Chapter 9

Digital Health Communication With Artificial Intelligence– Based Cyber Security

Amit Kumar Tyagi

https://orcid.org/0000-0003-2657-8700
National Institute of Fashion Technology, New Delhi, India

V. Hemamalini
SRM Institute of Science and Technology, Chennai, India

Gulshan Soni

https://orcid.org/0000-0001-7279-2981
MSEIT, MATS University, India

ABSTRACT

Digital health communication (DHC) has become an increasingly popular domain of the healthcare industry, enabling effective and efficient communication between healthcare providers, patients, and other stakeholders. However, the growing importance of digital platforms and the exchange of sensitive health information also present cybersecurity challenges. This chapter explains the utilization of AI-based cybersecurity in DHC to enhance security and protect patient privacy. Artificial intelligence (AI) plays an important role in cybersecurity by enabling advanced threat detection, rapid response, and intelligent risk management. AI algorithms can analyze large amounts of data, identify patterns, and detect potential security breaches or malicious activities in real-time. By adding AI-based cybersecurity solutions, DHC platforms can enhance their security measures and protect sensitive patient data. In DHC, AI-based cybersecurity can be utilized to ensure secure data transmission and storage.

1. INTRODUCTION

1.1 Overview of Digital Health Communications

Digital Health Communications refers to the use of digital technologies, such as mobile devices, social media, websites, and health apps, to communicate health information, provide healthcare delivery, and support patient engagement (Denecke & Nejdl, 2019). It encompasses a wide range of communication activities aimed at promoting health, preventing diseases, and improving healthcare outcomes. Here's an overview of DHC:

- Health Information Dissemination: Digital platforms provide an efficient means of sharing health information with the public. Healthcare organizations, government agencies, and public health bodies use websites, blogs, social media, and mobile apps to distribute educational materials, news updates, and preventive health guidelines. This enables widespread access to timely and accurate health information.
- Telemedicine and Telehealth: DHC has revolutionized healthcare delivery by enabling remote consultations and telemedicine services. Patients can connect with healthcare professionals through video calls, chat platforms, or mobile apps, allowing for convenient access to medical advice, diagnoses, and treatment plans. Telehealth also enables remote monitoring of patients' health parameters, enhancing chronic disease management and reducing hospital visits.
- Health Behavior Change: Digital technologies offer innovative ways to promote positive health behaviors and encourage behavior change. Mobile apps and wearable devices track individuals' physical activity, sleep patterns, and nutrition, providing personalized feedback and incentives to promote healthier lifestyles. Social media platforms and online communities provide peer support and motivation for individuals striving to adopt healthier behaviors.
- Patient Engagement and Empowerment: DHC empowers patients by providing them with access to their health records, test results, and personalized health information. Patient portals and secure messaging systems allow patients to communicate with their healthcare providers, ask questions, request prescription refills, and schedule appointments. This enhances patient engagement, fosters shared decision-making, and improves healthcare outcomes.
- Health Campaigns and Social Marketing: Digital platforms play a vital role in disseminating health campaigns and social marketing initiatives.

34 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/digital-health-communication-with-artificial-intelligence-based-cyber-security/332962

Related Content

Assistive Technology for Promoting the Independence and the Quality of Life in Persons With Alzheimer's Disease: A Selective Review
Donatella Ciarmoli (2022). *Assistive Technologies for Assessment and Recovery of Neurological Impairments (pp. 173-195).*
www.irma-international.org/chapter/assistive-technology-for-promoting-the-independence-and-the-quality-of-life-in-persons-with-alzheimers-disease/288135

Promoting Assistive Technology Competencies Among Preservice Teachers
Patrick W. Wachira (2022). *Technology-Supported Interventions for Students With Special Needs in the 21st Century (pp. 224-244).*
www.irma-international.org/chapter/promoting-assistive-technology-competencies-among-preservice-teachers/300029

IDTVOS: An INTECO Open Innovation Success Case
Raúl Riesco Granadinoand Javier Alfonso Cendón (2014). *Assistive Technologies: Concepts, Methodologies, Tools, and Applications (pp. 916-930).*
www.irma-international.org/chapter/idtvos/80650

Brain-Computer Interfaces and Visual Activity
Carmen Vidaurre, Andrea Kübler, Michael Tangermann, Klaus-Robert Müllerand José del R. Millán (2014). *Assistive Technologies: Concepts, Methodologies, Tools, and Applications (pp. 1549-1570).*
www.irma-international.org/chapter/brain-computer-interfaces-and-visual-activity/80688

Robotic Exoskeletons and Social, Companion, and Service Robots
(2014). *Enhancing the Human Experience through Assistive Technologies and E-Accessibility (pp. 34-48).*
www.irma-international.org/chapter/robotic-exoskeletons-and-social-companion-and-service-robots/109946