Background: The use of large language models like ChatGPT is becoming increasingly popular in health care settings. These artificial intelligence models are trained on vast amounts of data and can be used for various tasks, such as language translation, summarization, and answering questions.

Observations: Large language models have the potential to revolutionize the industry by assisting medical professionals with administrative tasks, improving diagnostic accuracy, and engaging patients. However, pitfalls exist, such as its inability to distinguish between real and fake information and the need to comply with privacy, security, and transparency principles.

Conclusions: Careful consideration is needed to ensure the responsible and ethical use of large language models in medicine and health care.
high-quality care that a professional therapist or HCP can. However, by augmenting the work of HCPs, ChatGPT and other LLMs have the potential to make mental health care more accessible and efficient. In addition to providing effective screening in underserved areas, ChatGPT technology may improve the competence of physician assistants and nurse practitioners in delivering mental health care. With the increased incidence of mental health problems in veterans, the pertinence of a ChatGPT-like feature will only increase with time.9

ChatGPT can also be integrated into health care organizations’ websites and mobile apps, providing patients instant access to medical information, self-care advice, symptom checkers, scheduling appointments, and arranging transportation. These features can reduce the burden on health care staff and help patients stay informed and motivated to take an active role in their health. Additionally, health care organizations can use ChatGPT to engage patients by providing reminders for medication renewals and assistance with self-care.4,6,10,11

The potential of artificial intelligence (AI) in the field of medical education and research is immense. According to a study by Gilson and colleagues, ChatGPT has shown promising results as a medical education tool.12 ChatGPT can simulate clinical scenarios, provide real-time feedback, and improve diagnostic skills. It also offers new interactive and personalized learning opportunities for medical students and HCPs.13 ChatGPT can help researchers by streamlining the process of data analysis. It can also administer surveys or questionnaires, facilitate data collection on preferences and experiences, and help in writing scientific publications.14 Nevertheless, to fully unlock the potential of these AI models, additional models that perform checks for factual accuracy, plagiarism, and copyright infringement must be developed.15,16

**AI BILL OF RIGHTS**

In order to protect the American public, the White House Office of Science and Technology Policy (OSTP) has released a blueprint for an AI Bill of Rights that emphasizes 5 principles to protect the public from the harmful effects of AI models, including safe
and effective systems; algorithmic discrimination protection; data privacy; notice and explanation; and human alternatives, considerations, and fallback (Figure 3). Other trustworthy AI frameworks, such as the White House Executive Order 13960 and the National Institute of Standards and Technology AI Risk Management Framework, are essential to building trust for AI services among HCPs and veteran patients. To ensure that ChatGPT complies with these principles, especially those related to privacy, security, transparency, and explainability, it is essential to develop trustworthy AI health care products. Methods like calibration and fine-tuning with specialized data sets from the target population and guiding the model’s behavior with reinforcement learning with human feedback (RLHF) may be beneficial. Preserving the patient’s confidentiality is of utmost importance. For example, Microsoft Azure Machine Learning Services, including ChatGPT GPT-4, are Health Insurance Portability and Accountability Act–certified and could enable the creation of such products.

One of the biggest challenges with LLMs like ChatGPT is the prevalence of inaccurate information or so-called hallucinations. These inaccuracies stem from the inability of LLMs to distinguish between real and fake information. To prevent hallucinations, researchers have proposed several methods, including training models on more diverse data, using adversarial training methods, and human-in-the-loop approaches. In addition, medicine-specific models like GatorTron, medPaLM, and Almanac were developed, increasing the accuracy of factual results. Unfortunately, only the GatorTron model is available to the public through the NVIDIA developers’ program.

Despite these shortcomings, the future of LLMs in health care is promising. Although these models will not replace HCPs, they can help reduce the unnecessary burden on them, prevent burnout, and enable HCPs and patients spend more time together. Establishing an official hospital AI oversight governing body that would promote best practices could ensure the trustworthy implementation of these new technologies.

CONCLUSIONS
The use of ChatGPT and other LLMs in health care has the potential to revolutionize the industry. By assisting HCPs with administrative tasks, improving the accuracy and reliability of diagnoses, and engaging patients, ChatGPT can help health care organizations provide better care to their patients. While LLMs are not a substitute for human interaction and personalized care, they can augment the work of HCPs, making health care more accessible and efficient. As the health care industry continues to evolve, it will be exciting to see how ChatGPT and other LLMs are used to improve patient outcomes and quality of care. In addition, AI technologies like ChatGPT offer enormous potential in medical education and research. To ensure that the benefits outweigh the risks, developing trustworthy AI health care products and establishing oversight governing bodies to ensure their implementation is essential. By doing so, we can help HCPs focus on what matters most, providing high-quality care to patients.

Acknowledgments
This material is the result of work supported by resources and the use of facilities at the James A. Haley Veterans’ Hospital.

Author affiliations
1James A. Haley Veterans’ Hospital, Tampa, Florida
2University of South Florida Morsani College of Medicine, Tampa
3National Artificial Intelligence Institute, Washington, DC

Author disclosures
The authors report no actual or potential conflicts of interest or outside sources of funding with regard to this article.
Disclaimer
The opinions expressed herein are those of the authors and do not necessarily reflect those of Federal Practitioner, Frontline Medical Communications Inc., the U.S. Government, or any of its agencies.

References