358,000, and claims cost $48,000 on average to defend. The most common factors associated with this allegation were adverse drug reaction (376 closed claims, or 35%), wrong dose/strength of frequency (220 closed claims, or 20%), and contraindication (184 closed claims, or 17%). The most common issues associated with claims were prescribing (524 closed claims, or 49%), administration (221 closed claims, or 21%), and monitoring (171 closed claims, or 16%).

— For patient accidents, 34 of the closed claims (24%) paid an average indemnity of $78,000, and claims cost $21,000 on average to defend. Slips and falls were most common (116 closed claims, or 81%) and were more likely to involve patients (64 closed claims, or 44%) than staff (33 closed claims, or 23%) or equipment and machines (21 closed claims, or 15%).

Source: MPL Association Data Sharing Project. Special query request. Closed claims between 2016 and 2018 resolved with or without an indemnity payment. For more information on the MPL Association, see https://www.mplassociation.org.
When joining ECRI Institute’s PSO, a new member is expected to identify the organization’s care setting from among more than 15 types of settings. Care settings applicable to this Deep Dive included ambulatory care center, community health center, and physician practice. Uniform definitions for these care settings were not established. If an organization submitted event reports to the PSO but had not yet self-identified the care setting, PSO staff assigned a setting based on the best available information.

Despite these limitations, the data provide a snapshot of reported events with a large enough sample to offer generalizable insights into contributing issues. As a result, the analysis provides insights into the context, causes, and systems issues that contribute to patient safety events involving ambulatory care services.
What ECRI Institute PSO Found

Our analysis included 4,355 event reports occurring in ambulatory care settings between December 2017 and November 2018 (see Figure 2 Events Submitted to ECRI Institute PSO by Facility Type). Of these reports, 2,035 (47%) involved diagnostic testing issues, 1,163 (27%) involved medication safety issues, 593 (14%) involved falls, 356 (8%) involved HIPAA or privacy issues, and 208 (5%) involved security and safety issues. Approximately half of all events reported occurred in physician practices. For a breakdown of events into incidents, near misses, and unsafe conditions, see Figure 3 Event Reports Submitted to ECRI Institute PSO by Type of Event.

In the sections that follow, we summarize the data and key recommendations for each category.
HIPAA- AND PRIVACY-RELATED RISKS

Long after the Health Insurance Portability and Accountability Act’s (HIPAA) effective compliance date, the HIPAA privacy rule and the HIPAA security rule continue to be misunderstood, misapplied, or ignored, to the detriment of healthcare providers and the patients they serve. The rapid increase in the volume of electronic health information is due in large part to government incentives offered to providers who use electronic health records, based on the Health Information Technology for Economic and Clinical Health (HITECH) Act. The numbers of patients seen (workload) have increased while staffing levels (e.g., receptionists, billing, scheduling) have remained static, and these factors combined with insufficient staff training regarding HIPAA may increase the likelihood that staff will make mistakes, such as inadvertently disclosing patients’ protected health information (PHI). Ambulatory care settings are not immune to such mistakes, and the risk increases greatly if adequate processes are not in place, or are not consistently followed.

ECRI Institute PSO identified 356 reports of HIPAA-related events in the ambulatory care setting. The majority involved the mishandling of medical records. For example, a staff member may hand one patient another patient’s visit summary, send a letter intended for one patient to another, or send patient information to the wrong provider. Other reported HIPAA-related events included lost or stolen mobile devices with unencrypted data, employees disclosing PHI in social settings or in office conversations in open settings, and unauthorized accessing of patient files by employees. All of these events could have serious consequences, including harassment or identity theft for the patients whose PHI is impermissibly disclosed or regulatory citations, fines, and reputational damage for the organization.

A majority of the HIPAA-related events reported to ECRI Institute PSO, including those mentioned above, refer to an inadvertent disclosure of PHI. Such disclosure events typically happen in one of two ways: when a patient is given another patient’s visit summary, or when a patient receives his or her own visit summary combined with additional pages containing another patient’s PHI. Shared printers were involved in many of these events.

HIPAA-related events often go underreported, either because staff do not recognize them as HIPAA violations or because they consider the incidents too insignificant to report. Staff should be reminded that what appears to be an insignificant mistake (e.g., giving a patient the wrong visit summary) is an inadvertent disclosure of PHI and is a violation of HIPAA regulations.

Another HIPAA-related event that is the subject of many news articles and reports in the literature is security breaches of electronic protected health information (ePHI). Breaches can be intentional (e.g., hacking, ransomware) or unintentional (e.g., improper disposal of paper records containing PHI, lost mobile devices with unencrypted data). ECRI Institute PSO has not yet received reports of intentional security breaches from ambulatory care providers; however, the risk of security breach is growing in all healthcare settings, including ambulatory care.

ECRI Institute PSO recommends that ambulatory care practices conduct a privacy and security risk assessment and act to resolve gaps in workflow and health information technology security. Staff training that stresses the importance of paying attention to detail when handling a patient’s medical record information should be ongoing.

ECRI Institute resources on HIPAA-related topics include the following:


- The HIPAA Privacy Rule
  https://www.ecri.org/components/HRC/Pages/LawReg19.aspx

- The HIPAA Security Rule
  https://www.ecri.org/components/HRC/Pages/LawReg19_1.aspx
Diagnostic Testing

Errors that occur during diagnostic testing in ambulatory care settings can have potentially devastating consequences for patients. Although such errors occur in all care settings, they are especially prevalent in ambulatory care: AHRQ estimates that about 40% of primary care patient visits involve some sort of medical test (AHRQ “Improving”), and a Coverys analysis of 10,618 medical professional liability claims closed between 2013 and 2017 found that diagnosis-related errors accounted for approximately 33% of claims and 47% of indemnity payments (Hanscom et al. “Diagnostic Accuracy”).

Diagnostic testing errors may result in missed or delayed diagnoses or delayed interventions, thus increasing patients’ risk for adverse and fatal outcomes. Other potential consequences include duplication of services, the performance of additional unnecessary tests, patient and family dissatisfaction, and litigation.

Diagnostic Testing Events by Type

Of the 4,355 events occurring in ambulatory care settings reported to ECRI Institute PSO between December 2017 and November 2018, 2,035 (47%) involved diagnostic testing. Most (1,408 events, or 69%) involved laboratory tests; other testing categories for which significant events were reported included imaging tests (425 events, or 21%), pathology (489 events, or 4%), and cardiology (35 events, or 2%). The remaining events (<1%) involved gastrointestinal/genitourinary, respiratory, and neurology (see Figure 4 Diagnostic Testing Events Submitted to ECRI Institute PSO by Type).

Diagnostic Testing Events by Testing Process

As depicted in Figure 5 Diagnostic Testing Events Submitted to ECRI Institute PSO by Testing Process, the majority of the diagnostic-testing-related events occurred during the pre-analytic phase (1,399 of 2,118 events, or 66%), followed by the postanalytic phase (526 events, or 25%). Only 193 of these events (9%) occurred during the analytic phase, meaning that most occurred outside the lab or testing area. (Some reports described events involving multiple phases of testing.)

Tools

— Policy & Procedure Builder: Reporting Diagnostic Test Results

— Self-Assessment Questionnaire: Diagnostic Testing

— Safety First for Staff: Diagnostic Test Tracking

A Coverys analysis of 10,618 medical professional liability claims closed between 2013 and 2017 found that diagnosis-related errors accounted for approximately 33% of claims and 47% of indemnity payments.

Source: Hanscom et al. “Diagnostic Accuracy”
Key Recommendations

— Provide decision support tools to help providers order the proper tests.
— Establish a coverage chain of command for communicating test results that clearly outlines by job function who will receive the results and processes for communicating results to the covering provider, as well as who will accept results if both the ordering and covering provider are absent.
— Ensure that the tracking policy clearly identifies the provider who will receive and act on the results of any clinical test.
— Use technology to track test results and to help ensure follow-up.
— Educate staff about the organization’s diagnostic testing policies and procedures, including information on common diagnostic testing errors; best practices; lessons learned from case studies and events reported at the organization, claims, and lawsuits; and reporting procedures for critical, abnormal, and normal test results.

Figure 4  Diagnostic Testing Events Submitted to ECRI Institute PSO by Type (December 2017—November 2018)

N = 2,035
GI/GU, gastrointestinal/genitourinary.
Implement processes to ensure that critical results are communicated immediately by direct verbal communication from the lab or testing center to the ordering provider. The provider should read back results for verification and document confirmation of receipt. Critical results must not be communicated over voice mail or email or to administrative assistants or other unlicensed staff members.

Implement and enforce a policy requiring staff to proactively communicate all diagnostic test results, including normal results, directly to the patient and to document when and how the notification occurred.

Implement written standard operating procedures for specimen collection, preparation, and delivery.

Educate patients on what tests are being ordered and the importance of following up on tests or recommended treatments.

Monitor processes for test tracking and follow-up on a regular basis and make changes when necessary.
Medication Safety

Medication safety events are some of the most common adverse events in healthcare, and they are a leading cause of malpractice claims in ambulatory care. For example, a root-cause analysis found that medication errors were the fourth most common cause of medical professional liability claims out of more than 10,000 closed claims at Coverys between 2012 and 2016, with 42% of these errors occurring in an office or outpatient setting (Hanscom et al. “A Dose of Insight”).

Medication safety events continue to be frequently reported to ECRI Institute PSO. Such events can occur during any stage of the medication process, and are rarely the fault of one person; rather, as with most adverse events, they result from a series of failures within a system. Because medication events can involve many individuals, processes, and systems, organizations should adopt a multidisciplinary approach employing system-level fail-safes and risk reduction strategies to prevent or reduce the likelihood of medication-related events.

Medication Errors by Type

Of the 4,355 events analyzed by ECRI Institute PSO occurring between December 2017 and November 2018, 1,163 (27%) involved medication safety issues. Most of the medication-safety-related events (622 events, or 67%) fell into the category of “wrong” errors (e.g., wrong-drug, wrong-patient errors); other categories included monitoring errors (149 events, or 16%), prescription/refill delayed (66 events, or 7%), dose omission (41 events, or 4%), extra dose (29 events, or 3%), and medication list incorrect (24 events, or 3%) (see Figure 6 Medication Safety Events Submitted to ECRI Institute PSO Events by Type). Of the 622 events that fell into the “wrong” category, 34% described wrong-drug errors, 17% described overdoses, 8% described underdoses, 16% described wrong-patient errors, and 9% described wrong-time errors, among others (see Figure 6 Medication Safety Events Submitted to ECRI Institute PSO “Wrong” Events by Type).

Organizations should adopt a multidisciplinary approach employing system-level fail-safes and risk reduction strategies to prevent or reduce the likelihood of medication-related events.

Tools

- Policy & Procedure Builder: Vaccine Management

- Self-Assessment Questionnaire: Medication Safety

- Staff Handout: Medication Safety

- Sample Medication Log
Key Recommendations

— Focus medication safety improvement efforts by identifying priority areas (e.g., medication-event identification and reporting, high-alert medications, medication safety education, the elimination or reduction of unclear abbreviations) and developing initiatives to address those areas.

— Establish and implement standardized policies and procedures that incorporate best practices and guidelines for each part of the medication management process, and verify that these policies comply with state and federal regulations as well as with accreditation standards.

— Establish standardized definitions for adverse medication events and near misses, and set a policy directing how to report and manage such events.

— Educate staff about the organization’s medication policies and procedures, including information on common medication errors; best practices; lessons learned from case studies, claims, and lawsuits; and reporting procedures.

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Figure 6  Medication Safety Events Submitted to ECRI Institute PSO (December 2017—November 2018)
— Provide information and training, as needed, when new drugs or medication-related technologies are adopted.

— Establish and communicate the process for high-alert medications, including chemotherapy agents, that covers everything from storage to administration and incorporates best practices, standards, and guidelines.

— Verify that staff provide mandatory patient education when administering or prescribing high-alert medications, and that all patients taking high-alert medications are properly monitored.

— Establish and communicate the process for vaccinations that covers everything from storage to administration and that incorporates best practices, standards, and guidelines.

— At each appointment, review, confirm, and enter into the patient’s clinical record the following: the patient’s medical history; age; height and weight; allergies; adverse drug reactions; current medications (prescription and nonprescription), supplements, and alternative treatments; and any changes in prescription or nonprescription medication with name and dosage, when available.

— When administering medications, consider the seven “rights” of medication administration: right patient, right route, right dose, right time, right medication, right reason, and right documentation.

— Allow sufficient time to plan for the adoption of technology to minimize medication errors.

— Follow best practices when storing and handling medications.

— Educate patients and families on potential complications associated with the medications they are taking, and instruct them on what to do if a medication-related event occurs.

Falls

Falls are often preventable occurrences that can lead to patient injury, cause hospitalizations, and significantly increase healthcare costs. Falls occurring in hospitalized patients are a major source of risk for acute and long-term care providers. In ambulatory care, screening for the risk of falls is an important component of preventing falls whether in the office setting, at home, or elsewhere. Strategies for fall prevention at ambulatory care centers, community health centers, and physician practices are not extensively studied and rarely target these three settings.

Each year, more than one in four older adults in the United States experiences a fall.

Falls are an unfortunate aspect of life that particularly plague older adults. Each year, more than one in four older adults in the United States experiences a fall; this includes older adults living at home or in a care setting. One in five of those who fall will suffer a serious injury. Approximately 800,000 people will be hospitalized each year with a fall-related injury, usually a head injury or a fractured hip (CDC “Important Facts”). The cost of falls in 2015 was estimated...
Approximately 800,000 people will be hospitalized each year with a fall-related injury, usually a head injury or a fractured hip.

at $50 billion (CDC “Costs”). Between 2007 and 2016, the rate of deaths due to fall-related injuries rose 4% per year for adults 85 years or older (age adjusted per 100,000) (Burns and Kakara). The Centers for Disease Control and Prevention (CDC) predicts the incidence of falls will continue to increase as the number of older adults rises. Ambulatory care providers that treat older adults must work together as a team to help patients reduce fall risk.

Fast facts about falls:

— The costs of caring for patients injured from a fall are high; the average hospital cost for a fall injury is $30,000 (CDC “Costs”).

— Medications that increase the risk of falling include anticholinergics, anticonvulsants, antidepressants, antihistamines, antihypertensives, antipsychotics, benzodiazepines, medications affecting blood pressure, muscle relaxants, opioids, and sedatives-hypnotics (CDC “Fact Sheet”)

— Falling once increases the risk of subsequent falls. A person who experiences a fall may become afraid to fall again. Decreased ambulation from fear of falling in turn leads to muscle weakness, thereby increasing the likelihood of a future fall.

— Half of the people who experienced a fall fail to inform their healthcare practitioner about the fall. Failure to communicate about the fall is problematic as a history of a previous fall is “one of the most important clinical indicators that identify an elderly patient as being at high risk of future falls” (McCort et al.).

To reduce falls in ambulatory care, organizations need to provide care in a safe manner and in an environment that proactively identifies patients at high risk and provides patient education and strategies to prevent falls (McCort et al.). Fall prevention program goals include proactive efforts to identify the patient who is at risk to fall, to implement strategies to reduce the occurrence of fall-related incidents, and to provide a safe treatment environment.

Physical and physiological factors contribute to patient falls and the ensuing injuries. Certain patients fall as a result of a medical condition or a treatment they are undergoing. These falls may be predictable and, thus, may be preventable. Other patients who exhibit none of the attributes of a patient at high risk of falling may still fall. These falls are exceedingly difficult to predict or prevent. Finally, some falls are accidental, resulting from an environmental hazard, such as a slippery or uneven floor or clutter. With proper staff diligence, environmental falls in ambulatory care settings can be reduced.

**Fall Location**

Of the 4,355 events occurring in ambulatory care settings reported to ECRI Institute PSO between December 2017 and November 2018, 593 (14%) involved falls. Event reports that included an indication of the location of the fall suggest that most falls occur within the practice setting, though many occur elsewhere in the building or on the grounds (see [Figure 7 Fall Events Submitted to ECRI Institute PSO by Location]).

**Activity at the Time of the Fall**

More than 50% of falls occur when a patient is ambulating. Falls also take place when a patient is transferring (e.g., from bed to chair) and during toileting. See [Figure 8 Falls Events Submitted to ECRI Institute PSO by Activity at the Time of the Fall].
Key Recommendations

— Ensure that patients are screened for falls risk at every visit, when a change in condition is noted, and after a fall.

— Train staff to identify intrinsic and extrinsic factors related to fall risk when interacting with patients (e.g., welcoming, screening, and conducting an assessment).

— Ensure that a “flag” appears in the electronic health record to alert the ordering clinician that the medication carries a fall risk. The flagged information should
appear when the drug is ordered and during medication reconciliation.

— Communicate to all staff members clear and consistent policies for documenting and reporting falls.

— Provide written fall prevention materials to patients and families.

— Offer patients the opportunity to talk about falls that have happened, and discuss their fear of falling; educate patients and families on the benefits of increased mobility and autonomy.

— Ensure that the patient’s risk of falling, and of sustaining a fall-related injury, is effectively communicated to the patient.

— Provide equipment to help prevent falls, such as grab bars and elevated toilet seats in all bathrooms and stable assistive devices in exam rooms.

— Conduct environmental rounds regularly both inside and outside the practice setting to identify and eliminate extrinsic risks that increase the risk of falls, such as equipment in poor repair, clutter, or inadequate lighting.

Figure 8  Falls Events Submitted to ECRI Institute PSO by Activity at the Time of the Fall (December 2017—November 2018)

N = 537
*Running, climbing, tripping themselves or others, etc.
Security and Safety

Unfortunately, security and safety issues, such as workplace violence, are common in healthcare, including ambulatory care settings. Although most episodes of disruptive behavior or violent acts are perpetrated by patients, some are perpetrated by family members of patients, other visitors, employees, or ill-meaning trespassers. (NIOSH) Workplace violence can occur between patients and staff, between staff members, between patients, between patients and family members, or by others; each type requires different response plans and interventions.

According to a 2016 U.S. Government Accountability Office (GAO) study, “workers in health care facilities experience substantially higher estimated rates of nonfatal injury due to workplace violence compared to workers overall.” Ambulatory care providers have a duty to provide a safe environment for patients, family and friends accompanying patients, providers, and employees. (AAAHC; Joint Commission) Traditionally, many physician practices and community health centers allow easy access to their premises, and many do not monitor or place restrictions on individuals’ movements throughout the office or facility. As a result, staff face an increased risk of exposure to troublesome and sometimes dangerous confrontations with patients, family members, or others who may mean harm. Many aspects of workplace violence events can be mitigated by understanding and anticipating the roots of the behavior; in nearly 85% of workplace violence events, warning signs preceded the incident (MHA).

Of the 4,355 events occurring in ambulatory care settings reported to ECRI Institute PSO between December 2017 and November 2018, 208 (5%) involved security or safety issues. Twenty-five events fell under additional categories such as patients leaving without being seen, infrastructure failures, and natural disasters, and these are not the focus here; thus 183 events were analyzed. The vast majority of events involved verbal threats or disruptive behavior by patients or visitors, including family members. If behavior escalated from threatening (e.g., yelling, harassing) to committing physical violence (e.g., hitting, kicking, pushing, throwing objects), then...
it was categorized as violent behavior. Only 5 events (3%) escalated to physical violence by patients. See Figure 9 Security and Safety Events Submitted to ECRI Institute PSO by Type of Behavior.

Among reports that included a harm score, 16% were considered unsafe conditions or events that did not reach the patient or the intended target of the behavior (NCC MERP categories A and B). Eighty-three percent were judged to have reached the target of the behavior (categories C through E); of these, 4% (category E) were considered to have caused temporary harm that required intervention (see Figure 10 Security and Safety Events Submitted to ECRI Institute PSO by Harm Score).
Figure 10  Security and Safety Events Submitted to ECRI Institute PSO by Harm Score (December 2017—November 2018)

A (circumstance that has the capacity to cause harm) 5 (3%)
B (error occurs but does not reach the patient) 21 (13%)
C (error reaches the patient but does not cause harm) 93 (59%)
D (error reaches the patient and requires monitoring to confirm no harm and/or intervention required) 31 (20%)
E (error contributes to or results in temporary harm to the patient and requires intervention) 7 (4%)
F (error contributes to or results in temporary harm and requires initial or prolonged hospitalization) 0 (0%)
G (error contributes to or results in permanent patient harm) 0 (0%)
H (error requires intervention to sustain life) 0 (0%)
I (error may have contributed to or resulted in patient’s death) 0 (0%)

N = 157
Percentages may not add up to 100 due to rounding.

Tools

- Policy & Procedure Builder: Workplace Violence Prevention Program

- Policy & Procedure Builder: Patient Code of Conduct

- Self-Assessment Questionnaire: Workplace Violence in Physician Practices

- Security & Safety Rounding Tool

- Principles for De-escalating Agitation and Disruptive Behavior

- Run-Hide-Fight!
Key Recommendations

— Establish a comprehensive workplace violence prevention program and allocate sufficient resources to the program.

— Conduct an all-hazards risk assessment at least annually, incorporating patient-related risk factors, environmental risks, and operational risks to evaluate the potential for violence.

— At least monthly, conduct security and safety surveillance rounding.

— Provide staff with guidance on recognizing verbal and behavioral cues that suggest a patient could become combative.

— Train staff on how to respond to patients who have mental health conditions who exhibit disruptive behavior.

— Educate staff on appropriate and inappropriate techniques to handle aggressive behaviors (e.g., de-escalation techniques).

— Conduct simulation or role-playing exercises to train staff on the use of de-escalation techniques.

— Conduct workplace violence training drills (e.g., locate safe exits, help patients escape, summon assistance, map out various responses to an assailant who is using a gun, knife, or fists)

— Ensure that all physicians, clinicians, and staff are educated regarding the organization’s code of conduct.

— Communicate the organization’s philosophy prohibiting harassing behavior.

— Educate staff on how to identify and respond to a patient or family member’s discriminatory behavior (e.g., sexual harassment or discrimination based on age, sex, race, ethnicity, or sexual orientation).

— Educate staff about the importance of reporting discriminatory behavior or incidents of workplace bullying, threats, or violence whether perpetrated by patients, visitors, clinicians, or staff.

— Explain the protection from retaliation offered to those who report a coworker’s harassing, demeaning, bullying, threatening, or violent behavior.
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View the full ECRI Institute PSO Deep Dive™: Safe Ambulatory Care report at www.ecri.org/ambulatorycare

For more information about ECRI Institute PSO, email pso@ecri.org.
About ECRI Institute PSO

ECRI Institute PSO is one of the first patient safety organizations (PSOs) to be federally certified under the provisions of the Patient Safety and Quality Improvement Act (PSQIA).

PSQIA gives healthcare organizations a unique opportunity to voluntarily share their safety surveillance data in a protected environment so PSOs can aggregate and analyze the data. The law also charges PSOs with the responsibility to share the findings and lessons learned. The release of ECRI Institute PSO Deep Dive™: Safe Ambulatory Care is in keeping with that responsibility.

About ECRI Institute

ECRI Institute is an independent, nonprofit organization improving the safety, quality, and cost effectiveness of care across all healthcare settings. ECRI’s unbiased assurance in evidence-based research, medical device testing, and knowledge of patient safety are uniquely respected by healthcare leaders and agencies worldwide. Visit ecri.org and follow @ECRI_Institute to learn more.