

AI can enhance understandability and actionability in patient education materials, but human oversight is crucial for ensuring clarity, accuracy, and clinical relevance.

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Artificial Intelligence (AI) vs. Real Intelligence (RI): How they Stack Up in Health Literacy Review

Background

Health literacy is a key factor in effective patient education and advancing health equity. However, many education materials are too complex for patients to understand, reducing their effectiveness and impacting patient outcomes. AI has the potential to simplify these materials and improve health literacy, but its ability to match or enhance RI (human review) in this area has not been fully explored. Current nursing research is limited, with most AI testing focusing solely on the reading level of the content. In addition, standard prompts for health literacy review have not been established.

Purpose

This project aimed to identify a standard prompt for AI that would enhance the health literacy of patient education materials, and to compare the effectiveness of AI versus traditional RI (human review).

Methods

- Prompts Tested:** We determined which prompts to test based on current research and health literacy best practices.
- Platform Used:** An Academic Health System's internal ChatGPT was used
- Scoring Tools:**
 - To assess the understandability and actionability of patient handouts that were edited by AI versus those evaluated and edited by human reviewers we used the Patient Education Materials Assessment Tool (PEMAT), an evidence-based tool.
 - To measure the accuracy of edits done by AI, we created a custom accuracy scoring tool.
- Testing:** Three team members evaluated and scored the RI health literacy revisions. Then the AI revisions created with 6 different prompts were evaluated and scored. After testing the 6 prompts, we conducted one additional test using the highest rated prompt and assigning AI the role of health literacy specialist.

Results

- AI revisions generally improved readability, plain language and structure, but RI made more nuanced adjustments tailored to the original author's voice and clinical needs of our patients.
- AI struggled to clearly explain complex medical information.
- AI changes did not always align with PEMAT guidelines and interpretations of the guidelines were not consistent.
- AI produced different results for each team member when testing the same prompts.
- Team members' interpretations of the PEMAT guidelines and accuracy tool were subjective, leading to differences in scoring methods.
- Adding more detailed directions to the prompt did not produce better results.
- Accuracy scores varied among prompts.

Next Steps

- Expand testing to other clinical teams
- Conduct testing across 2 different AI tools (Chat GPT vs Gemini)

Conclusion

AI can improve the overall readability of patient education materials when combined with RI. While AI has the potential to help standardize and simplify educational materials, human oversight is crucial for ensuring content is contextually appropriate and clinically accurate. Integrating AI into health literacy practices can streamline review processes and reduce workload, supporting nursing practice to meet health literacy standards. These findings suggest that AI has the potential to improve patient outcomes and health equity in patient education, warranting further study.

