

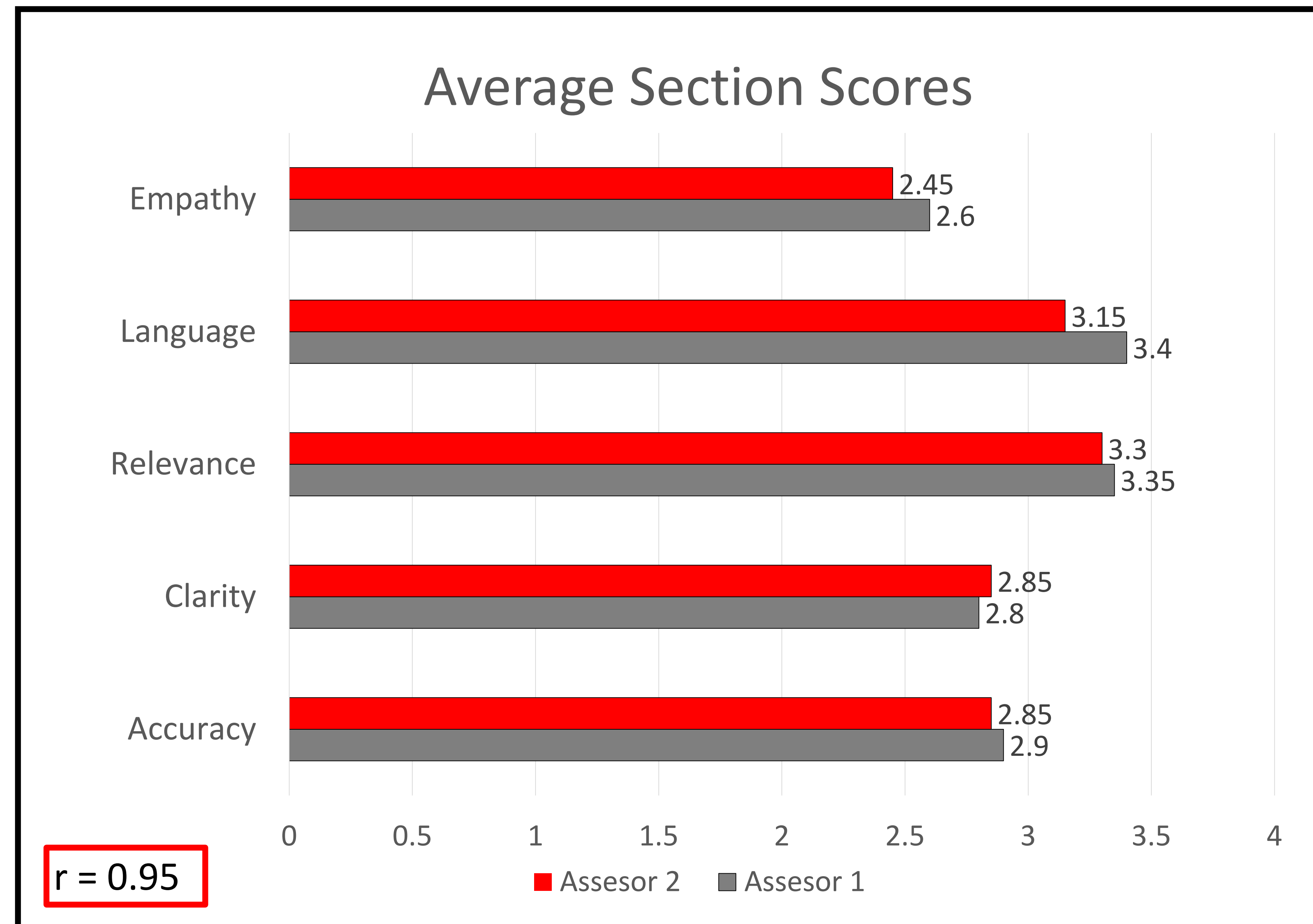
## Background

- Community pharmacy practice has faced significant challenges since the start of 2024, with an estimated 2,275 pharmacies closing their doors permanently.
- These closures, in addition to understaffing and other market forces may lead to an increased use of Artificial Intelligence (AI) as a resource outlet for self care.
- ChatGPT can help with completion of routine tasks that require minimal knowledge of healthcare the use of differential diagnosis, but little research has been published on its ability to utilize critical thinking and assess patients
- Objective:** This study aims to quantitatively assess the accuracy and relevance of AI-generated responses to a range of pediatric drug-related inquiries, focusing on over the counter medication topics.

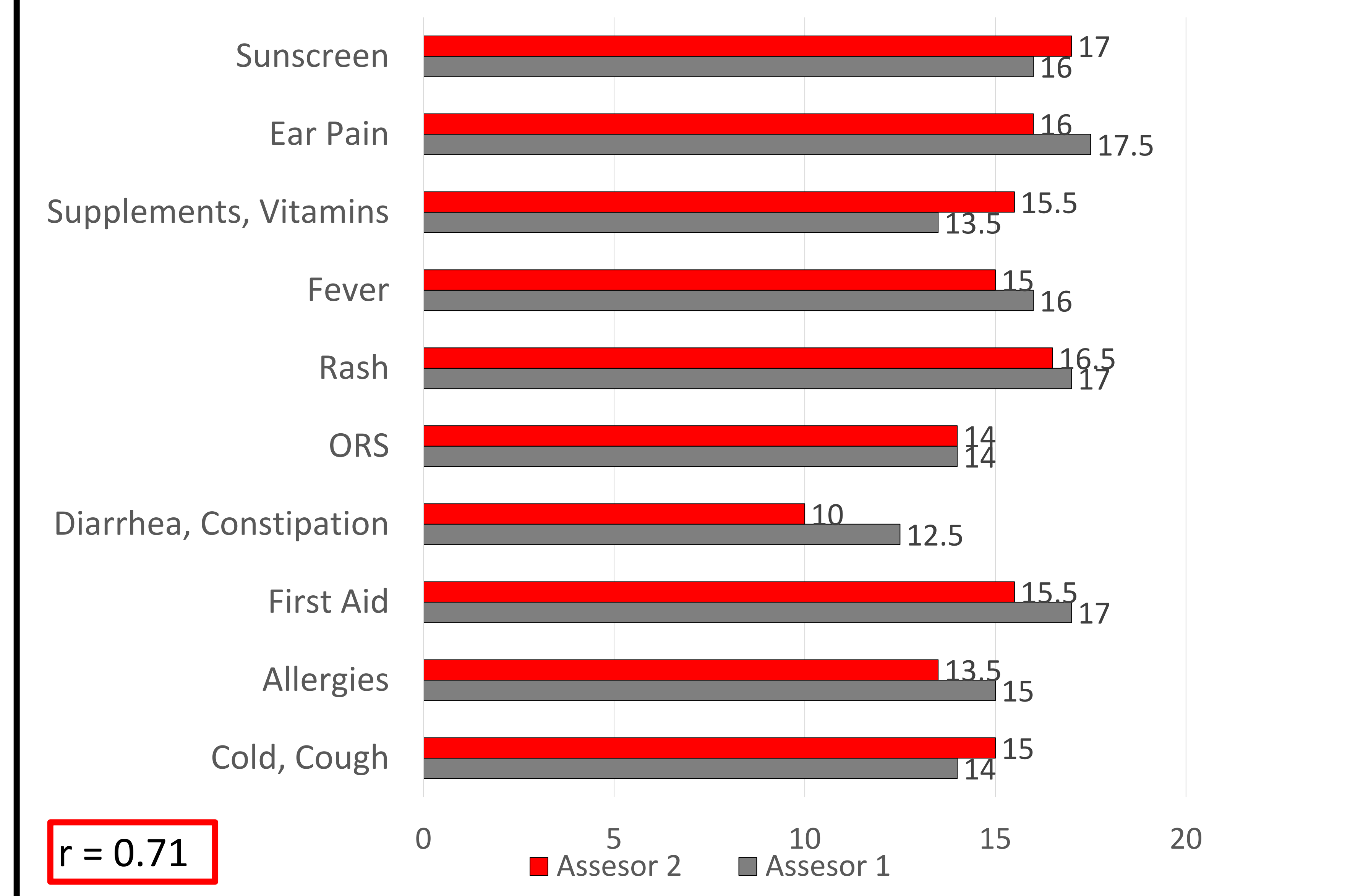
## Methods

- A pilot study queried ChatGPT about prescription medications. The software was prompted to "answer as if you were a pharmacist". Responses were assessed against a rubric generated by AI. The rubric included a request to cite sources. For this study, OTC medication questions were asked in language parents might use. The requirement to cite sources was omitted.
- Question categories included sunscreen, ear pain, vitamins and supplements, fever and generalized pain, rash, oral rehydration solution (ORS), diarrhea and constipation, first aid, allergies, and cold and cough.
- Evaluation against the rubric was performed by an experienced pediatric pharmacist and 4<sup>th</sup> year pharmacy student.

## Results



## Average Score Based on Question Category



## Discussion

- ChatGPT demonstrated in the pilot study that it has a poor ability to cite sources.
- ChatGPT fails to recognize when additional medical attention is needed, missing all of the questions that eliminated patients as candidates for self care.
- Intentionally vague questions resulted in unclear and potentially misleading responses. ChatGPT is more likely to make assumptions to fill in the blanks than it is to ask follow-up clarifying questions.
- A paywall may limit access to ChatGPT: The question-asking portion of this study had to be completed over multiple days due to the free version of the software reaching its daily limit.

## Strengths & Limitations

- Assessors remained blinded during evaluation period
- Questions did not cover the complete array of possible indications and uses of OTCs in children, but question design helped test AI responses for a wide scope of ages and severity of illness situations.
- Small number of assessors – potential for personal bias

## Conclusion

- Healthcare professionals should remain the primary resource for drug therapy advice, with AI serving as a supplementary tool rather than a replacement for expert consultation.
- Studies should be routinely completed on the same material, as a means by which to track the change in AI responses and the consistency across the software when asked repeated questions