

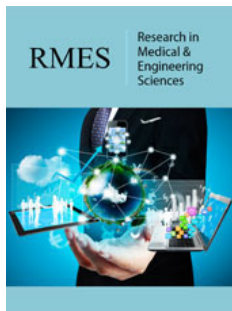
Healthcare Sector Needs New Dynamics in Education

Kathy Kelly¹ and Zuzana Dvorakova^{2*}

¹European E-learning Institute, Poul Bundgaards, Denmark

²Czech Technical University in Prague, Masaryk Institute of Advanced Studies, Czech Republic

ISSN: 2576-8816



***Corresponding author:** Zuzana Dvorakova, Czech Technical University in Prague, Masaryk Institute of Advanced Studies, Faculty of Biomedical Engineering, Kolejní 2637/2a, 160 00 Prague 6, Czech Republic

Submission: 📅 September 27, 2024

Published: 📅 October 08, 2024

Volume 11 - Issue 2

How to cite this article: Kathy Kelly and Zuzana Dvorakova*. Healthcare Sector Needs New Dynamics in Education. Res Med Eng Sci. 11(2). RMES.000758. 2024. DOI: [10.31031/RMES.2024.11.000758](https://doi.org/10.31031/RMES.2024.11.000758)

Copyright@ Zuzana Dvorakova. This article is distributed under the terms of the Creative Commons Attribution 4.0 International License, which permits unrestricted use and redistribution provided that the original author and source are credited.

Introduction

The European Union has stated that Artificial Intelligence (AI) must be human-centered and trustworthy. Ali et al. [1] argue that AI can suggestively outperform humans in accuracy, efficiency, and timely execution of medical and related administrative processes. However, in the healthcare sector, low methodological quality and high bias risk have become significant concerns, which creates crucial implications for academics and practitioners if they intend to enhance the trustworthiness of AI applications in this sector [2].

In January 2024, 64 educators from Healthcare and Management Education Institutes from Denmark, Ireland, the Czech Republic, Romania, and Germany participated in survey for the Erasmus+ project Hybrid Healthcare (2024-1-CZ01-KA220-HED-000251650). They are involved in delivering education incorporating digital health technologies for comprehensive learning experiences. Custom Training Facilitators, those who provide specialized training modules in digital healthcare management, were also included, ensuring that the curriculum is both relevant and cutting-edge. Additionally, the survey reached out to entities that collaborate with the industry to ensure that the curricula remain current and fully aligned with the latest advancements in the healthcare industry.

The intention to provide such a survey was influenced by the Internet of Things (IoT) research that has received considerable interest from the healthcare community and informs healthcare professionals about the latest developments in the healthcare sector, namely about an accent on IoT healthcare applications, blockchain applications, AI techniques, 5G telecommunications, data analytics, and computing technologies [3]. This holistic approach was designed to gather broad insights on integrating digital health technologies and hybrid management practices in healthcare management education.

Methodology

The survey was distributed via direct emails to academic and industry contacts, leveraging the partners' networks. Responses were collected online over January, allowing participants to submit their responses simply and effectively. Data from the survey was carefully analyzed to extract critical insights on educational needs and challenges in integrating digital health technologies into healthcare management courses.

Results for the Healthcare Educators

The survey data compellingly indicates a distinct gap in integrating digital health technologies within healthcare education, as acknowledged by educators across various regions. Despite a moderate level of familiarity and comfort with digital health technologies, educators are significantly interested in receiving specialized training. This interest underlines

a keenness to bridge their knowledge gaps and integrate digital health technologies more effectively into their teaching practices.

The geographical distribution of respondents, with the highest representation from Germany and the Czech Republic, followed by Ireland, Denmark, and Romania, offers a broad view on the current state of digital health technology integration in healthcare education across these regions. The moderate use of these technologies in teaching and the similar levels of confidence among educators in utilizing them highlight a widespread recognition of the potential benefits these technologies can offer. This recognition should instill a sense of optimism about the positive impact of digital health technologies in healthcare education despite the need for improvement in their application.

A significant finding from the survey is that most respondents need more formal training on digital health technologies, a critical barrier to integrating these technologies into the curriculum. This absence of training, technical issues, and resistance to change presents key challenges that must be addressed to advance the integration of digital health technologies in healthcare education.

However, the strong interest in specialized training modules on digital healthcare management (81.1% expressing interest) and the belief among a large majority (78.3%) that integrating digital health technologies can enhance the quality of healthcare management education suggest a clear path forward. These findings not only affirm the gap and the willingness among educators to learn and adapt but also reassure the audience about the potential benefits of integrating digital health technologies. They also highlight specific areas for focus, such as providing more resources, training, and support for educators.

Furthermore, the perception of the importance of hybrid management strategies and the challenges in integrating these practices into existing curricula underline the need for the project. By addressing these identified gaps and focusing on formal training, overcoming technical challenges, and integrating hybrid management strategies, the project can significantly enhance healthcare management education's quality and relevance.

AI innovation in healthcare has emerged as a significant area of research as AI continues to outperform humans in the accuracy, efficiency, and timely execution of medical and related administrative processes. In the EU, hybrid healthcare management remains on the edge of curriculum innovation. The survey data confirms the gap in digital health technology integration in healthcare education, which also corresponds with the systematic review of studies on AI innovation in healthcare by Zahlan et al. [4], who identify as a challenge to integrating AI into existing healthcare curricula. It emphasizes the readiness of educators to embrace change, learn new skills, and improve their teaching practices. This progress reinforces the need for the project and guides in identifying specific areas where we can make a meaningful impact.

In summary, the Hybrid Healthcare project is not only based on actual needs and opportunities but also aligns with the evolving dynamics of the healthcare sector. The inclusion of hybrid management practices acknowledges the growing trend towards blending traditional and digital management techniques, offering a forward-thinking strategy to prepare healthcare professionals for the complexities of modern healthcare environments. The project aspires to develop a curriculum that is both innovative and responsive to the demands of healthcare education, ensuring that future healthcare managers are well-equipped with the skills and knowledge to lead effectively in a technology-driven world.

References

1. Ali O, Abdelbaki W, Shrestha A, Elbasi E, Abdallah M, et al. (2023) A systematic literature review of artificial intelligence in the healthcare sector: Benefits, challenges, methodologies, and functionalities. *Journal of Innovation & Knowledge* 8(1): 100333.
2. Albahri AS, Dahaim AM, Fadhel MA, Alnoor A, Baqer NS, et al. (2023) A systematic review of trustworthy and explainable artificial intelligence in healthcare: Assessment of quality, bias risk, and data fusion. *Information Fusion* 96: 156-191.
3. Rejeb A, Rejeb K, Treiblmaier H, Appolloni A, Alghamdi S, et al. (2023) The Internet of Things (IoT) in healthcare: Taking stock and moving forward. *Internet of Things* 22: 100721.
4. Zahlan A, Ranjan RP, Hayes D (2023) Artificial intelligence innovation in healthcare: Literature review, exploratory analysis, and future research. *Technology in Society* 74: 102321.