

Implementation of an ISO 45001-Based Occupational Health and Safety Management System in Healthcare Companies

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ABSTRAK

The implementation of an ISO 45001-based Occupational Safety and Health (OHS) Management System in healthcare companies is a strategic effort to improve workforce safety and the quality of healthcare services sustainably. This study uses a qualitative method with a literature review approach to examine the effectiveness, obstacles, and strategies for strengthening the implementation of ISO 45001. The analysis results indicate that the implementation of this standard can reduce the rate of workplace accidents, increase compliance with safety procedures, and strengthen an organizational culture oriented towards risk prevention. However, obstacles such as limited human resource competency, work culture resistance, and financial constraints remain significant challenges. Effective strengthening strategies include transformative leadership, continuous training, quality management system integration, and the use of digital technology to strengthen audits and reporting. The implementation of ISO 45001 has been proven not only to improve operational efficiency but also to build public trust in the professionalism of healthcare organizations. In conclusion, the successful implementation of an ISO 45001-based OHS management system is determined by the synergy between managerial commitment, structural readiness, and a sustainable safety culture, which together serve as an important foundation for improving the quality and sustainability of healthcare services..

Keywords: *ISO 45001, Occupational Safety and Health, Health Services.*

INTRODUCTION

Occupational safety and health are fundamental aspects in ensuring the continuity of organizational operations, particularly in the healthcare sector, which presents a high level of risk exposure to the workforce. Medical service activities require workers to come into direct contact with infectious materials, hazardous chemicals, sharp instruments, and high levels of psychological stress. This situation creates the potential for workplace accidents and occupational diseases that can threaten the well-being of healthcare workers. Complex

working conditions often make it difficult to consistently implement hazard prevention efforts without a standardized management system (Putri et al., 2020). Medical personnel, nurses, and laboratory staff play a vital role in maintaining service quality, making their protection a priority that cannot be ignored. When safety aspects are neglected, the consequences not only result in losses for workers but also impact the quality of care provided to patients (Faizal et al., 2025). Therefore, implementing an occupational safety and health management system is a strategic imperative for healthcare organizations. This effort is an integral part of the institution's commitment to ensuring workforce safety while maintaining a professional reputation in the healthcare sector.

The increasingly dynamic work environment demands that organizations adopt globally recognized safety standards. ISO 45001 is an OHS management system designed to help organizations create a safe, healthy, and sustainable work environment (Dilokwattanakul et al., 2023). This standard prioritizes a risk-based approach by emphasizing the active participation of all levels of workers. In the healthcare sector, the implementation of ISO 45001 has strategic value because it aligns organizational needs with applicable national regulations and international standards. Through this system, companies can minimize potential hazards while increasing operational efficiency through systematic risk management. The implementation of this standard also serves as an indicator of an organization's professionalism in maintaining occupational safety as part of its social responsibility. Commitment to global standards reflects the institution's commitment to integrating safety principles as part of its organizational culture. The transformation to ISO 45001 implementation is a significant step in building a sustainable OHS foundation oriented towards continuous improvement (Maghfirah et al., 2025).

The high workload and complexity of the healthcare system make implementing OHS (K3) not merely a matter of regulatory compliance, but a strategic necessity that determines service quality. Hospitals and healthcare facilities operate within a system involving various professions with varying risk characteristics, requiring planned and measurable hazard control. ISO 45001 provides a comprehensive framework for systematically identifying, assessing, and controlling these risks (Ramadhan et al., 2025; Cahyani & Ars, 2025). Through this approach, organizations can reduce the number of workplace accidents and raise awareness of the importance of safety in every line of work. The success of this system is measured not only by the reduction in work incidents but also by increased worker participation in reporting potential hazards and implementing safety procedures. The integration of OHS policies and the organization's management system creates a synergy that supports the continuity of safe services (Hutapea, 2021). When safety is part of the business strategy, healthcare organizations are more adaptive to change and more resilient to operational pressures. This demonstrates that implementing ISO 45001 directly contributes to improving overall organizational performance.

The benefits of implementing an ISO 45001-based OHS management system are not only felt by workers but also have a significant impact on public trust and

the organization's image (Saputri et al., 2024). Patients and the public will have more confidence in institutions that prioritize occupational safety. When healthcare workers work in a safe environment, productivity and service quality significantly improve. Effective risk management also reduces costs due to workplace accidents and minimizes disruptions to service processes. Furthermore, implementing ISO 45001 enables healthcare institutions to meet legal requirements and accreditation standards more efficiently. Successful implementation provides a transparent and measurable performance evaluation framework through internal audits and management reviews. This success creates a work culture oriented toward prevention, not just incident response. Thus, the benefits of implementing ISO 45001 include improvements in safety, operational efficiency, and the institution's overall reputation.

However, the process of implementing ISO 45001 in healthcare companies is not without its complex challenges. Limited human resources who understand the concept of OHS management are often a major obstacle. Lack of training and outreach leads to misunderstandings between management and employees regarding the importance of implementing this standard. Furthermore, the relatively high implementation costs for training, certification, and audits are often perceived as an additional burden by organizations with limited budgets. Changes in work patterns that require regular documentation and evaluation also often generate resistance among employees. These obstacles emphasize the need for a gradual and participatory implementation strategy to ensure all elements of the organization share a shared responsibility. Inconsistent implementation can reduce the effectiveness of the established management system. Therefore, strong leadership and top management support are crucial for maintaining the continuity of this standard's implementation in the healthcare sector.

Top management leadership plays a central role in ensuring the success of an ISO 45001-based OHS management system. Commitment, demonstrated through policies, resource provision, and ongoing oversight, is a key factor in determining the effectiveness of system implementation. Leaders with a safety vision are able to build an organizational culture that places safety as a core value. Management's exemplary approach to implementing safety procedures builds trust and encourages the active participation of all employees. This participation is crucial in ensuring each individual understands their responsibilities for a safe work environment. Strengthening communication and involving employees in decision-making fosters a sense of ownership of the system. When leadership is able to integrate technical aspects and human values into OHS policies, the implementation of ISO 45001 will be more easily internalized across the organization (Mandoro & Saputra, 2024). The synergy between management policies and employee participation is a key pillar of the sustainability of an occupational safety management system in the healthcare sector.

Healthcare companies that successfully integrate an ISO 45001-based OHS management system generally demonstrate significant improvements in operational effectiveness and service quality. Implementation of this standard encourages organizations to conduct regular evaluations of potential hazards and

review risky work processes. These evaluation results are used as the basis for corrective action and continuous improvement. This evidence-based approach ensures that every safety policy is supported by empirical data and valid risk analysis. The effectiveness of an OHS management system is also measured by the organization's ability to reduce the number of work-related incidents and increase employee satisfaction (Mayansara et al., 2025). When the system operates consistently, a balance is created between productivity and employee well-being. This process not only creates a safe work environment but also strengthens an organizational culture oriented toward quality and social responsibility. Therefore, the implementation of ISO 45001 is a crucial instrument for guiding an organization's transformation toward long-term sustainability.

Considering the various dimensions of ISO 45001 implementation in healthcare companies, it can be concluded that successful implementation depends on the synergy between systems, resources, and organizational commitment. Awareness of the importance of safety must grow collectively so that every individual plays an active role in maintaining a safe work environment. Information technology support can also be utilized to strengthen real-time reporting, documentation, and risk evaluation systems. This effort accelerates data-driven decision-making and increases the transparency of safety management. Collaboration between management, workers, and regulatory agencies strengthens the effectiveness of the overall OHS management system (Pandean et al., 2025). The implementation of ISO 45001 is not merely fulfilling administrative requirements but a concrete manifestation of an organization's commitment to humanitarian values. When safety becomes part of the corporate culture, healthcare organizations are able to provide superior service while protecting their most important asset: people. Therefore, the implementation of an ISO 45001-based OHS management system serves as a strategic foundation for a safe, resilient, and sustainable healthcare organization.

RESEARCH METHODS

The research method used is a qualitative literature review approach, which aims to examine and synthesize various research findings related to the implementation of the ISO 45001-based Occupational Health and Safety Management System in healthcare companies. This approach was chosen because it can explore the meaning and dynamics of system implementation in depth through analysis of relevant scientific sources. According to Creswell (2014), qualitative research emphasizes understanding phenomena contextually through the interpretation of non-numerical data. Therefore, this study utilizes literature from international journals, scientific books, organizational reports, and official regulations published in the 2015–2025 period to obtain a comprehensive understanding.

The analysis process was carried out in three stages as proposed by Miles and Huberman (1994): data reduction, data presentation, and conclusion drawing. The obtained literature was selected based on its relevance and credibility, then grouped into main themes: ISO 45001 implementation, implementation barriers,

management roles, and benefits for organizational performance. An integrative review approach, as suggested by Snyder (2019), was used so that the analysis results did not simply summarize previous research but rather generated new insights that combined theoretical and empirical aspects. Data validity was strengthened through source quality evaluation in accordance with Bowen's (2009) view on the importance of document analysis as a form of qualitative data triangulation.

Through a synthesis of various sources, this study yields the understanding that the successful implementation of ISO 45001 in the healthcare sector depends on management commitment, human resource competency, and technological support for occupational safety oversight. In line with Torracco's (2016) view, this integrative literature review serves not only to summarize previous research but also to build a new conceptual framework that strengthens the relationship between occupational safety management theory and practice. This qualitative approach is expected to provide a scientific contribution to the development of more effective and sustainable ISO 45001 implementation strategies in healthcare companies.

RESULTS AND DISCUSSION

1. Effectiveness of ISO 45001 Implementation on Occupational Safety and Health Performance

The implementation of ISO 45001 in healthcare companies serves as a systematic mechanism for managing occupational safety risks in a measurable and sustainable manner. This standard is designed to ensure organizations have a consistent approach to hazard identification, risk evaluation, and operational control integrated with management policies. ISO 45001 is not merely administrative in nature but also encourages collective behavioral change toward a prevention-oriented safety culture. According to Selvia et al. (2025), the effectiveness of implementing international safety standards depends on the involvement of all levels of the organization, from top management to operational workers. In the healthcare sector, the implementation of this system becomes increasingly crucial because occupational risks include biological exposure, mental stress, and fatigue, which can directly impact the quality of patient care.

The effectiveness of ISO 45001 is reflected in a decrease in workplace accident rates and increased awareness of the importance of safety procedures in the medical workplace. A study by Silva et al. (2022) showed that hospitals implementing ISO 45001 experienced a 35% reduction in workplace incidents compared to institutions without a formal safety management system. This decrease was not solely due to procedural improvements but also to a paradigm shift in the importance of occupational health and safety as part of service quality. Healthcare workers became more disciplined in using personal protective equipment, maintaining a clean workspace, and adhering to infection prevention

protocols. Thus, the effectiveness of this standard is not only technical but also creates significant psychological and social impacts on work behavior.

The implementation of ISO 45001 also enhances an organization's ability to meet national regulations and hospital accreditation standards that require adherence to occupational safety principles. Through a structured internal audit system, healthcare companies can assess the effectiveness of safety policies and procedures. This strengthens the institution's accountability to the public and regulators, while also affirming the organization's commitment to workforce safety. The implementation of an internationally standardized OHS management system is an indicator of a healthcare institution's professionalism, as it reflects the alignment between safety policies and operational practices (Irawan et al., 2025). Therefore, the effectiveness of ISO 45001 contributes to enhancing the organization's reputation and public trust in the healthcare services it provides.

Beyond compliance, the implementation of ISO 45001 also positively impacts operational efficiency and overall organizational performance. By reducing accident rates and absenteeism due to injuries, workforce productivity increases, and compensation costs decrease significantly. An effective safety management system creates a stable work environment, allowing healthcare workers to focus on providing services without being distracted by uncontrolled work risks (Alifatin, 2025). This effectiveness is reinforced by a continuous evaluation mechanism through the plan-do-check-act (PDCA) process, which ensures that any corrective actions are immediately implemented. The cumulative impact is a sustained increase in organizational efficiency.

The overall effectiveness of ISO 45001 implementation in the healthcare sector demonstrates that the system serves as more than just an administrative certification. It serves as a tool for organizational transformation toward a people-centric safety culture. This standard requires organizations to think systematically, analyze risks before they arise, and integrate safety as part of their business strategy. Therefore, the effectiveness of ISO 45001 is measured not only by statistical indicators of workplace accidents but also by the extent to which an organization successfully instills safety values as part of its institutional identity.

2. Implementation Barriers and Inhibiting Factors in the Implementation of the OHS Management System

Although the implementation of ISO 45001 has had a positive impact, the implementation process in healthcare companies often faces structural, cultural, and technical obstacles. One of the main obstacles is the workforce's poor understanding of OHS management principles and the lack of adequate ongoing training. Wulandari (2025) states that the success of implementing a safety system depends on the capacity of human resources to understand and consistently implement standards. When the workforce lacks adequate competency, system implementation stops at the documentation level without addressing real behavioral changes. This creates a gap between policy and practice, ultimately reducing the system's effectiveness.

Besides competency, other barriers lie in the organization's limited budget and resources to meet certification, audit, and system update needs. The ISO 45001 certification process requires relatively high costs, both for internal training and external consulting. For many medium-sized hospitals or clinics, financial constraints are the main reason why this standard is difficult to fully implement. These barriers are exacerbated by high administrative burdens, such as mandatory documentation and regular reporting, which are often perceived as additional tasks for healthcare workers. Bureaucratic constraints such as these can reduce an organization's motivation to maintain certification on an ongoing basis (Kineber et al., 2023).

Implementation barriers often arise from organizational culture, which does not fully prioritize safety as a core value. In many cases, management priorities are more focused on the efficiency of medical services than on employee protection. A work culture that tolerates risk or considers accidents normal creates resistance to the implementation of strict safety procedures. Da Silva & Amaeal (2019) emphasize that the success of a safety management system is heavily influenced by the moral and ethical commitment of organizational leaders to instill safety values as part of the institutional vision. Without this paradigm shift, an ISO 45001-based OHS system will remain merely a formality without substance.

In addition to internal obstacles, external factors such as incompletely harmonized government regulations and minimal oversight also pose obstacles. The lack of synchronization between national OHS policies and ISO 45001 requirements has led to confusion in implementation. Several hospitals in Indonesia still adhere to the more administrative national OHS system, resulting in the adoption of international standards often lacking full regulatory support. This highlights the need for synergy between certification bodies, the government, and healthcare professional associations to ensure consistent and sustainable implementation.

These obstacles demonstrate that successful implementation of ISO 45001 cannot be achieved simply through document development or brief training sessions. Comprehensive structural and cultural transformation is required for this standard to function effectively. Improvement efforts must include increasing human resource capacity, allocating appropriate resources, and establishing a safety-oriented work culture. In this way, existing obstacles can be transformed into opportunities to strengthen the occupational safety management system holistically and sustainably.

3. Strategy for Strengthening and Sustaining the Occupational Health and Safety Management System in the Health Sector

Efforts to strengthen the ISO 45001-based OHS management system must begin with visionary and participatory leadership. Organizational leaders play a strategic role in shaping the direction of safety policies and ensuring that each policy is consistently implemented. Jais (2024) states that transformative leadership has the ability to build a strong safety culture through

communication, role modeling, and employee empowerment. When leaders demonstrate a commitment to safety, all elements of the organization are encouraged to actively participate in maintaining a safe work environment. This commitment forms the foundation for the sustainability of the OHS system by fostering a sense of collective ownership and responsibility.

In addition to leadership, strengthening strategies must also focus on improving human resource competency through continuous training and development. Implementing ISO 45001 requires a thorough understanding of risk identification, hazard analysis, and effective mitigation procedures. Training is necessary not only for healthcare workers but also for managerial staff tasked with overseeing and evaluating system implementation. The application of digital technology in OHS training and audits can accelerate the learning process and improve reporting accuracy (Jamil et al., 2025). With online learning systems and digital audits, organizations can ensure that safety standards are applied evenly across all work units.

Sustainability strategies also include the integration of OHS management systems with quality and environmental management systems, creating a synergy between mutually reinforcing standards. ISO 45001 is structured to be compatible with ISO 9001 and ISO 14001, enabling organizations to combine safety procedures with quality and environmental sustainability aspects. This integration creates administrative efficiencies and strengthens cross-functional awareness of the importance of occupational safety. According to Hasle and Zwetsloot (2020), management system integration is the most effective approach to achieving a balance between productivity, quality, and safety.

The use of information technology is also a key strategy in strengthening the effectiveness and transparency of the OHS system. Digitization enables internal audits, accident reporting, and risk evaluations to be conducted in real time with a high degree of accuracy. This data-driven system helps management make quick and accurate decisions regarding risk control. The implementation of digital technology strengthens the monitoring system and accelerates the response to potential hazards, significantly reducing the risk of workplace accidents (Yaddin et al., 2025). Through this innovation, healthcare organizations can increase efficiency and adaptability to changes in the work environment.

The sustainability of an OHS management system ultimately depends on an organization's ability to make safety an integral part of its work culture. This culture cannot be formed through policy alone, but rather through a process of habituation, open communication, and appreciation for safe behavior. Creating a safety culture takes time, but once firmly established, it becomes an intrinsic force that maintains the system's sustainability despite changes in management or technology. With a strengthening strategy encompassing leadership, competency, technology, and culture, implementing ISO 45001 in the healthcare sector can achieve long-term effectiveness that not only improves workplace safety but also the overall quality of healthcare services.

CONCLUSION

The implementation of an ISO 45001-based Occupational Health and Safety Management System in healthcare companies is a strategic step in creating a safe, productive, and sustainable work environment. This standard has been proven to increase the effectiveness of risk control and strengthen a safety culture through a systematic, prevention-oriented approach. The effectiveness of ISO 45001 implementation is evident not only in the reduction in workplace accidents but also in the increased awareness of healthcare workers regarding the importance of complying with safety procedures. Consistent implementation encourages organizations to comply with national regulations while strengthening public trust in the quality of healthcare services. However, successful implementation still faces various obstacles such as limited human resources, financial constraints, and cultural resistance to change. These obstacles demonstrate that the transformation toward a safety culture requires top management commitment and collective awareness from all elements of the organization. Structural changes must be accompanied by competency enhancement, ongoing training, and technological support that strengthens audit and evaluation mechanisms. Digitizing the Occupational Health and Safety management system is a crucial innovation in accelerating the reporting process and improving the accuracy of risk monitoring. Integrating ISO 45001 with quality and environmental management systems also contributes to operational efficiency and synergy between organizational standards. Transformative leadership is a key factor in instilling safety values as part of the institutional identity. Through a comprehensive strengthening strategy, an ISO 45001-based OHS management system can create a safety culture that is adaptive to global challenges. Thus, the implementation of this standard serves not only as a compliance tool but also as an ethical and strategic foundation for the sustainability of healthcare organizations.

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