SPECIAL REPORT

Top 10 Patient Safety Concerns 2025

ECRI

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Top 10 Patient Safety Concerns 2025

This annual report from ECRI and the Institute for Safe Medication Practices (ISMP) highlights the 10 most pressing patient safety challenges facing the healthcare industry in 2025.

Leveraging ECRI and ISMP's data-driven research and expert insight, the report discusses critical areas that healthcare leaders should consider as opportunities to minimize preventable harm. Some are emerging issues, while others are persistent yet unresolved. However, all represent areas where impactful change is possible.

This list serves as a strategic guide for implementing proactive, system-wide solutions aimed at reducing risk and improving patient outcomes across the healthcare spectrum.

The List for 2025

1. **Risks of Dismissing Patient, Family, and Caregiver Concerns**
2. **Insufficient Governance of Artificial Intelligence in Healthcare**
3. **The Wide Availability and Viral Spread of Medical Misinformation: Empowering Patients through Health Literacy**
4. **Medical Error and Delay in Care Resulting from Cybersecurity Breaches**
5. **Unique Healthcare Challenges in Caring for Veterans**
6. **The Growing Threat of Substandard and Falsified Drugs**
7. **Diagnostic Error: The Big Three—Cancers, Major Vascular Events, and Infections**
8. **Persistence of Healthcare-Associated Infections in Long-Term Care Facilities**
9. **Inadequate Communication and Coordination during Discharge**
10. **Deteriorating Community Pharmacy Working Conditions Contribute to Medication Errors and Compromise Patient and Staff Safety**

More Tools for ECRI's Top 10 Patient Safety Concerns 2025

- Scorecard
- Customizable Risk Map

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The 2025 Top 10: A New Era of Patient Safety

As healthcare advances at an unprecedented pace, the landscape of patient safety is continually evolving. The year 2025 marks a pivotal moment in this ongoing journey, as we are now a quarter of a century removed from the Institute of Medicine's landmark report, *To Err Is Human*.

We are currently facing challenges that seemed futuristic and improbable in 1999—the integration of artificial intelligence in clinical settings, the growing threat of cyberattacks on health data, and the viral spread of medical misinformation on social media platforms. Our society has also become more conscious of widening health disparities, and a new movement is giving voice to those who have been "medically gaslit."

And yet, we are still grappling with challenges that have plagued healthcare teams for years, such as missed diagnoses and healthcare-associated infections.

This new era of patient safety requires heightened vigilance, new and adaptive strategies, and a commitment to fostering a culture of safety with health-literate practices that ensure the well-being of patients in an increasingly digital, complex, and interconnected world.

Not all topics on the list will apply to all healthcare facilities and, of course, not all possible patient safety concerns made our Top 10; rather, our experts determined that the topics listed here should receive greater attention and consideration in 2025.

Further, the omission of a topic that was included in a previous year's list should not be interpreted to mean that the topic no longer deserves attention. Many of those concerns still persist, and healthcare organizations should continue taking action to minimize them. See Ongoing Patient Safety Challenges for a list of perennial patient safety issues.

Method for Selecting our List

This list reflects ECRI and ISMP's broad patient safety and risk management expertise. Our interdisciplinary staff includes experts in medicine, nursing, pharmacy, patient safety, quality, risk management, clinical evidence assessment, health technology, and many other fields.

As part of the topic nomination process, ECRI and ISMP staff proposed important patient safety concerns to be evaluated. Nominators supported their proposals with information and evidence from scientific literature; trends in event reports, causal analyses, and research requests submitted to ECRI and the ISMP Patient Safety Organization; reports submitted to the ISMP National Medication Errors Reporting Program and the ISMP National Vaccine Errors Reporting Program; medical device alerts, problem reporting, and evaluation; reported medication-safety problems; accident investigations; lessons learned from consultation work; and other internal and external data sources. ECRI and ISMP also asked the public and members who read last year's report to nominate topics by sharing the patient safety issues that concern them most.

A cross-disciplinary team of ECRI and ISMP experts then analyzed the supporting evidence and evaluated each topic using the following criteria:

- **Severity.** How serious would the harm be to patients if this safety issue were to occur?
- **Frequency.** How likely is it for the safety issue to occur?
- **Breadth.** If the safety issue were to occur, how many patients would be affected?
- **Insidiousness.** Is the problem difficult to recognize or challenging to rectify once it occurs?
- **Profile.** Would the safety issue place a lot of pressure on the organization?

Based on these criteria, the interdisciplinary team chose and ranked the top 10 patient safety concerns.

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A Total Systems Approach to Safety

ECRI's Total Systems Approach to Safety (TSS) moves organizations away from reactive, disconnected interventions by codesigning and implementing a holistic, proactive, and sustainable safety system that achieves better results.

TSS aligns leadership, governance, and culture priorities with workforce safety and wellness, along with patient and family engagement. By redesigning safety system elements, healthcare providers can deliver care more reliably and resiliently.

Rooted in advanced safety science, clinically informed human factors engineering, just culture, and health equity, TSS aims to prevent error, reduce harm, improve staff well-being, and enhance overall care quality.

Prioritizing Strategies, Taking Action, and Measuring Improvement

No organization can tackle all 10 items immediately. Organizations must calculate each item's risk score and conduct a gap analysis to evaluate their current practices against our recommendations. To help with this process, organizations can use this year's scorecard.

To address each concern in this year's list, readers can consider our action recommendations, which are framed around the four foundational drivers of safety—culture, leadership, and governance; patient and family engagement; workforce safety and wellness; and learning system. These evidence-based recommendations were developed by ECRI and ISMP's analysis from a wide range of data sources, offering strategies to support continuous improvement in healthcare. They also illustrate how systems can contribute to harm—or drive patient safety.

Healthcare leaders must be intentional about implementing solutions in their own complex, unique organizations. Superficial attempts will not be enough to make meaningful changes in improving patient safety. Before implementing changes, leaders must establish systems and processes for measuring and analyzing improvements, and they should be ready to modify or discontinue specific strategies based on the results analysis.

Safety concerns can have clinical, cultural, efficiency, and financial impacts on an organization. Measuring the results of changes should be multimodal—with structural-, process-, and outcomes-related metrics. Sources of data may include event reports; medication-safety data; survey results, including results from culture of safety, employee satisfaction, and patient experience surveys; morbidity and mortality data; length-of-stay statistics; focus group discussions; and direct observation data. In addition, organizations should segment data to better understand inequities that may create disparities in both patient and workforce outcomes.

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Risks of Dismissing Patient, Family, and Caregiver Concerns

#1 Patient Safety Concern

In today's fast-paced and high-pressure environment, healthcare professionals care for an increased number of complex patients, often communicate with multimodal technologies, and have a finite amount of time to spend with each patient. When working within a misaligned system that does not facilitate empathetic patient-centered care, healthcare professionals may not fully involve patients in their own care.

According to one survey conducted in 2023, more than **94% of respondents reported instances where they felt their symptoms were ignored or dismissed by a doctor.**[1]

When this happens to a patient, family member, or a caregiver of a patient, it can feel like they are experiencing what's known as "medical gaslighting." According to the *American Journal of Medicine*, medical gaslighting is "an act that invalidates a patient's genuine clinical concern without proper medical evaluation."[2] Medical gaslighting is derived from the term "gaslighting," which is when an individual is manipulated into questioning their own perception.[3] However, medical gaslighting is not driven by an intentional desire to manipulate patients, and clinicians may not be aware they are exhibiting gaslighting behavior.

Dismissing patient concerns can also arise from a clinician's preconceived ideas about specific symptoms, misunderstandings of certain medical conditions, unconscious biases, challenges regarding causes for nonspecific complaints, or cognitive biases in clinical decision-making.[2]

Medical gaslighting behaviors include:

- Dismissing or refusing to discuss symptoms[4] or medication concerns
- Minimizing the severity of symptoms, specifically pain[4]
- Ignoring or interrupting patients[4]
- Misattributing symptoms to mental illness, weight, age, or other attributes[3]
- Refusing to order follow-up tests[4]
- Blaming the patient[3] or exhibiting condescending behavior (e.g., suggesting that the patient is exaggerating)

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This issue presents an opportunity for leaders and healthcare professionals alike to consider how they can take a total systems safety approach to redesigning elements of the patient-provider interaction.

Medical Gaslighting Leads to Missed and Delayed Diagnosis

Medical gaslighting leads to misdiagnosis, delayed treatment, prolonged suffering, and emotional distress; **55% of survey respondents reported worsened symptoms after a doctor dismissed their concerns, and 28% said they experienced a health emergency due to a provider's lack of response.**[1]

An estimated **28% of diagnostic errors are a result of cognitive error.**[5] Further, one study found **evidence of cognitive bias in 55% of simulated sessions.**[6] Most participants ended up self-identifying their biases and changing course, but **27% of participants did not recognize their own biases** and continued with their simulated plan of treatment for the incorrect diagnosis.[6]

Examples of cognitive biases in clinical care that could lead to clinicians dismissing patient concerns include:

- Premature closure—disinclination to consider alternative diagnoses once a probable one is found[7]
- Diagnostic overshadowing—misattribution of symptoms to an existing diagnosis or a personal factor (e.g., disability, substance use, obesity)[8]
- Confirmation bias—tendency to interpret new information as confirming a preconceived diagnosis[9]

Ultimately, when clinicians fail to recognize their biases, it can take months or years for their patients to receive an accurate diagnosis and begin appropriate treatment.[10]

Dismissing Patient Concerns Exacerbates Health Disparities

Dismissing patient concerns tends to occur more often for certain populations, such as women; people of color; patients with more weight; older patients; disabled patients; neurodivergent patients; and lesbian, gay, bisexual, transgender, and queer patients. Health disparities in these populations are often a product of structural racism, sexism, homophobia, ableism, and other forms of discrimination. Medical gaslighting adds another layer of risk and potential harm.

Black patients, especially women, are less likely to have their pain taken seriously compared to their White counterparts, which can lead to inadequate pain management and delays in receiving urgent care.[11]

Female patients are more likely than men to have their symptoms misattributed to their mental health, weight, or a lack of self-care.[12] One study found that **women were twice as likely as men to be misdiagnosed with a mental illness** when they were experiencing heart disease.[13]

The effects of medical gaslighting extend beyond immediate health outcomes. Patients, families, or caregivers who feel like they're experiencing medical gaslighting **lose trust in their providers** and the healthcare industry and are less likely to seek care in the future; one study found that more than **40% of female participants avoided medical care** because of previous experiences of medical gaslighting.[14] This avoidance creates a vicious cycle resulting in exacerbated symptoms of chronic conditions and missed opportunities to identify preventable illnesses.

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Action Recommendations

Culture, Leadership, and Governance

- Set an organizational priority focused on maintaining patient trust as a primary goal.
- Conduct open conversations with staff to highlight the impact of medical gaslighting behaviors and cognitive biases on diagnosis.[14] Executive leaders should communicate to all employees and patients that medical gaslighting is a threat to patient-centered care.
- Limit staff's use of "never words," which are words and phrases that undermine the patient's ability to speak freely (e.g., "There is nothing else we can do," "I don't know why you waited so long to come in," "Let's not worry about that now").[15]
- Examine the organizational scheduling policy to ensure that clinicians have the appropriate amount of time to thoroughly gather and process information and address all patient concerns.
- Prioritize workforce diversity and inclusion at all levels (e.g., leaders, clinicians, front desk staff, referral coordinators) to enhance understanding and empathy.[14]

Patient and Family Engagement

- Provide patients with tools and resources that help them tell their personal health stories in a clear, concise way. One example is the Agency for Healthcare Research and Quality's (AHRQ) Be The Expert On You,[16] a patient-facing tool that helps patients and families articulate their concerns when they meet with their healthcare provider.
- Ask patients open-ended questions and avoid leading questions during patient-provider interactions (e.g., "I see you have a history of depression. Do you think that could be the reason you may be experiencing headaches?").
- Directly ask patients whether all their concerns have been addressed to engage patients as equal partners in their care and empower them to understand their diagnoses, ask questions, and speak up.
- Ensure that patients know their rights and the steps they may take to seek a second opinion if they feel the provider is not taking their concerns seriously.

Workforce Safety and Wellness

- Engage healthcare professionals to practice empathetic listening techniques, such as AHRQ's 60 Seconds To Improve Diagnostic Safety.[16] This technique encourages healthcare professionals to actively listen to patients without interrupting or invalidating their experiences. Active listening can help providers better understand the patient's concerns and strengthen the provider-patient relationship.
- Implement evidence-based mindful procedures to support clinicians in overcoming bias (e.g., reflection or diagnostic time-outs).[5]

Learning System

- Apply a severity scoring system to patient complaints and grievances to measure and monitor incidents of medical gaslighting. Provide feedback to healthcare providers who are the subject of the complaint or grievance.
- Use simulation training to help expose clinicians to a wide variety of clinical scenarios and patient populations.
- Educate clinicians on complex medical conditions, such as endometriosis,[17] for which symptoms are often misunderstood or minimized.
- Consider the potential for differential diagnoses. Consult with colleagues or conduct additional testing, if needed, to confirm an initial diagnosis.
- Consider the role of cognitive biases during event analyses to enhance understanding of how they contribute to patient safety events and how they can be mitigated.[5]

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ECRI Resources

Ask ECRI: Medical Gaslighting (HSRM, ACRM)

Safety Break - Provider Cognitive Bias: Impact on Diagnosis (HSRM, ASRM, ACRM)

Cognitive Biases and Diagnostic Error (Top 10 Patient Safety Concern for 2022)

Racial and Ethnic Disparities in Healthcare (Top 10 Patient Safety Concern for 2021)

Taking Action: Effective Provider-Patient Communication (HSRM, ASRM, ACRM)

Taking Action: Strategies to Advance Health Equity (HSRM, ACRM)

References

1. Kennedy LP. What you told us about medical gaslighting. Health Central. September 28, 2023. Accessed September 19, 2024. https://www.healthcentral.com/chronic-health/what-you-told-us-about-medical-gaslighting
2. Ng IKS, Tham SZL, Singh GD, Thong C, Teo DB. Medical gaslighting: a new colloquialism. *Am J Med*. 2024;137(10):920-922. doi:10.1016/j.amjmed.2024.06.022
3. Understanding gaslighting: what it means, how to recognize it and what to do. Cleveland Clinic. October 24, 2024. Accessed November 21, 2024. https://health.clevelandclinic.org/gaslighting
4. Caron C. Feeling dismissed? How to spot 'medical gaslighting' and what to do about it. *New York Times.* July 29, 2022. Accessed September 19, 2024. https://www.nytimes.com/2022/07/29/well/mind/medical-gaslighting.html
5. Quick Safety Issue 28: cognitive biases in health care. Joint Commission. October 2016. Last accessed September 19, 2024. https://www.jointcommission.org/-/media/tjc/documents/newsletters/quick_safety_issue_28_oct_2016pdf.pdf (link no longer available).
6. Altabbaa G, Raven AD, Laberge J. A simulation-based approach to training in heuristic clinical decision-making. *Diagnosis (Berl)*. 2019;6(2):91-99. doi:10.1515/dx-2018-0084
7. Kumar B, Kanna B, Kumar S. The pitfalls of premature closure: clinical decision-making in a case of aortic dissection. *BMJ Case Rep*. 2011;2011:bcr0820114594. doi:10.1136/bcr.08.2011.4594
8. Hallyburton A. Diagnostic overshadowing: an evolutionary concept analysis on the misattribution of physical symptoms to pre-existing psychological illnesses. *Int J Ment Health Nurs*. 2022;31(6):1360-1372. doi:10.1111/inm.13034
9. O'Sullivan ED, Schofield SJ. Cognitive bias in clinical medicine. *J R Coll Physicians Edinb*. 2018;48(3):225-232. doi:10.4997/JRCPE.2018.306
10. Stollznow K. 'It's all in your head': the dangers of medical gaslighting. *Psychology Today.* May 25, 2022. Accessed September 19, 2024. https://www.psychologytoday.com/us/blog/speaking-in-tongues/202205/it-s-all-in-your-head-the-dangers-medical-gaslighting
11. Boakye PN, Prendergast N, Bailey A, et al. Anti-Black medical gaslighting in healthcare: experiences of Black women in Canada. *Can J Nurs Res*. April 22, 2024. doi:10.1177/08445621241247865
12. Moyer MW. Women are calling out 'medical gaslighting.' *New York Times.* Updated June 22, 2023. Accessed September 19, 2024. https://www.nytimes.com/2022/03/28/well/live/gaslighting-doctors-patients-health.html
13. Maserejian NN, Link CL, Lutfey KL, Marceau LD, McKinlay JB. Disparities in physicians' interpretations of heart disease symptoms by patient gender: results of a video vignette factorial experiment. *J Womens Health (Larchmt)*. 2009;18(10):1661-1667. doi:10.1089/jwh.2008.1007
14. Gebreyes K, Radin J, Dhar A, Bhatt J, Gerhardt W, Korenda L. What's causing US women to skip or delay medical care? Deloitte Insights. September 10, 2024. Accessed September 19, 2024. https://www2.deloitte.com/us/en/insights/industry/health-care/why-women-skip-or-delay-health-care.html
15. Texas A&M University. Do no harm: researchers help doctors identify words they should never say to patients. EurekAlert! November 7, 2024. Accessed November 12, 2024. https://www.eurekalert.org/news-releases/1064114
16. Toolkit for engaging patients to improve diagnostic safety. Agency for Healthcare Research and Quality. Reviewed July 2022. https://www.ahrq.gov/diagnostic-safety/tools/engaging-patients-improve.html
17. Fearn H. 'Gaslit by doctors': UK women with endometriosis told it is 'all in their head.' *The Observer*. January 21, 2024. Accessed September 19, 2024. https://www.theguardian.com/society/2024/jan/21/gaslit-by-doctors-uk-women-with-endometriosis-told-it-is-all-in-their-head

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Insufficient Governance of Artificial Intelligence in Healthcare

#2 Patient Safety Concern

Although artificial intelligence (AI) has been present in healthcare for years, AI is being incorporated into an ever-growing array of healthcare applications, including imaging applications, clinical decision-making support tools, medical notes generation, and scheduling tools.

AI applications have many potential benefits, including improved clinical outcomes, reduced costs, and reduced healthcare-worker burnout. However, common issues with AI technology—such as bias, transparency, and privacy and security concerns—can have unique and dangerous consequences in healthcare.[1]

AI models are only as good as the algorithms they use and the data on which they are trained. When AI models are based on bad data, they can increase the chances of an adverse event.[1]

Medical errors generated by AI could compromise patient safety and lead to misdiagnoses and inappropriate treatment decisions, which can cause injury or death.[2] **Staff may also have difficulty determining when events are attributable to AI, making such errors harder to track.**

Despite its widespread application and potential risks, **few healthcare organizations have policies governing the use of AI.** A 2023 survey of 31 hospital executives found that **only 16% reported that their organization had a system-wide governance policy for AI usage and data access.**[3]

Reports have found that certain AI models demonstrate bias related to race, socioeconomic status, gender, or sexual orientation, which could exacerbate healthcare disparities.[4] Despite this, one study found that academic medical centers inconsistently consider factors like inequity, racism, or bias in AI governance policies.[5]

Both patients and healthcare workers have expressed concerns over the adoption of AI in healthcare.

In a December 2022 survey of 11,004 US adults, **60% said they would feel uncomfortable with their provider relying on AI for their medical care**, and **75% were concerned that providers will adopt AI too fast**.[6]

A 2024 survey of over 2,300 registered nurses found that **60% disagreed with the statement, "I trust my employer will implement A.I. with patient safety as the first priority**."[7]

Failure to develop system-wide governance to evaluate, implement, oversee, and monitor new and current AI applications may increase healthcare organizations' liability risks. However, it can be challenging to establish policies that can adapt to rapidly changing AI technology.

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Action Recommendations

Culture, Leadership, and Governance

- Establish policies, define processes, and assign responsibilities for the governance, implementation, oversight, and monitoring of AI solutions.
- Form a multidisciplinary committee to evaluate new technologies that incorporate AI and determine risks; include representatives from leadership, clinical services, human factors engineering, clinical engineering, patient safety, and risk management.
- Ensure that organizational policies on the use of AI in medical technologies align with federal, state, and local laws and regulations. Monitor developments in these areas and update policies as needed.
- Train staff on the organization's AI usage policy, including which AI applications are approved and prohibited for job-related activities, and whom to ask should confusion arise.
- Regularly assess safety and clinical outcomes related to practices impacted by AI and any effects the AI solution may have on healthcare disparities.

Patient and Family Engagement

- Disclose the use of AI to patients and obtain their informed consent beforehand if the organization uses generative AI (e.g., notetaking, guiding clinical decision-making) or if it uploads patient clinical data to an AI system (e.g., to help with diagnosis).
- Solicit feedback from patients if the organization uses AI in patient-facing applications to determine whether the system is easy to use and meets their specific needs.
- Engage patient and family advisory councils in the design of appropriate messaging and communication aimed at educating patients on the use of generative AI.

Workforce Safety and Wellness

- Ensure that the organization performs human-factors-based assessments of clinical workflows when new technologies that incorporate AI are implemented to determine potential impacts.
- Regularly assess the user experience of staff related to AI applications.
- Take staff concerns related to the operation and use of AI applications seriously and take steps to investigate and address them.

Learning System

- Implement a robust reporting system for AI-related medical incidents, errors, and adverse events, and/or review the organization's current incident reporting system to ensure that it can capture AI-associated concerns.
- Emphasize to staff that AI is a tool, and that they should defer to their own clinical judgment and seek second opinions when questioning clinical decisions or diagnoses aided by AI.
- Educate staff on how to identify incidents, errors, or adverse events that can be attributed to AI functionality, including those related to privacy, accuracy, misdiagnosis, and potential bias. Encourage staff to report such errors as they would any other anomaly.

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ECRI Resources

Incorporating AI into Healthcare (ECRI Position Paper)

AI in Healthcare: An Introduction (Device Evaluation)

Ethical Use of AI in Healthcare (Device Evaluation)

Risks with AI-Enabled Health Technologies (Top 10 Health Technology Hazards for 2025)

Insufficient Governance of AI Used in Medical Technologies Risks Inappropriate Care Decisions (Top 10 Health Technology Hazards for 2024)

Unintended Consequences of Technology Adoption (Top 10 Patient Safety Concerns for 2024)

State of Artificial Intelligence: Viewpoints from ECRI Clinical and Technical Experts (Device Evaluation)

Technology Acquisition and Management (HSRM)

Policy and Procedure Builder: Artificial Intelligence Governance Policy (HSRM, ASRM, ACRM)

References

1. U.S. Government Accountability Office; National Academy of Medicine. Artificial Intelligence in Healthcare: Benefits and Challenges of Technologies to Augment Patient Care. GAO-21-7SP. November 2020. Accessed September 12, 2024. https://www.gao.gov/products/gao-21-7sp
2. Taha A. AI risks in global health 'must be accounted for' – WHO. SciDev.Net. January 24, 2023. Accessed September 12, 2024. https://www.scidev.net/global/news/ai-risks-in-global-health-must-be-accounted-for-who/
3. How health systems are navigating the complexities of AI. Center for Connected Medicine. February 9, 2024. Accessed September 12, 2024. https://info.connectedmed.com/l/689353/2024-02-09/2lvknc/689353/1707510824kuJAqb0f/How_Health_Systems_Are_Navigating_The_Complexities_Of_AI_CCM_Reports.pdf
4. Mittermaier M, Raza MM, Kvedar JC. Bias in AI-based models for medical applications: challenges and mitigation strategies. *NPJ Digit Med*. 2023;6(1):113. doi:10.1038/s41746-023-00858-z
5. Nong P, Hamasha R, Platt J. Equity and AI governance at academic medical centers. *Am J Manag Care*. 2024;30(6 Spec No.):SP468-SP472. doi:10.37765/ajmc.2024.89555
6. Tyson A, Pasquini G, Spencer A, Funk C. 60% of Americans would be uncomfortable with provider relying on AI in their own health care. Pew Research Center. February 22, 2023. Accessed September 12, 2024. https://www.pewresearch.org/science/2023/02/22/60-of-americans-would-be-uncomfortable-with-provider-relying-on-ai-in-their-own-health-care/
7. National Nurses United survey finds A.I. technology degrades and undermines patient safety. National Nurses United. May 15, 2024. Accessed September 12, 2024. https://www.nationalnursesunited.org/press/national-nurses-united-survey-finds-ai-technology-undermines-patient-safety

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The Wide Availability and Viral Spread of Medical Misinformation: Empowering Patients through Health Literacy

#3 Patient Safety Concern

Medical misinformation is health information that is false, inaccurate, or misleading, based on current available evidence.[1] Misinformation is widely available and dispersed further and faster than before, with one study finding that **false information is 70% more likely than the truth to be shared on Twitter (now known as X) and will reach people six times faster.**[2]

This availability and rapid spread of medical misinformation may lead to patients requesting ineffective or dangerous treatments or cause patients to forgo proven effective treatments. Examples of misinformation include:

- Facebook groups where members claim that feeding children chlorine dioxide—a disinfectant similar to bleach—will cure their autism.[3]
- TikTok videos tagged with #parasitecleanse that promote remedies ranging from expensive and ineffective to harmful or fatal, especially when given to young children.[4]
- Internet articles claiming that "Big Pharma" is hiding the cure for cancer in order to make more money.[5]

If viral misinformation is the disease, **health literacy is part of the cure**. Personal health literacy is "the degree to which individuals have the ability to find, understand, and use information and services to inform health-related decisions and actions for themselves and others," and organizational health literacy is "the degree to which organizations equitably enable individuals to find, understand, and use information and services to inform health-related decisions and actions for themselves and others."[6]

It is estimated that **59% of US adults search for medical information online**.[7] Some health influencers exploit this trend for their own financial gain,[1] such as accepting payment from companies, particularly in the diet and nutrition industries,[8] to promote unproven or unsafe treatments to their social media followers.

However, not all content creators have exploitative intentions. Some "did their own research" after feeling dissatisfied with their doctor's advice and feel they must share the "truth" with others. Those who already harbor mistrust toward the healthcare industry are particularly vulnerable to accepting this misinformation, as it resonates with their own experiences. They then share the content with their own followers.

Social medial platforms are trying to combat this issue by developing misinformation policies[9-11]; however, the volume of content across languages and cultures makes removing all misleading content challenging. Further, these policies can be altered or removed at any time, such as when Twitter stopped enforcing its COVID-19 misinformation policy in 2022[12] and when Meta (i.e., the parent company of Facebook, Instagram, and Threads) announced it would be ending its third-party fact-checking program in 2025.[13]

When healthcare professionals collaborate with patients, it leads to more informed decision-making and improved health outcomes. By improving health literacy, healthcare organizations help patients identify medical misinformation and take a more active and informed role in their healthcare decisions.

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Action Recommendations

Culture, Leadership, and Governance

- Elicit leadership buy-in to integrate health literacy into the organization's mission, goals, and strategic plan.[14]
- Conduct educational campaigns and workshops to inform the local community of common medical myths, strengthen critical thinking and media literacy, and stress the importance of seeking evidence-based information.
- Partner with local public figures, faith leaders, trusted local social media influencers, and other community groups to disseminate accurate health information.[1]
- Actively use the organization's social media pages to share accurate information and debunk common medical myths.
- Work with government agencies to advocate for stronger regulations requiring social media platforms to strengthen their efforts to curb the spread of medical misinformation.

Patient and Family Engagement

- Complete a health literacy assessment for all patients.[15]
- Foster strong provider-patient relationships by creating a welcoming environment where patients and caregivers feel comfortable asking health-related questions and sharing information they have encountered online or in their social groups.
- Ask open-ended questions about the patient's fears (e.g., "Tell me what concerns you most about giving your child this vaccine?").[16]
- Listen with empathy and respond to patient concerns without judgment. When patients present misinformation, address it calmly and respectfully, providing evidence-based information to counteract it.
- Break down complex medical information into simple terms and use analogies and visual aids when appropriate.
- Help patients develop the skills to find reliable sources of information and evaluate the credibility of sources. Encourage them to question and verify what they hear or read.
- Acknowledge the evolving nature of science and medicine, such as when discussing current public health guidance.[16]

Workforce Safety and Wellness

- Support staff who raise feelings of frustration or burnout from continually addressing medical misinformation with patients.
- Develop materials (e.g., patient brochures, scripts for clinicians) that staff can easily access and share to address common medical misconceptions that patients frequently mention.
- Train staff in effective communication techniques, including de-escalation strategies to use with defensive or combative patients during discussions involving misinformation.

Learning System

- Establish a process of reviewing social media and news stories to monitor trends of misinformation to stay ahead of popular myths and focus efforts on those that are the most pressing to the community.
- Seek feedback from patient and family advisory councils on how this issue may create barriers to seeking medical advice or accessing appropriate medical care.
- Provide a "myth busters" pathway for clinicians, patient advocates, care navigators, and others to report encounters with patients involving medical misinformation. Share lessons with relevant stakeholders.

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ECRI Resources

Health Literacy (HSRM, ASRM, ACRM)

Health Literacy: Handout for In-Person Communication (HSRM, ASRM, ACRM)

Healthcare Literacy and Patient Safety (ECRI and the ISMP PSO)

Support Health Literacy to Enhance Medication Safety for Patients (ISMP)

References

1. Confronting health misinformation: the U.S. Surgeon General's advisory on building a healthy information environment. U.S. Department of Health and Human Services. 2021. Accessed August 22, 2024. https://www.hhs.gov/sites/default/files/surgeon-general-misinformation-advisory.pdf
2. Vosoughi S, Roy D, Aral S. The spread of true and false news online. *Science.* 2018;359(6380):1146-1151. doi:10.1126/science.aap9559
3. Zadrozny B. Parents are poisoning their children with bleach to 'cure' autism. These moms are trying to stop it. NBC News. May 21, 2019. Accessed August 22, 2024. https://www.nbcnews.com/tech/internet/moms-go-undercover-fight-fake-autism-cures-private-facebook-groups-n1007871
4. Jones CT. Parasite cleanses are viral, again. Doctors still say they're a very bad idea. *Rolling Stone*. November 4, 2022. Accessed September 6, 2024. https://www.rollingstone.com/culture/culture-news/viral-parasite-cleanses-doctors-opinion-1234624107/
5. Zadrozny B. Social media hosted a lot of fake health news this year. Here's what went most viral. NBC News. December 29, 2019. Accessed August 22, 2024. https://www.nbcnews.com/news/us-news/social-med_ia-hosted-lot-fake-health-news-year-here-s-n1107466
6. Health Literacy in Healthy People 2030. U.S. Department of Health and Human Services. Accessed October 9, 2024. https://health.gov/healthypeople/priority-areas/health-literacy-healthy-people-2030
7. Wang X, Choen RA; National Center for Health Statistics. Health Information Technology Use among Adults: United States, July–December 2022. Centers for Disease Control and Prevention; October 2023. NCHS Data Brief No. 482. Accessed August 22, 2024. https://www.cdc.gov/nchs/products/databriefs/db482.htm
8. O'Connor A, Gilbert C, Chavkin S. The food industry pays 'influencer' dietitians to shape your eating habits. *The Washington Post*. September 13, 2023. Accessed August 22, 2024. https://www.washingtonpost.com/wellness/2023/09/13/dietitian-instagram-tiktok-paid-food-industry/
9. Transparency center. Meta. Accessed August 28, 2024. https://transparency.meta.com/policies/community-standards/misinformation#policy-details
10. Medical misinformation policy. YouTube. Accessed August 28, 2024. https://support.google.com/youtube/answer/13813322?hl=en
11. Combating harmful misinformation. TikTok. Accessed August 28, 2024. https://www.tiktok.com/transparency/en-us/combating-misinformation/
12. Twitter will no longer enforce its COVID misinformation policy. *Associated Press.* November 29, 2022. Accessed August 28, 2024. https://www.npr.org/2022/11/29/1139822833/twitter-covid-misinformation-policy-not-enforced
13. Kaplan J. More speech and fewer mistakes. Meta. January 7, 2025. Accessed January 21, 2025. https://about.fb.com/news/2025/01/meta-more-speech-fewer-mistakes/
14. Health literacy. Developing a plan in your organization. Centers for Disease Control and Prevention. October 16, 2024. Accessed December 3, 2024. https://www.cdc.gov/health-literacy/php/develop-plan/developing-a-plan.html
15. Personal health literacy measurement tools. Agency for Healthcare Research and Quality. December 2022. Accessed September 6, 2024. https://www.ahrq.gov/health-literacy/research/tools/index.html
16. Davis C, Coles S. Confronting medical misinformation: tips from the trenches. Association of American Medical Colleges. August 11, 2022. Accessed September 6, 2024. https://www.aamc.org/news/confronting-medical-misinformation-tips-trenches

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Medical Error and Delay in Care Resulting from Cybersecurity Breaches

#4 Patient Safety Concern

Cybersecurity has become one of the most pervasive and persistent concerns in healthcare. In a survey of healthcare cybersecurity professionals, **88% reported that their organizations experienced cyberattacks in the past year, with an average of 40 attacks per organization.**[1]

In 2023, the US healthcare industry experienced 725 large security breaches, affecting over 133 million medical records.[2] Such breaches have increased nearly every year since 2009[2] and have continued through 2024, causing disruptions in patient care, delayed diagnostic testing results, and supply chain issues.[3]

Cyberattacks can be costly, and healthcare remains the costliest industry for breaches. In the first half of 2024, the **average cost for healthcare was $9.77 million per breach in the United States**, and $4.88 million per breach globally.[4]

Cybersecurity breaches can cause widespread disruptions and have broad and devastating effects that impact patients, providers, healthcare organizations, and the surrounding community:

- Patients can experience poor outcomes from delays in tests and procedures, longer lengths of stay, more complications from medical procedures, more transfers, and higher mortality rates.[1] They may also face exposed information, including personal health information.
- Access to prescription medications can be compromised, leading to missed doses that may contribute to poor outcomes or out-of-pocket expenses in order to continue therapeutic treatment.[3]
- Providers may experience increased workloads, loss of access to patient information or medical devices, and a shortage in resources, which can increase stress levels and lead to burnout.[5]
- Healthcare organizations may face operational disruptions, data breaches, loss of business or revenue, high fines, and tarnished reputations.[6] They may also face private lawsuits or regulatory action for violating federal or state laws related to information privacy or data breaches.[7]
- Cyberattacks at one hospital can impact nearby emergency departments that were not attacked, leading to significant increases in patient census and resource constraints that can affect time-sensitive care.[8]

Cyber threats can take many forms and can enter the organization in a number of ways, including social engineering attacks; ransomware; loss or theft of equipment or data; insider, accidental, or intentional data loss; and attacks against network-connected medical devices.[9]

A 2023 analysis from the U.S. Federal Emergency Management Agency (FEMA) found that **communities cited cyberattacks as among the most likely type of threat and hazard to occur and among the most stressful for one or more capabilities** (i.e., fire management and suppression; logistics and supply chain management; public health, healthcare, and emergency medical services; and long-term vulnerability reduction).[10]

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Action Recommendations

Culture, Leadership, and Governance

- Devote adequate time and resources to cybersecurity concerns and build cybersecurity into organizational policies.[11]
- Use resources such as those highlighted in the National Institute of Standards and Technology (NIST) Cybersecurity Framework 2.0 to develop your organization's governance over cybersecurity matters. Ensure that these policies and procedures include clearly defined roles and responsibilities.
- Monitor compliance with cybersecurity policies and procedures.
- Take an enterprise risk management approach to help the organization achieve a comprehensive understanding of cybersecurity risks, using guidance from NIST, Joint Commission, and the U.S. Department of Health and Human Services (HHS) for small healthcare organizations and medium/large organizations.
- Include cyberattack response in the organization's emergency preparedness plan and collaborate with local partners and healthcare organizations to ensure that there are established strategies for combatting cyberattacks. Refer to resources from FEMA.

Patient and Family Engagement

- Emphasize the importance of cybersecurity precautions with patients and families, especially those accessing the healthcare network or using healthcare-related apps (e.g., telehealth, patient portals). Tips and discussion topics are available from HHS.

Workforce Safety and Wellness

- Ensure that staff training on cybersecurity is effective, meets regulatory requirements, and reaches all appropriate audiences. Emphasize that such precautions protect not only the organization, but also patients and staff.
- In the event of a breach, ensure staff have adequate resources to deliver patient care while systems are down. This may include enacting certain emergency response protocols (e.g., manual charting, surge protocols).
- Ensure rotation and rest for staff when responding to a cyberattack, as long hours and extreme stress can result in poor decision-making. Consider offering mental health resources and counseling to affected employees.

Learning System

- Regularly assess cybersecurity risks and the organization's adherence to cybersecurity best practices. This includes reviewing records to track access to data and detect security incidents; periodically evaluating the effectiveness of existing security measures; and regularly evaluating threats and vulnerabilities.[12]
- Practice responding to cybersecurity incidents to test the effectiveness of your organization's incidence response plan. Conduct drills using tabletop exercises, such as the Cybersecurity & Infrastructure Security Agency's Tabletop Exercise Packages. Involve representatives from, at minimum, information technology, clinical engineering, and risk management.

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ECRI Resources

Cybersecurity (HSRM, ACRM)

Ask ECRI: Taking an ERM Approach to Cybersecurity Risks (HSRM)

Cybersecurity: The Essentials (Device Evaluation)

Cybersecurity Attacks Can Disrupt Healthcare Delivery, Impacting Patient Safety (Top 10 Health Technology Hazards for 2022)

Enterprise Risk Management: An Overview (HSRM)

Resource Collection: Emergency Preparedness and Response (HSRM, ASRM, ACRM)

Emergency Preparedness: Be Ready for Unanticipated EHR Downtime (ISMP)

References

1. Cyber insecurity in healthcare: the cost and impact on patient safety and care. Ponemon Institute. 2022. Accessed September 27, 2024. https://www.proofpoint.com/us/cyber-insecurity-in-healthcare
2. Alder S. Security breaches in healthcare in 2023. *The HIPAA Journal.* January 31, 2024. Accessed October 15, 2024. https://www.hipaajournal.com/security-breaches-in-healthcare/
3. Tahir D. Cyberattacks plague health care. Critics call the federal response 'inadequate.' Shots. September 17, 2024. Accessed September 27, 2024. https://www.npr.org/sections/shots-health-news/2024/09/17/nx-s1-5111590/cyberattacks-ransomware-health-care-federal-response
4. IBM, Ponemon Institute. Cost of a Data Breach Report 2024. 2024. Accessed September 27, 2024. https://www.ibm.com/reports/data-breach
5. Franks A. Cyberattacks: a recipe for nurse burnout and compromised patient care. HIT Consultant. August 6, 2024. Accessed September 27, 2024. https://hitconsultant.net/2024/08/06/cyberattacks-a-recipe-for-nurse-burnout-and-compromised-patient-care/
6. The state of ransomware in heathcare 2022. Sophos. May 2022. Accessed Sep 27, 2024. https://assets.sophos.com/X24WTUEQ/at/4wxp262kpf84t3bxf32wrctm/sophos-state-of-ransomware-heathcare-2022-wp.pdf
7. Archie J. The cost of inadequate security measures: how private parties and federal and state regulators seek redress after a heath-data breach. Chapter 4. In: Gantt WAH III, ed. *Heathcare Cybersecurity*. American Bar Association; 2021. https://www.americanbar.org/products/inv/book/409079468/
8. Dameff C, Tully J, Chan TC, et al. Ransomware attack associated with disruptions at adjacent emergency departments in the US. *JAMA Netw Open*. 2023;6(5):e2312270. May 1, 2023. doi:10.1001/jamanetworkopen.2023.12270
9. Health industry cybersecurity practices: managing threats and protecting patients. Healthcare & Public Health Sector Coordinating Council, U.S. Department of Health and Human Services. 2023. Accessed September 27, 2024. https://405d.hhs.gov/Documents/HICP-Main-508.pdf
10. FEMA. 2023 National Preparedness Report. U.S. Department of Homeland Security. December 2023. Accessed September 27, 2024. www.fema.gov/sites/default/files/documents/fema_2023-npr.pdf
11. Pelletreau B, Riggi J, Gale BM, Mossburg SE. Cybersecurity and how to maintain patient safety. PSNet. March 27, 2024. Accessed September 27, 2024. https://psnet.ahrq.gov/perspective/cybersecurity-and-how-maintain-patient-safety
12. Technical volume 1: cybersecurity practices for small healthcare organizations. Healthcare & Public Health Sector Coordinating Council, U.S. Department of Health and Human Services. 2023. Accessed September 27, 2024. https://405d.hhs.gov/Documents/tech-vol1-508.pdf

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Unique Healthcare Challenges in Caring for Veterans

#5 Patient Safety Concern

Veterans face **unique and complex health issues** that can include both **physical and emotional injuries** resulting from their military service. In care settings in which healthcare providers are not properly trained to assess and treat these issues, veterans are at risk for potential **missed diagnoses** and inadequate **care**.

According to a 2019 Pew research study, one in five veterans has been seriously injured during their military service. Among veterans who have been deployed, **23% experienced a negative impact on their physical health**, and **23% experienced a negative impact on their mental health**.[1]

Physical injuries that veterans can sustain while in service include noncombat musculoskeletal injuries, exposure to hazardous materials, and combat-related injuries (e.g., loss of limbs, loss of hearing and vision, burns, traumatic brain injury).[2]

Military veterans also struggle with service-related emotional injuries, which can manifest as a variety of different mental-health conditions. In one study, 28% of OEF/OIF/OND veterans (i.e., veterans who served since September 11, 2001, in Operation Enduring Freedom, Operation Iraqi Freedom, and Operation New Dawn) self-reported that they had received at least one mental-health diagnosis in the previous 24 months.[3]

The **majority of veterans do not get their healthcare through the Veterans Health Administration (VHA)**. According to a National Health Statistics report, in 2021, there were approximately 19 million veterans in the United States, with less than half—9 million—enrolled in VHA healthcare.[4]

To complicate matters, there is a **lack of adequate training for civilian healthcare providers** on how to properly assess the health needs of veterans. A study by the Association of American Medical Colleges showed that, among more than 100 medical schools, **only 31%** included content about cultural competence for military service members or veterans in their graduate curriculum.[5]

Failure to properly care for veterans can occur at multiple levels of the healthcare system, including the internal environment (e.g., when providers fail to ask about the patient's military service during the provider-patient interaction) and the external environment (e.g., when educational institutions do not prepare nurses, physicians, and other clinicians to adequately assess and treat veterans' unique health needs).

ECRI's SALUTE Program

- **S**creen veterans for service-related conditions
- **A**sk veterans about their health goals
- **L**earn how to manage service-related health risks
- **U**nderstand how to listen and improve the veteran-provider encounter
- **T**alk about how a safe diagnostic process can support early diagnosis and treatment
- **E**ngage veterans in using available veteran resources and referral sources

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Action Recommendations

Culture, Leadership, and Governance

- Champion health equity for veterans at the executive and board levels of the organization and ensure that healthcare team members have dedicated time and resources to successfully implement veteran health improvement initiatives like ECRI's SALUTE Program.
- Join a local veteran community partnership program to build relationships, exchange information, and learn from partners about resources available to veterans and collaborate to reduce barriers that impede veteran access to care or services.
- Work with electronic health record (EHR) vendors to create a place in the EHR for documentation of veteran status, assessment of service-related risks, and any additional testing or referrals that may be required.

Patient and Family Engagement

- Include a query in the scheduling or intake system that prompts all employees to ask and document the results to the universal screening question, "Have you served in the military, armed forces, or uniformed services?"
- Provide veterans with the "Be the Expert on You" checklist (available for download from the SALUTE Toolkit) prior to their appointment to help them prepare to communicate important military-service-related health risks to their healthcare provider.
- Ensure a veteran is included on the organization's patient and family advisory council and, if possible, develop a subgroup devoted to veteran-related issues.

Workforce Safety and Wellness

- Create a veteran employee resource group for the organization and include employees that are both veterans and veteran allies to share their lived experience and receive support from peers.
- Highlight employees that actively support veteran health and wellness initiatives as positive examples and showcase how they contribute to changing the organizational culture.

Learning System

- Build a learning network for providers to learn from and share lessons with peers, including peers that are veterans and/or veteran allies.
- Ensure that healthcare providers have access to education on important veteran topics, including military customs, ethos, toxic exposure, military sexual trauma, and mental health.
- Provide education and feedback to healthcare providers regarding the utilization and appropriateness of diagnostic testing for veteran-related physical- and mental-health disorders.

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ECRI SALUTE Program

References

1. Parker K, Igielnik R, Barroso A, Cilluffo A. The American Veteran Experience and the Post-9/11 Generation. Pew Research Center; September 10, 2019. Accessed August 30, 2024. https://www.pewresearch.org/social-trends/2019/09/10/deployment-combat-and-their-consequences/
2. Molloy JM, Pendergrass TL, Lee IE, Chervak MC, Hauret KG, Rhon DI. Musculoskeletal injuries and united states army readiness part i: overview of injuries and their strategic impact. *Mil Med*. 2020;185(9-10):e1461-e1471. doi:10.1093/milmed/usaa027
3. National Academies of Sciences, Engineering, and Medicine; Health and Medicine Division; Board on Health Care Services; Committee to Evaluate the Department of Veterans Affairs Mental Health Services. Department of Veterans Affairs Mental Health Services: need, usage, and access and barriers to care. In: *Evaluation of the Department of Veterans Affairs Mental Health Services.* National Academies Press; January 31, 2018. Accessed August 30, 2024. https://www.ncbi.nlm.nih.gov/books/NBK499497/
4. Cohen RA, Boersma P. Financial Burden of Medical Care Among Veterans Aged 25–64, by Health Insurance Coverage: United States, 2019–2021. National Center for Health Statistics; March 22, 2023. Accessed August 30, 2024. https://www.cdc.gov/nchs/data/nhsr/nhsr182.pdf
5. Krakower J, Navarro AM, Prescott JE. Training for the treatment of PTSD and TBI in U.S. medical schools. Association of American Medical Colleges. November 2012. Accessed August 30, 2024. https://www.aamc.org/media/5966/download

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The Growing Threat of Substandard and Falsified Drugs

#6 Patient Safety Concern

Substandard and falsified (SF) drugs (i.e., counterfeit or fake drugs made to resemble genuine pharmaceutical manufacturers' medications) are a danger to patient safety. The World Health Organization identified expanding access to medicines, including fighting SF medications, as **one of the urgent health challenges for the next decade**.[1]

SF drugs have become a big business globally, estimated to be worth as much as **$431 billion a year**.[2] Medications are increasingly being purchased from **unregulated online marketplaces** posing as legitimate pharmacies. Alarmingly, approximately **95% of so-called online pharmacies selling prescription drugs operate illegally**.[3]

Illegal online pharmacies may be disguised as Canadian pharmacies providing low-cost medications. Some include the word "Canada" in their URL or display a maple leaf symbol on their page, "making it **difficult to discern between a legitimate and fake site**."[4]

SF drugs are frequently adulterated with potentially lethal ingredients, including fenta**NYL**, fueling the epidemic of overdose deaths plaguing the United States.[4] **FentaNYL is now the leading cause of death for Americans age 18 to 45**.[5] Other harmful substances found in SF drugs include rat poison, cement, and heavy metals (e.g., arsenic, mercury).[6]

FentaNYL-related adolescent overdose deaths increased 182% from 2019 to 2021; nearly a **quarter of these deaths involved counterfeit medications**. Ease of purchasing through social media has increased fatal overdose risk.[7] In 2023, the U.S. Drug Enforcement Administration seized more than 80 million fenta**NYL**-laced SF tablets.[8]

Although SF medications are often associated with illicit drug use, fake drugs represent a threat to all, from **young people seeking help** with attention-deficit/hyperactivity disorder (ADHD) to **elderly patients looking for the lowest price** for their prescriptions.

Even when not contaminated with dangerous material, counterfeit drugs often lack the active ingredients to be effective.[4] Their use can impose **significant economic burden** on patients and healthcare organizations due to costs associated with ineffective treatments and management of prolonged illnesses.

For example, one hospital reported that three patients required admission to the intensive care unit due to **severe hypoglycemia** from semaglutide. The patients received pens from people they believed to be legitimate nurses in a hotel room gathering akin to a "Botox party"; the pens were thought to contain **SF drugs**.[9]

SF medications account for an estimated **10% of medications circulating in low- and middle-income countries**. This can have the largest impact on the **most vulnerable communities**. Patients may receive ineffective antibiotics or antimalarial medication that fail to treat or prevent infections.[10]

Practitioners can also be involved in the dark world of counterfeiters. In 2021, two California oncologists pled guilty to purchasing more than $1 million of unapproved and **SF cancer drugs** that **contained no active ingredients** from an online pharmacy.[11]

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Action Recommendations

Culture, Leadership, and Governance

- Pharmacy and medical staff leaders should foster situational awareness to help recognize patients who may present to healthcare settings with adverse reactions after knowingly or unknowingly taking SF medications.
- Leaders should engage clinical staff in monitoring patients for unexpected outcomes (e.g., side effects, ineffective medication) and consider whether SF medications could be the cause.
- Include a scripted, open-ended question asking patients where they obtain their medications when reviewing a patient's medication history.
- Leaders should stay informed about medication-related incidents shared by safety organizations and develop mitigation strategies for known problem drugs.

Patient and Family Engagement

- Provide patients with resources (e.g., social workers, case managers) to help them procure affordable medications.
- Share warning signs with patients that may indicate an online pharmacy could be selling SF drugs. Refer them to resources such as the U.S. Food and Drug Administration's (FDA) BeSafeRx campaign.
- Educate patients about the National Association of Boards of Pharmacy's searchable list of accredited digital pharmacies that comply with quality assurance criteria.
- Encourage patients to check for a licensed pharmacist's availability at any online pharmacy they are considering, which can help determine the pharmacy's legitimacy.
- Inform patients that when a pharmacy does not require a provider's prescription to dispense a prescription medication, or when a provider issues a prescription without an online or in-person visit, the facility is likely illegitimate and unsafe.
- Ask patients to review medication packages and labeling for spelling errors, which is one of the most noticeable mistakes on counterfeit products.
- Inform patients that, although manufacturers may change products or pharmacies may provide different generic products, any concerns about differences in medication size, color, or shape should be addressed. Ensure the drug description on the pharmacy label matches that of the drug inside the container.
- Explain to patients that legitimate medications will have a factory-made appearance. Patients should be suspicious if tablets are cracked, have a bubbled-up coating, are crumbly or moldy, or come in jars containing excess powders or crystals. If the original manufacturer's packaging has been opened, has a broken seal, appears to have been tampered with, comes in different packaging, has no packaging, is missing the label, or just does not look right, patients should check with a healthcare provider before taking the medication.[12]

Workforce Safety and Wellness

- Implement a great-catch reporting program to recognize staff members who speak up and identify potential concerns related to SF medications.
- Provide staff with appropriate personal protective equipment when handling medications that could be contaminated with dangerous substances.

Learning System

- Monitor communications from government agencies and related organizations, and share resources to combat SF drugs with patients.
  - Centers for Disease Control and Prevention
  - FDA
  - National Intellectual Property Rights Coordination Center
  - Fight the Fakes Alliance

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ECRI Resources

ISMP Urges Increased Action at the Practice Level to Halt the Growing Danger of Counterfeit Drugs (ISMP)

Purchasing Medicines on the Internet (ISMP)

References

1. Ghebreyesus TA. Urgent health challenges for the next decade. World Health Organization. January 13, 2020. Accessed February 27, 2024. https://www.who.int/news-room/photo-story/photo-story-detail/urgent-health-challenges-for-the-next-decade
2. US: how counterfeit drug diversion operations worth $431 billion are putting lives at risk. National Association of Drug Diversion Investigators. December 18, 2023. Accessed February 27, 2024. https://www.naddi.org/us-how-counterfeit-drug-diversion-operations-worth-431-billion-are-putting-lives-at-risk/
3. Brady J, Baney L. Congress holds registries and registrars accountable for rogue online pharmacies. National Association of Boards of Pharmacy. January 21, 2022. Accessed February 27, 2024. https://nabp.pharmacy/news/blog/congress-holds-registries-and-registrars-accountable-for-rogue-online-pharmacies/
4. Fujimori S. A dangerous deal: combating the rise in online counterfeit medicines. Pfizer. September 2022. Accessed February 27, 2024. https://www.pfizer.com/news/behind-the-science/combating-rise-online-counterfeit-medicines
5. DEA administrator on record fentanyl overdose deaths and how cartels target Americans. CBS News. August 19, 2022. Accessed February 27, 2024. https://www.cbsnews.com/video/dea-administrator-on-record-fentanyl-overdose-deaths-and-how-cartels-target-americans/
6. Fake medicines. Interpol. Accessed August 29, 2024. https://www.interpol.int/en/Crimes/Illicit-goods/Shop-safely/Fake-medicines
7. Tanz LJ, Dinwiddie AT, Mattson CL, O'Donnell J, Davis NL. Drug overdose deaths among persons aged 10–19 years — United States, July 2019–December 2021. *MMWR Morb Mortal Wkly Rep.* 2022;71(50);1576-1582. doi:10.15585/mmwr.mm7150a2
8. One pill can kill. United States Drug Enforcement Administration. Accessed August 29, 2024. https://www.dea.gov/onepill
9. ISMP urges increased action at the practice level to halt the growing danger of counterfeit drugs. *ISMP Medication Safety Alert! Acute Care*. 2024;29(10):1-3. Accessed August 29, 2024. https://home.ecri.org/blogs/ismp-alerts-and-articles-library/ismp-urges-increased-action-at-the-practice-level-to-halt-the-growing-danger-of-counterfeit-drugs
10. 1 in 10 medical products in developing countries is substandard or falsified. World Health Organization. November 28, 2017. Accessed February 27, 2024. https://www.who.int/news/item/28-11-2017-1-in-10-medical-products-in-developing-countries-is-substandard-or-falsified
11. Pauls K. Two doctors enter guilty pleas in international counterfeit cancer drug case. CBC News. February 22, 2021. Accessed February 27, 2024. https://www.cbc.ca/news/canada/manitoba/doctors-guilty-counterfeit-cancer-drugs-wfpcbc-cbc-1.5922059
12. How to identify fake medicines. Pfizer. Accessed August 29, 2024. https://www.pfizer.com/news/articles/how_to_identify_fake_medicines

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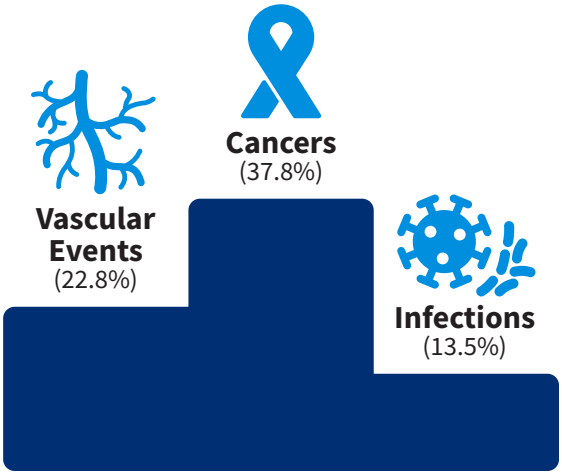
Diagnostic Error: The Big Three—Cancers, Major Vascular Events, and Infections

#7 Patient Safety Concern

A diagnostic error, or misdiagnosis, can mean the difference between life and death for a patient, potentially causing delayed or improper treatment that can lead to permanent injury or loss of life. Diagnostic error represents a **major public health problem** and is recognized as a major source of preventable harm in US healthcare.

Each year in the United States, **approximately 12 million adults experience diagnostic errors**—about half of which may cause serious patient harm,[1] and an estimated **795,000 Americans die or are permanently disabled** due to misdiagnosis of dangerous diseases.[2]

Research suggests that the most serious errors may be attributed to a surprisingly small number of conditions that are categorized as the "Big Three." Misdiagnosis of cancers (37.8%), vascular events (22.8%), and infections (13.5%) account for the majority of high-severity harm, based on closed malpractice claims.[3]



The most common conditions in each category are **lung cancer, stroke, and sepsis,** respectively.[3] Other commonly misdiagnosed conditions include breast, colorectal, prostate, and skin cancers; heart attack; aortic aneurysm and dissection; meningitis and encephalitis; pneumonia; and endocarditis.[4]

In **primary care, missed cancer diagnoses represented 46% of claims**, with the majority (76%) involving "errors in clinical judgment, such as a failure or delay in ordering a diagnostic test (51%) or failure or delay in obtaining a consult or referral (37%)."[5] However, in the **emergency department, "major vascular events (42%) and infections (23%) substantially outnumber cancers (8%)."**[6]

Diagnostic errors result from a wide array of system factors, from cognitive errors and clinical assessment (e.g., inadequate knowledge and experience, lack of competency, poor critical thinking and clinical decision-making skills, problems in data gathering, failing to synthesize and communicate information) to breakdowns in the diagnostic process (e.g., failure to order, collect, and process diagnostic and laboratory tests; inadequate medical history and physical examination; failure to manage referrals and follow up with the patient).[7,8]

Healthcare organizations and clinicians should **focus their resources and interventions on improving the specific process and system vulnerabilities contributing to these diagnostic errors, and diseases** associated with high diagnostic error rates should become targets for developing, implementing, and scaling systematic solutions.

Hospital Physician practice

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Action Recommendations

Culture, Leadership, and Governance

- Assemble a multidisciplinary team accountable to senior leadership to promote diagnostic safety and quality.
- Enhance access to diagnostic testing and services, including improved access to specialists and assistance with scheduling diagnostic testing before patients leave the office.
- Ensure that providers adhere to current cancer screening and diagnostic guidelines from the U.S. Preventive Services Task Force, the American Cancer Society, and other professional organizations.
- Utilize clinically informed human factors engineering to analyze complex work systems that are at higher risk for diagnostic errors (e.g., laboratory testing).
- Review diagnostic uncertainty or discrepancies at all handoffs and transitions in care, especially for complex cases.
- Identify patients who face systemic social and health inequities and who may be at higher risk for misdiagnosis.
- Implement supportive health information technology and diagnostic decision support systems.
- Implement closed-loop processes for diagnostic test tracking, follow-up, and notification of results.

Patient and Family Engagement

- Assess all patients' health literacy and ensure a full medical history is conducted, including family history of cancer or cardiovascular disease, and document this information in the patient's medical record.
- Empower patients and families to partner with providers in their care, prepare for visits, understand their diagnoses, and ask questions.
- Provide patients with access to patient portals for electronic health records, including visit notes and diagnostic test results, to enhance communication and continuity of care.
- Institute a communication and resolution program to transparently communicate, apologize, and offer resolution to patients and families when they experience an unanticipated outcome due to a diagnostic error.

Workforce Safety and Wellness

- Foster a safety culture that embraces nonpunitive reporting for laboratory system issues and errors that may be discovered during cancer screening orders and referrals.
- Institute a peer support program (i.e., care for the caregiver) for clinicians involved in patient harm resulting from a diagnostic error.

Learning System

- Conduct diagnostic safety risk assessments, including recognition of common symptoms with broad differential diagnoses that may be susceptible to cognitive biases, certain laboratory and imaging studies, and other tests that are prone to misinterpretation or missed follow-up.
- Utilize checklists and diagnostic timeouts.
- Perform root cause analyses on all adverse events that result in significant harm or death related to a diagnostic error.
- Encourage collaboration and debriefing among clinical staff to question assumptions, verify diagnoses, and solicit feedback from each other.
- Provide training and education for all clinicians (e.g., nurses, pharmacists, allied health professionals), including the use of simulation to improve decision-making.
- Implement quality improvement activities that focus on prompt diagnosis of cancers, vascular events, and infections, and measure key performance indicators to assess the impact of improvement efforts.

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ECRI Resources

Resource Collection: Diagnosis (HSRM)

Resource Collection: Diagnosis: Safety and Screening (ACRM)

Case Scenario: Missed or Delayed Diagnoses (HSRM, ACRM)

Taking Action: Strategies to Support Early and Accurate Cancer Diagnoses (HSRM, ASRM, ACRM)

Delayed Identification and Treatment of Sepsis (Top 10 Patient Safety Concerns 2023)

Sepsis and Septic Shock Adverse Events (ECRI and the ISMP PSO)

Safety Break - Provider Cognitive Bias: Impact on Diagnosis (HSRM, ASRM, ACRM)

References

1. Balogh EP, Miller BT, Ball JR, Committee on Diagnostic Error in Health Care; Board on Health Care Services; Institute of Medicine. *Improving Diagnosis in Health Care*. National Academies Press; 2015. doi:10.17226/21794
2. Newman-Toker DE, Nassery N, Schaffer AC, et al. Burden of serious harms from diagnostic error in the USA. *BMJ Qual Saf.* 2024;33(2):109-120. doi:10.1136/bmjqs-2021-014130
3. Newman-Toker DE, Schaffer AC, Yu-Moe CW, et al. Serious misdiagnosis-related harms in malpractice claims: the "Big Three"—vascular events, infections, and cancers. *Diagnosis*. 2019;6(3):227-240. doi:10.1515/dx-2019-0019
4. Newman-Toker DE, Wang Z, Zhu Y, et al. Rate of diagnostic errors and serious misdiagnosis-related harms for major vascular events, infections, and cancers: toward a national incidence estimate using the "Big Three." *Diagnosis*. 2020;8(1):67-84. doi:10.1515/dx-2019-0104
5. Aaronson EL, Quinn GR, Wong CI, et al. Missed diagnosis of cancer in primary care: insights from malpractice claims data. *J Healthc Risk Manag*. 2019;39(2):19-29. doi:10.1002/jhrm.21385
6. Newman-Toker DE, Peterson SM, Badihian S, et al. *Diagnostic Errors in the Emergency Department: A Systematic Review.* Agency for Healthcare Research and Quality; 2022. (Comparative Effectiveness Review, No. 258.) Accessed December 4, 2024. https://www.ncbi.nlm.nih.gov/books/NBK588120/
7. Bakradze E, Liberman AL. Diagnostic error in stroke—reasons and proposed solutions. *Curr Atheroscler Rep*. 2018;20(2):11. doi:10.1007/s11883-018-0712-3
8. Current state of diagnostic safety: implications for research, practice, and policy. Agency for Healthcare Research and Quality. January 2024. Accessed December 4, 2024. https://www.ahrq.gov/diagnostic-safety/resources/issue-briefs/dxsafety-current-state3.html

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Persistence of Healthcare-Associated Infections in Long-Term Care Facilities

#8 Patient Safety Concern

Healthcare-associated infections (HAIs) are infections that a resident develops from complications of healthcare. Many HAIs are caused by multidrug-resistant organisms and can cause severe illness, sepsis, or death.[1] HAIs in long-term care facilities (LTCFs) are increasing. According to the Centers for Disease Control and Prevention (CDC), **every day, 1 in 43 nursing home residents contracts an HAI.**[2]

In 2023, Pennsylvania LTCFs saw an 18.6% increase in HAIs from 2022[3] The table below highlights the HAI volume Pennsylvania's LTCFs experienced in 2023.

The Centers for Medicare and Medicaid Services does not currently require LTCFs—which can include nursing homes, assisted living facilities, and group homes—to report infections to CDC's National Healthcare Safety Network.[4] Reporting is state dependent, thus highlighting the challenge of calculating the national prevalence and severity of HAIs in LTCFs.

To prevent HAIs, LTCFs need a dedicated staff member who is an expert on infection prevention. Moreover, all staff must be properly educated on infection prevention measures, which can be difficult due to high staff turnover rates and a reliance on temporary staff.

As the US population ages, there will be a greater demand on LTCFs to provide residents with high-quality care.

Table. LTC Infection Reports Submitted to Pennsylvania Patient Safety Reporting System in 2023 by Infection Type and Care Area[3]

Infection Type	Skilled Nursing/ Short-Term Rehabilitation Unit	Mixed Unit	Nursing Unit	Dementia Unit	Ventilator-Dependent Unit	Total
Skin and Soft Tissue Infection	2,786	2,612	2,735	589	78	**8,800**
Urinary Tract Infection	2,742	2,236	2,099	303	21	**7,401**
Respiratory Tract Infection	2,000	1,782	1,757	404	200	**6,143**
Gastrointestinal Infection	625	444	397	112	16	**1,594**
Device-Related Bloodstream Infection	9	17	6	0	0	**32**
Total	**8,162**	**7,091**	**6,994**	**1,408**	**315**	**23,970**

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Aging services

Pharmacy

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Action Recommendations

Culture, Leadership, and Governance

- Develop an infection control and prevention committee that has a dedicated sponsor and tracks the facility's progress regarding HAIs, antimicrobial stewardship, and action plans.
- Use a systems approach to implement an HAI prevention checklist or toolkit that incorporates evidence-based guidelines and recommendations to address risk and safety concerns for both residents and staff. For example, see Loeb and McGeer Criteria: A Practical Guide for Use in Long-Term Care.
- Leverage electronic-based tools to ensure that residents who are at risk for developing or spreading an infection are appropriately identified and placed on precautions.
- Verify that current policies and procedures align with evidence-based guidelines on infection prevention and control in LTCFs.
- Consider allocating funds to employ and continuously educate a full-time infection preventionist at your facility.
- Advocate for the necessity of proper infection prevention strategies in the resident's home (e.g., availability of accessible alcohol-based hand rub [ABHR], enhanced barrier precautions).

Patient and Family Engagement

- Educate residents, family members, and visitors on the risks associated with developing an infection, especially if a resident has an indwelling device.
- Utilize resident councils to teach residents and family members about the importance and basics of infection prevention, including vaccination.
- Encourage residents, family members, and visitors to ask their healthcare providers to wash their hands before performing resident or clinical care.

Workforce Safety and Wellness

- Provide staff with training on and access to appropriate types of personal protective equipment, convenient hand hygiene opportunities, and disinfectants.
- Analyze current workflows to identify latent and active failures (e.g., lack of accessible ABHR for hand hygiene) that may contribute to an increased risk of infection in residents.
- Translate signage, education, checklists, and tools to ensure competency and safety of multilingual staff.
- Build a culture of safety reporting system through application of just culture principles to strengthen psychological safety of staff.

Learning System

- Review HAIs, identify the root cause of the infection, and create action plans to address identified causes of infection.
- Track, analyze, and share HAI investigations and data with frontline staff and key stakeholders.
- Provide training on appropriate antibiotic usage to all nursing and clinical providers and track antibiotic usage to combat the rise in multidrug-resistant organisms.[6]

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ECRI Resources

High-Profile Healthcare-Associated Infections (HSRM, ASRM)

Overview of Infection Prevention and Control (HSRM, ASRM, ACRM)

Hand Hygiene (HSRM, ASRM, ACRM)

Hand Hygiene Training Program (HSRM, ASRM, ACRM)

Checklist for the Availability of Alcohol-Based Hand Rub and Clean Gloves (HSRM, ASRM, ACRM)

References

1. About HAIs. Centers for Disease Control and Prevention. April 15, 2024. Accessed December 4, 2024. https://www.cdc.gov/healthcare-associated-infections/about/index.html
2. Centers for Disease Control and Prevention. Current HAI Progress Report: 2023 National and State Healthcare-Associated Infections Progress Report. April 15, 2024. Accessed December 4, 2024. https://www.cdc.gov/healthcare-associated-infections/php/data/progress-report.html.
3. Kepner S, Bennett A, Jones R. Long-term care healthcare-associated infections in 2023: an analysis of 23,970 reports. *Patient Saf.* 2024;6(1). doi:10.33940/001c.116555
4. CMS reporting requirements for long-term care facilities. National Healthcare Safety Network. September 2024. Accessed Dember 12, 2024. https://www.cdc.gov/nhsn/pdfs/ltc/LTCF-Reporting-Guidance.pdf
5. Loeb and McGeer criteria: a practical guide for use in long-term care. Minnesota Department of Health. June 5, 2019. Accessed December 12, 2024. https://www.health.state.mn.us/diseases/antibioticresistance/hcp/asp/ltc/loebmcgeer.pdf
6. Core elements of antibiotic stewardship for nursing homes. Centers for Disease Control and Prevention. March 2024. Accessed December 4, 2024. https://www.cdc.gov/antibiotic-use/hcp/core-elements/nursing-homes-antibiotic-stewardship.html

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Inadequate Communication and Coordination during Discharge

#9 Patient Safety Concern

Effective communication is critical to establishing a postdischarge plan for successful patient recovery. Communication involves the exchange of information among involved healthcare professionals and organizations, as well as with patients, their families, and caregivers.

One of the most common causes of medical errors is communication failure, and **a majority (67%) of these failures occur during handoffs,[1] including discharge**. When poorly managed, care transitions can lead to adverse events, worsened physical conditions, increased emotional distress, poorer health outcomes, and increased healthcare costs.

Communication between healthcare professionals after a patient is discharged often relies on discharge summaries. These summaries are intended to convey critical information about the patient's current condition, postcare instructions, and treatment plan to outpatient providers who must coordinate care for the patient.

Discharge summaries that lack essential details or use unclear language, such as abbreviations, can lead to misdiagnoses or delays in treatment, especially for patients with complex medical conditions. Implementing a process to ensure discharge summaries are clear, accurate, standardized, and patient-centered enhances patient safety during care transitions. This is particularly effective when summaries are promptly shared with admitting healthcare facilities, primary care providers, and patients.[2]

Electronic health records (EHRs) are another tool that enables information sharing and care coordination across healthcare organizations. However, incomplete or inaccurate data entries can lead to errors in care. To address these risks, it is essential to implement processes for regular EHR updates and ensure follow-up on critical information, such as test results. While EHRs have become standard practice, challenges such as a lack of EHR system interoperability across organizations persist, underscoring the need for direct communication between healthcare professionals.[2]

Effective communication and coordination between healthcare professionals and patients, their families, and caregivers are also crucial for ensuring a safe patient discharge. **Engaging patients and families in the discharge planning process has been shown to result in reduced hospital readmissions.[3]**

This process may involve ensuring the patient understands their treatment plan, identifying their support systems, ensuring necessary equipment and medications are available at home, explaining what to do if there is an emergency, and addressing any potential barriers to care.

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Action Recommendations

Culture, Leadership, and Governance

- Designate transitional care as a high priority for staff, and secure leadership support for improvement initiatives.
- Develop a strategic initiative to improve transitional care services and ensure safe, effective transitions. Include the use of interdisciplinary transition tools, such as SBAR (Situation, Background, Assessment, Recommendation)[4] or I-PASS.[5]
- Utilize clinically informed human factors engineers to analyze the discharge process, including a review of how discharge instructions are organized and shared with patients and families.
- Integrate technology across care settings (e.g., EHR, telehealth).

Patient and Family Engagement

- Promote person- and family-centered care that emphasizes the important roles of families and caregivers. Consider using or adapting the IDEAL process during discharge planning.[6]
- Use universal precautions[7] for health literacy when educating individuals about their health status, care plan, and available resources.
- Ensure that patients understand relevant health information by checking for understanding; consider using the teach-back method.[8]
- Utilize patient complaint and grievance data to analyze the patient's perception of failures in the discharge and care transition process. Integrate findings into patient safety improvement planning.

Workforce Safety and Wellness

- Leverage technology to standardize discharge instructions.
- Supplement existing staffing plans with "virtual discharge nurses" that allow the care team to safely manage their patients while also meeting the needs of discharging patients.
- Involve pharmacists in discharge planning of difficult-to-procure medications (e.g., extemporaneously compounded medications, medications that require prior authorization), education of high-alert medications, and post discharge follow up calls for patients with complex medication therapy.
- Include daily planned discharges in daily safety huddles so that staffing and transport resources can be allocated appropriately to support the care teams during high activity periods of the day.

Learning System

- Incorporate quality initiatives that periodically reassess transition effectiveness, identify opportunities for performance improvement, and facilitate additional staff training, as needed.
- Review readmission rates, patient experiences, root cause analyses, and event reports.

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Resource Collection: Care Coordination (HSRM)

Resource Collection: Communication (HSRM, ASRM, ACRM)

Effective Communication among Healthcare Providers (HSRM, ASRM, ACRM)

Taking Action: Effective Provider-Patient Communication (HSRM, ASRM, ACRM)

Resource Collection: Ambulatory Surgery and Postoperative Care (ACRM)

Discharge from Ambulatory Surgery (HSRM, ACRM)

Discharge to Assess Model for Improving Discharge Process for Elderly Patients: Curated Literature Search (Clinical Evidence)

Electronic Medication Request Dashboards for Improving Patient Discharge: Curated Literature Search (Clinical Evidence)

Improving Care Transition Scores on the Hospital Consumer Assessment of Healthcare Providers and Systems Survey: Curated Literature Search (Clinical Evidence)

Health Literacy (HSRM, ASRM, ACRM)

References

1. Franco Vega MC, Ait Aiss M, George M, et al. Enhancing implementation of the I-PASS handoff tool using a provider handoff task force at a comprehensive cancer center. *Jt Comm J Qual Patient Saf*. 2024;50(8):560-568. doi:10.1016/j.jcjq.2024.03.004
2. Gurses AP, Mossburg S, Sousane Z. Communication during transitions of care. PSNet. March 27, 2024. Accessed November 19, 2024. https://psnet.ahrq.gov/perspective/communication-during-transitions-care
3. Becker C, Zumbrunn S, Beck K, et al. Interventions to improve communication at hospital discharge and rates of readmission: a systematic review and meta-analysis. *JAMA Netw Open*. 2021;4(8):e2119346. doi:10.1001/jamanetworkopen.2021.19346
4. SBAR tool: situation-background-assessment-recommendation. Institute for Healthcare Improvement. Accessed November 19, 2024. https://www.ihi.org/resources/tools/sbar-tool-situation-background-assessment-recommendation
5. Blazin LJ, Sitthi-Amorn J, Hoffman JM, Burlison JD. Improving patient handoffs and transitions through adaptation and implementation of I-PASS across multiple handoff settings. *Pediatr Qual Saf*. 2020;5(4):e323. doi:10.1097/pq9.0000000000000323
6. Strategy 4: care transitions from hospital to home: IDEAL discharge planning. Agency for Healthcare Research and Quality. December 2017. Accessed November 19, 2024. https://www.ahrq.gov/patient-safety/patients-families/engagingfamilies/strategy4/index.html
7. AHRQ health literacy universal precautions toolkit. Agency for Healthcare Research and Quality. June 2024. Accessed November 19, 2024. https://www.ahrq.gov/health-literacy/improve/precautions/index.html
8. Implementation quick start guide: teach-back. Agency for Healthcare Research and Quality. Accessed November 19, 2024. https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/quality-patient-safety/patient-family-engagement/pfeprimarycare/TeachBack-QuickStartGuide.pdf

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Deteriorating Community Pharmacy Working Conditions Contribute to Medication Errors and Compromise Patient and Staff Safety

#10 Patient Safety Concern

Community pharmacists have long endured unsatisfactory work conditions. The COVID-19 pandemic uncovered system weaknesses as work conditions further deteriorated, leading to current conditions becoming dangerously overwhelming and threatening both patient safety and staff well-being.[1-6]

A 2021 survey found that most pharmacists disagreed with the following statements: **"Sufficient time is allocated for me to safely perform patient care/clinical duties"** (71% disagreed); and **"Sufficient pharmacists are available during shifts to meet patient care/clinical duties"** (75% disagreed).[7]

Community pharmacists have seen an increase in requests for vaccinations and point-of-care testing.[5,8] However, staffing has not always been able to accommodate this increase, leaving the pharmacist rushing to administer vaccines, and verify and dispense prescriptions.

Pharmacy phone calls with providers, patients, and insurers are numerous. Community pharmacists often feel forced to verify prescriptions while engaged on the telephone, which has contributed to errors.

Similarly, pharmacists have increasingly assumed pharmacy technician tasks after employers cut technician hours, and technicians resigned due to burnout and being underpaid.[5,8]

In a tragic example, **a pharmacist suffered a heart attack and died while working as the lone pharmacist at a busy pharmacy.**[9] Feeling pressure to meet performance metrics, she did not close the pharmacy when she began to experience symptoms.

Production metrics aimed at increasing revenue must often be achieved at the cost of patient and staff safety.[4,8,10,11] Tasks are measured against corporate goals for staff evaluations[7] and pharmacists must choose between meeting metrics for their job and providing safe, quality care.

Disrespectful behavior in the workplace can also jeopardize patient safety. In a 2022 survey, **almost 25% of respondents indicated they were aware of a medication error in the past year in which disrespectful behavior played a role.**[12]

While disrespectful behavior occurs between healthcare practitioners and leaders, it may also come from patients or caregivers. Pharmacy staff report regular **verbal abuse and/or threats from customers** who are unhappy with wait times and frequent medication inventory shortages.[12]

One respondent to the 2022 survey noted that high pressure, inadequate staffing, and abuse from customers has led to administration of the incorrect vaccine and dispensing prescriptions to the wrong patient.[12] The increased workload and poor working conditions contribute to pharmacy staff distress. Almost **33% of pharmacy staff in 2021 were at substantial risk for distress**, which carries an eightfold higher risk of burnout and twofold higher risk of medication error.[8,13]

Pharmacy

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Action Recommendations

Culture, Leadership, and Governance

- Survey staff anonymously and confidentially every two to three years to assess their perceptions of workplace culture using a tool such as the Agency for Healthcare Research and Quality's SOPS Community Pharmacy Survey. Use the findings to create an action plan and drive improvement.
- Utilize a call center and/or remote pharmacists to triage phone calls and conduct medication therapy management (MTM).
- Use a centralized dispensing operation for prescription refills.
- Isolate areas for critical steps of the medication dispensing process (e.g., where prescriptions are transcribed, verified, filled, and checked).
- Do not require staff to meet productivity-focused metrics which may compromise staff and patient safety; instead, prioritize measures that monitor patient and worker safety.
- Remove unnecessary administrative burdens and nonessential workflow tasks. Reallocate administrative and nonpatient care tasks to support personnel.
- Charge organization leaders with recognizing the effects of burnout and committing to supporting staff.

Patient and Family Engagement

- Communicate to patients that safety is a priority. Ask for their participation in supporting a safe pharmacy environment (e.g., reasonable expectations for prescription filling times, pharmacy closed for lunch).
- Collaborate with patients to identify and address issues that they find burdensome.
- Consider appointment-based models to efficiently manage other clinical services (e.g., vaccinations, MTM, patient care calls).
- Create a reporting pathway for patients and families to share safety concerns.

Workforce Safety and Wellness

- Examine prescription volume data periodically. Gather feedback from staff regarding workload and conditions in the pharmacy; ask whether current staffing and resources are sufficient to provide safe and effective care. Use this information to determine appropriate staffing levels and use of automated dispensing technology (e.g., dispensing robotics).
- Include a backup plan for a short-staffed pharmacy in staffing policies and procedures; limit staff to working no more than 12 consecutive hours with at least 8 hours rest between shifts and require staff to take an uninterrupted 30-minute meal break every 8 hours.
- Provide employee-assistance and wellness programs and resources. Recognize the interconnections among job-related burnout, stress, psychological capital, and social support. Allow time off to attend appointments related to mental well-being.

Learning System

- Implement a fair and just culture—ensuring respectful management of serious adverse events. Provide transparency and feedback so staff feel safe voicing workplace and patient safety issues without fear of reprisal.
- Have leaders set a tone of mutual respect; encourage learning and discovery; remain open to suggestions; and maintain ongoing communication.

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ECRI Resources

Resource Center: Culture of Safety (ISMP)

Advancing Just Culture Using Culture of Safety Survey Results (ECRI and the ISMP PSO)

Addressing Disrespectful Behaviors and Creating a Respectful, Healthy Workplace (ISMP)

Resource Collection: Employee Health and Wellness (HSRM, ASRM, ACRM)

Evidence-based Strategies for Reducing Healthcare Worker Burnout (Clinical Evidence)

Integrated Model: Patient Safety and Staff Wellbeing (ECRI and the ISMP PSO)

References

1. Gabler E. How chaos at chain pharmacies is placing patients at risk. *New York Times*. Updated October 13, 2021. Accessed October 18, 2024. https://www.nytimes.com/2020/01/31/health/pharmacists-medication-errors.html
2. Gabler E. At Walgreens, complaints of medication errors go missing. *New York Times*. Updated October 13, 2021. Accessed October 18, 2024. https://www.nytimes.com/2020/02/21/health/pharmacies-prescription-errors.html
3. Gabler E. CVS fined for prescription errors and poor staffing at pharmacies. *New York Times*. July 16, 2020. Accessed October 18, 2024. https://www.nytimes.com/2020/07/16/business/cvs-pharmacies-oklahoma.html
4. Antrim A, Tanoe B. *Social media campaign aims to raise awareness, create change for pharmacy working conditions*. PharmacyTimes. October 19, 2021. Accessed September 19, 2024. https://www.pharmacytimes.com/view/social-media-campaign-aims-to-raise-awareness-create-change-for-pharmacy-working-conditions
5. Arya V, Bakken BK, Doucette WR, et al. 2022 national pharmacist workforce study final report. May 31, 2023. Accessed September 19, 2024. https://www.aacp.org/sites/default/files/2023-08/2022-npws-final-report.pdf
6. Petersen M. California pharmacies are making millions of mistakes. They're fighting to keep that secret. *Los Angeles Times*. September 5, 2023. Accessed October 16, 2024. https://www.latimes.com/business/story/2023-09-05/california-pharmacies-prescription-errors-cvs-walgreens
7. Schommer JC, Gaither CA, Lee S, Alvarez NA, Shaughnessy AM. 2021 APhA/NASPA national state-based pharmacy workplace survey. American Pharmacists Association/National Alliance of State Pharmacy Associations. April 2022. Accessed September 19, 2024. https://www.pharmacist.com/DNNGlobalStorageRedirector.ashx?egsfid=NiFsiJVsyys%3d
8. Blank C. Retail pharmacy has reached the breaking point. Drug Topics. February 3, 2022. Accessed September 19, 2024. https://www.drugtopics.com/view/retail-pharmacy-has-reached-the-breaking-point
9. Le Coz E. CVS pharmacist's death becomes cautionary tale of crushing stress at work. *USA Today*. February 8, 2024. Accessed September 19, 2024. https://www.usatoday.com/story/news/investigations/2024/02/08/cvs-pharmacist-ashleigh-anderson-death-rallying-cry/72406578007/
10. Constantino AK. Pharmacy staff from Walgreens, CVS say they're at a breaking point—here's what their days look like. CNBC. October 27, 2023. Accessed September 19, 2024. https://www.cnbc.com/2023/10/27/walgreens-cvs-pharmacy-staff-walkouts-what-their-work-days-look-like.html
11. Le Coz E. Prescription for disaster: America's broken pharmacy system in revolt over burnout and errors. *USA Today*. October 26, 2023. Accessed September 19, 2024. https://www.usatoday.com/story/news/investigations/2023/10/26/pharmacy-chains-dangerous-conditions-medication-errors/71153960007/
12. ISMP. Survey results: practitioners speak up about the persistence of disrespectful behaviors in healthcare. *ISMP Medication Safety Alert! Community/Ambulatory Care*. 2022;21(7):1-4.
13. Call for comments on pharmacist's fundamental responsibilities and rights: APhA and NASPA collaborate in development of document to facilitate discussions for change. News release. American Pharmacist Association, National Alliance of State Pharmacy Associations. March 13, 2021. Accessed September 19, 2024. https://www.pharmacist.com/Portals/0/PDFS/Practice/Press_Release_Pharmacists_Fundamental_Rights_and_Responsbilities_03_13_2021.pdf

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