Anderson, L. B., Kanneganti, D., Houk, M. B., Holm, R. H., & Smith, T. (2023). Generative AI as a tool for environmental health research translation. *GeoHealth*, *7*, e2023GH000875. https://doi.org/10.1029/2023GH000875

Definitions

- **Generative Artificial Intelligence (AI)**: A type of AI that can create new content, like text, images, or audio, based on prompts.

- **Plain Language Summaries (PLSs)**: Simple explanations of research findings meant for non-expert readers.

- **Environmental Health Sciences**: The study of how environmental factors affect human health.

Key Findings

- AI tools like ChatGPT can help create simple summaries of complex research articles for non-experts.

- These AI-generated summaries can improve access to scientific information for a broader audience.

- However, the quality and accuracy of AI-generated summaries need further improvement.

Introduction

This study looks at how generative AI, specifically ChatGPT, can be used to summarize complex environmental health research for non-experts. The goal is to make scientific information more accessible to people who are not specialists, such as community groups and media outlets.

Main Content

Background

Environmental health research often uses complex language that can be hard for non-experts to understand. Creating plain language summaries (PLSs) can help make this information more accessible. Generative AI, like ChatGPT, might be a useful tool for creating these summaries quickly and efficiently.

Methods

- **Article Selection**: Five recent, open-access, peer-reviewed environmental health articles were chosen.

- **AI Summarization**: ChatGPT was used to create four types of summaries for each article: a general summary, an eighth-grade reading level summary, the most important finding, and real-world impacts.

- **Evaluation**: The authors of the original articles reviewed the AI-generated summaries for accuracy, completeness, and readability. They rated each summary on a scale from 1 (poor) to 5 (good).

Results

- **Summary Ratings**:
  - General summaries received lower ratings (average of 3.4 out of 5).
  - Summaries focused on key findings and real-world impacts received higher ratings (average of 4.1 out of 5).
  - Eighth-grade level summaries were also rated well (average of 3.9 out of 5).
- **Strengths and Weaknesses**:
  - Strengths: AI-generated summaries were quick to produce and generally clear.
  - Weaknesses: Some summaries missed important details or included minor inaccuracies.

<u>Conclusion</u>

Generative AI like ChatGPT shows promise in making scientific research more accessible to non-experts by quickly producing plain language summaries. However, these AI tools need to be improved to ensure accuracy and completeness. Using AI for this purpose could help more people understand and engage with environmental health research, supporting public health and policy development. The study suggests that AI tools can help simplify complex scientific information for non-experts, making research more accessible and easier to understand. While promising, these tools still need refinement to ensure they provide accurate and comprehensive summaries.

Word Count: 412