


Chapter 3

Ethical Considerations in AI–Powered Health Communities to Promote Good Health and Wellbeing: A Narrative Review

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ABSTRACT

The proliferation of Artificial Intelligence (AI) use not only has transformed the health communities but also raised concerns about its ethical implications. Employing a narrative review method, this chapter explores the different types of AI-powered health communities to examine the functionalities and purposes each community serves. This review also delves into identifying the key ethical considerations and its challenges associated raised by developers, experts and participants in the health communities. Besides, it will examine the existing regulations and frameworks governing the use of AI in the healthcare industry in relation to their effectiveness, potential gaps and areas for improvement in addressing the identified ethical concerns. Finally, it will propose recommendations for the ethical development and implementation of AI-powered health communities by synthesizing existing literature.

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Findings from this narrative review will offer insights for addressing the identified ethical concerns to propose best practices for data governance.

1. INTRODUCTION

The advent of Web 2.0 technologies has driven the rise and widespread adoption of online health communities (OHCs) (Le et al., 2023). OHCs fulfil various roles (Zhao et al., 2022); some function as communities of practice where healthcare professionals share insights, while others offer peer support to patients and their families or connect healthcare professionals with the public for health-related initiatives. These specialized social networks act as hubs for exchanging healthcare information, enhancing communication, delivering services, and providing emotional support. The growth of these communities has been fuelled significantly by advances in Artificial Intelligence (AI). Historically, AI has evolved from its inception in the mid-20 century to become a powerful tool with diverse applications across various sectors, including healthcare (Bohr & Memarzadeh, 2020). As Drukker et al. (2020) suggest, AI holds transformative potential in healthcare by generating new insights and innovative ideas through data analysis. Recognising this, the World Health Organization (WHO) has highlighted the benefits of AI in public health and medicine (WHO, 2021).

AI, defined by its ability to mimic intelligent human actions, offers numerous applications within OHCs (Zhang, 2024). For example, AI can simplify complex medical guidance, making it accessible to a broader audience, including marginalized communities with limited healthcare access. AI-driven chatbots, such as Noom, Orbita, and Buoy Health, can provide personalized advice on medication, diet, and lifestyle changes, potentially improving patient compliance. Additionally, AI has the potential to enhance diagnostic capabilities (Taddeo & Floridi, 2018), increased operational efficiency in healthcare (Nelson et al., 2019), and optimised patient care (Sujan et al., 2019). AI-powered health communities can also foster patient engagement and participation in their own care.

However, several challenges hinder the equitable implementation of AI in OHCs. Achieving equitable access to AI resources for marginalized populations remains a significant hurdle due to factors like limited exposure and low digital literacy (Marzo, 2024). Moreover, the inadequate design of digital health information for underprivileged groups (Ouédraogo, 2024) further exacerbates this issue. Additionally, the ethical implications of AI in healthcare, such as privacy concerns, algorithmic bias, and the potential for misuse, warrant careful consideration (Haleem et al., 2022).

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