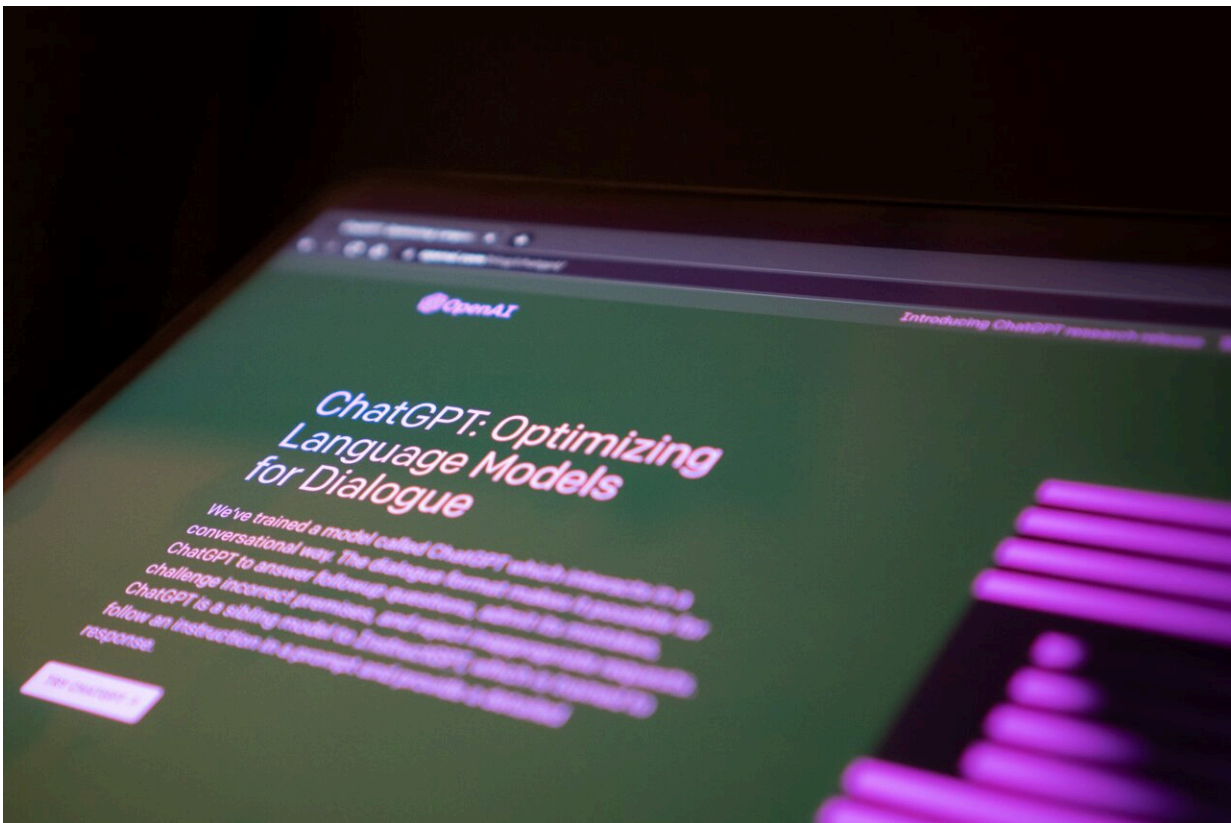# ChatGPT can (almost) pass the US Medical Licensing Exam

February 9 2023

Credit: Unsplash/CC0 Public Domain

ChatGPT can score at or around the approximately 60% passing threshold for the United States Medical Licensing Exam (USMLE), with responses that make coherent, internal sense and contain frequent

insights, according to a study published February 9, 2023, in the open-access journal *PLOS Digital Health* by Tiffany Kung, Victor Tseng, and colleagues at AnsibleHealth.

ChatGPT is a new artificial intelligence (AI) system, known as a large language model (LLM), designed to generate human-like writing by predicting upcoming word sequences. Unlike most chatbots, ChatGPT cannot search the internet. Instead, it generates text using word relationships predicted by its internal processes.

Kung and colleagues tested ChatGPT's performance on the USMLE, a highly standardized and regulated series of three exams (Steps 1, 2CK, and 3) required for medical licensure in the United States. Taken by [medical students](#) and physicians-in-training, the USMLE assesses knowledge spanning most medical disciplines, ranging from biochemistry, to diagnostic reasoning, to bioethics.

After screening to remove image-based questions, the authors tested the software on 350 of the 376 public questions available from the June 2022 USMLE release.

After indeterminate responses were removed, ChatGPT scored between 52.4% and 75.0% across the three USMLE exams. The passing threshold each year is approximately 60%. ChatGPT also demonstrated 94.6% concordance across all its responses and produced at least one significant insight (something that was new, non-obvious, and clinically valid) for 88.9% of its responses. Notably, ChatGPT exceeded the performance of PubMedGPT, a counterpart model trained exclusively on biomedical domain literature, which scored 50.8% on an older dataset of USMLE-style questions.

While the relatively small input size restricted the depth and range of analyses, the authors note their findings provide a glimpse of ChatGPT's

potential to enhance [medical education](link), and eventually, [clinical practice](link). For example, they add, clinicians at AnsibleHealth already use ChatGPT to rewrite jargon-heavy reports for easier patient comprehension.

"Reaching the passing score for this notoriously difficult expert exam, and doing so without any human reinforcement, marks a notable milestone in clinical AI maturation," say the authors.

Author Dr. Tiffany Kung added that ChatGPT's role in this research went beyond being the study subject: "ChatGPT contributed substantially to the writing of [our] manuscript... We interacted with ChatGPT much like a colleague, asking it to synthesize, simplify and offer counterpoints to drafts in progress... All of the co-authors valued ChatGPT's input."

More information: Performance of ChatGPT on USMLE: Potential for AI-assisted medical education using large language models, *PLOS Digital Health* (2023). [DOI: 10.1371/journal.pdig.0000198](link)

Provided by Public Library of Science