



The Malaysian Medical Association Position Paper on Medical Errors

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 Accepted by the 66th MMA Council on 13 June 2026.

Abstract:

Medical errors are a major concern in healthcare, posing significant risks to patient safety and contributing to preventable morbidity, mortality and financial burden worldwide. Although definitions vary, the Institute of Medicine (IOM) defines a medical error as the failure of a planned action to be completed as intended or the use of an incorrect plan to achieve an aim. Medical errors may arise from medication, surgical and diagnostic errors, equipment failures, hospital-acquired infections, patient falls, and communication failures with outcomes ranging from no harm to serious injury or death. Despite the World Health Organization (WHO) emphasis on patient safety, medical errors remain a leading cause of preventable harm. In Malaysia, studies demonstrate a high prevalence of preventable errors, particularly in medication prescribing and documentation. It is essential to distinguish medical errors from medical negligence, as not all errors result from a breach of the standard of care. Nonetheless, medical practitioners have an ethical obligation to disclose errors transparently, as concealment may worsen patient outcomes and lead to legal consequences. Although strategies such as surgical safety checklists and incident reporting systems are in place, medical errors continue to occur, highlighting the need for a culture of transparency, accountability, and continuous learning. Reporting of medical errors should be actively encouraged through confidential systems, while education on common errors should be integrated into orientation programmes for new medical practitioners. Preventing medical errors requires a comprehensive approach addressing both individual and organisational factors to improve patient safety and healthcare quality.

Introduction

'To err is human, to forgive is divine' is not an adage that medical practitioners can even afford to think off.

Medical errors threaten patient safety and represent a major public health concern (Grober & Bohnen, 2005). The definition of medical errors varies, leading to a broad spectrum of interpretation. The difference in understanding arises because medical errors encompass a wide variety of events, ranging from medication errors and surgical mistakes to improper treatments and system failures. The Institute of Medicine defines a medical error as "the failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim." (Institute of Medicine Committee on Quality of Health Care in America, 2000). Medical errors can also be defined as failures in care that may or may not result in



harm to the patient (Grober & Bohnen, 2005). Regardless of how they are defined, medical errors are linked to significant mortality, morbidity and financial burden. Medical errors and patient safety are closely intertwined because errors can directly threaten the safety of patients. Medical errors can result in various detrimental outcomes, not just for the patient, but also their family, the medical practitioner, support staff, health care facilities and community. Any preventable-mistake can lead to harm, which makes reducing medical errors an essential part of any patient safety initiative. The World Health Organization (WHO) has emphasized the importance of patient safety. According to the WHO, patient safety is defined as “the absence of preventable harm to a patient and reduction of risk of unnecessary harm associated with health care to an acceptable minimum.”(WHO, 2023).

In line with the WHO mission to recognize patient safety as a global health priority, the Ministry of Health (MOH) has conducted various programs and implemented numerous policies and guidelines aimed at improving the safety of healthcare delivery. These initiatives are designed to reduce medical errors, prevent patient harm, and enhance the overall quality of care provided across healthcare systems.

Creating awareness and educating medical practitioners, especially newly qualified ones on the potential medical errors that can happen at each department, may help reduce the rate of these errors.

Having a standard protocol for procedures where medical error frequently occurs. For example, writing a prescription in all health care facilities in the country:

- i. Standardize prescriptions so that a medical practitioner writes one prescription, for all medications including drugs which fall under the Dangerous Drug Act (DDA) 1952. There are some hospital pharmacies which require doctors to write DDA medications in a different prescription. This means the medical practitioner needs to rewrite the patients details. In a busy clinic, this is precious time lost. In his haste to see the next patient, prescription errors can happen.
- ii. Have check points at different levels:
 - a. 1st check point: Patients must be given the responsibility to check their prescription. Banks do that, requiring their customers to ensure that they receive the correct amount of cash. It's a shared responsibility. Emphasise and make this a regulation at health care facilities as well.
 - b. 2nd Check point: When scheduling the next appointment at the clinic counter, the patient is to be reminded to check the prescription by the counter staff.
 - c. 3rd Check point, at the pharmacy.

Burden & Prevalence of Medical Errors

Medical errors are now increasingly acknowledged as a major public health issue, being reported as the third leading cause of death in the United States (Makary & Daniel, 2016). One study found that around 400,000 hospitalised patients suffer preventable harm each year, while another estimated that over 200,000 patient deaths annually result from preventable medical errors (Rodziewicz et al., 2024). Around 1 in 10 patients is harmed in healthcare with more than 50% of harm being preventable,



especially due to medications (WHO, 2023). Patient harm also reduces global economic growth by 0.7% each year, with the indirect costs amounting to trillions of US dollars globally (WHO, 2023).

In Malaysia, a cross-sectional study by Khoo et al. (2012) analysed a random sample of 1,753 medical records from 12 primary care clinics. The study found a high prevalence of medical errors, particularly in documentation (98.0%) and medication errors (41.1%), with nearly all of them being preventable (93.5%). Additionally, few studies have been conducted specifically on medication errors in Malaysia. For example, a study in the emergency department of a tertiary hospital found a moderately high prevalence of medication errors, although none resulted in adverse events (Shitu et al., 2020).

Disclosure of Medical Errors

Provision 2.2.6 of the Malaysian Medical Council Code of Professional Conduct (2019) states that “a medical practitioner who commits errors in the course of management of his patient must avoid concealing them from the patient or those in authority and must record such events in the patient records/notes. It is unethical for the practitioner not to be truthful and honest in such an event.” The disclosure of medical errors is an essential part of maintaining trust and professionalism in healthcare. Medical practitioners are ethically bound to be truthful and transparent with patients regarding any errors that occur in the course of their care. Concealing errors can undermine the doctor-patient relationship, cause unnecessary harm and increase the risk of future legal or regulatory consequences. It is crucial to handle such disclosures with sensitivity and clarity, ensuring patients are informed about what went wrong, why it happened, and the corrective steps being taken. Junior officers should not take the responsibility of disclosing errors alone. Instead, senior professionals such as specialists or consultants should be involved to ensure that the disclosure is made correctly and with the necessary expertise. This collaborative approach can help prevent misunderstandings and more serious outcomes such as patient complaints or litigation. Transparent communication not only helps resolve the immediate situation but also promotes a culture of accountability and continuous improvement within the healthcare system.

Types of Medical Errors

Healthcare professionals should recognize the various types of medical errors to enhance their understanding of the potential adverse events they may cause. Some of the common types of medical errors are **medication errors, surgical errors, diagnostic errors, patient falls, device and equipment failures and communication failures.**

Medication Errors

A medication error is defined as “any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health-care professional, patient, or consumer. Such events may be related to professional practice, health care products, procedures and systems, including prescribing, order communication, product labelling, packaging and nomenclature, compounding, dispensing, distribution, administration, education, monitoring and use ”



(United States National Coordinating Council for Medication Error Reporting and Prevention, 2024). Unsafe medication practices and errors are a leading cause of avoidable harm in healthcare, with global costs reaching US\$ 42 billion annually (WHO, 2017). These errors often arise from weak systems and human factors like fatigue or staff shortages and can occur at any stage of the medication process, leading to severe harm or even death. The MOH has been actively addressing medication errors through several strategies, aligned with WHO initiatives aimed at improving medication safety globally. The comprehensive program focuses on reducing medication errors through training, reporting systems, safety guidelines and patient education, in line with WHO's 'Medication Without Harm' initiative.

Surgical Errors

Surgical errors carry the greatest risk of serious patient harm or death, with intraoperative errors accounting for an estimated 75% of malpractice cases involving surgeons (Rodziewicz et al., 2024). The Surgical Safety Checklist was introduced by the WHO to improve surgical safety by minimizing complications and enhancing patient outcomes. The checklist is designed to reduce errors and negative events while fostering better communication and teamwork among the surgical team (WHO, 2009). In Malaysia, the MOH has embraced and tailored the Safe Surgery Saves Lives initiative to improve surgical safety across the country. The MOH created the Guidelines on the Safe Surgery Saves Lives Programme, which incorporates the use of the Surgical Safety Checklist (SSCL) to standardize safety protocols in healthcare facilities (Ministry of Health (MOH), 2018). These actions reflect Malaysia's dedication to enhancing patient safety and surgical outcomes, in line with the global goals set by the WHO.

Many serious surgical errors are largely preventable with strict adherence to established safety systems, though residual risk can never be completely eliminated. It is crucial that we make a concerted effort to prevent errors such as wrong-site surgeries and unintended retained foreign bodies. Healthcare professionals must be thoroughly familiar with the current guidelines and policies to ensure that these errors are avoided, reinforcing a culture of safety and accountability in our healthcare system. Continuous education, training, and adherence to protocols are key to ensuring that surgical mistakes do not occur.

Diagnostic Errors

Diagnostic errors refer to any mistake or failure in the diagnostic process that results in a misdiagnosis, a missed diagnosis or delayed diagnosis (Schiff et al., 2009). Diagnostic errors lead to the death or injury of 40,000 to 80,000 patients annually (Rodziewicz et al., 2024). A study by Newman-Toker et al. (2019) estimated that 12 million patients in the US experienced a diagnostic error during their care, with 33% of these errors leading to patient harm. Additionally, it was found that diagnostic errors in conditions such as cancers, vascular events, and infections - referred to as the "Big Three" - account for approximately 75% of serious harms resulting from diagnostic errors (Newman-Toker et al., 2019). Diagnostic errors are more prevalent in primary care due to heavy workloads, time limitations, and the lack of easy collaboration with colleagues (Singh et al., 2016).



Diagnostic errors are often perceived as individual mistakes, stemming from factors such as cognitive biases, knowledge gaps, or miscommunication. However, these errors are not solely the result of individual actions. Organizational factors, such as workplace culture, systemic issues, inadequate training, and time pressures, also play a significant role in influencing diagnostic outcomes. While an individual clinician may be directly responsible for a diagnostic error, broader organizational issues - like poor communication within medical teams, inefficient workflows or lack of resources - can create an environment where such errors are more likely to occur. Therefore, reducing diagnostic errors requires a comprehensive approach that addresses both individual and organizational factors.

Patient Falls

A fall can be defined as “an event which results in a person coming to rest inadvertently on the ground or floor or other lower level” (WHO, 2021). Patient falls are a major cause of safety incidents reported through the MOH's Incident Reporting & Learning System, posing significant risks to those receiving healthcare. According to data from the Malaysian Patient Safety Goals (MPSG), an average of 3,571 patient falls are reported annually, with a total of 32,142 cases from 2014 to 2022, primarily affecting patients with physical and cognitive limitations (MOH, 2024). When a patient falls, it triggers a series of interventions, including diagnostic tests, pain management and possibly surgery. These added treatments not only extend the patient's recovery period but also put pressure on hospital resources and bed availability. Falls can lead to a cascade of complications, requiring specialized care, rehabilitation, and longer hospital stays. Moreover, they could have serious socio-economic consequences for patients and their families. Prolonged hospitalizations often result in lost wages, straining household finances, while long-term disabilities from fall-related injuries can increase dependence on care services and diminish quality of life.

Device & Equipment Failures

Technology has the potential to significantly improve healthcare delivery by enhancing efficiency, reducing costs, and increasing the quality of care. However, at the same time, the use of technology can also introduce new risks, such as errors and adverse effects, which may negatively impact patient safety and outcomes. The US Food and Drug Administration (FDA) receives over two million reports annually of suspected device-associated deaths, serious injuries and malfunctions (Commins, 2024). Medical errors often arise from issues such as design flaws in equipment, mishandling, user mistakes and malfunctions. Furthermore, many implanted devices like pacemakers, defibrillators and nerve or brain stimulators can fail and potentially leading to serious complications (Rodziewicz et al., 2024). Healthcare professionals should be trained to remain vigilant and capable of managing situations where equipment fails, despite the support these devices provide.

Communication Failures

Good communication is essential in healthcare because it fosters trust, ensures accurate information exchange, and improves patient outcomes. When healthcare professionals communicate clearly, patients feel more comfortable discussing their concerns, leading to better diagnoses, treatment plans,



and overall satisfaction. It also helps reduce errors, ensures patients understand their care instructions, and promotes a collaborative environment between patients and providers.

Unfortunately, communication failures are one of the leading causes of medical errors and adverse events in healthcare settings. These failures can occur at various levels - between patients and healthcare providers, among colleagues within a healthcare team, or even between different healthcare institutions. Impaired communication can stem from several factors, including disruptive patient behaviour, environmental distractions like cell phones, cultural differences, hierarchy-related challenges, varying personality types, language barriers and socioeconomic factors such as education and literacy levels (Sameera et al., 2021).

Healthcare staff should be mindful of common errors in written communication, such as using unclear abbreviations, illegible handwriting, not questioning incorrect orders, or failing to label specimens properly. To prevent these mistakes, staff should be encouraged to ask questions when unsure and should be trained to verify that the patient's name and other information are correctly recorded.

The Dominos Effect of Medical Errors

The 'domino effect' in medical errors refers to how a single mistake can set off a chain of events that negatively affects patients, healthcare workers and the healthcare system as a whole. Recognizing this phenomenon is essential for developing strategies to prevent and manage such errors. The first mistake in this sequence might seem minor or insignificant, like a miscommunication between healthcare staff, a documentation error or not adhering to standard procedures. Although it may appear trivial at first, this error can lead to a series of subsequent issues. For example, if a doctor fails to document a patient's allergy to a particular medication, this small oversight could result in prescribing the wrong drug, causing an allergic reaction and more severe complications. Once the initial mistake is made, it often leads to further problems, illustrating the domino effect. For instance, the wrong medication might be given, leading to side effects or adverse reactions and if it's not properly recorded or flagged, future healthcare providers might continue administering incorrect treatments, further harming the patient's health and causing more complications, additional procedures or even a longer hospital stay. The primary consequence of a domino effect is the harm caused to the patient. A medical error can lead to a series of clinical failures that deteriorate the patient's health, sometimes even resulting in death. In many cases, this series of mistakes could have been avoided with better communication, better practices or earlier intervention.

Healthcare workers involved in the initial mistake, as well as those who follow, may face serious professional and emotional repercussions. The error can trigger feelings of guilt, stress or burnout. Moreover, the added workload and time pressures caused by the mistake can lead to additional errors, perpetuating a cycle of mistakes. For example, a doctor who makes a medication error might experience emotional distress, resulting in reduced confidence, burnout and an increased likelihood of making further mistakes in the future. Medical errors often reveal flaws in the healthcare system whether related to staffing, communication or organizational practices. These systemic flaws not only affect the individuals directly involved but can also have a ripple effect, impacting other departments or even spreading across entire healthcare institutions. The healthcare facilities can suffer significant reputational damage and face escalating legal costs due to litigation. On a larger scale, the broader



healthcare system can experience substantial negative effects. For instance, extended hospital stays and additional surgeries often required to address the fallout from errors can drain valuable financial resources. Furthermore, the reputation of the affected institution can be severely damaged leading to a loss of patient trust which is essential for maintaining a steady flow of patients and ensuring the institution's success.

Addressing Medical Errors

In addressing medical errors, several policy approaches may be considered. One approach is a punitive, discipline-centred model, which focuses primarily on identifying individual practitioners at fault and imposing sanctions. While this model emphasises accountability, evidence suggests that it discourages error reporting and reinforces a culture of blame, thereby limiting opportunities for system learning and improvement. Another approach is mandatory public disclosure of all reported medical errors. Although transparency is important, unrestricted public disclosure without appropriate safeguards may promote defensive medical practice, under-reporting, and fear among healthcare professionals. A third approach involves confidential, non-punitive reporting systems that focus on organisational learning and system improvement. This model encourages reporting and facilitates early identification of risks but may be perceived as lacking accountability if not clearly delineated. The preferred approach is a hybrid model, which combines confidential, protected reporting with clear accountability mechanisms for cases involving gross negligence or wilful misconduct. This approach balances patient safety, professional accountability, and learning, and is consistent with ethical principles and existing regulatory frameworks in Malaysia.

The hybrid approach is preferred as it recognises that most medical errors arise from system failures rather than individual recklessness. Confidential reporting promotes transparency, early detection of risks, and organisational learning, while accountability mechanisms ensure public trust and professional standards are maintained. This approach supports ethical obligations of honesty and disclosure while minimising fear-based under-reporting and blame culture.

Suggestions For Consideration

i. Language, terminologies and perception

Words and phrases can affect a person's behavior, thought and perception. Language shapes our thinking and interpretation. The terminology, medical *error* carries a negative and antagonistic meaning further reinforcing the blame culture. The terms medical error and medical negligence are often used interchangeably, but they represent distinct concepts. It is important to understand the differences between them, and it is crucial to note that not all medical errors constitute medical negligence. The key difference is whether the medical practitioner who made the error failed to deliver treatment in accordance with the established standard of care. Medical errors may or may not cause harm to the patient. In contrast, medical negligence occurs when a medical practitioner fails to meet the expected standard of care in similar situations, resulting in harm to the patient. This can further reinforce legal actions against medical practitioners even if the degree of *error* is mild as there is no place for error in



the medical field. Healthcare institutions should review and standardise internal reporting terminology adopting neutral terms such as “*medical oversight*”.

iii. Changing the mindset and work culture

A constructive work environment has a good chance of reducing medical errors and increasing patient safety. A culture of blame or pointing fingers will hold back medical practitioners from reporting and the opportunity to learn and prevent errors will be lost.

A review done by David Earl Adams (2022) found “*three leadership approaches and four leadership actions connected to successfully reducing medical errors and improving patient safety. Transformational, authentic and shared leadership produced successful outcomes. The review also found four leadership actions – regular checks on the front line and promoting teamwork, psychological safety and open communication – associated with successful outcomes.*” Malaysia needs a huge behavioural change and a shift of mindset. Fault finding is a norm especially in the public sector. This finger pointing culture must be done away with from all levels of administration. The aim should be on creating an atmosphere that focuses on learning, patient safety, and respect. Healthcare institutions should implement structured, non-punitive patient safety education programmes at the departmental level, ensuring that **all medical practitioners receive at least one formal training session annually** on common medical errors relevant to their scope of practice. These programmes should cover the **identification of errors, preventive strategies, reporting procedures, and effective communication with patients and families** following an adverse event. Progress should be monitored through **annual departmental reporting rates and participation records**.

iv. The glaring shortage of workforce

Administrators can come up with the best protocol, but if medical practitioners are overwhelmed with fatigue, errors are going to happen. It is common knowledge that inadequate working environments, long hours of work without proper breaks, excess duty hours and high workload can affect a person’s level of focus, concentration and efficiency. This in turn increases the risk of adverse events happening which can directly affect patients’ safety.

IOM states that fatigue during shift work increases error rates and must be addressed to improve patient safety. Medical practitioners put in long hours especially in the public health sector in Malaysia. Amongst the reasons for this are the continuous shortage of medical practitioners, high patient load and insufficient resources. On top of all these, medical practitioners are also burdened with unending administrative work with ridiculous deadlines to submit their reports. This is a reality that is happening but not addressed. The industrial sector having recognised long hours and weariness are not conducive to productivity and invite errors are making changes to combat this issue. The health care sector in general is not looking into the root cause of the issue, though shortage of staff and patient overload are frequently added as one of the reasons in the reports. The ongoing shortage of licensed medical practitioners is alarming, yet the gravity of this problem is not address. To address this issue, high-risk clinical departments should undergo **formal fatigue and workload risk assessments every 24 months**, with measurable indicators such as duty hours, patient-to-doctor ratios, and rest compliance.



v. **Simplifying Guidelines and Standard Operating Procedures.**

Simplifying reporting process, uncomplicated protocols with clear guidelines to avoid errors. The time spent on paperwork to report errors is overwhelming and eats into the clinical work time of medical practitioners. Health care facilities need to brainstorm to create simple but clear protocols for procedures without overburdening medical practitioners with abundant paperwork. Simplify the process so that errors are captured effectively in reports. Corrective measures to be put in place should be clearly spelt which facilitate learning from these errors. Effective legislative measures need to be looked into so that the demarcation between errors and negligence is made clear. This is another measure to encourage reporting. After reporting, analysis should be made with the intention to learn from these errors. The common methods employed to analyse these errors to detect the contributory factors and form an action plan to prevent future recurrences are Root Cause Analysis (RCA) and Failure Mode and Effect Analysis (FMEA). RCA, identifies the causative factors of the errors by focusing primarily on systems and processes not the actions of the individuals involved. FMEA, on the other hand, focuses on safety and prevention by proactively identifying potential or actual causes and effects. It engages in continuous quality improvement process to assess and correct areas where an error has or is likely to occur. Healthcare facilities should streamline incident reporting forms and Standard Operating Procedures. RCA and FMEA should be formally integrated into reporting workflows, with **documented corrective actions and follow-up audits conducted annually.**

Implementation Strategy

1. Establish governance and oversight

Form a multidisciplinary patient safety taskforce at institutional (and where appropriate, national) level to oversee implementation, define roles and responsibilities, and set measurable targets.

2. Conduct baseline assessment

Review existing reporting systems, terminology, staff training gaps, workload and fatigue risks, and identify high-risk departments for phased implementation.

3. Pilot simplified reporting processes

Introduce streamlined reporting tools and revised SOPs in selected departments, ensuring confidentiality protections and clear guidance on the distinction between medical error and medical negligence.

4. Implement structured education and training

Roll out mandatory, department-specific education on common medical errors, prevention strategies, reporting procedures, and communication with patients and families, integrated into induction and CPD programmes.



5. Strengthen learning and system improvement mechanisms

Ensure reported incidents are analysed using Root Cause Analysis (RCA) and Failure Mode and Effects Analysis (FMEA), with documented corrective actions, assigned accountability, and defined timelines.

6. Monitor, evaluate, and refine

Track key indicators such as reporting rates, training completion, reporting time, and fatigue-related incidents, with formal evaluation and reporting conducted at least annually to support continuous improvement.

Conclusion

Medical errors remain a critical challenge in healthcare, posing significant risks to patient safety, well-being and the overall quality of care. While various initiatives and guidelines have been to reduce errors and improve patient safety, the prevalence of medical errors underscores the need for continued vigilance and improvement. Transparency in disclosing errors is vital for maintaining trust between healthcare professionals and patients and for preventing further harm or legal consequences. Additionally, involving senior healthcare professionals in the disclosure process ensures that errors are addressed appropriately and with the necessary expertise. A proactive, comprehensive approach encompassing better communication, training, and adherence to established safety protocols is essential to minimizing medical errors. By fostering a culture of accountability and continuous learning, healthcare systems can significantly reduce preventable harm and improve patient outcomes, ultimately advancing the mission of patient safety as a global health priority. When medical practitioners work in unsupportive environments and perceive punitive repercussions if they report errors, one cannot fault them for not reporting. Changing the workplace culture and developing protocols for addressing medical errors can encourage medical error reporting. Looking at the cause of errors objectively and work towards solutions, practically with minimal paperwork is what we need to strive towards. A change of mindset from the highest level of administration is necessary as only they have the authority to move the chains of change.

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**Document Control & Approval Record:**

ITEM	DETAILS
Title of Original Paper / Year of Publication	Medical Errors (2002)
Original Author(s)	Dr. Ravindran Jegasothy
Author(s) of the Revised / New Position Paper	1. Dr. Muhamad Izwan Ab Manan 2. Dr. Gayathri K. Kumarasuriar (MMA Ethics Committee)
Reviewer from the National Health Policy Committee (NHPC)	Dr. Cheo Seng Wee
Date of 1st Submission by the Author (Remarks: New Position Paper)	27 th May 2025
Date of Review by NHPC	24 th August 2025
Date of 2nd Submission by the Author (Post-NHPC Review)	17 th December 2025
Date of Approval by NHPC for Submission to Council	17 th January 2026
Date of 3rd Submission by the Author (Post-Council Review)	7 th June 2026
Date of Approval by MMA Council	13 th June 2026
Link to MMA Website	https://mma.org.my/mma-position-papers/