

The application of generative AI in trial management

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Background

Generative Artificial Intelligence (AI) has quickly integrated into the fabric of society. However, the tangible impacts of this integration remain largely unexplored in the workplace on an individual level.

Clinical trial management presents a fertile ground for generative AI applications, offering opportunities to increase knowledge, enhance efficiency, and improve outputs.

Whilst institutions and regulators decide how best to implement generative AI at a global level, it is currently up to the user to decide the appropriateness of AI use at a local level.

Methods

Since January 2023, trial managers at Nottingham Clinical Trials Unit have assessed at how generative AI can be used to streamline and improve trial management.

Several AI models have been trialled including ChatGPT, Gemini, Co-Pilot and Claude.

During this time, there have been several notable advancements in generative AI including; the development of custom Generative Pretrained Transformers (GPTs) for specific knowledge-based tasks; the rapid progress of AI models capable of handling more complex prompts; and the ability for AI to generate images, sound and video based on prompts.

Although dozens of uses for generative AI in trial management have been devised and tested, three key applications are presented here.

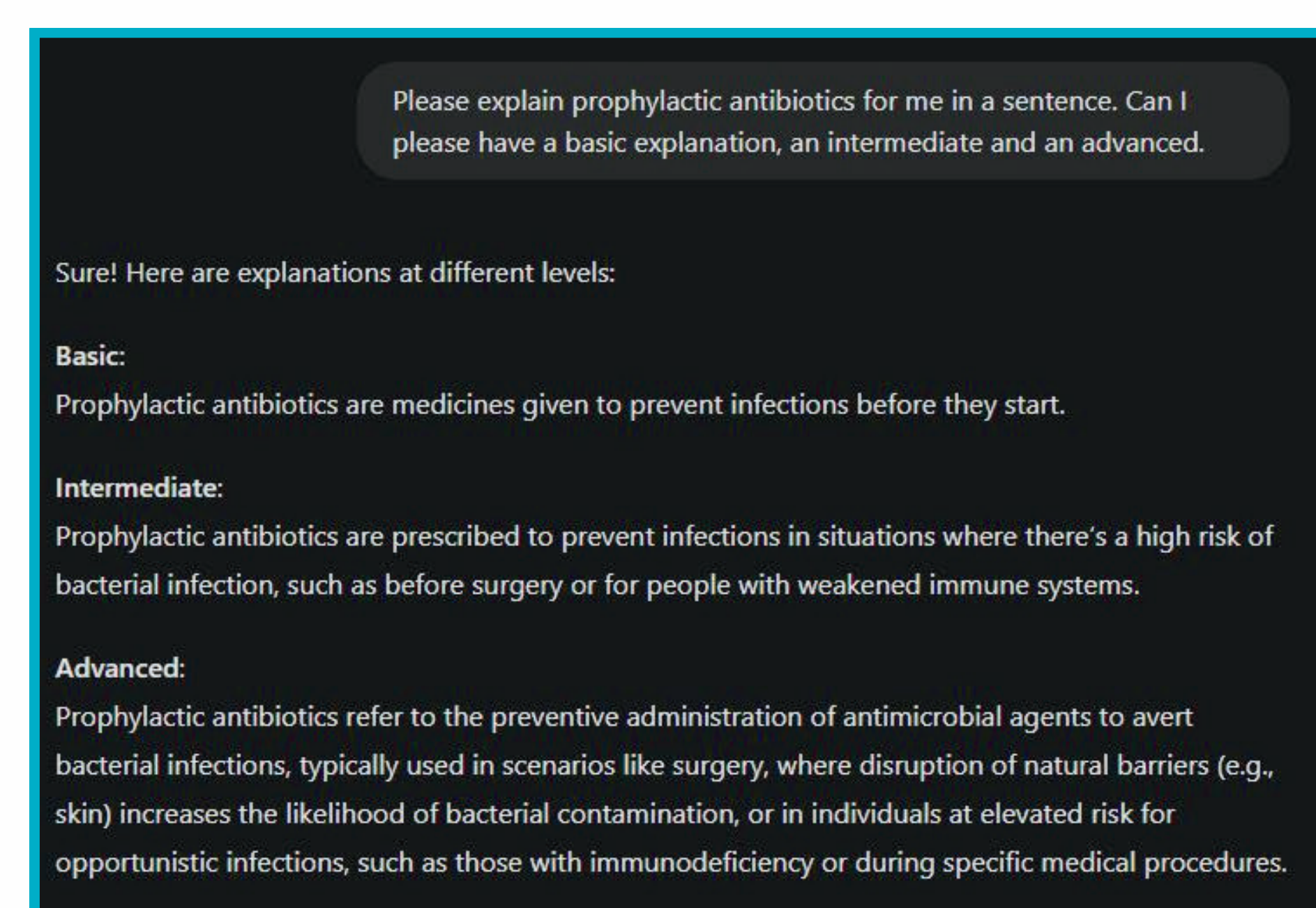
Discussion

This research shows generative AI can streamline trial management, boosting efficiency and allowing trial managers to focus on higher-priority tasks. Generative AI can not only reduce labor-intensive work but also serve as a virtual expert across many fields.

While the widespread adoption of generative AI is still nascent, and clear institutional guidelines are yet to be developed, its responsible use could bring significant workplace benefits. As AI models evolve and grow more complex, their application in trial management will likely expand, making them an increasingly integral part of conducting efficient clinical trials in the future.

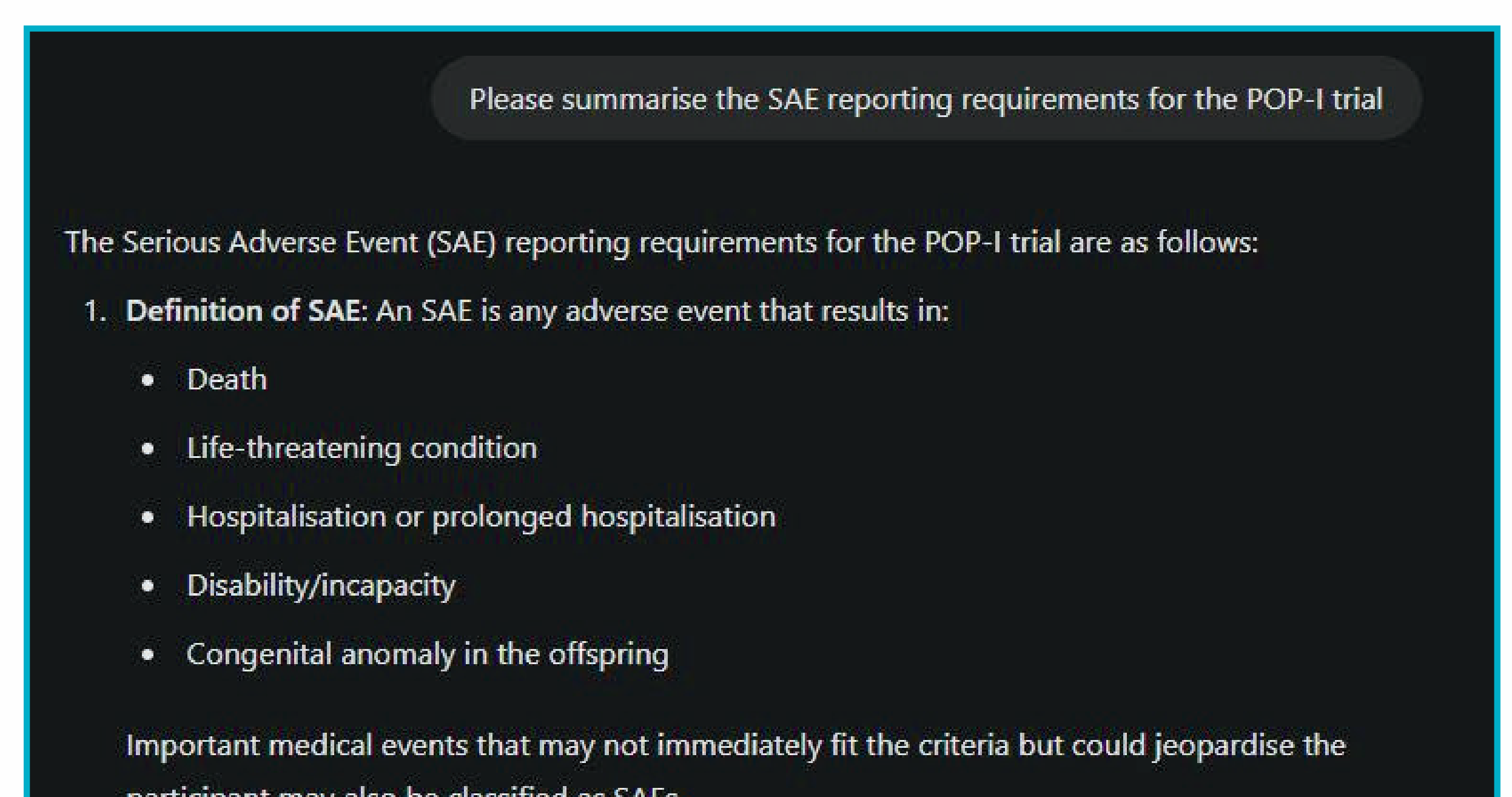
Results

1. *Virtual Clinical Consultant*: AI can explain clinical concepts, adapting to the user's knowledge level through incremental learning, allowing for more informed conversations with clinicians.



2. *Document Drafting*: AI assists with creating the first draft of trial-related documents, such as social media posts, progress reports and grant applications, saving time and effort.

3. *Answering trial queries*: Publicly available trial documents, e.g. protocols or FAQs, can be uploaded into AI models. These models can provide quick and accurate answers based on these documents making responding to trial-related queries more efficient.



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