

## Chapter 9

# A PubMed Scoping Review: Advancing the Role of ChatGPT in Medical Education

### **ABSTRACT**

*The current study reviews the challenges of using ChatGPT within medical education to address challenges and proposed solutions given by experts in the medical field. The scoping review uses PubMed using Levac, Colquhoun, and O'Brien's Framework as a reference. A total of 13 studies, out of 102 communication, viewpoints, comments, editorials, brief reports, and letters were included and reviewed. Two reviewers independently conducted the selection process, and the decision was consensually made. The study excluded the review, original, and irrelevant articles. The scoping review did identify concerns about the ethical and rational use of ChatGPT. Several experts have raised questions on how to use ChatGPT so that it does not violate the epistemological methods, which generally involve the critical examination of the sources, methods, and justifications for knowledge claims.*

### **BACKGROUND**

Several important potentials for improving medical education are presented by artificial intelligence (AI) and generative language models (GLMs), including the availability of realistic simulations, digital patients, tailored feedback, evaluation techniques, and the removal of language barriers (Karabacak et

DOI: 10.4018/978-1-6684-9300-7.ch009

al., 2023). AI chatbots, like ChatGPT, examine previous AI applications in healthcare and preview some potential AI chatbot-assisted in-basket assistance, such as communicating test results with patients, providing patient education, and supporting clinical decision-making during history-taking, reviewing the characteristics of previous diagnostic tests, and common management scenarios (Matulis & McCoy, 2023).

OpenAI's ChatGPT large language model (LLM), made available to the public in November 2022, quickly passed the milestone of having more than 100 million users. Since the start of the ChatGPT revolution, AI tools have become accessible, and this study considers how they can alter physicians' opinions of this ground-breaking technology (Mesko, 2023).

Figure 1. Benefits and challenges of ChatGPT Use in medical education



## METHODOLOGY

Levac, Colquhoun, and O'Brien's Framework: The current study has adapted the Levac, Colquhoun, and O'Brien proposed framework (Levac et al., 2010). In order to better understand how ChatGPT (a language model) will be used in education in 2023, this research topic will examine the points of view shared in communication, viewpoints, comments, editorials, brief reports,

11 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/a-pubmed-scoping-review/329834](http://www.igi-global.com/chapter/a-pubmed-scoping-review/329834)

## Related Content

---

### Machine Learning Based Intrusion Detection System for Denial of Service Attack

Ashish Pandey and Neelendra Badal (2021). *Computational Methodologies for Electrical and Electronics Engineers* (pp. 29-47).

[www.irma-international.org/chapter/machine-learning-based-intrusion-detection-system-for-denial-of-service-attack/273833](http://www.irma-international.org/chapter/machine-learning-based-intrusion-detection-system-for-denial-of-service-attack/273833)

### Machine Learning and Decision-Making

Félix Oscar Socorro Márquez (2024). *Artificial Intelligence of Things (AIoT) for Productivity and Organizational Transition* (pp. 167-181).

[www.irma-international.org/chapter/machine-learning-and-decision-making/341889](http://www.irma-international.org/chapter/machine-learning-and-decision-making/341889)

### The Concept of [Robot] in Children and Teens: Some Guidelines to the Design of Social Robots

João Sequeira and Isabel Ferreira (2014). *International Journal of Signs and Semiotic Systems* (pp. 43-57).

[www.irma-international.org/article/the-concept-of-robot-in-children-and-teens/127094](http://www.irma-international.org/article/the-concept-of-robot-in-children-and-teens/127094)

### An Ontology Based Framework for Intelligent Web Based e-Learning

B. Senthilnayagi, K. Venkatalakshmi and A. Kannan (2015). *International Journal of Intelligent Information Technologies* (pp. 23-39).

[www.irma-international.org/article/an-ontology-based-framework-for-intelligent-web-based-e-learning/135904](http://www.irma-international.org/article/an-ontology-based-framework-for-intelligent-web-based-e-learning/135904)

### Using ZigBee in Ambient Intelligence Learning Scenarios

Óscar García, Ricardo S. Alonso, Dante I. Tapia and Juan M. Corchado (2012). *International Journal of Ambient Computing and Intelligence* (pp. 33-45).

[www.irma-international.org/article/using-zigbee-ambient-intelligence-learning/68843](http://www.irma-international.org/article/using-zigbee-ambient-intelligence-learning/68843)