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 undermimes 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.
Planning the Study & Aim

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
- Finish Creating a Solid Plan for Codification & Evaluation
- Work on Adding Additional Parts to Manuscript [inc. Lit Review]
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