Healthcare

VANTAGE POINT®

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Medical Error Prevention: Reinvigorating Patient Safety Measures

Injury due to preventable medical error or neglect – known as "iatrogenic harm" – is at epidemic levels. (See "Medical Error: Fast Facts" on page 2.) A 2016 study from Johns Hopkins University found that medical error is the third leading cause of death in the U.S., behind only heart disease and cancer. And a 2023 study from the Johns Hopkins Armstrong Institute Center for Diagnostic Excellence estimates that approximately 795,000 Americans die or are permanently disabled each year solely by diagnostic errors.

As errors escalate, indemnity payments and professional liability insurance rates climb as well. Over the last decade, malpractice insurers and insureds have experienced a steep rise in average claim costs, coupled with a greater number of large loss claims. As a result, the average severity for the 50 largest medical professional liability verdicts in the U.S. rose to $23 million between 2016 and 2019 – a fully 50 percent increase. In some jurisdictions, these trends are accentuated by startlingly high individual jury awards, which have topped $100 million in damages. The combined impact of persistently high error rates, rising claim severity and a greater frequency of large damage awards is generating a relentless cycle of what is known as "social inflation," as described in detail in the figure on page 2.

In this issue…

Tort or social inflation is based upon numerous deeply rooted social, cultural and political factors that are beyond the control of administrators or providers. What can be addressed by the healthcare industry is medical error itself, which involves improving clinical culture, systems and processes at the organizational or practice level. To help healthcare leaders and providers of all types better understand why medical and clinical errors persist, this edition of *Vantage Point*® addresses the following central questions:

- **How should medical/clinical errors be defined?**
- **What actions can be taken to prevent or mitigate their recurrence?**
- **What are the chief factors causing and contributing to medical errors?**
- **What types of risk reduction efforts have been shown to be most effective?**

Social Inflation: Factors Driving the Increase in Claim Costs

Social inflation refers to a cluster of legal, behavioral and socioeconomic changes, which together result in increased litigation, damage awards and, ultimately, higher insurance premiums. Some of the major forces leading to social inflation are indicated below.

Medical Error: Fast Facts

- **About 1.2 million medical errors occur annually,** affecting both patients and residents.
- **Medical errors collectively cost the U.S. healthcare industry approximately $20 billion per year** in damages, legal costs and related expenses.
- **Errors in outpatient care represent slightly more than half** of paid professional liability claims.
- **Surgical mishaps are a common source of error,** as well as misdiagnosis or late diagnosis, medication mismanagement, improper medical device and equipment use, falls with injuries, and substandard care contributing to pressure injuries and elopements.

Sources: Rodziewicz, T. et al. "Medical Error Reduction and Prevention," *STATPearls*, updated May 2, 2023 and Okpalauwaekwe, U. and Tzeng, H. "Adverse Events and Their Contributors Among Older Adults During Skilled Nursing Stays for Rehabilitation: A Scoping Review." *Patient Related Outcome Measures*, published online November 13, 2021.

Types of Medical Errors

Unfortunately, there is no simple, uniform definition of what constitutes a medical error. The lack of a standardized nomenclature can make identifying, classifying and analyzing clinical occurrences a challenge. A variety of terms – e.g., *active error*, *latent error*, *adverse event*, *near miss*, *sentinel event*, *never event* and *negligence* – are used to describe unwanted outcomes in healthcare. In addition, common causes of error can vary among healthcare settings, further complicating efforts to standardize incident identification. For example, in ambulatory care, diagnostic mismanagement is a relatively common source of iatrogenic harm; in aging services, improper resident monitoring is a frequent culprit; and in acute care, invasive procedures are associated with a significant number of claims.

Regardless of setting, most errors fall into one of two principal types:

Errors of Omission i.e., failure to take the right action	Errors of Commission i.e., taking the wrong action
Examples • missed care • gaps in care • tasks left undone • inadequate history taking or physical examination • failure to respond promptly to an urgent situation • failure to properly use patient/resident safety devices • neglecting to follow up or create an action plan • failure to order diagnostic tests and follow up on the results • delay in diagnosis or treatment • failure to monitor	**Examples** • wrong-site surgeries • medication errors • performing a task/procedure incorrectly • misinterpretation of diagnostic findings • ignoring basic safety precautions • failure to adhere to established standards of practice • practicing beyond authorized scope
Common causes • staffing shortages • inadequate training and resources • lack of communication • too many or excessively complex patient/resident care tasks • inadequate patient/resident engagement • dysfunctional data reporting systems • incomplete documentation • failure to thoroughly evaluate a patient	**Common causes** • inequitably distributed workloads due to staffing deficiencies • absence or underuse of safety protocols • prioritizing speed over quality • time pressures • interruptions and chronic multi-tasking • lack of teamwork and collaboration • communication breakdowns • overreliance on technology • system defects • provider burnout

Both types of error are noted in recent CNA claim studies. The box below highlights several noteworthy findings.

CNA Claim Data: Error-related Findings

Elopement is the highest severity allegation in aging services settings, with an average total incurred of $360,840, followed by unsafe environment claims (excluding falls) at $304,920. (See the Aging Services Claim Report: 11th Edition.)

Assessment-related claims – e.g., failure to complete a patient assessment or perform/document a complete history and physical – are the costliest actions filed against nurse practitioners, with an average total incurred of $484,680. (See the Nurse Practitioner Professional Liability Exposure Claim Report: 5th Edition.)

Claims related to treatment and care represent 56 percent of closed claims against nurses, including improper nursing technique and negligent performance of treatment. Allegations related to medication administration account for 10.1 percent of closed claims. (See the Nurse Professional Liability Exposure Claim Report: 4th Edition.)

Wrong drug and **wrong dose/strength errors** are the most common allegations involving pharmacists, at 41.7 percent and 21.9 percent, respectively. The latter category experienced a 46 percent rise in average total incurred, increasing from $49,901 in the 2018 dataset to $72,972 in the 2023 dataset. (See the Pharmacist Professional Liability Exposure Claim Report: 3rd Edition.)

Improper management over the course of treatment and **failure to supervise or monitor a patient** are the two most common allegations asserted against physical therapists, with an average total incurred of $166,874 and $161,726, respectively. Both allegations grew sharply as a proportion of total claims between 2011 to 2020, increasing from 11.3 percent to 27.6 percent, and 15.9 percent to 25.7 percent, respectively. (Physical Therapy Professional Liability Exposure Claim Report: 4th Edition.)

For an in-depth review of CNA closed claim data, click on the reports linked above.

Error Recurrence

"Recurrence" refers to errors caused by factors already detected and analyzed in the clinical setting, and for which specific preventive guidelines have been implemented. Despite ongoing promulgation of patient/resident safety initiatives, proactive error reduction remains a top priority for all healthcare settings.

The diagram below offers broad strategic error-reduction goals designed to help frame internal discussions about patient/resident safety and risk management, especially in terms of minimizing error recurrence.

Despite ongoing promulgation of patient/resident **safety initiatives, proactive error reduction** remains a **top priority** for all healthcare settings.

Contributing Factors

A preventable error cannot be entirely attributed to the poor judgment or performance of a single individual. Errors are more likely to reflect the convergence of multiple contributing causes, including both human factors and workplace conditions conducive to clinical lapses. The table below lists five major types of contributing factors, as well as concrete examples of each.

Factors	Definitions and Examples
Human	**Individual behavioral, physical and/or cognitive attributes that affect the functioning of systems or processes.** • Inadequate knowledge and experience. • Lack of cultural competency. • Fatigue, overwork and burnout. • Stress and anxiety. • Unrealistic performance expectations. • Chemical dependency. • Cognitive biases or tendency to focus on one hypothesis. • Poor recall of skills training. • Personality prone to conflict and disruptive behavior.
Organizational	**Policies, culture and leadership attitudes that influence how an organization and everyone within it behaves.** • Lack of cyclical leadership training on safety issues. • Policies dictated by economic pressures. • Regulatory noncompliance. • Absence of a safety culture. • Staffing shortages. • Inadequate resources. • No formal employee onboarding process. • Inadequate management. • Unclear chain of command.
Environmental	**Hygiene standards, spatial layout, equipment testing and maintenance protocols, and related health and safety considerations.** • No annual hazard vulnerability assessment. • Low lighting. • Distracting or chaotic environment. • Temperature extremes. • Varying attention to safety protocols. • Inadequate infection control measures. • Inaccessible or broken equipment. • Inefficient use of space. • Disorganized medication storage and administration areas.
Technical	**Design, selection, implementation, assessment and support of digital tools and systems.** • Obsolete hardware and/or software. • Non-user-friendly displays. • Cumbersome electronic record interfaces. • Malfunctioning IT hardware. • Ineffective user verification measures. • Inadequate IT training and support services. • No formal reporting and tracking mechanism for technology-induced errors.
Process of Care	**Level of communication, coordination and collaboration among providers and staff members.** • Individual care encounters prioritized over team approach. • Inadequate implementation of collaborative care processes. • Complex, time-consuming documentation requirements. • Inadequate, non-structured communication among team members. • Lack of clinical protocols for complex procedures and processes. • Unrealistic time pressures.

As the table above reinforces, most factors that contribute to errors are of a systemic nature, and typically out of the immediate control of individual providers and staff members. Creating solutions to such problems and reducing the incidence of medical errors will require healthcare organizations to focus on improving health care systems and processes, in order to decrease the variability of individuals working within those systems.

Universal Error Reduction Measures

The following strategies are general in nature and reflect the concept that recurrent medical errors are traceable to flawed processes and cultural issues, which can be rectified only by an organization-wide commitment to safety and quality improvement.

Safety Culture

- **Appoint transformational leaders** who emphasize shared accountability for patient/resident safety and quality of care.
- **Promote a team culture,** supported by open dialogue with leadership.
- **Implement routine safety huddles** to identify system and process failures that contribute to patient/resident harm.
- **Address staff concerns with respect to fear of punishment** when implementing error-reduction programs, focusing on systems and process improvements, rather than individual failures.
- **Enforce safe practices,** such as standardized handoff processes and "do not interrupt" protocols.
- **Empower all members of the treatment team to "stop the line"** whenever safety concerns arise.
- **Routinely assess clinical safety-related risks** and address observed deficiencies in action plans that are distributed to key stakeholders.
- **Train providers and staff to engage the chain of command** whenever unsafe clinical situations arise.

Human-factor Principles

- **Simplify and standardize processes** by using safety checklists, electronic work lists, action queues and other electronic reminders.
- **Build "forcing functions" into IT systems,** requiring users to take appropriate action with respect to safety and compliance.
- **Design systems and processes that avoid reliance on memory** and which proactively alert providers before an error occurs.
- **Continually monitor error-prone care processes** – including documentation, medication administration, lifts and mobility assistance – and identify missteps.

Reengineered Processes

- **Map out workflows in order to detect potential problems,** including staff workarounds and process bottlenecks that can lead to failed actions, delays and gaps in care.
- **Help staff improve work habits** by teaching them the Plan-Do-Study-Act cycle, as well as other performance improvement methods.
- **Evaluate information flow** – especially concerning history and physical findings, diagnostic test results, referrals and patient/resident handoffs – and modify, as necessary.
- **Design error-proof processes,** such as diagnostic and care protocols for "red flag" clinical presentations and "don't miss" diagnoses, mandatory timeouts and color-coded supply systems.
- **Hold rapid improvement events designed to impart basic problem-solving skills and techniques,** such as value streaming, process mapping and handoff charts.
- **Develop performance dashboards for clinical and administrative staff** in order to communicate process changes and demonstrate progress.

Team Orientation and Training

- **Foster a collaborative team framework,** in which providers and staff habitually consult with and rely upon one another.
- **Institute team orientation sessions** in which teammates work together to identify and resolve problems.
- **Utilize electronic lists to track incomplete or pending tasks,** and train members to collaborate with each other to complete duties.
- **Adopt clinical tools designed to streamline care processes,** including checklists, goal sheets and case analysis formats.
- **Design training sessions around team management concepts,** using simulation modules, TeamSTEPPS principles, and related tools and concepts.
- **Perform workflow assessments on an ongoing basis** and reconfigure teams for optimal performance.

Closed Loop Communication

- **Implement a three-step closed loop communication process,** in which 1) the transmitter conveys a message, using the recipient's name when possible; 2) the receiver acknowledges receipt verbally, seeking clarification if required; and 3) the transmitter verifies that the message was received and correctly interpreted.
- **Enforce closed loop communication at critical points of care,** such as at the beginning and end of shifts, when transferring care and reporting critical test results.
- **Encourage constructive feedback among team members** to identify needed changes.

Practice Variation Protocols

- **Establish a clinical variation task force or committee** to identify inconsistencies and aid in aligning clinical practice with evidence-based standards.
- **Detect and prohibit practices that contribute to unnecessary utilization of healthcare services,** as well as the over- or under-utilization of resources.
- **Identify team members who disregard practice guidelines** and provide supplemental compliance training.
- **Create action plans that assign accountability** to care teams and providers, including measurable patient/resident outcomes.

Diagnostic Safeguards

- **Treat diagnosis as a team activity,** encouraging colleagues to collaborate on such tasks as compiling data, scrutinizing test results and integrating information.
- **Support good diagnostic habits,** reinforcing the need to continually ask how the patient's/resident's clinical picture supports the working diagnosis.
- **Utilize diagnostic time-outs** to ensure that test results have been comprehensively reviewed and that remote diagnoses have been considered.
- **Digitize the diagnostic process,** utilizing up-to-date IT systems that can streamline tracking functions and information flow across care settings and providers.
- **Educate providers about potential diagnostic lapses,** including the risk of bias and erroneous logic.
- **Monitor diagnostic performance** through peer review and other forms of professional feedback.

Medication Safety

- **Prepare a complete drug history on patients/residents,** including an up-to-date electronic medication profile with prominent allergy notations.
- **Adopt technology-based checks for medication allergies,** as well as for drug-drug interactions and safe dosing.
- **Institute infusion verification procedures** that include patient/resident name and ID, as well as the drug solution base, concentration rate of infusion and patency of line attachments.
- **Clearly communicate potential drug side effects** during handoffs and other transitional moments.
- **Incorporate precautions for look-alike and sound-alike drugs** into computer order entry and automatic drug dispensing systems.
- **Implement a secondary labeling and automated warning system for high-alert medications** and permit only appropriately licensed and trained staff members to administer these drugs.
- **Employ machine-readable coding** to check patient/resident identity, allergy status and pertinent drug data prior to administration.
- **Reconcile medication profiles on a routine basis** and archive past prescriptions.
- **Routinely assess staff members' proficiency in transcribing and administering medications,** using monitored and documented simulations and provide cyclical training on medication safety.

Health Literacy

- **Identify barriers to health literacy among patients/residents** and ensure that instructions and educational materials are written at an appropriate reading level and in a language that patients/residents understand.
- **Use non-technical terminology when communicating with patients/residents,** focusing on one to three key points and reinforcing messages with easily comprehensible written, pictorial and online materials.
- **Ask patients/residents and family members to repeat instructions,** especially with respect to medication management, referrals and discharge instructions.

Falls Mitigation

- **Convene a fall mitigation team** to analyze hazards and develop realistic mitigation strategies.
- **Identify patients/residents at higher risk for sustaining serious injury,** utilizing a multifactorial assessment tool.
- **Conduct hourly rounds** on residents and high risk patients, and document environmental safety checks.
- **Utilize video systems and other electronic devices** to monitor patients/residents at higher risk for falls.
- **Proactively address patient/resident noncompliance** and reinforce reasonable expectations.
- **Seek input on fall reduction efforts** from patients/residents and family members.
- **Adopt a post-fall huddle tool** to aid in identifying and reporting contributing risk factors.

Safety Campaigns

- **Hold periodic focus groups** in which team members identify urgent safety issues and common lapses.
- **Incorporate focus group findings** into organizational safety initiatives.
- **Direct ongoing safety campaigns** – such as "Speak Up for Safety," "Stop the Line," "Call, Don't Fall," and "No Pass Zones" – to both healthcare professionals and patients/residents.
- **Promote safety campaigns online,** as well as via posters and infographics in clinical settings and staff areas.
- **Include safety awareness in performance reviews,** assessing supervisors' success in promoting safety goals and being open to staff and patient/resident input.

Error Transparency

- **Clearly define "medical error**" – e.g., any clinical action or failure to act that has proved harmful or resulted in a near miss – in policy documents.
- **Encourage reporting of errors and near misses,** and distribute regular reports to staff and providers that highlight data trends, areas of improvement and priorities for continued work.
- **Draft a legally reviewed error disclosure policy** that clearly states when disclosure statements and/or apologies are indicated.
- **Appoint a disclosure support representative** to compile pertinent information post-incident.
- **Train staff on the four "Rs" of medical error disclosure,** i.e., **R**eporting, **R**eaching out, **R**eview and **R**esolution.
- **Meet with patients/residents and/or family members in the immediate aftermath of an event**, in close consultation with legal counsel and the organizational risk manager.
- **Provide closure to the patient/resident and family,** describing the event in a clear and forthright manner.
- **Conduct an internal summary meeting** for the purpose of discussing investigative findings, follow-up measures and strategies to prevent recurrence.

Safety Learning Reports

- **Perform root cause analyses of errors,** including near misses.
- **Appoint a "safety champion"** to compile events and track their occurrence in a database.
- **Prepare safety reports following adverse events,** in order to convey lessons learned and reinforce error-reduction practices.
- **Characterize the error identification and reporting process as an opportunity to enhance safety and quality,** and to promote open dialogue regarding incidents and near misses, as well as "good catches."

Patient/Resident Engagement

- **Appoint a patient/resident advocate to care teams** in order to clarify provider roles and responsibilities, reinforce healthcare directives and manage patient/resident expectations.
- **Conduct interdisciplinary rounds at bedside,** including family members when appropriate.
- **Give patients/residents ample opportunity to ask questions** and to express their concerns.
- **Convene patient/resident councils,** encouraging patients/residents and family members to join.

Providing safe, quality care is the primary responsibility of every healthcare practice and facility. By addressing errors in a system-focused, proactive and non-punitive manner, providers and administrators can create a more open, responsive and safety-focused culture that optimizes patient/resident care while minimizing liability exposure.

Did you know?

According to the National Practitioner Data Bank, the average indemnity payout has increased 41 percent since 2005, which was the last reported hard cycle for the professional liability insurance market. (A "hard market" refers to a situation where demand for insurance coverage outpaces capacity.) Larger indemnity payments often translate to higher insurance premiums for many organizations and providers, as well as more restrictive terms. In addition, greater frequency of errors and litigation leads to lost reimbursement opportunities and additional treatment days/encounters, both of which can affect profitability.

Quick Links to CNA Resources

- *AlertBulletin*® 2020-Issue 2, "Environmental Safety: Enhancing Hygiene, Minimizing Hazards."
- *AlertBulletin*® 2022-Issue 1, "Adverse Event Review: Enhancing Analysis, Safeguarding Data."
- *CareFully Speaking*® 2021-Issue 1, "Resident Falls: A Collaborative Strategy for Risk Mitigation."
- *inBrief*®- Republished 2020. "Medication Safety: Strategies for Reducing Ambulatory Risk."
- *inBrief*® 2022-Issue 2, "Diagnostic Errors: Common Causes, Effective Countermeasures."
- *Vantage Point*® 2021-Issue 1, "Provider Burnout: A Root Cause Approach to Reducing Stress."

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