

## Impact of Safety Culture on Incident Reporting in Developing Countries

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### Abstract

This research examines how safety culture affects incident reporting practices within developing nations, focusing on the healthcare and construction industries, which carry high risks. The research demonstrates that open communication, psychological safety, and nonpunitive error responses form the basis of a strong safety culture that promotes transparent incident reporting. The study employs mixed-methods research to combine quantitative surveys with qualitative interviews, assessing the effects of organizational attitudes, leadership commitment, and communication structures on employees' readiness to report safety events. Research findings indicate that organizational environments characterized by blame-based cultures and hierarchical systems, combined with inadequate feedback mechanisms, negatively impact reporting practices. When organizations foster trust among employees, alongside team collaboration and leadership advocacy, they experience an increase in safety reports and improved outcomes.

The research identifies major organizational obstacles, including fear of punishment and inefficient reporting systems with time limitations. It offers strategic solutions through safety training and inclusive leadership, with a focus on cultural realignment. The focus is on developing a learning environment that treats errors as opportunities for improvement. The paper advocates for systemic change in developing nations to integrate safety principles throughout every organizational tier, insisting on top-down, evidence-based reforms that maintain incident reporting and promote ongoing safety advancements. Policymakers, healthcare managers, and safety professionals face significant challenges when attempting to enhance patient and worker safety within healthcare systems constrained by infrastructure and regulatory limitations in low- and middle-income countries.

**Keywords:** Safety Culture, Incident Reporting, Developing Countries, Healthcare Safety, Nonpunitive Environment

### Introduction

High-risk industries in developing countries, such as construction and healthcare, require the establishment and maintenance of a strong safety culture to ensure safety (Denning et al., 2020). Within an organization that fosters a positive safety culture, safety extends beyond rules to become an integral part of how every individual acts and makes decisions (Trinh et al., 2018). The collective attitudes and beliefs of workers determine how they respond to risks and risk control systems, according to Rahman et al. (2021). The presence of a strong safety culture increases the likelihood of employees reporting incidents, as well as near-misses and potential hazards, according to Fukami et al. (2020) and Tabibzadeh and Meshkati (2015). Reporting serves as a vital element of proactive safety management systems, as it helps organizations identify systemic errors and develop solutions to prevent future problems. Organizations have discovered that enhancing their safety culture enables them to refine their operational processes while optimizing their management and control systems (Azmi et al., 2014).

### **Safety Culture and Incident Reporting**

A comprehensive safety program relies on incident reporting as a vital component to drive continuous improvement and enable proactive risk management. The effectiveness of safety interventions can be improved through increased reporting, even if there is no improvement in primary outcome measures, as shown in the study by Havinga et al. (2021). The prevailing safety culture within an organization determines the effectiveness of incident reporting systems. A safety-focused culture promotes transparent communication and a nonpunitive error reporting system, which builds trust and empowers employees to report incidents without fear of retribution or punitive consequences. Multiple elements can hinder incident reporting systems in developing countries, such as employee fear of losing their job combined with distrust in management and social customs that prevent individuals from challenging authority. A positive safety culture fosters an organizational learning environment where errors serve as opportunities for improvement, and reporting contributes to enhancing overall organizational safety. According to Luther & JOHNSON (2008), organizations with an established safety culture align their safety goals with strategies that foster proper staff attitudes and beliefs.

In developing countries, workplace safety is challenged by resource limitations and weak regulations, which makes the relationship between safety culture and incident reporting crucial for mitigating risks. In such situations, a strong safety culture enables compensation for systemic weaknesses by empowering employees to manage safety and report risks before they occur (Ewertowski, 2020). An effective safety management system forms the essential framework and tools needed to identify, assess, and mitigate risks, which demonstrates the unbreakable connection between safety culture and safety management (Hoffmann et al., 2024). Human factors present obstacles to consistent reporting due to liability concerns, time constraints, and insufficient feedback about reported events (Siewert et al., 2019). To establish a positive safety culture, organizations require a multifaceted approach that includes leadership commitment, employee engagement, and ongoing improvement initiatives.

Many incidents remain unreported or concealed due to the potential negative repercussions for management, which diminishes learning opportunities as well as continuous improvement prospects (Pachiyannakis, 2014). Healthcare leaders must foster trust and justice to enable employees to discuss their mistakes freely without fear of retaliation (Albaalharith & A'aqoulah, 2023). The healthcare industry historically endorsed individual blame and punitive measures in response to adverse events (Copeland, 2019). Promoting a nonpunitive response to errors aims to help people understand that system flaws often cause mistakes rather than individual incompetence (Aljaffary et al., 2022). According to Copeland (2019), a fear of consequences creates a blame culture, which results in fewer reported mistakes. Leaders need to demonstrate a nonpunitive attitude toward error reporting and investigation while also acting to suppress unprofessional and intimidating behavior ("The Essential Role of Leadership in Developing a Safety Culture,," 2017). Developing an effective error-reporting system requires building trust among participants, as noted by Page (2004). The advancement of patient safety hinges critically on leadership engagement together with cultural principles and organizational learning practices (Alotaibi et al., 2020; Moureaud et al., 2020).

A deliberate and strategic approach from healthcare organization leaders is essential for developing a safety culture that prioritizes patient wellbeing (Hazazi & Qattan, 2020). Healthcare leaders need to establish a workplace atmosphere where staff can freely report

safety issues without worrying about facing punishment or ridicule. Although incident reporting systems provide a means to collect safety data, the effectiveness of these systems relies heavily on the organization's Culture. Healthcare organizations need to cultivate a culture that prioritizes patient safety, according to Shostek's 2007 findings. For effective incident reporting and error learning, organizations must establish robust safety cultures that emphasize openness, transparency, and continuous improvement (Alsobou et al., 2025; Maamoun, 2009). Psychological safety within an organization requires commitment because it enables individuals to express their concerns openly without fear of repercussions (Moureaud et al., 2020). Healthcare organizations must establish trust between leadership and frontline staff and develop systems to learn from errors and near misses in order to succeed. A strong safety culture remains essential for healthcare organizations to achieve meaningful improvements in patient safety (Hoffmann & Rohe, 2010; Mohr et al., 2002; Muls et al., 2015; Zhang & Lu, 2018).

Creating a safety culture requires healthcare organizations to implement nonpunitive reporting systems and integrate safety principles into their everyday practices (Wakefield, 2008). Research findings suggest that discussions conducted within institutions can lead to beneficial enhancements in patient safety (Françolin et al., 2015). In nations such as Korea, where collective values and hierarchical respect dominate, it is essential to establish safe channels for nurses to express their concerns (Lee & Dahinten, 2021). Implementing these changes will enable researchers to analyze cause-and-effect relationships, which will help develop improved policies for error prevention, as noted by Cheragi et al. (2013). Healthcare organizations that tailor interventions based on cultural influences on reporting behavior will develop transparent and accountable environments, which will lead to better patient outcomes and a strengthened healthcare system (Zabin et al., 2023) (Levine et al., 2019). Analysis of patient safety culture provides managers and healthcare policymakers with valuable insights that help organizations evaluate their current PSC condition and track changes over time (Titi et al., 2021). Organizations that promote incident reporting can identify systemic flaws and implement targeted corrective actions to prevent similar future problems.

### **Literature Review**

A strong safety culture requires hospital management to evaluate staff perceptions about current patient safety culture practices before implementation (Tran et al., 2021). Healthcare organizations have developed measurement tools to assess patient safety culture in hospitals, as these tools aim to stimulate safety discussions, identify areas of strength and development, and monitor progress after interventions. Through surveys and focus groups, organizations can gather healthcare workers' feedback on their views regarding safety culture components, such as communication openness, teamwork, and management support (Xing-xing et al., 2017). Titi et al. (2021) discovered that hospitals with a stronger safety culture experience fewer adverse events and better patient outcomes. Surveys are routinely used to assess employees' views on their workplace environment, including social aspects and technical conditions, as well as environmental factors, based on the findings of Weaver et al. (2013). Healthcare providers' perceptions of how safety culture develops require further research, as these individual perceptions shape the departmental Culture (Weaver et al., 2013). A healthcare safety culture requires a comprehensive strategy that addresses systemic challenges while fostering team collaboration and communication to ensure patient safety across all organizational levels (Brittain & Carrington, 2020). A systematic measurement

approach must be adopted, and results should be communicated broadly. Leadership, along with frontline staff, must participate actively in improvement activities (Campione & Famolaro, 2017).

Safety culture in healthcare settings emphasizes understanding mistakes to prevent future errors while fostering open communication and teamwork and enabling staff to report safety concerns without fear of retribution (Aljaffary et al., 2021). Organizations must establish transparent reporting systems that deliver consistent feedback on reported matters and recognize staff who contribute to safety improvement efforts. Organizations should foster a culture that views error reporting and near misses as opportunities for learning and improvement. Nonpunitive reporting systems must be developed, and staff should receive feedback on their responses to reported incidents. A complete safety culture integrates the protection of patients alongside workplace safety, according to Zebrak and colleagues (2022). The objective is to enhance safety by identifying the interventions that will yield the best outcomes. A safety culture needs multiple elements to function correctly and continuous monitoring to maintain its effectiveness and achieve optimal outcomes (Thompson, 2011). Organizations can determine their safety strengths and weaknesses by assessing their safety culture (Pronovost, 2005). A good safety culture creates team collaboration while protecting team health through improved working conditions.

Patient outcomes in healthcare organizations benefit from a safety culture, which effectively prevents errors (Luiz et al., 2015). Healthcare organizations must address multiple factors, including the openness of communication and existing punitive responses to errors, which may have deterred healthcare workers from reporting adverse events (Brborović et al., 2022). Building a safety culture in healthcare organizations requires coordinated action to synchronize organizational values, beliefs, and behaviors throughout every operational level (Sutcliffe, 2011). A unified understanding of safety principles must be established, and staff should be enabled to recognize and resolve safety concerns through teamwork and open communication (Anderson, 2006). Organizations become more aware of the conditions and events that drive their actions through culture analysis, but this results in reactive leadership, which focuses on temporary improvements without long-term strategic direction (Patwa & Moussa, 2018). Organizations that maintain a positive safety culture demonstrate strong communication built on mutual trust, alongside collective Recognition of safety significance and a belief in the effectiveness of preventive measures (Granel et al., 2020). A thriving safety culture requires the integration of safety principles across all organizational levels, starting with leadership and extending to frontline employees.

The primary step towards enhancing patient safety in primary care involves understanding and addressing the existing patient safety culture (Ree & Wiig, 2019). Comprehensive safety programs must be developed to address both organizational and individual factors that contribute to errors and adverse events, as defined by Weaver and colleagues in 2013. To maintain a safe culture, organizations need to continually track safety performance and provide staff with feedback on how they can improve. Regular assessments of safety culture, conducted through surveys and other tools, should be combined with monitoring key safety indicators. Data analysis should then drive improvement actions. The multifaceted structure of safety culture demands an inclusive approach that recognizes the interdependence of organizational elements, human behavior, and technological elements. Although primary care has received heightened attention to quality and patient safety matters, a substantial knowledge gap persists, particularly in home care settings (Ree & Wiig, 2019). Improvements in patient safety depend on the organization's understanding and development

of its cultural and other operational aspects. The patient safety culture emphasizes the importance of prioritizing patient safety among workplace employees (Mousavi & Imani, 2020).

Operating rooms represent high-risk environments where a strong safety culture is critical, as errors can lead to severe and immediate consequences (Odell et al., 2019). A positive safety culture enhances teamwork and promotes team wellbeing by creating an improved working environment (Mousavi & Imani, 2020). Evaluating and improving patient safety becomes more effective through the perceptions of frontline personnel about the safety culture, according to Nwosu et al. (2022). It is essential to understand that safety culture undergoes continuous transformation due to influences from both internal and external sources, as noted by Hazazi and Qattan (2020). Nontechnical skills, including teamwork capabilities and communication techniques, have become a priority for healthcare agents to enhance alongside accountability skills, according to Lark et al. (2018). Organizations must continually monitor the development of their safety culture and make necessary adjustments to address new challenges while maintaining high safety performance standards (Ahmed et al., 2023; Khamaiseh et al., 2020). Safety culture represents the shared beliefs, perceptions, values, and practices that employees hold regarding safety. The combination of personal and team values, along with attitudes, perceptions, skills, and behavior patterns, creates the safety culture, which defines organizational commitment and proficiency in health and safety management.

The implementation of a patient safety program must be effective in developing a safety-oriented culture within healthcare organizations (Mahrous, 2018). Healthcare organizations must adopt evidence-based practices, implement standardized protocols, and provide continuous safety training for staff (Green et al., 2018; Haskins & Roets, 2022). Healthcare organizations must create an environment where all team members have the authority to voice safety concerns and actively participate in patient protection efforts. According to Skiba (2020), a robust safety culture manifests through a collective understanding of safety risks, along with a dedication to applying effective prevention strategies. Continuous financial support for training programs and educational initiatives ensures that staff members maintain the knowledge and skills necessary to identify and mitigate safety hazards before they become issues. Leaders need to develop strategic plans that incorporate system-based approaches for workforce safety interventions and outcome assessments (Morath et al., 2014). A supportive workplace atmosphere needs to be created so staff members feel appreciated and respected while being empowered to participate in improving safety.

### **Methodology**

The study of the impact of safety culture on incident reporting in developing countries requires a mixed-methods research design that combines quantitative and qualitative data collection methodologies (Hall & Zecevic, 2011). Employees from multiple industries can provide quantitative data through surveys that evaluate their views on aspects of safety culture, including management commitment, communication openness, and accountability (Lathifah et al., 2018). The Safety Attitudes Questionnaire, as a survey instrument, helps reveal essential information about an organization's safety culture, according to Denning et al. (2020). Quantitative data offers an overarching view of safety culture and incident reporting rates, while qualitative data delivers an in-depth analysis of the mechanisms and context influencing these relationships (Lee et al., 2018).



Through qualitative data collection techniques such as semi-structured interviews and focus group discussions, researchers gain complex insights into how employees perceive safety culture and their incident reporting behaviors. These qualitative methodologies enable researchers to examine workplace dynamics and identify the elements that influence employees' decisions to report or ignore safety risks (Bautista-Bernal et al., 2023). The study examined nurses' reporting behaviors and barriers to reporting safety events in China, as well as their connections to hospital safety culture, using convenience sampling (Qin et al., 2014). Data analysis reveals advancements in safety protocols and organizational learning while also demonstrating a decrease in avoidable adverse events. Examining organizations with varying levels of safety culture maturity through case studies yields important practical insights into how safety culture impacts incident reporting outcomes.

Rigorous data analysis techniques must be employed to establish valid and reliable research findings. Statistical methods, such as regression analysis, are used in quantitative data analysis to determine how safety culture dimensions affect incident reporting rates. The thematic analysis serves as a method for evaluating qualitative data to identify recurring patterns and themes related to safety culture and incident reporting practices. Improving the organization's safety culture requires enhancements in working conditions through better teamwork practices, improved communication, and enhanced management support. Researchers achieve a comprehensive understanding of the intricate relationship between safety culture and incident reporting in developing countries by combining quantitative and qualitative data.

Researchers who conduct qualitative research focus on conducting multifaceted interviews and collecting narrative accounts to fully describe experiences, acting as intermediaries between participants and their communities (Sanjari et al., 2014). Qualitative research employs purposeful sampling to choose participants with specific characteristics or experiences relevant to the study (Lee et al., 2022). The effective use of qualitative research methods allows researchers to gather valuable information about safety culture (Granel et al., 2020; Hendra & Hanita, 2020). Safety improvement interventions can be developed by analyzing performance data alongside safety culture perception data (Kazandjian, 2018).

### **Findings**

Research results indicate that healthcare settings with a nonpunitive environment significantly improve patient safety incident reporting (Iskandar et al., 2014). According to Mahrous (2018), the staff showed reduced confidence in the patient safety culture of their institution. The study demonstrates that choosing appropriate patient safety culture measurement tools and outcome measures, along with the analysis level, should be prioritized during study design (DiCuccio, 2014). The study by Hazazi and Qattan (2020) demonstrated the relationship between the frequency of reporting events and patient safety culture. Hospital administrators require an understanding of cultural influences to develop effective interventions (Alswat et al., 2017). Establishing a blame-free culture enables staff members to report errors and near misses without fear of punishment, which leads to a better understanding of system vulnerabilities.

Healthcare organizations with strong patient safety cultures achieve better quality ratings, according to Yount et al. (2020). The performance ratings of quality are strongly linked with effective teamwork practices in organizations. The effectiveness of event reporting systems depends on the presence of collaborative work environments. The initiatives lead to better patient outcomes while building trust within healthcare teams, enabling them to engage in

safety improvement efforts actively. The COVID-19 pandemic has demonstrated that adaptability and resilience are essential for upholding safety standards during crises (Denning et al., 2020). The Safety Attitudes Questionnaire scores rose significantly among doctors and clinical staff throughout the COVID-19 pandemic, demonstrating an advancement in safety culture. The study evaluated healthcare institutional performance under pandemic conditions by analyzing incident reporting data before COVID-19 to determine their ability to meet extraordinary demands while maintaining safety protocols (Denning et al., 2020).

The study by Koike et al. (2022) demonstrated a direct connection between the number of strategies implemented and the formation of a reporting culture. The strategies must work together to create a psychological safety environment where team members can acknowledge errors and express concerns without fear of adverse consequences. A culture of transparency and continuous improvement develops when leaders encourage safety practices, provide constructive feedback, and recognize those who report incidents. Healthcare organizations must create trusting workplace environments where mistakes are viewed as learning opportunities rather than reasons for blame. The research reveals the importance of leadership in developing an effective reporting culture, which plays a crucial role in enhancing patient safety outcomes.

### **Factors Influencing Reporting Culture**

Several cultural and organizational elements, along with personal factors, create complex interactions that explain why healthcare workers avoid reporting safety incidents. Organizational frameworks, leadership approaches, and communication methods have a significant influence on incident-reporting behavior. Healthcare workers may avoid reporting incidents due to time constraints, which often coexist with complex reporting systems and inadequate feedback mechanisms (Wiele & Rantanen, 2015). Employees decide to report incidents based on how complex and compelling the reporting procedures are, as well as how accessible the reporting channels and the speed of feedback are. The challenges of high workload demands, along with time constraints, lead to personnel reluctance in adding reporting tasks to their schedules, especially in fast-paced sectors such as construction and healthcare. Personal factors, including fear of punishment, embarrassment, and skepticism about the effectiveness of reporting, can prevent people from reporting incidents (Copeland, 2019). Research indicates that organizations that penalize employees for mistakes create substantial barriers to reporting those errors.

Visible leader commitment proves essential for developing a positive reporting culture, as it demonstrates the organization's prioritization of safety. Effective leaders need to establish an inspiring vision that drives change and demonstrates urgency while cultivating a psychological safety that encourages transparency in reporting and active engagement. They should also enable team learning throughout their organization (Ahmed et al., 2024; Ystaas et al., 2023). When leaders take proactive measures, they foster trust among employees, which in turn enhances their collective responsibility for safety. Organizations that prioritize strong reporting cultures demonstrate proactive event reporting and maintain consistent safety process execution, ensuring timely corrective action closure and responsive supervision (Stough, 2012). When organizations invest in training and education efforts to enhance employee understanding of safety protocols and reporting methods, they tend to experience higher rates of incident reporting (Hazan, 2016). Safety incident underreporting occurs frequently within organizations that either lack clear communication channels or operate with hierarchical structures and blame-oriented cultures, according to Siewert et al. (2019).

A supportive and nonpunitive work environment helps to establish a transparent and proactive safety culture, which boosts incident reporting. Every employee should raise concerns and halt work when safety risks arise independent of their employer (Lammerding, 2016). A primary obstacle to employee communication is the fear of retribution, as 70% of workers in various industries and 34% of healthcare workers report that this fear causes their silence (Siewert et al., 2019). The possibility of facing punishment causes healthcare workers and other employees to avoid reporting errors.

Reward programs offered by companies for reporting safety issues may lead to unintentional underreporting of such problems, as evidenced by multiple industrial facilities (Pransky et al., 1999). Employees need to have confidence in reporting errors without fear of penalties so that a trustworthy culture becomes established and leads to higher reporting rates and organizational learning. An effective strategy should establish a reporting system that eliminates blame while emphasizing learning from errors to foster trust and transparency. The transition to this strategy enables transparent information sharing and collaborative problem-solving efforts, which are essential for enhancing safety standards (Ulmer et al., 2009).

### **Results of poor reporting systems**

When organizations overlook the development of a safety-oriented culture, they experience harmful outcomes that negatively affect both personnel welfare and business effectiveness. When safety problems are left unreported or improperly addressed, workers become disengaged and lose motivation, which results in decreased morale and productivity (Mutegi et al., 2023). When safety awareness is lacking in the workplace environment, it creates employee stress and anxiety that negatively impact their mental health and job satisfaction (Mutegi et al., 2023). The primary consequence of inadequate reporting procedures is an increase in more frequent accidents and injuries, which in turn increases healthcare costs and interrupts production. Without proper transparency and accountability, employees and management cannot build trust together, resulting in an organizational atmosphere of mistrust and suspicion. When safety incidents are underreported, they create blind spots that hide organizational weaknesses and barriers to progress and creative development. The solution to these problems requires a thorough strategy that emphasizes cultural change and leadership dedication while implementing clear reporting systems that avoid punishment (O'Dowd, 2013).

Research indicates that positive error management environments yield exceptional safety performance; however, negative views about mistakes can hinder open discussion and formal incident reporting (Krauss & Casey, 2014). Building a strong safety culture requires effective teamwork and strong communication abilities. Organizations build continuous improvement cultures and shared safety accountability through open communication encouragement and by supplying employees with necessary reporting resources and rewards for their reporting behavior (Perkinson, 2018).

Building a strong safety culture requires effective communication and Recognition alongside organizational factors, according to Williamsen (2021). Organizations can establish a shared safety responsibility alongside continuous improvement by promoting open communication, providing necessary reporting resources, and rewarding employees who report safety issues.

To build transparency and accountability, organizations must recognize the importance of incident reporting. Organizations need to establish secure reporting channels that protect against retaliation and develop systems to conduct comprehensive investigations and resolve reported problems. A blame-free culture enables employees to report incidents without fear



of punishment, promoting organizational learning and improvement. A protective safety culture emerges when organizations prioritize incident reporting and take proactive measures to address safety concerns.

### **Recommendations for Improvement**

Organizations need to adopt a comprehensive strategy to develop a safety culture while promoting incident reporting in developing countries. A fundamental approach to safety culture begins by fostering deep ownership and accountability for safety across every organizational level, from top management to frontline employees (Tabibzadeh & Meshkati, 2015). Employees should have the ability to report safety problems without fear of retaliation, while organizations must ensure the swift resolution of these issues (Fukami et al., 2020). Companies must develop safety education and training initiatives to provide employees with the essential knowledge and skills to identify workplace hazards and adhere to safety protocols (Luther & Johnson, 2008). Safety training investments enable organizations to adopt proactive safety measures, thereby reducing accident rates and injuries. Management practices that build constructive company cultures and establish safety-supportive communication policies lead to improved communication satisfaction, as stated by Silla et al. (2017). To cultivate continuous improvement, organizations must regularly monitor safety performance, learn from incidents, and implement improvements to safety procedures. Effective communication strategies must be implemented to reinforce safety culture and encourage incident reporting. Effective safety culture requires open communication channels between employees and management, as well as the provision of immediate feedback on reported incidents and the promotion of a culture that fosters safety knowledge sharing. Creating a nonpunitive system for reporting incidents strengthens the safety culture by allowing workers to report incidents and near misses without fear of punishment. An organization that promotes openness and transparency can learn from errors and establish measures to prevent future occurrences. Staff participation in safety decision-making processes strengthens the safety culture and reduces the occurrence of accidents, according to Berglund et al. (2023). Healthcare executives need to establish a safety culture that emphasizes both trust and justice, allowing employees to speak freely about their mistakes without fear of punishment (Albaalharith & A'aqoulah, 2023). Safety communication plays a vital role in maintaining effective organizational safety management to prevent disasters; however, failures in this communication system can lead to catastrophic consequences (Saleem & Malik, 2022). Organizations can enhance their safety performance and minimize workplace risks by adopting these strategies, thereby establishing a culture of safety excellence.

Effective communication strategies play a crucial role in fostering a safety culture and promoting incident reporting, as noted by Karanikas et al. (2017) and Louvar (2013). Organizations need to establish continuous communication between employees and management, promoting knowledge exchange about safety procedures and delivering immediate feedback on reports of incidents, as Silla et al. (2017) state. Enhancing safety culture requires the establishment of a reporting system that allows workers to report incidents and near misses without facing punishment (Aljaffary et al., 2022; Page, 2004). Openness and transparency enable organizations to learn from past mistakes and establish preventive measures to avoid future incidents (Moureaud et al., 2020; "The Essential Role of Leadership in Developing a Safety Culture," 2017).

When organizations promote transparent communication and provide employees with the proper tools to report safety issues while also rewarding such behavior, they achieve better

safety performance. Organizations need to fund safety training and education programs to equip employees with the necessary knowledge and skills for recognizing hazards and implementing safety procedures. These strategies enable organizations to enhance safety performance while reducing workplace risks and developing a culture of safety excellence. According to Vecchio (2007), organizations require effective communication mechanisms to involve staff in safety activities and obtain their support, which helps sustain a positive safety culture.

Businesses are coming to understand that enhancing safety culture ranks among the highest strategic priorities because it influences organizational reputation, production levels, and financial success (Azmi et al., 2014). By allocating resources to safety training and education programs, organizations can advance proactive safety measures that help reduce accidents and injuries (Mixafenti et al., 2025). Both management and employees must take active roles in cultivating a company's safety culture. Leaders need to promote safety values through one-way communication and establish feedback channels with subordinates to foster organizational and patient safety, according to Mattson et al. (2015). Leaders who establish feedback channels maintain awareness of workplace improvement opportunities and challenges, enabling them to address issues effectively.

## Discussion

Understanding the complexity of safety culture requires recognizing its fundamental relationship with safety management systems (Hoffmann et al., 2024). Safety culture represents the collective beliefs, attitudes, values, and behaviors displayed through safety-related actions (Rahman et al., 2021). Organizational cultures develop through members confronting common challenges and agreeing on conduct standards, but power dynamics and conflicting interests often prevent consensus formation (Choudhry et al., 2006). In a generative safety culture, organizations must go beyond event responses to proactively anticipate and prevent incidents through committed continuous learning and improvement efforts (Bautista-Bernal et al., 2023). According to Al-Kudmani (2008), the development of a good safety culture requires employees to report safety hazards and incidents actively. The development of a reporting culture depends on building trust between employees and management while ensuring everyone understands the importance of reporting incidents and removing barriers to reporting (Shostek, 2007). Establishing open communication channels and nonpunitive reporting systems, along with a visible management commitment to safety, serves as the foundation for building a strong reporting culture. Regular assessment and enhancement of safety culture help to pinpoint development needs and monitor the effectiveness of safety programs. Companies can evaluate their safety culture by conducting employee surveys, safety audits, and making observations. Safety professionals must deliver to management the necessary knowledge and research on leading indicators to foster stronger awareness and organizational support for safety participation (Costin et al., 2019). A strong safety culture fosters ethical behavior and open communication, promoting a safety commitment throughout every organizational level. Leaders need to establish a safety culture by prioritizing safety in their vision, supporting psychological safety, and conducting medication error reviews that reinforce this Culture (Moureaud et al., 2020). Leaders play a crucial role in crafting a secure organizational environment through active stakeholder participation. The development of leaders plays a vital role in establishing organizational

cultures where patient-centered care principles are understood throughout all levels (Zhang & Lu, 2018).

The implementation of collective leadership within healthcare settings enhances safety culture through frontline worker engagement in safety improvement processes and accountability for learning from mistakes and near misses (Gibson et al., 2017). Nurse leaders play a crucial role in shaping patient safety programs by establishing visible procedures and nonpunitive reporting methods (Wakefield, 2008). The term safety culture describes how beliefs, attitudes, values, and behaviors associated with safety are exhibited. Organizational cultures form through shared experiences of challenges that lead members to adopt standard conduct practices; however, power dynamics and differing interests can obstruct agreement.

Healthcare organizations now recognize the importance of creating a culture focused on safety to improve treatment standards continually (Zabin et al., 2023). Patient safety management sees growing government involvement and intervention worldwide, according to Alotaibi and colleagues (2020). The concept of safety culture extends beyond formal rules and processes to include collective attitudes and behaviors that value safety at all organizational levels (Tran et al., 2021). Organizations must prioritize patient safety at the forefront of their mission, regularly evaluating both their safety culture achievements and setbacks (Muls et al., 2015). Healthcare organizations prioritize improving patient safety culture measurement and development to enhance patient outcomes independently of their financial status (Titi et al., 2021). Healthcare leadership must take the lead in promoting safety while fostering a blame-free atmosphere and encouraging open dialogue to cultivate a culture of safety.

Research is needed to investigate the hidden processes by which safety culture impacts incident reporting among healthcare workers in developing countries, as current studies have not adequately examined how these workers develop and communicate their perceptions of safety culture (Weaver et al., 2013).

Businesses seeking to cultivate a safety culture must establish clear safety rules, provide comprehensive training, and foster open and transparent communication. A safe work environment allows businesses to reduce accident rates while simultaneously enhancing employee morale and increasing productivity levels. When businesses prioritize a safety culture, they enhance worker wellbeing and ensure their organization's future success.

Building trust and creating awareness about the importance of reporting while eliminating obstacles to reporting are essential requirements to promote the reporting of safety hazards and incidents, which form the foundation of a positive safety culture. (Xing-xing et al., 2017). Visible management commitment to safety, alongside open communication channels and nonpunitive reporting systems, forms the foundation for establishing a reporting culture. Companies need to integrate safety as a core value into their organizational structure rather than treating it merely as a collection of rules and regulations (Alsobou et al., 2025). Organizations can evaluate safety culture through employee surveys, safety audits, and observational assessments. Safety professionals need to deliver research-based knowledge about leading indicators to management, enabling them to generate organization-wide awareness and support for safety participation.

A strong safety culture within an organization fosters ethical behavior and open dialogue while ensuring that safety remains a priority across all organizational levels. Leaders need to develop a culture of safety by establishing safety as a core priority within their vision and promoting psychological safety while conducting medication error reviews to strengthen this safe environment. Leaders play a critical role in creating a safe culture by motivating all

stakeholders to participate actively. The development of leaders plays a crucial role in fostering an organizational culture that promotes patient-centered care principles throughout the organization (Maamoun, 2009).

Healthcare collective leadership enhances safety culture by involving frontline workers in safety enhancement initiatives and learning from mistakes and close calls. Nurse leaders can influence patient safety programs to guarantee transparent reporting procedures and eliminate punitive measures. Safety culture encompasses the amalgamation of beliefs, attitudes, values, and behaviors that manifest in safety-related contexts. Organizational cultures evolve through shared experiences and conduct understanding among members, but power dynamics and conflicting interests can prevent agreement.

Healthcare organizations recognize the need to cultivate a culture of safety, enabling them to improve treatment standards continually. Patient safety management now sees more active participation and control from government entities worldwide. A safety culture includes both written policies and procedures and the collective attitudes and values that prioritize safety throughout every level of an organization. Healthcare organizations should prioritize patient safety as an integral part of their mission and systematically assess their safety culture by examining both successful and unsuccessful practices. Healthcare organizations are now placing greater importance on evaluating and enhancing their patient safety culture as a means to improve patient outcomes, regardless of their financial circumstances (Hazazi & Qattan, 2020; Jafarpanah & Rezaei, 2020). Leadership in healthcare organizations must promote safety as essential and foster a blame-free atmosphere while supporting transparent communication to create a safety-focused culture (Mohr et al., 2002; Thompson, 2011).

A research gap remains in understanding how healthcare workers develop their perceptions of safety culture and share these perceptions. Therefore, future studies should identify the mechanisms that drive the impact of safety culture on incident reporting in developing countries.

## References

- Ahmed, F. A., Asif, F., Munir, T., Halim, M. S., Ali, Z. F., Belgaumi, A., Zafar, H., & Latif, A. (2023). Measuring the patient safety culture at a tertiary care hospital in Pakistan using the Hospital Survey on Patient Safety Culture (HSOPSC). *BMJ Open Quality*, 12(1). <https://doi.org/10.1136/bmjopen-2022-002029>
- Ahmed, Z., Ellahham, S., Soomro, M., Shams, S., & Latif, K. (2024). Exploring the impact of compassion and leadership on patient safety and quality in healthcare systems: a narrative review [Review of Exploring the impact of compassion and leadership on patient safety and quality in healthcare systems: a narrative review]. *BMJ Open Quality*, 13. *BMJ*. <https://doi.org/10.1136/bmjopen-2023-002651>
- Albaalharith, T., & A'aqoulah, A. (2023). Level of Patient Safety Culture Awareness Among Healthcare Workers. *Journal of Multidisciplinary Healthcare*, 321. <https://doi.org/10.2147/jmdh.s376623>
- Aljaffary, A., Albaalharith, M. A., Alumran, A., Agrawal, S., & Hariri, B. (2022). Patient Safety Culture in Primary Healthcare Centers in the Eastern Province of Saudi Arabia. *Risk Management and Healthcare Policy*, 229. <https://doi.org/10.2147/rmhp.s336117>
- Aljaffary, A., Yaqoub, F. A., Madani, R. A., Aldossary, H., & Alumran, A. (2021). Patient Safety Culture in a Teaching Hospital in Eastern Province of Saudi Arabia: Assessment and Opportunities for Improvement. *Risk Management and Healthcare Policy*, 3783. <https://doi.org/10.2147/rmhp.s313368>

- Al-Kudmani, A. S. (2008). Building a Safety Culture—Our Experience in Saudi Aramco. SPE International Conference on Health, Safety, and Environment in Oil and Gas Exploration and Production. <https://doi.org/10.2118/111852-ms>
- Alotaibi, B. B., Almadani, A. E., & Salem, O. A. (2020). Saudi Nurses Perception regarding Patient Safety in a Major Tertiary Hospital. *Open Journal of Nursing*, 10(7), 657. <https://doi.org/10.4236/ojn.2020.107046>
- Alsobou, N., Rayan, A., Bageas, M. H., ALBashtawy, M. S., Oweidat, I., Al-Mugheed, K., & Abdelaliem, S. M. F. (2025). The Relationship Between Patient Safety Culture and Attitudes Toward Incident Reporting Among Registered Nurses BMC Health Services Research, 25(1). <https://doi.org/10.1186/s12913-025-12763-0>
- Alswat, K., Abdalla, R. A. M., Titi, M. A., Bakash, M., Mehmood, F., Zubairi, B., Jamal, D., & El-Jardali, F. (2017). Improving patient safety culture in Saudi Arabia (2012–2015): trending, improvement and benchmarking. *BMC Health Services Research*, 17(1). <https://doi.org/10.1186/s12913-017-2461-3>
- Anderson, D. J. (2006). Creating a culture of safety: Leadership, teams, and tools. *Nurse Leader*, 4(5), 38. <https://doi.org/10.1016/j.mnl.2006.07.004>
- Azmi, B. A., Abdullah, A., & Badawi, F. (2014). Why Promoting Safety Culture? Abu Dhabi International Petroleum Exhibition and Conference. <https://doi.org/10.2118/172133-ms>
- Bautista-Bernal, I., García, C. Q., & Lara, M. M. (2023). Safety culture, safety performance, and financial performance. A longitudinal study. *Safety Science*, 172, 106409. <https://doi.org/10.1016/j.ssci.2023.106409>
- Berglund, L., Johansson, J., Johansson, M., Nygren, M., & Stenberg, M. (2023). Safety culture development in the construction industry: The case of a safety park in Sweden. *Heliyon*, 9(9). <https://doi.org/10.1016/j.heliyon.2023.e18679>
- Brborović, O., Brborović, H., & Hrain, L. (2022). The COVID-19 Pandemic Crisis and Patient Safety Culture: A Mixed-Method Study. *International Journal of Environmental Research and Public Health*, 19(4), 2237. <https://doi.org/10.3390/ijerph19042237>
- Brittain, A. C., & Carrington, J. M. (2020). Organizational health and patient safety: a systematic review [Review of Organizational health and patient safety: a systematic review]. *Journal of Hospital Management and Health Policy*, 5, 2. AME Publishing Company. <https://doi.org/10.21037/jhmhp-20-57>
- Campione, J., & Famolaro, T. (2017). Promising Practices for Improving Hospital Patient Safety Culture. *The Joint Commission Journal on Quality and Patient Safety*, 44(1), 23. <https://doi.org/10.1016/j.jcjq.2017.09.001>
- Chicago, M. A., Manoocheri, H., Mohammadnejad, E., & Ehsani, S. R. (2013). Types and Causes of Medication Errors from a Nurse's Viewpoint. *PubMed*, 18(3), 228. <https://pubmed.ncbi.nlm.nih.gov/23983760>
- Choudhry, R. M., Fang, D., & Mohamed, S. (2006). The nature of safety culture: A survey of the state-of-the-art. *Safety Science*, 45(10), 993. <https://doi.org/10.1016/j.ssci.2006.09.003>
- Copeland, D. J. (2019). Targeting the Fear of Safety Reporting on a Unit Level. *JONA The Journal of Nursing Administration*, 49(3), 121. <https://doi.org/10.1097/nna.0000000000000724>



- Costin, A., Wehle, A., & Adibfar, A. (2019). Leading Indicators—A Conceptual IoT-Based Framework to Produce Active Leading Indicators for Construction Safety. *Safety*, 5(4), 86. <https://doi.org/10.3390/safety5040086>
- Denning, M., Goh, E. T., Scott, A., Martin, G., Markar, S. R., Flott, K., Mason, S., Przybylowicz, J., Almonte, M., Clarke, J., Beatty, J. W., Chidambaram, S., Yalamanchili, S., Tan, B. Y., Kanneganti, A., Sounderajah, V., Wells, M., Purkayastha, S., & Kinross, J. (2020a). What has been the impact of Covid-19 on Safety Culture? A case study from a large metropolitan teaching hospital. *medRxiv* (Cold Spring Harbor Laboratory). <https://doi.org/10.1101/2020.06.15.20129080>
- Denning, M., Goh, E. T., Scott, A., Martin, G., Markar, S. R., Flott, K., Mason, S., Przybylowicz, J., Almonte, M., Clarke, J., Beatty, J. W., Chidambaram, S., Yalamanchili, S., Tan, B. Y., Kanneganti, A., Sounderajah, V., Wells, M., Purkayastha, S., & Kinross, J. (2020b). What Has Been the Impact of Covid-19 on Safety Culture? A Case Study from a Large Metropolitan Healthcare Trust. *International Journal of Environmental Research and Public Health*, 17(19), 7034. <https://doi.org/10.3390/ijerph17197034>
- DiCuccio, M. H. (2014). The Relationship Between Patient Safety Culture and Patient Outcomes [Review of The Relationship Between Patient Safety Culture and Patient Outcomes]. *Journal of Patient Safety*, 11(3), 135. Lippincott Williams & Wilkins. <https://doi.org/10.1097/pts.0000000000000058>
- Ewertowski, T. (2020). Just Culture as a Useful Tool for the Organizations in the Context of ISO 45001:2018 Standard Implementation. *DEStech Transactions on Social Science Education and Human Science*. <https://doi.org/10.12783/dtssehs/ise2018/33653>
- Ezeogu, A. O. (2024). Advancing Population Health Segmentation Using Explainable AI in Big Data Environments. *Research Corridor Journal of Engineering Science*, 1(1), 267-2883.
- Ezeogu, A. O. (2023). Real-Time Survival Risk Prediction with Streaming Big Health Data: A Scalable Architecture. (2023). *Contemporary Journal of Social Science Review*, 1(1), 50-65. <https://contemporaryjournal.com/index.php/14/article/view/123>
- Françolin, L., Gabriel, C. S., Bernardes, A., Silva, A. E. B. de C., Brito, M. de F. P., & Machado, J. P. (2015). Patient safety management from the perspective of nurses. *Revista Da Escola de Enfermagem Da USP*, 49(2), 277. <https://doi.org/10.1590/s0080-623420150000200013>
- Fukami, T., Uemura, M., & Nagao, Y. (2020). Significance of incident reports by medical doctors for organizational transparency and driving forces for patient safety. *Patient Safety in Surgery*, 14(1). <https://doi.org/10.1186/s13037-020-00240-y>
- Gibson, R., Armstrong, A., Till, A., & McKimm, J. (2017). Learning from error: Leading a culture of safety. *British Journal of Hospital Medicine*, 78(7), 402. <https://doi.org/10.12968/hmed.2017.78.7.402>
- Granel, N., Manresa-Domínguez, J. M., Watson, C., Gómez-Ibáñez, R., & Bernabeu-Tamayo, M. D. (2020). Nurses' perceptions of patient safety culture: a mixed-methods study. *BMC Health Services Research*, 20(1). <https://doi.org/10.1186/s12913-020-05441-w>
- Green, A., Stawicki, S. P., & Firstenberg, M. S. (2018). Introductory Chapter: Medical Error and Associated Harm - The Critical Role of Team Communication and Coordination. In *InTech eBooks*. <https://doi.org/10.5772/intechopen.78014>

- Hall, M., & Zecevic, A. (2011). Safety Culture in Healthcare: A review of concepts, dimensions, measures, and progress [Review of Safety Culture in Healthcare: A review of concepts, dimensions, measures, and progress]. *BMJ Quality & Safety*, 20(4), 338. *BMJ*. <https://doi.org/10.1136/bmjqs.2010.040964>
- Haskins, H. E. M., & Roets, L. (2022). Nurse leadership: Sustaining a culture of safety. *Health SA Gesondheid*, 27. <https://doi.org/10.4102/hsag.v27i0.2009>
- Havinga, J., Bancroft, K., & Rae, A. (2021). Hazard reporting: How can it improve safety? *Safety Science*, 142, 105365. <https://doi.org/10.1016/j.ssci.2021.105365>
- Hazan, J. (2016). Incident Reporting and a Culture of Safety. *Clinical Risk*, 22, 83. <https://doi.org/10.1177/1356262216682893>
- Hazazi, M. A., & Qattan, A. M. N. (2020). Exploring Strength Areas of Patient Safety Culture Improvement in KAMC, Makkah, Saudi Arabia. *American Journal of Nursing Research*, 9(1), 20. <https://doi.org/10.12691/ajnr-9-1-4>
- Hendra, R., & Hanita, M. (2020). THE IMPLEMENTATION OF CYBER INCIDENT MANAGEMENT FRAMEWORKS IN INDONESIA. *Jurnal Teknologi Informasi Dan Pendidikan*, 13(2), 9. <https://doi.org/10.24036/tip.v13i2.326>
- Hoffmann, B., & Rohe, J. (2010). Patient Safety and Error Management [Review of Patient Safety and Error Management]. *Deutsches Ärzteblatt International*. Deutscher Ärzte-Verlag. <https://doi.org/10.3238/arztebl.2010.0092>
- Hoffmann, R., Nishimura, H., & Gomes, P. R. (2024). Exploring Safety Culture in Urban Air Mobility: System of Systems Perspectives Using Enterprise Architecture. *Systems*, 12(5), 178. <https://doi.org/10.3390/systems12050178>
- Iskandar, H., Maksum, H., & Nafisah, N. (2014). Faktor Penyebab Penurunan Pelaporan Insiden Keselamatan Pasien Rumah Sakit. *Jurnal Kedokteran Brawijaya*, 28(1), 72. <https://doi.org/10.21776/ub.jkb.2014.028.01.27>
- Jafarpanah, M., & Rezaei, B. (2020). Association between Organizational Citizenship Behavior and Patient Safety Culture from Nurses' Perspectives: A Descriptive Correlational Study. *BMC Nursing*, 19(1). <https://doi.org/10.1186/s12912-020-00416-y>
- Juba, O. O., Olumide, B. F., David, J. I., Olumide, A. O., Ochieng, J. O., & Adekunle, K. A. (2024). Integrating Mental Health Support into Occupational Safety Programs: Reducing Healthcare Costs and Improving Well-Being of Healthcare Workers Post-COVID-19. *Revista de Inteligencia Artificial en Medicina*, 15(1), 365-397.
- Juba, O. O., Olumide, A. F., David, J. I., & Adekunle, K. A. (2024). The role of technology in enhancing domiciliary care: A strategy for reducing healthcare costs and improving safety for aged adults and carers. *Unique Endeavor in Business & Social Sciences*, 7(1), 213-230.
- Juba, O. O. (2024). Impact of Workplace Safety, Health, and Wellness Programs on Employee Engagement and Productivity. *International Journal of Health, Medicine and Nursing Practice*, 6(4), 12-27.
- Juba Omolara; Jeffrey Ochieng. "Occupational Health and Safety Challenges Faced by Caregivers and the Respective Interventions to Improve their Wellbeing." Volume. 9 Issue.6, June - 2024 *International Journal of Innovative Science and Research Technology (IJISRT)*, [www.ijisrt.com](http://www.ijisrt.com). ISSN - 2456-2165, PP:- 3225:-3251 <https://doi.org/10.38124/ijisrt/IJISRT24JUN1000>
- Karanikas, N., Melis, D. J., & Kourousis, K. I. (2017). The Balance Between Safety and Productivity and its Relationship with Human Factors and Safety Awareness and

- Communication in Aircraft Manufacturing. *Safety and Health at Work*, 9(3), 257. <https://doi.org/10.1016/j.shaw.2017.09.001>
- Kazandjian, V. A. (2018). Voluntary Reporting of Performance Data. *International Journal of Big Data and Analytics in Healthcare*, 3(1), 27. <https://doi.org/10.4018/ijbdah.2018010103>
- Khamaiseh, A., Altwalbeh, D., & Al-Ajlouni, K. (2020). Patient Safety Culture in Jordanian Primary Healthcare Centers as Perceived by Nurses: A Cross-Sectional Study. *Eastern Mediterranean Health Journal*, 26(10), 1242. <https://doi.org/10.26719/emhj.20.044>
- Koike, D., Ito, M., Horiguchi, A., Yatsuya, H., & Ota, A. (2022). Implementation strategies for the patient safety reporting system using Consolidated Framework for Implementation Research: a retrospective mixed-method analysis. *BMC Health Services Research*, 22(1). <https://doi.org/10.1186/s12913-022-07822-9>
- Krauss, A. D., & Casey, T. (2014, March 17). Error Management Climate as a Way to Align Safety Objectives with Operational Excellence. *SPE International Conference on Health, Safety, and Environment*. <https://doi.org/10.2118/168465-ms>
- Lammerding, B. (2016). Safety Coach Concept: Creating a Culture of Learning. *SPE International Conference and Exhibition on Health, Safety, Security, Environment, and Social Responsibility*. <https://doi.org/10.2118/179252-ms>
- Lark, M. E., Kirkpatrick, K., & Chung, K. C. (2018). Patient Safety Movement: History and Future Directions [Review of Patient Safety Movement: History and Future Directions]. *The Journal Of Hand Surgery*, 43(2), 174. Elsevier BV. <https://doi.org/10.1016/j.jhsa.2017.11.006>
- Lathifah, R., Ramadhan, N. A., Farabi, M. J. A., & Chalidyanto, D. (2018). Implementation of Patient Safety Culture Survey in Jombang Islamic Hospital. *KnE Life Sciences*, 4(9), 286. <https://doi.org/10.18502/kl.v4i9.3579>
- Lee, S. E., & Dahinten, V. S. (2021). Psychological Safety as a Mediator of the Relationship Between Inclusive Leadership and Nurse Voice Behaviors and Error Reporting. *Journal of Nursing Scholarship*, 53(6), 737. <https://doi.org/10.1111/jnu.12689>
- Lee, S., Lee, J. Y., Kim, H., Lee, K., & Lee, T. W. (2022). Advanced Practice Nurses' Experiences on Patient Safety Culture in Hospital-Based Home Healthcare: A Qualitative Descriptive Study. *Risk Management and Healthcare Policy*, 2297. <https://doi.org/10.2147/rmhp.s388902>
- Lee, Y.-C., Zeng, P.-S., Huang, C., & Wu, H. (2018). Causal Relationship Analysis of the Patient Safety Culture Based on Safety Attitudes Questionnaire in Taiwan. *Journal of Healthcare Engineering*, 2018, 1. <https://doi.org/10.1155/2018/4268781>
- Levine, K. J., Carmody, M., & Silk, K. J. (2019). The influence of organizational Culture, climate, and commitment on speaking up about medical errors. *Journal of Nursing Management*, 28(1), 130. <https://doi.org/10.1111/jonm.12906>
- Louvar, J. F. (2013). How to Communicate to Create a Safety Culture and Improve PSM Results. *Process Safety Progress*, 32(1), 57. <https://doi.org/10.1002/prs.11555>
- Luiz, R. B., Simões, A. L. de A., Barichello, E., & Barbosa, M. H. (2015). Factors Associated with the Patient Safety Climate at a Teaching Hospital. *Revista Latino-Americana de Enfermagem*, 23(5), 880. <https://doi.org/10.1590/0104-1169.0059.2627>
- Luther, R., & JOHNSON, C. (2008). Culture management in the UK rail industry. <https://doi.org/10.1049/cp:20080740>
- Maamoun, J. (2009). An Introduction to Patient Safety. *Journal of Medical Imaging and Radiation Sciences*, 40(3), 123. <https://doi.org/10.1016/j.jmir.2009.06.002>

- Mahrous, M. S. (2018). Patient Safety Culture as a Quality Indicator for a Safe Health System: Experience from Almadinah Almunawwarah, KSA. *Journal of Taibah University Medical Sciences*, 13(4), 377. <https://doi.org/10.1016/j.jtumed.2018.04.002>
- Mattson, M., Hellgren, J., & Göransson, S. (2015). Leader communication approaches and patient safety: An integrated model. *Journal of Safety Research*, 53, 53. <https://doi.org/10.1016/j.jsr.2015.03.008>
- Mixafenti, S., Moutzouri, A., Karagkouni, A., Sartzetaki, M. F., & Dimitriou, D. (2025). Assessment of Occupational Health and Safety Management: Implications for Corporate Performance in the Secondary Sector. *Safety*, 11(2), 44. <https://doi.org/10.3390/safety11020044>
- Mohr, J. J., Abelson, H. T., & Barach, P. (2002). Creating Effective Leadership for Improving Patient Safety. *Quality Management in Health Care*, 11(1), 69. <https://doi.org/10.1097/00019514-200211010-00010>
- Morath, J. M., Filipp, R., & Cull, M. J. (2014). Strategies for Enhancing Perioperative Safety: Promoting Joy and Meaning in the Workforce. *AORN Journal*, 100(4), 376. <https://doi.org/10.1016/j.aorn.2014.01.027>
- Moureaud, C., Hertig, J. B., & Weber, R. J. (2020). Guidelines for Leading a Safe Medication Error Reporting Culture. *Hospital Pharmacy*, 56(5), 604. <https://doi.org/10.1177/0018578720931752>
- mousavi, E., & Imani, B. (2020). Patient Safety Culture and Spiritual Health in the Operating Room: A Qualitative Study. *Research Square (Research Square)*. <https://doi.org/10.21203/rs.3.rs-27496/v1>
- Muls, A., Dougherty, L., Doyle, N., Shaw, C. F. M., Soanes, L., & Stevens, A. (2015). Influencing organizational Culture: A leadership challenge. *British Journal of Nursing*, 24(12), 633. <https://doi.org/10.12968/bjon.2015.24.12.633>
- Mutegi, T. M., Mugambi, P. J., & Maina, J. K. (2023). Workplace Safety, Employee Safety Attitudes, and Employee Productivity in Manufacturing Firms. *SA Journal of Human Resource Management*, 21. <https://doi.org/10.4102/sajhrm.v21i0.1989>
- Nwosu, A. D. G., Ossai, E. N., Ahaotu, F., Onwuasoigwe, O., Amucheazi, A., & Akhiden, I. (2022). Patient safety culture in the operating room: a cross-sectional study using the Hospital Survey on Patient Safety Culture (HSOPSC) Instrument. *BMC Health Services Research*, 22(1). <https://doi.org/10.1186/s12913-022-08756-y>
- Odell, D. D., Quinn, C. M., Matulewicz, R. S., Johnson, J. K., Engelhardt, K., Stulberg, J. J., Yang, A. D., Ho, K. J., & Bilimoria, K. Y. (2019). Association Between Hospital Safety Culture and Surgical Outcomes in a Statewide Surgical Quality Improvement Collaborative. *Journal of the American College of Surgeons*, 229(2), 175. <https://doi.org/10.1016/j.jamcollsurg.2019.02.046>
- O'Dowd, A. (2013). NHS regulator plans to make it easier for doctors to raise concerns and break the "mafia" code of silence. *BMJ*, 347. <https://doi.org/10.1136/bmj.f6428>
- Pachiyannakis, A. K. (2014, March 17). Nurturing the Culture of Reporting Incidents. *SPE International Conference on Health, Safety, and Environment*. <https://doi.org/10.2118/168332-ms>
- Page, A. L. (2004). Creating and Sustaining a Culture of Safety. <https://www.ncbi.nlm.nih.gov/books/NBK216181/>



- Patwa, T. Z., & Moussa, M. (2018). Transforming Your Culture of Safety: Time To Lead. SPE International Conference and Exhibition on Health, Safety, Security, Environment, and Social Responsibility. <https://doi.org/10.2118/190671-ms>
- Perkinson, L. (2018, April 9). Just Culture & Root Cause Analysis – A Necessary Marriage. SPE International Conference and Exhibition on Health, Safety, Security, Environment, and Social Responsibility. <https://doi.org/10.2118/190558-ms>
- Pransky, G., SNYDER, T., Dembe, A. E., & Himmelstein, J. (1999). Under-reporting of work-related disorders in the workplace: a case study and review of the literature. *Ergonomics*, 42(1), 171. <https://doi.org/10.1080/001401399185874>
- Pronovost, P. J. (2005, August 1). Assessing Safety Culture: Guidelines and Recommendations. In *BMJ Quality & Safety* (Vol. 14, Issue 4, p. 231). BMJ. <https://doi.org/10.1136/qshc.2005.015180>
- Qin, C., Xie, J., Jiang, J., Zhen, F., & Ding, S. (2014). Reporting Among Nurses and Its Correlation With Hospital Safety Culture. *Journal of Nursing Care Quality*, 30(1), 77. <https://doi.org/10.1097/ncq.0000000000000068>
- Rahman, N. H. A., Razizi, N., & Kamil, N. L. M. (2021). Examining Safety Culture among University Employees in the Klang Valley. *Journal of Advanced Research in Social and Behavioural Sciences*, 22(1), 1. <https://doi.org/10.37934/arsbs.22.1.19>
- Ree, E., & Wiig, S. (2019). Employees' Perceptions of Patient Safety Culture in Norwegian Nursing Homes and Home Care Services *BMC Health Services Research*, 19(1). <https://doi.org/10.1186/s12913-019-4456-8>
- Saleem, F., & Malik, M. I. (2022). Safety Management and Safety Performance Nexus: Role of Safety Consciousness, Safety Climate, and Responsible Leadership. *International Journal of Environmental Research and Public Health*, 19(20), 13686. <https://doi.org/10.3390/ijerph192013686>
- Sanjari, M., Bahramnezhad, F., Fomani, F. K., Shoghi, M., & Cheraghi, M. A. (2014). Ethical Challenges of Researchers in Qualitative Studies: The Necessity of Developing a Specific Guideline. *DOAJ* (DOAJ: Directory of Open Access Journals), 7, 14. <https://doaj.org/article/def7124fdcea400fa1b2eed33bf048e7>
- Shostek, K. (2007). Developing a Culture of Safety in Ambulatory Care Settings. *Journal of Ambulatory Care Management*, 30(2), 105. <https://doi.org/10.1097/01.jac.0000264598.34876.b5>
- Siewert, B., Brook, O. R., Swedeen, S., Eisenberg, R. L., & Hochman, M. G. (2019). Overcoming Human Barriers to Safety Event Reporting in Radiology [Review of Overcoming Human Barriers to Safety Event Reporting in Radiology]. *Radiographics*, 39(1), 251. Radiological Society of North America. <https://doi.org/10.1148/rg.2019180135>
- Silla, I., Navajas, J., & Koves, G. K. (2017). Organizational Culture and a safety-conscious work environment: The mediating role of employee communication satisfaction. *Journal of Safety Research*, 61, 121. <https://doi.org/10.1016/j.jsr.2017.02.005>
- Skiba, R. (2020). Psychological and sociological factors influencing migrant workers' contributions to and adaptation of workplace safety culture. *Open Science Journal*, 5(2). <https://doi.org/10.23954/osj.v5i2.2461>
- Stough, J. (2012, April 2). Strong Reporting Culture as Stepping Stone to Continuously Drive Safety Performance Improvement. *All Days*. <https://doi.org/10.2118/152566-ms>



- Sutcliffe, K. M. (2011). High-reliability organizations (HROs) [Review of High-reliability organizations (HROs)]. *Best Practice & Research Clinical Anaesthesiology*, 25(2), 133. Elsevier BV. <https://doi.org/10.1016/j.bpa.2011.03.001>
- Tabibzadeh, M., & Meshkati, N. (2015). Safety Culture in Oil and Gas Operations: A Risk Analysis Framework to Address Communication and Interoperation of Multiple Interacting Organizations. *All Days*. <https://doi.org/10.2118/173508-ms>
- The Essential Role of Leadership in Developing a Safety Culture. (2017). *PubMed*, 57, 1. <https://pubmed.ncbi.nlm.nih.gov/28353329>
- Thompson, E. M. (2011). Defining a culture of safety. *OR Nurse*, 5(1), 3. <https://doi.org/10.1097/01.orn.0000390911.73366.72>
- Titi, M. A., Baksh, M. M., Zubairi, B., Abdalla, R. A. M., Alsaif, F. A., Amer, Y. S., Jamal, D., & El-Jardali, F. (2021). Staying ahead of the curve: Navigating changes and maintaining gains in patient safety culture - a mixed-methods study. *BMJ Open*, 11(3). <https://doi.org/10.1136/bmjopen-2020-044116>
- Tran, L. H., Thanh, P. Q., Nguyen, D. H., Tran, T. N. H., & Ha, B. T. T. (2021). Assessment of Patient Safety Culture in Public General Hospitals in the Capital City of Vietnam. *Health Services Insights*, 14. <https://doi.org/10.1177/11786329211036313>
- Trinh, M. T., Feng, Y., & Jin, X. (2018). Conceptual Model for Developing Resilient Safety Culture in the Construction Environment. *Journal of Construction Engineering and Management*, 144(7). [https://doi.org/10.1061/\(ASCE\)co.1943-7862.0001522](https://doi.org/10.1061/(ASCE)co.1943-7862.0001522)
- Ulmer, C., Wolman, D. M., & Johns, M. M. (2009). System Strategies to Enhance Patient Safety and Prevent Errors. <https://www.ncbi.nlm.nih.gov/books/NBK214937/>
- Vecchio, A. M. (2007). ENHANCING SAFETY CULTURE THROUGH EFFECTIVE COMMUNICATION. [http://cdn2.hubspot.net/hub/59176/file-15741271-pdf/docs/enhancing\\_safety\\_culture\\_through\\_effective\\_communication.pdf](http://cdn2.hubspot.net/hub/59176/file-15741271-pdf/docs/enhancing_safety_culture_through_effective_communication.pdf)
- Wakefield, M. (2008). The Quality Chasm Series: Implications for Nursing. <https://europepmc.org/article/MED/21328776>
- Weaver, S. J., Dy, S. M., Lubomski, L. H., & Wilson, R. (2013). Promoting a Culture of Safety. <https://www.ncbi.nlm.nih.gov/books/NBK133394/>
- Weaver, S. J., Lubomski, L. H., Wilson, R. F., Pfoh, E. R., Martinez, K. A., & Dy, S. M. (2013). Promoting a Culture of Safety as a Patient Safety Strategy [Review of Promoting a Culture of Safety as a Patient Safety Strategy]. *Annals of Internal Medicine*, 158, 369. American College of Physicians. <https://doi.org/10.7326/0003-4819-158-5-201303051-00002>
- Wiele, P., & Rantanen, E. M. (2015). Usability of Incident Reporting Systems: Preliminary Results of A Case Study. *Proceedings of the International Symposium on Human Factors and Ergonomics in Health Care*, 4(1), 168. <https://doi.org/10.1177/2327857915041031>
- Williamsen, M. M. (2021). Communication and Recognition (p. 147). <https://doi.org/10.1002/9781119772279.ch20>
- Wolvaardt, E. (2019). Blame does not keep patients safe. *PubMed*, 32(106), 36. <https://pubmed.ncbi.nlm.nih.gov/31649433>
- Xing-xing, Z., Liu, W., Wang, Y., & Zhang, L. (2017). Survey and analysis of patient safety culture in a county hospital. *Family Medicine and Community Health*, 5(4), 299. <https://doi.org/10.15212/fmch.2017.0137>

- Yount, N., Zebrak, K. A., Famolaro, T., Sorra, J., & Birch, R. (2020). Linking Patient Safety Culture to Quality Ratings in the Nursing Home Setting. *Journal of Applied Gerontology*, 41(1), 73. <https://doi.org/10.1177/0733464820969283>
- Ystaas, L. M. K., Nikitara, M., Ghobrial, S., Latzourakis, E., Polychronis, G., & Constantinou, C. S. (2023). The Impact of Transformational Leadership in the Nursing Work Environment and Patients' Outcomes: A Systematic Review [Review of The Impact of Transformational Leadership in the Nursing Work Environment and Patients' Outcomes: A Systematic Review]. *Nursing Reports*, 13(3), 1271. Multidisciplinary Digital Publishing Institute. <https://doi.org/10.3390/nursrep13030108>
- Zabin, L. M., Zaitoun, R. S. A., Sweity, E. M., & Tantillo, L. de. (2023). The relationship between job stress and patient safety culture among nurses: a systematic review [Review of The relationship between job stress and patient safety culture among nurses: a systematic review]. *BMC Nursing*, 22(1). BioMed Central. <https://doi.org/10.1186/s12912-023-01198-9>
- Zebrak, K. A., Yount, N., Sorra, J., Famolaro, T., Gray, L., Carpenter, D., & Caporaso, A. (2022). Development, Pilot Study, and Psychometric Analysis of the AHRQ Surveys on Patient Safety Culture™ (SOPS®) Workplace Safety Supplemental Items for Hospitals [Review of Development, Pilot Study, and Psychometric Analysis of the AHRQ Surveys on Patient Safety Culture™ (SOPS®) Workplace Safety Supplemental Items for Hospitals]. *International Journal of Environmental Research and Public Health*, 19(11), 6815. Multidisciplinary Digital Publishing Institute. <https://doi.org/10.3390/ijerph19116815>
- Zhang, L., & Lu, C. (2018). How leadership within an organization influences a quality service. *MOJ Gerontology & Geriatrics*, 3(2). <https://doi.org/10.15406/mojgg.2018.03.00113>