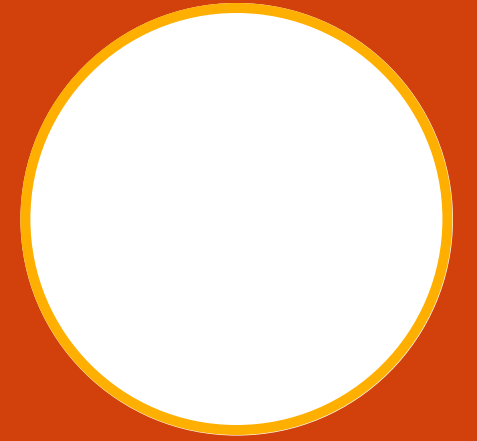




Evaluating Artificial Intelligence in Health Consulting for LGBTQ+ Identifying Persons

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Agenda

- What is Artificial Intelligence ?
- Background
- Why AI?
- Project Aim
- Methods & Findings
- Conclusions
- Moving Forward

Artificial Intelligence (AI) 101

- 1. Language Model (LLM) : deep trained models that understand and generate text in a human-like fashion.**
- 2. ChatGPT: a conversational LLM released by OpenAI developed for dialogue with humans**
combines supervised & unsupervised learning
 - a. supervised learning : using labeled training data to associate inputs and outputs and create pairs**
 - b. unsupervised learning : uses unlabeled data to look for patterns to be used for clustering/segmentation**
 - c. clustering: a technique in which unlabeled data is grouped according to their similarities or differences.**

Background

1. The current state of communication shows a clear disconnect between consumers and healthcare professionals.
2. Many health care professionals struggle to explain medical concepts to consumers in a clarifying manner which leads to gaps of knowledge
3. There is a clear racial gap in health equity and access across the world that undermines the quality of health of minorities, especially black LGBTQ+ persons

So Why AI?

The growth of large language models (LLM) shows potential growth in streamlining patient-doctor communication as well as providing consumers with personalized health education and information.

AI has the potential to increase access to quality and tailored healthcare information

Method(1)



Literature Review [EBSCOHost]

Eligibility Criteria

1. Any published scientific research or preprints (articles and reviews) addressing ChatGPT and other Artificial Intelligence that fell under the following categories:
 - 1) Health Education;
 - 2) Health Care Practice/Research; and
 - (3) Health Communication.

The exclusion criteria included: (1) non-English articles; (2) research addressing ChatGPT and/or AI in subjects not mentioned; and (3) articles from non-scientific sources.

Total Articles Found : 172; Articles Eligible : 18

Major Findings:

Benefits/application of ChatGPT and AI were categorized as such: (1) accessibility (2) benefits in health care ; (3) data capabilities

Risks/Limitations of ChatGPT and AI were categorized as such: (1) ethical issues ; (2) hallucination effect (3) lack of transparency (black box effect); (4) privacy issues and legal issues and (4) explainability and interpretability issues.

Method(2)

Planning the Study & Aim

> [JMIR Res Protoc. 2020 Dec 16;9\(12\):e24043. doi: 10.2196/24043.](#)

Increasing HIV Testing and Viral Suppression via Stigma Reduction in a Social Networking Mobile Health Intervention Among Black and Latinx Young Men and Transgender Women Who Have Sex With Men (HealthMpowerment): Protocol for a Randomized Controlled Trial

Kathryn Elizabeth Muessig¹, Jesse M Golinkoff², Lisa B Hightow-Weidman³, Aimee E Rochelle⁴, Marta I Mulawa⁵, Sabina Hirshfield⁶, A Lina Rosengren³, Subhash Aryal², Nickie Buckner⁷, M Skye Wilson⁴, Dovie L Watson⁸, Steven Houang¹, José Arturo Bauermeister²

Comparing Physician and Artificial Intelligence Chatbot Responses to Patient Questions Posted to a Public Social Media Forum

John W Ayers^{1 2}, Adam Poliak³, Mark Dredze⁴, Eric C Leas^{1 5}, Zechariah Zhu¹, Jessica B Kelley⁶, Dennis J Faix⁷, Aaron M Goodman^{8 9}, Christopher A Longhurst¹⁰, Michael Hogarth^{10 11}, Davey M Smith^{2 11}

Affiliations + expand

PMID: 37115527 PMID: PMC10148230 (available on 2024-04-28)

DOI: [10.1001/jamainternmed.2023.1838](https://doi.org/10.1001/jamainternmed.2023.1838)

1. Use real questions and physician answers from the HMP Forum
2. Put those same questions in ChatGPT
3. Compared physician responses to ChatGPT responses
4. Quantitatively evaluate whether the physician or bot responses are better overall by forming evaluative factors:
 - (a) empathy
 - (b) accuracy
 - (c) readability
 - (d) quality of response

Future Plans

Complete Data Analysis

Work on Adding
Additional Parts to
Manuscript [inc. Lit
Review]

Finish Creating a Solid
Plan for Codification &
Evaluation

Role

1. **Drafting Evaluative Criteria**
2. **Moderating Data Analysis & Modifying Prompt Responses**
3. **Conducting Literature Review & Drafting Literature Summary**

Lessons

- **AI poses a powerful role for the future of health care**
- **It is important to understand the limitations of ChatGPT in terms of accuracy, ability, and more**
- **Emphasizing human-AI collaboration allows for a more symbiotic relationship, where AI assists in decision-making, diagnosis, and treatment, while clinicians retain ultimate responsibility and oversight.**
- **Using AI increase the capacity of healthcare professionals by streamlining procedures**