Macedonian Pharmaceutical Bulletin, 72 (Suppl 1) 207 - 208 (2026)
Online ISSN: 1857-8969
DOI: 10.33320/maced.pharm.bull.2026.72.03.099
Short communication

A survey on the use of artificial intelligence in pharmaceutical medical writing

Toshe Rafajlov, Sonja Icheva Doneva, Aleksandra Petrovska, Marija Taleska Velkovski

Replek AD, Kozle 188, 1000 Skopje, Republic of N. Macedonia

Introduction

Medical writers play a crucial role in regulatory submissions, ensuring clarity, adherence to guidelines, and overall document quality (James and Cooper, 2025). Recent years have witnessed a rapid integration of medical publishing and artificial intelligence (AI) (Yu and Hwang, 2025). Given that AI and its application in the healthcare industry are here to stay, medical writers need to develop strong AI competencies and build an effective AI portfolio (Bhowmick et al., 2025). However, authors remain responsible for the work performed by the AI in their paper, including the accuracy and integrity of AI generated content (Fingerhut and Winter, 2023). Aim of this paper is to investigate which AI tools are used, the ways in which they are utilized, the frequency of their use, the areas in which they are most commonly applied, the challenges associated with their implementation, and the extent to which users trust artificial intelligence.

Materials and methods

Survey

A survey was conducted in order to collect data from healthcare professionals to investigate the use of artificial intelligence in medical writing for pharmaceutical regulatory and medicinal purposes. The survey was designed as a non-probability, cross-sectional study. A total of 102 healthcare professionals were selected, using convenience sampling through professional networks and LinkedIn. This survey was conducted using Google forms template, and the participants were asked several questions.

Results and discussion

All participants worked as medical writers, pharmacists in regulatory affairs or in other scientific fields. Regarding professional experience, 25.5% had more than 10 years of experience, 23.5% had 5-10 years of experience, 31.4% had 2-5 years of experience and 19.6% had less than 2 years of experience

Almost all participants use artificial intelligence (AI) tools in their professional work, 46.1% used AI regularly, 44.1% used it occasionally, while the remaining participants reported using AI rarely or never. The results obtained from 102 participants revealed that the most used AI tools were ChatGPT (78%), Claude AI (35%), Gemini and Perplexity AI (22% each), Copilot (19%), and Notebook LM, DeepSeek and Internal Solutions with (9%, 8% and 7% respectively). Additionally, some participants mentioned other AI tools, such as Pro-Writing Aid, Grok, Sourcely, Open Evidence, Sci-space, Quill-Bot etc.

When asked about the purposes for which AI is most often used, 77.2% of the responders reported

*tose371@gmail.com

using it for Editing/rephrasing, followed by Literature search (53.5%), literature summarization (42.6%), Drafting scientific text (31.7%), etc.

None of the respondents trusted AI-generated content for direct inclusion in regulatory documents without expert review. Almost half of them rated the scientific accuracy of AI-generated content as acceptable with major corrections, while the other half considered it good with minor corrections. The main concerns were inaccurate information, followed by lack of reliable references, regulatory non-compliance, data confidentiality and other. When asked how often they needed to significantly edit AI-generated content, 28% reported always requiring substantial edits, 41.6% reported often, 25.7% sometimes and the remaining respondents rarely needed significant modifications.

To improve quality of AI responses 73% of the responders believed that how a question is formulated significantly affects the quality of AI-generated responses, while 27% believed that question formulation affects the quality to some extent. Additionally, 69 responders reported that they frequently actively modify or refine prompts to improve AI responses, 27 responders reported it doing sometimes and 5 rarely. The most commonly used strategy for improving the quality of AI responses was providing detailed context, followed by asking follow-up questions. Requesting a structured output was identified as the third most frequently used strategy.

According to 73.5% of the participants, AI tools are currently used as supportive tools, while 10.8% considered them essential tools and 14.7% viewed them as potentially transformative for the field.

Overall, among all participants 29.7% reported that AI significantly improve their efficiency in medical/regulatory writing, 46.5% reported a moderate improvement, 29.7% reported a slight improvement.

Regarding future perspectives, 77.5% of the responders believed that AI would play a major role in future pharmaceutical regulatory and medical activities, while 17.6% held the opposite opinion, and the rest were uncertain about AI future in pharmaceutical regulatory and medical activities.

Some participant experiences and opinions regarding the use of AI in medical/regulatory writing that are worth highlighting are:

- High levels of professional expertise among medical writers become even more important when AI is used for medical and regulatory documents
- This is the future everyone must align
- Potentially transformative but negatively as too must trust will be rendered to AI for convenience unless the next generation understand the importance of scientific integrity and have the courage of their convictions.
- It's great if you use it wisely.
- “AI advise but human decide”. Do not always rely on output. ALWAYS VALIDATE.

Conclusion

There are variety of AI tools that professionals are using in medical/regulatory writing. The better strategies we use, the better answers we get. AI-generated content cannot be blindly trusted, but overall, with some modifications, AI tools improve efficiency in medical writing. Whether AI will play a major role in future pharmaceutical regulatory/ medical activities remains to be seen, but without expert opinion and the accountability for what it produces, AI may become a vast source of information.

References

Bhowmick, S. et al., 2025. Changing scope of medical writing in the era of artificial intelligence—a fresh perspective. J. Indian Med. Assoc. 123, 58–64. https://onlinejima.com/journals_doc/download-journals/2025/november/58-64.pdf

Fingerhut, A., Winter, D.C., 2023. Artificial intelligence and medical writing: where are we going? Br. J. Surg. 110, 883–884. https://doi.org/10.1093/bjs/znad169

James, L.C., Cooper, J., 2025. The evolving role of medical writers: AI as a partner in regulatory submissions. AMWA J. 40. https://doi.org/10.55752/amwa.2025.458

Yu, S., Hwang, H., 2025. The ethics of using artificial intelligence in writing medical research papers. Kosin Med. J. 40, 270–279. https://doi.org/10.7180/kmj.25.141