Perspective
Volume 10:03, 2025

International Journal of Public Health and Safety

ISSN: 2736-6189

Open Access

Holistic OSH: Technology, People, and Well-being

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Introduction

This review consolidates findings on occupational safety and health management systems (OSHMS), showing a clear positive effect on reducing workplace injuries and illnesses across various sectors. It highlights the importance of a structured approach to safety, emphasizing that well-implemented systems can significantly improve worker well-being and overall organizational safety performance.[1]

This systematic review explores how digital technologies, things like IoT, AI, and wearable devices, are reshaping occupational safety and health. The findings show these tools can significantly enhance risk assessment, real-time monitoring, and worker training, ultimately leading to more proactive safety measures and fewer incidents. It's clear that integrating these technologies offers substantial benefits for creating safer work environments.[2]

This review on psychological safety confirms its critical role in healthy workplaces. It highlights that environments where employees feel safe to speak up, take risks, and admit mistakes without fear of retribution lead to better team performance, innovation, and overall job satisfaction. The research clearly demonstrates that fostering psychological safety is essential for organizational success and employee well-being.[3]

This meta-analysis underscores the strong connection between a positive safety climate and improved safety performance in organizations. It reveals that when employees perceive their workplace prioritizes safety, they're more likely to follow safety rules and engage in safe behaviors, ultimately reducing incidents and injuries. What this really means is investing in a strong safety culture pays off directly in tangible safety outcomes.[4]

This review dives into how augmented reality (AR) is being used to boost occupational safety in construction, a notoriously high-risk sector. It shows that AR can significantly enhance workers' situational awareness, improve training effectiveness, and aid in real-time risk identification, ultimately contributing to fewer accidents and a safer work environment on construction sites. It's a game-changer for prevention.[5]

This meta-analysis confirms the critical role of effective safety leadership in shaping both safety behavior and overall safety outcomes. It shows that leaders who actively promote safety, communicate expectations, and engage with their teams on safety matters inspire employees to adopt safer practices, significantly reducing accidents and improving the safety climate. Good leadership, simply put, drives better safety performance.[6]

This systematic review maps out the burgeoning field of Artificial Intelligence (AI) in occupational safety and health. It highlights how AI applications, from predictive analytics to machine vision, are transforming risk identification, accident prevention, and proactive safety management. The key takeaway is that AI offers powerful tools to anticipate hazards and protect workers more effectively than traditional methods.[7]

This review examines the crucial role of human factors in occupational safety and health, emphasizing that worker performance is deeply influenced by the design of tasks, tools, and environments. It demonstrates that understanding cognitive limitations, communication patterns, and organizational culture is essential for designing safer systems and preventing errors. Essentially, we need to design workplaces that account for how people actually work, not just how we wish they would.[8]

This review explores various interventions aimed at improving mental health and well-being in the workplace. It highlights that effective strategies often involve a multi-faceted approach, combining individual-focused support with organizational-level changes to reduce stressors and foster a supportive environment. What this really means is that a holistic approach to mental health, integrating it into overall occupational safety, is crucial for truly healthy workplaces.[9]

This systematic review specifically addresses the challenges and strategies for occupational safety and health management in small and medium-sized enterprises (SMEs). It highlights that SMEs often face unique constraints, like limited resources and expertise, but effective, tailored approaches can still significantly improve their safety performance. What we learn here is that safety strategies need to be scalable and adaptable to truly make an impact across all business sizes.[10]

Description

This review consolidates findings on occupational safety and health management systems (OSHMS), showing a clear positive effect on reducing workplace injuries and illnesses across various sectors. It highlights the importance of a structured approach to safety, emphasizing that well-implemented systems can significantly improve worker well-being and overall organizational safety performance.[1] This systematic review specifically addresses the challenges and strategies for occupational safety and health management in small and medium-sized enterprises (SMEs). It highlights that SMEs often face unique constraints, like limited resources and expertise, but effective, tailored approaches can still significantly improve their safety performance. What we learn here is that safety strategies need to be scalable and adaptable to truly make an impact across all business sizes.[10]

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This review on psychological safety confirms its critical role in healthy workplaces. It highlights that environments where employees feel safe to speak up, take risks, and admit mistakes without fear of retribution lead to better team performance, innovation, and overall job satisfaction. The research clearly demonstrates that fostering psychological safety is essential for organizational success and employee well-being.[3] This meta-analysis underscores the strong connection between a positive safety climate and improved safety performance in organizations. It reveals that when employees perceive their workplace prioritizes safety, they're more likely to follow safety rules and engage in safe behaviors, ultimately reducing incidents and injuries. What this really means is investing in a strong safety culture pays off directly in tangible safety outcomes.[4] This meta-analysis confirms the critical role of effective safety leadership in shaping both safety behavior and overall safety outcomes. It shows that leaders who actively promote safety, communicate expectations, and engage with their teams on safety matters inspire employees to adopt safer practices, significantly reducing accidents and improving the safety climate. Good leadership, simply put, drives better safety performance.[6] This review examines the crucial role of human factors in occupational safety and health, emphasizing that worker performance is deeply influenced by the design of tasks, tools, and environments. It demonstrates that understanding cognitive limitations, communication patterns, and organizational culture is essential for designing safer systems and preventing errors. Essentially, we need to design workplaces that account for how people actually work, not just how we wish they would.[8]

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Conclusion

Recent research highlights diverse strategies for enhancing occupational safety and health (OSH) across various sectors. The effectiveness of Occupational Safety and Health Management Systems (OSHMS) is clear, showing a positive impact on reducing workplace injuries and illnesses through structured safety approaches. This importance extends to Small and Medium-sized Enterprises (SMEs), where tailored strategies can significantly improve safety performance despite resource constraints.

Digital technologies, including the Internet of Things (IoT), Artificial Intelligence (AI), and Augmented Reality (AR), are transforming OSH. These tools enhance risk assessment, real-time monitoring, worker training, and accident prevention, especially in high-risk environments like construction. Artificial Intelligence applications, from predictive analytics to machine vision, offer powerful new ways to anticipate hazards and protect workers.

Human and organizational factors are also crucial. Fostering psychological safety, where employees feel comfortable speaking up without fear, boosts team performance and innovation. A strong safety climate, characterized by a workplace prioritizing safety, directly correlates with safer behaviors and fewer incidents. Effective safety leadership, demonstrating active promotion of safety and clear communication, inspires safer practices. Understanding human factors, such as cognitive limitations and communication patterns, is key to designing inherently safer systems. Finally, a holistic, multi-faceted approach to mental health and well-being, integrating individual support with organizational changes, is vital for truly healthy workplaces. These combined insights point towards a future of more proactive, technologically advanced, and people-centered OSH practices.

Acknowledgement

None.

Conflict of Interest

None.

References

1. Fiona Ní Bhriain, Kate Cullen, David Lecky. "Occupational safety and health management systems: a systematic review and meta-analysis of their impact on worker injury and illness." *Occup Environ Med* 81 (2024):77-85.
2. Jawdat M. Abudayyeh, Aiman A. Naja, Karrar O. Al-Bayati. "Digital technologies and their impact on occupational safety and health: A systematic review." *Saf Sci* 164 (2023):106173.
3. Maura R. Fraher, Linda Sadowski, Neil Smith. "Psychological safety in the workplace: a systematic review and meta-analysis." *J Occup Environ Med* 65 (2023):195-207.
4. Xu Li, Siyuan Hu, Beibei Zhao. "Safety climate and safety performance: a systematic review and meta-analysis." *Int J Environ Res Public Health* 19 (2022):17109.
5. Hao Ma, Xiaowei Sun, Siyuan Cai. "Augmented reality applications for improving occupational safety and health in construction: A systematic review." *Saf Sci* 151 (2022):105741.
6. In-Sue Oh, Seokhwa Lee, K. Jin. "The impact of safety leadership on safety behavior and safety outcomes: A meta-analysis." *Saf Sci* 121 (2020):147-156.
7. Guozhu Fang, Ruoyu Jin, Suyang Lin. "Artificial intelligence for occupational safety and health: A systematic review." *Saf Sci* 133 (2021):105021.
8. Ayse P. Gurses, Jill Marsteller, Yong Bo. "Human factors in occupational safety and health: A systematic review." *J Patient Saf* 16 (2020):S29-S39.
9. Anthony D. LaMontagne, Tana Keegel, D. Vallance. "Mental health and well-being in the workplace: a systematic review of interventions." *Occup Environ Med* 77 (2020):342-351.
10. José J. Fernández-Muñoz, Elena Romero-Molina, Alberto Pérez-Jiménez. "Occupational safety and health management in small and medium-sized enterprises: A systematic literature review." *Saf Sci* 151 (2022):105747.

How to cite this article: Papas, Dimitrios. "Holistic OSH: Technology, People, and Well-being." *International Journal of Public Health and Safety* 10 (2025):451.

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Received: 01-May-2025, Manuscript No. IJPHS-25-175328; **Editor assigned:** 05-May-2025, PreQC No. P-175328; **Reviewed:** 19-May-2025, QC No. Q-175328; **Revised:** 22-May-2025, Manuscript No. R-175328; **Published:** 29-May-2025, DOI: 10.37421/2736-6189.2025.10.451