

Exploring the Applications of ChatGPT in Family Medicine Education: Five Innovative Ways for Faculty Integration

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To the Editor:

The integration of artificial intelligence (AI) tools in medical education holds promise for enhancing teaching and learning experiences. This letter focuses on the applications of ChatGPT (OpenAI) in family medicine medical education. ChatGPT uses natural language processing to generate humanlike responses and engage in interactive conversations.¹ I write to encourage exploration of five innovative ways faculty can leverage ChatGPT to augment traditional teaching methods in family medicine education.

Medical educators face challenges in providing personalized learning experiences, enabling active student engagement, and addressing the wide spectrum of clinical scenarios encountered in family medicine.^{2,3} I have used the following methods in my experience with learners and believe that ChatGPT offers a unique opportunity to provide conversational agents that simulate patient encounters, facilitate clinical decision-making exercises, and foster critical thinking in learners. However, like any technology, it also has significant weaknesses that need discussion to mitigate.

- 1. Virtual patient consultations.** ChatGPT can be used to create realistic patient scenarios, allowing learners to practice clinical decision-making and communication skills in a simulated environment. This case-based learning with generated case studies or patient vignettes offers learners opportunities to apply their knowledge and reasoning abilities.
- 2. Differential diagnosis exercises.** Interactive exercises powered by ChatGPT can enable learners to input symptoms and receive potential diagnoses, facilitating the development of clinical reasoning skills. ChatGPT can be integrated into e-learning modules, enabling interactive educational content that provides instant feedback and responses to inquiries, and promoting self-directed learning.
- 3. Clinical decision support.** Faculty can use ChatGPT to provide real-time clinical decision support to students during patient encounters or case reviews, aiding in evidence-based decision-making.
- 4. Exam preparation.** ChatGPT can design practice questions and quizzes, allowing learners at all stages to test their knowledge and receive immediate feedback, thereby enhancing exam preparation. It also can assist in coaching through answering questions, as it is now being used across subject matters.
- 5. Patient education materials.** Learners can leverage ChatGPT to generate patient education materials, addressing common concerns about medical conditions and treatments, and providing clear explanations.

ChatGPT presents a range of exciting opportunities in medical education. It does so by facilitating case-based

learning, supporting clinical decision-making discussions, and enhancing engagement through interactive and personalized learning experiences for learners and patients. Through its integration into educational contexts, faculty can augment teaching methodologies. I believe recognizing that ChatGPT should be used as a complementary tool, to reinforce traditional teaching methods, is important. AI systems rely on the data they are trained on; if the training data includes inaccurate information, a risk of propagating such misinformation exists.^{4,5} ChatGPT can generate outputs that seem plausible but are not entirely accurate or evidence-based. Content, including citations, can be fake, inappropriate, nonsensical, or irrelevant. For these reasons, human review is necessary to maintain quality. Establishing guidelines for the use of AI in medical education is crucial. By recognizing these weaknesses, we can harness the potential of AI in medical education.

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