Chapter 1
Integrating Digital Health Technologies Into Health Professions Curricula:
Telehealth, AI, and Post–Pandemic Innovations

Ashley S. Love
University of California - Berkeley Extension, USA & University of the Incarnate Word, USA

Robert J. Love
https://orcid.org/0009-0008-0296-3755
United States Air Force, USA

Ruben Valadez
https://orcid.org/0009-0007-7160-2139
University of the Incarnate Word, USA

ABSTRACT

This chapter explores integrating digital health technologies within health professions curricula, highlighting their transformative potential and inherent challenges. As digital tools become increasingly integral to healthcare, the need for comprehensive education and training in this area has never been more critical. The pandemic significantly accelerated the adoption of telehealth, artificial intelligence (AI), and remote monitoring, emphasizing the urgency for updated curricula that can prepare healthcare professionals. This chapter provides various strategies for effective curriculum development, including innovative approaches to faculty training and student engagement. Future trends, opportunities, and ethical considerations for

DOI: 10.4018/979-8-3373-1127-2.ch001

navigating these technologies will be discussed, such as data privacy and patient consent. By equipping future healthcare professionals with the necessary skills and knowledge, the chapter aims to prepare them for the complexities of a digitalized healthcare environment and to ensure they can navigate and contribute to this rapidly evolving field.

INTRODUCTION

As digital health technologies evolve at an unprecedented pace, their transformative potential in health professions education is becoming increasingly apparent. These tools have reshaped global healthcare by enhancing efficiency, broadening access, and enabling real-time patient data access for more coordinated and effective care (Yeung et al., 2023). Yet, integrating these advancements into educational curricula presents a complex challenge. Equipping future healthcare and public health professionals with the skills to harness digital tools is essential to elevating patient care, clinical efficiency, and population health outcomes. Aungst & Patel (2020) emphasized that digital competencies are now indispensable for healthcare professionals as they navigate today's technology-driven healthcare landscape. Following the COVID-19 pandemic and the rise of generative AI and other innovations, a robust foundation in digital health is no longer optional but essential for healthcare and public health professionals.

The global shortage of healthcare professionals highlights an urgent need for digital health training to optimize workforce efficiency, especially in underserved regions. According to Boniol et al. (2022), there is a critical demand for healthcare professionals worldwide, with uneven distribution contributing to significant gaps in access to care. Although projections show a reduction in the shortage from 15 million in 2020 to 10 million by 2030, this shortfall still poses a substantial barrier to equitable healthcare access and universal health coverage. The shortage is especially severe in the WHO African and Eastern Mediterranean regions, where healthcare demand is rapidly increasing. Addressing this gap will require sustained investments in training, recruiting, and retaining healthcare workers to improve health outcomes globally.

Similarly, the United States faces a healthcare worker shortage that experts anticipate will worsen by the 2030s (O'Connell-Domenech, 2023). Forecasts indicate a deficit of approximately 200,000 nurses and 124,000 physicians. Additionally, Leider et al. (2023) found that nearly half of state and local public health workers left their positions between 2017 and 2021, with an estimated loss of up to 100,000 more by 2025. Contributing factors include an aging population, an aging healthcare workforce, and widespread burnout among healthcare professionals, particularly in