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Assessing Digital Health Competencies Among Healthcare Providers in Bahrain: Implications for Sustainable Healthcare Development

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Abstract

This study assesses Bahraini healthcare providers' digital health competencies and their role in the development of sustainable healthcare. Healthcare workers must exhibit strong digital skills due to the quick integration of technology like telemedicine, electronic health records, and artificial intelligence. Peer-reviewed studies were included in a comprehensive review of the literature. The results show that despite Bahrain's sophisticated infrastructure, there are still gaps in clinical digital skills, training, and communication. These gaps could prevent digital technology from being used effectively. In order to improve workforce readiness and sustainability, the study emphasizes the necessity of competency-based training and policy development.
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Introduction

Globally, digital health technologies are revolutionizing healthcare systems by enhancing access, effectiveness, and the standard of treatment provided in a variety of contexts. Bahrain's national strategies prioritize digital transformation in line with agendas for healthcare innovation and long-term sustainability. However, the capabilities of healthcare personnel, such as digital literacy, flexibility, and ongoing professional development, are critical to the successful use of such technologies (Nazeha et al., 2020; Ferreira and Magalhães, 2025). According to Smith et al. (2025) and Sumner et al. (2025), there are still gaps in digital preparedness, structured training programs, and institutional support mechanisms that are necessary for successful adoption.

Methods

To guarantee consistency and relevance, a systematic review of the literature was carried out using research that were part of the original paper. With an emphasis on digital competences, telemedicine, and healthcare sustainability, the review adhered to a methodical methodology of literature identification, screening, and analysis. Peer-reviewed research was given priority in the inclusion criteria, guaranteeing the validity, dependability, and academic rigor of the chosen evidence.

Table 1: Flow Summary

Stage	Number of Studies
Identified	85
Screened	60
Included	40+

Results

Technical, clinical, communication, ethical, and data-driven decision-making abilities are among the critical competency domains that the review highlighted as being necessary for successful digital health integration within contemporary healthcare systems (Longhini et al., 2022; Meskó et al., 2024).

Additionally, significant gaps were found in the widespread use of digital tools, practical implementation techniques, and structured training programs, especially in healthcare systems that are fast evolving or have limited resources (Ramachandran et al., 2024).

Table 2: Competency Domains

Domain	Description
Technical	Use of digital tools and systems
Clinical	Remote diagnosis and care
Communication	Patient interaction digitally
Ethical	Privacy and data protection
Decision-making	Use of data in care

Figure 1: Digital Health Competency Domains

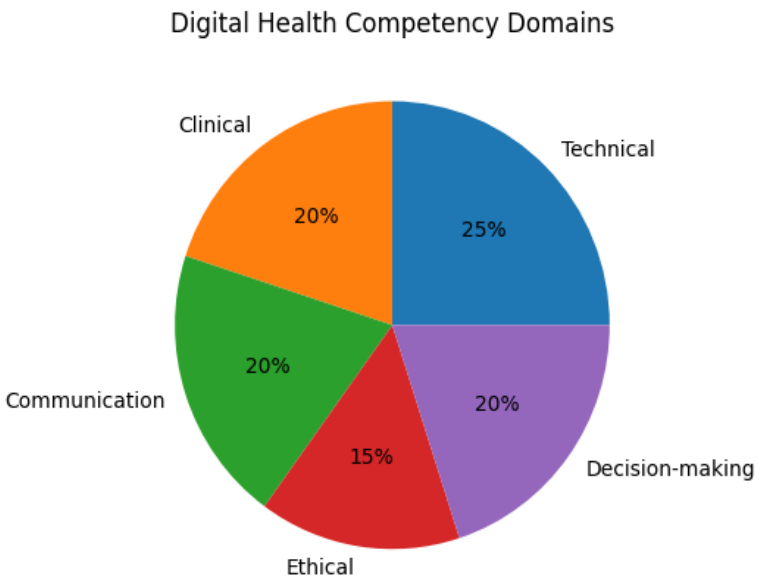
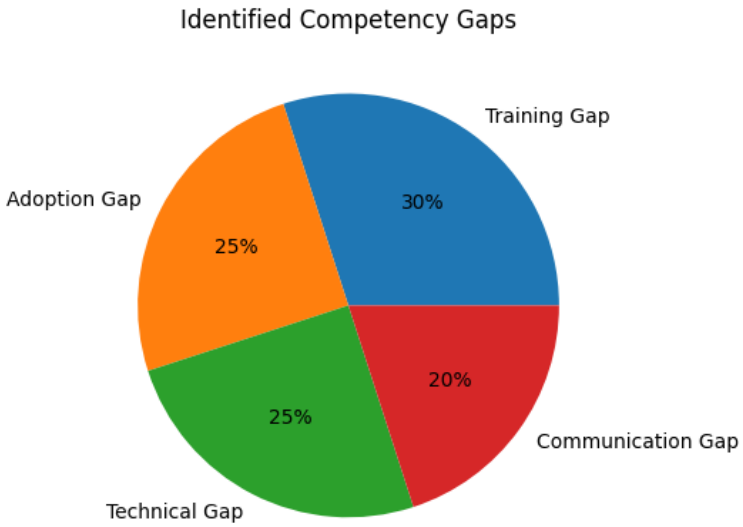


Figure 2: Identified Competency Gaps



Discussion

In an increasingly technologically advanced world, digital competencies are crucial for creating and maintaining robust healthcare systems. Healthcare workers may improve patient outcomes, promote system efficiency, and use digital tools more effectively by strengthening these competencies. To close current gaps and boost overall performance, targeted training programs, ongoing professional development, and supportive policy measures are needed. The results, which emphasize the necessity of strategic investment in human capital to ensure long-term viability, are consistent with international literature on workforce development and digital transformation.

Limitations

The study's scope is restricted to a review of the literature and the public sector. Empirical data and private sector analysis should be part of future studies.

Conclusion

For Bahrain's healthcare system to become more sustainable and of higher quality, digital health competences are essential. Resolving skill gaps will improve patient outcomes and system performance.

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