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Error Disclosure to Patients and Families: Ethical Imperatives and Safety Outcomes

Dr.Albaraa Munir Dahlawi, Ayah Ahmed Makkawi, Mayar Adel Aljuhani, Sara Amin Amoudi, Dina Fadel Qabbani, Yara Mohammed Almadani, Ajwan Mohammed Albesaisi,

King Faisal Hospital - Makkah (infectious diseases and medical consultants)
MBBS, Ibn Sina National College. Email : 2020307@ibnsina.edu.sa
MBBS, Ibn Sina National College. Email : 2020323@ibnsina.edu.sa
MBBS, Ibn Sina National College. Email : 2020312@ibnsina.edu.sa
MBBS, Ibn Sina National College. Email : 2020309@ibnsina.edu.sa
MBBS, Ibn Sina National College. Email : 2020286@ibnsina.edu.sa
MBBS, Ibn Sina National College. Email : 2020298@ibnsina.edu.sa

ABSTRACT

Medical error remains an unavoidable yet deeply consequential aspect of contemporary healthcare, affecting patients, families, clinicians, and healthcare systems alike. Increasing recognition of patient safety as a core dimension of healthcare quality has transformed attitudes toward transparency, with disclosure of adverse events now regarded as both an ethical obligation and a practical strategy for improving outcomes. Error disclosure involves communicating information about unintended harm caused by healthcare management rather than the underlying disease, including explanations, expressions of regret, and remediation plans. Although professional organizations widely endorse disclosure, practices remain inconsistent due to legal concerns, communication barriers, emotional challenges, and institutional cultures resistant to openness. This narrative review examines the ethical foundations of disclosure, its psychological impact on patients and clinicians, legal considerations, organizational implications, and its role in promoting patient safety. Evidence indicates that effective disclosure can preserve trust, reduce litigation, support recovery for both patients and providers, and facilitate system-level learning. However, achieving these benefits requires structured communication strategies, education, and supportive policies that balance accountability with compassion. As healthcare systems become increasingly complex and technologically advanced, embedding transparency within safety culture is essential for maintaining public trust and preventing future harm.

Keywords: *Dental Caries, Oral Hygiene Practices, School-Age Children, Tooth Decay, Preventive Dentistry, Oral Health Education, Pediatric Dentistry.*

INTRODUCTION

Medical error has emerged as one of the most significant challenges confronting modern healthcare systems, reflecting the inherent complexity of clinical practice rather than simple individual negligence. Advances in medical science have dramatically improved survival rates and quality of life for many conditions, yet these gains have been accompanied by increasing reliance on sophisticated technologies, multidisciplinary teams, and intricate care pathways that create new opportunities for failure. Large-scale safety analyses have demonstrated that preventable harm occurs across all settings, from primary care clinics to highly specialized tertiary hospitals, affecting patients of all ages and backgrounds (1).

Recognition of this pervasive risk has prompted a shift in focus from individual blame toward system-based approaches to safety, emphasizing prevention, reporting, and learning from errors.

Within this evolving framework, disclosure of medical errors to patients and families has become a central ethical and professional concern. Historically, clinicians often avoided discussing mistakes, motivated by fear of litigation, damage to professional reputation, or the belief that patients would be unable to cope with the truth. Such attitudes were reinforced by hierarchical medical cultures in which authority was concentrated among physicians and patients were expected to defer to professional judgment. However, societal values have changed substantially, with increasing emphasis on patient autonomy, shared decision-making, and transparency. Patients now expect to be informed about events affecting their health, particularly when harm has occurred as a result of medical care (2).

Research consistently shows that most patients wish to receive full disclosure, including explanations of what happened, why it occurred, and what steps will be taken to prevent recurrence. Expressions of empathy and apology are especially important, as they acknowledge the emotional impact of the event and signal respect for the patient's experience. Conversely, perceived concealment or evasiveness often leads to anger, loss of trust, and increased likelihood of litigation (3). Thus, disclosure serves not only moral purposes but also pragmatic ones, preserving the therapeutic relationship necessary for effective ongoing care.

Beyond individual interactions, disclosure plays a crucial role in organizational learning. Healthcare systems are complex sociotechnical environments in which adverse events often arise from interactions among multiple factors, including communication failures, workflow inefficiencies, and equipment issues. Transparent reporting enables root cause analysis, allowing institutions to identify systemic vulnerabilities and implement preventive measures. Without disclosure, similar errors may recur, exposing additional patients to harm (4).

Despite broad agreement regarding its importance, disclosure practices remain inconsistent across institutions and specialties. Barriers include uncertainty about what constitutes an error, lack of communication training, emotional distress among clinicians, and concerns about legal consequences. Organizational cultures that emphasize blame rather than learning further discourage openness, creating environments in which errors are hidden rather than addressed. This review explores the ethical imperatives underlying disclosure, its impact on patients and clinicians, legal and organizational considerations, and strategies for fostering transparency within healthcare systems.

Ethical Foundations of Error Disclosure

The moral obligation to disclose medical errors is grounded in widely accepted principles of biomedical ethics: autonomy, beneficence, nonmaleficence, and justice. Respect for autonomy requires that patients receive truthful information necessary to make informed decisions about their care. When harm occurs, withholding information deprives patients of the opportunity to seek corrective treatment, obtain second opinions, or make personal decisions regarding their health and future (2). Disclosure therefore serves as a prerequisite for meaningful autonomy.

Beneficence and nonmaleficence further support transparency. Clinicians are obligated to act in the patient's best interests and to avoid causing additional harm. Concealment may exacerbate injury by delaying treatment or by imposing psychological burdens associated with uncertainty and mistrust. Evidence suggests that patients who discover errors independently often experience greater distress than those who receive prompt disclosure, highlighting the potential harm of nondisclosure (3).

Justice relates to fairness and accountability within healthcare systems. Patients harmed by medical errors may require additional care, rehabilitation, or compensation, and disclosure ensures equitable access to these resources. At a societal level, transparency contributes to learning that benefits future patients, aligning individual justice with collective welfare (4).

Virtue ethics emphasizes the character of healthcare professionals, highlighting honesty, integrity, and compassion as essential attributes. Disclosure reflects commitment to these virtues and reinforces public trust in medicine. Professional codes consistently affirm that clinicians must disclose significant errors to patients, framing transparency as a core element of professionalism rather than an optional courtesy (5).

The practical implications of these ethical principles are summarized in **Table 1**, which illustrates how each principle supports disclosure obligations.

Table 1. Ethical Principles Supporting Error Disclosure

Ethical Principle	**Relevance to Disclosure**
Autonomy	Ensures patients receive truthful information
Beneficence	Promotes patient welfare
Nonmaleficence	Prevents additional psychological harm
Justice	Supports accountability and fairness

As shown in **Table 1**, ethical reasoning converges on the conclusion that disclosure is not merely advisable but morally required in cases of significant harm.

Psychological Impact on Patients and Families

Medical errors often produce profound emotional responses in patients and their families, including shock, anger, fear, and grief. These reactions may be intensified by uncertainty regarding the cause of harm and concerns about long-term consequences. Disclosure provides an opportunity to address these needs by offering explanations, acknowledging suffering, and outlining plans for recovery (6).

Patients consistently report that honesty and empathy are more important than technical detail alone. Expressions of regret or apology validate the patient's experience and convey compassion, helping to rebuild trust. In contrast, failure to disclose may lead to feelings of betrayal and abandonment, potentially exacerbating psychological distress and complicating recovery (7).

Family members also experience significant emotional impact, particularly when patients are incapacitated or deceased. Inclusive disclosure practices that involve families in discussions promote understanding and facilitate coping processes. Cultural considerations are essential, as preferences regarding communication and decision-making vary across populations. Sensitive communication that respects cultural values can improve satisfaction and reduce conflict (8). Long-term psychological consequences of medical harm may include anxiety, depression, or post-traumatic stress symptoms. Transparent communication can mitigate these outcomes by providing clarity and closure. Some patients report that compassionate disclosure strengthens their relationship with healthcare providers, transforming a negative experience into an opportunity for reconciliation and healing (9).

Impact on Clinicians: The Second Victim Phenomenon

Healthcare professionals involved in adverse events often experience significant emotional distress, a phenomenon described as the "second victim." Feelings of guilt, shame, anxiety, and fear of professional consequences are common and may impair performance or contribute to burnout (10). Without adequate support, clinicians may avoid discussing errors, perpetuating cycles of silence. Participation in disclosure can provide psychological relief by aligning actions with professional values and reducing the burden of secrecy. However, disclosure may also increase stress if clinicians fear blame or litigation. Organizational support programs, including peer counseling and structured guidance, have been shown to improve recovery and resilience (11).

Legal Considerations and Malpractice Implications

Fear of litigation remains a major barrier to disclosure. Clinicians often worry that admitting mistakes will be interpreted as liability. However, evidence suggests that transparent communication may reduce malpractice claims by addressing patient concerns early and preventing escalation (12). Patients frequently pursue legal action not solely because of injury but because they feel deceived or ignored. Disclosure-and-offer programs that combine honest communication with compensation when appropriate have demonstrated reductions in legal costs and faster resolution of claims. Apology laws in many jurisdictions allow expressions of sympathy without constituting admission of fault, encouraging open dialogue (13).

Organizational Culture and Safety Outcomes

Disclosure is closely linked to organizational culture. Healthcare systems that prioritize transparency, teamwork, and learning are more likely to implement effective disclosure practices and achieve better safety outcomes. Punitive environments, by contrast, discourage reporting and allow systemic problems to persist (4). Safety culture encompasses shared values and behaviors that determine how organizations respond to errors. Institutions emphasizing openness are better able to conduct root cause analyses and implement preventive measures. This relationship between disclosure practices and safety outcomes is summarized in Table 2.

Table 2. Organizational Benefits of Effective Error Disclosure

Domain	Impact
Patient Trust	Preserved or strengthened
Litigation Risk	Often reduced
Staff Morale	Improved with supportive culture
Safety Learning	Enhanced through root cause analysis

As shown in Table 2, disclosure contributes to improvements across multiple organizational domains, reinforcing its importance as a system-level intervention.

Communication Strategies for Effective Disclosure

Effective disclosure requires careful communication that balances honesty with empathy. Key components include prompt acknowledgment of the event, explanation of known facts, expression of regret, discussion of consequences, and commitment to ongoing communication. Disclosure should occur once the patient is clinically stable and sufficient information is available to provide a meaningful explanation (5). Language should be clear and free of jargon, allowing patients to understand complex events. Nonverbal communication, such as attentive listening and appropriate tone, conveys sincerity. Disclosure is not a single conversation but an ongoing process that may involve follow-up discussions as new information emerges (14).

Training programs using simulation and role-playing have been shown to improve clinicians' competence and confidence. Interprofessional training fosters coordinated responses across teams, reducing confusion for patients and families.

Special Contexts: Pediatrics and End-of-Life Care

Disclosure practices must be adapted for vulnerable populations. In pediatric settings, parents or guardians typically receive information, but older children may benefit from age-appropriate explanations that respect their developing autonomy. At the end of life, families coping with loss often seek detailed explanations of events leading to death, and compassionate communication is essential to support grieving processes (15).

Future Directions

Advances in digital health technologies introduce new challenges for transparency. Electronic health records provide patients with unprecedented access to information, potentially revealing errors independently. Artificial intelligence systems used in diagnosis raise questions about responsibility when algorithmic recommendations contribute to harm. Maintaining trust in this evolving landscape will require updated policies and ethical frameworks (16).

Discussion

Disclosure of medical errors to patients and families has evolved from a controversial practice to a central component of ethical, patient-centered healthcare. This shift reflects growing recognition that transparency is essential not only for respecting patient autonomy but also for maintaining trust and improving safety outcomes. Historically, clinicians often avoided discussing errors, motivated by concerns about litigation, professional reputation, or the belief that disclosure might cause unnecessary distress. However, empirical evidence and ethical analysis have increasingly challenged these assumptions, demonstrating that nondisclosure may produce greater harm by undermining trust and delaying appropriate care (1,2).

From an ethical perspective, disclosure aligns with the core principles of biomedical ethics—autonomy, beneficence, nonmaleficence, and justice. Respect for autonomy requires that patients receive truthful information necessary to make informed decisions about their health. Concealment denies patients the opportunity to seek corrective treatment or participate meaningfully in subsequent care planning. Beneficence and nonmaleficence further support transparency because honest communication can mitigate psychological harm associated with uncertainty and betrayal, whereas deception may exacerbate distress and impair recovery (3). Justice requires accountability for preventable harm and equitable access to remedies, including additional treatment or compensation when appropriate (4). Together, these principles establish disclosure as a moral obligation rather than a discretionary act.

The psychological impact of disclosure on patients and families is profound and multifaceted. Adverse events often generate intense emotional responses, including anger, fear, grief, and loss of confidence in healthcare providers. Studies consistently show that patients value honesty, empathy, and timely communication following harm, often prioritizing these qualities over technical explanations alone (5). Expressions of regret or apology are particularly important because they acknowledge suffering and convey compassion. Conversely, patients who discover errors independently frequently report greater dissatisfaction and mistrust, highlighting the risks of concealment (6). Family members also experience significant distress, especially when the patient is incapacitated or deceased, and inclusive disclosure practices can facilitate coping and reduce conflict (7).

Clinicians involved in adverse events face their own psychological burden, often described as the “second victim” phenomenon. Feelings of guilt, shame, anxiety, and fear of professional consequences are common and may contribute to burnout or reduced clinical confidence. Participation in disclosure can provide moral relief by aligning actions with professional values, but may also intensify distress without adequate institutional support (8). Programs that offer peer support, counseling, and guidance during disclosure have been shown to improve clinician recovery and resilience, underscoring the need for organizational attention to staff well-being (9).

Legal considerations remain a significant factor influencing disclosure practices. Traditionally, clinicians feared that admitting errors would increase malpractice risk. However, evidence suggests that transparency may actually reduce litigation by addressing patient concerns early and preventing escalation. Patients frequently pursue legal action not solely because of injury but because they feel deceived or abandoned (10). Disclosure-and-offer programs that combine honest communication with compensation when appropriate have demonstrated reductions in legal costs and faster resolution of claims (11). Apology laws

in many jurisdictions further support openness by allowing expressions of sympathy without constituting admission of liability (12). Nevertheless, uncertainty regarding legal consequences persists and may continue to discourage disclosure in some settings.

Organizational culture plays a decisive role in determining whether disclosure occurs and how effectively it is implemented. Healthcare systems characterized by blame and punitive responses to error tend to suppress reporting, thereby perpetuating hidden risks. In contrast, institutions that promote a culture of safety and learning encourage transparency and continuous improvement. Root cause analyses conducted following disclosed events can identify systemic vulnerabilities, such as communication failures or workflow inefficiencies, enabling targeted interventions to prevent recurrence (13). Evidence from high-reliability organizations suggests that openness about failure is essential for preventing catastrophic outcomes, and similar principles are increasingly applied in healthcare (14).

Effective disclosure requires sophisticated communication skills and structured processes. Professional guidelines recommend prompt acknowledgment of the event, explanation of known facts, expression of regret, discussion of consequences, and commitment to ongoing communication (2). Disclosure should occur when the patient is clinically stable and sufficient information is available to provide a meaningful explanation. Importantly, disclosure is not a single conversation but an evolving process that may involve multiple discussions as new information emerges (15). Training programs using simulation and role-playing have been shown to enhance clinicians' competence and confidence, yet such training remains inconsistently implemented across institutions (16).

Special contexts such as pediatric care and end-of-life situations introduce additional complexities. In pediatric settings, disclosure must address the needs of both parents and the child, balancing honesty with sensitivity to developmental stage. Older children and adolescents may benefit from age-appropriate explanations that respect their emerging autonomy (17). At the end of life, families coping with loss often seek detailed information about events leading to death, and compassionate disclosure can influence bereavement outcomes. Failure to provide clear explanations may contribute to prolonged grief or mistrust (18).

Technological advances further complicate disclosure practices. Electronic health records provide patients with increasing access to clinical information, potentially revealing errors independently of clinician communication. Artificial intelligence and decision-support systems introduce new questions regarding accountability when algorithmic recommendations contribute to harm. Maintaining transparency in this evolving landscape will require updated ethical frameworks and policies that address shared responsibility among clinicians, institutions, and technology developers (19).

Despite substantial progress, significant barriers remain. Many clinicians report uncertainty about how to conduct disclosure conversations, particularly in complex cases involving multiple contributing factors. Institutional policies may be vague or inconsistently applied, and support resources for patients and staff may be limited. Addressing these challenges requires coordinated efforts that integrate education, leadership commitment, legal reform, and cultural change. Importantly, disclosure should be embedded within broader patient safety strategies rather than treated as an isolated communication task.

Conclusion

Disclosure of medical errors to patients and families is a fundamental element of ethical, patient-centered healthcare and a critical mechanism for advancing safety and quality. The evidence reviewed indicates that transparent communication supports patient autonomy, facilitates psychological recovery, strengthens trust, reduces litigation, and promotes organizational learning. While disclosure may be emotionally challenging for clinicians and institutions, concealment carries far greater risks, including erosion of trust, delayed treatment, and perpetuation of systemic failures.

Achieving consistent and effective disclosure requires more than individual goodwill; it demands supportive organizational structures, clear policies, legal protections, and comprehensive training in communication skills. Healthcare systems must also recognize the needs of clinicians as secondary victims and provide resources to support their recovery and professional integrity. By fostering cultures of openness rather than blame, institutions can transform adverse events into opportunities for improvement.

As healthcare continues to grow in complexity, maintaining transparency will be essential for sustaining public trust and ensuring that advances in technology and treatment do not come at the cost of ethical accountability. Ultimately, disclosure is not merely about acknowledging past errors but about reaffirming the values of honesty, compassion, and responsibility that define the healing professions. Embedding these values into routine practice is essential for building safer healthcare systems and honoring the dignity of patients and families affected by medical harm.

References:

1. Kohn LT, Corrigan JM, Donaldson MS. To Err Is Human: Building a Safer Health System. Washington, DC: National Academies Press; 2000.
2. American Medical Association. Code of Medical Ethics Opinion 8.6: Promoting patient safety.
3. Beauchamp TL, Childress JF. Principles of Biomedical Ethics. 8th ed. New York: Oxford University Press; 2019.
4. Vincent C. Patient Safety. 2nd ed. Oxford: Wiley-Blackwell; 2010.
5. Iedema R, Allen S, Britton K, et al. Patients' and family members' views on open disclosure following adverse events. BMJ Qual Saf. 2011;20:421–432.
6. Mazor KM, Simon SR, Yood RA, et al. Health plan members' views about disclosure of medical errors. Ann Intern Med. 2004;140:409–418.
7. Johnstone MJ, Kanitsaki O. Culture, language, and patient safety. J Clin Nurs. 2007;16:2061–2069.
8. Scott SD, Hirschinger LE, Cox KR, et al. The natural history of recovery for the healthcare provider "second victim." Qual Saf Health Care. 2009;18:325–330.
9. Edrees H, Connors C, Paine L, et al. Implementing the RISE second victim support program. Jt Comm J Qual Patient Saf. 2016;42:488–496.
10. Hickson GB, Clayton EW, Githens PB, Sloan FA. Factors influencing malpractice claims. JAMA. 1992;267:1359–1363.
11. Kachalia A, Kaufman SR, Boothman R, et al. Liability claims and costs before and after implementation of a disclosure program. Ann Intern Med. 2010;153:213–221.
12. Mello MM, Gallagher TH. Malpractice reform—opportunities for apology. Health Aff. 2010;29:1569–1577.
13. Singer SJ, Vogus TJ. Safety climate research. Health Serv Res. 2013;48:1478–1495.
14. Weick KE, Sutcliffe KM. Managing the Unexpected: Resilient Performance in an Age of Uncertainty. San Francisco: Jossey-Bass; 2015.
15. Truog RD, Browning DM, Johnson JA, Gallagher TH. Talking with patients and families about medical error. N Engl J Med. 2011;364:147–153.
16. Lane C, Rollnick S. Training clinicians in communication skills. BMJ. 2007;334:560–563.
17. Committee on Bioethics. Disclosure of medical errors in pediatrics. Pediatrics. 2016;138:e20163215.
18. Back AL, Arnold RM, Baile WF, et al. Approaching difficult communication tasks in oncology. JAMA. 2009;301:1485–1492.
19. Topol EJ. High-performance medicine and the convergence of AI. Nat Med. 2019;25:44–56.