

Responsible integration of generative Artificial Intelligence in clinical and health sciences publishing

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ABSTRACT

Generative artificial intelligence (GAI) is rapidly reshaping academic publishing by supporting manuscript preparation, language refinement, literature synthesis, and other scholarly activities. However, its increasing use has raised important concerns regarding authorship, originality, transparency, accountability, and trust in scientific communication. This editorial highlights the evolving principles of responsible GAI use in publishing, including the prohibition of GAI authorship, disclosure of GAI assistance, and continued human oversight. For authors, transparency in reporting GAI use is essential to maintain research integrity. For editors, effective GAI governance requires clear policies, contextual judgement, and recognition of the limitations of GAI-detection tools. Rather than focusing solely on identifying GAI-generated content, journals should promote responsible GAI adoption through education, standardised disclosure practices, and enhanced GAI literacy among authors, reviewers, and editors. As AI technologies continue to advance, maintaining human accountability remains fundamental to preserving the credibility and integrity of scholarly publishing.

1. INTRODUCTION

Generative artificial intelligence (GAI), particularly large language models (LLMs) such as ChatGPT, Mistral, GPT-3.5, and BERT-based models, has rapidly shifted from a novel technology to a routine tool in academic workflows. Researchers increasingly rely on GAI for language editing, literature summarisation, drafting educational materials, and structuring manuscripts [1, 2]. While these tools boost efficiency and accessibility, they challenge long-standing assumptions about authorship, originality, accountability, and trust in scholarly communication. Since early 2023, publishers have introduced formal policies on GAI use, prompted by editorials in journals such as *Nature* and policy announcements like *Science*, which prohibits GAI-generated manuscript text, figures, or graphics and considers violations as scientific misconduct [3, 4].

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From an editorial standpoint, GAI governance has evolved from a theoretical ethical discussion into a practical challenge encountered during manuscript submission, peer review, editorial decision-making, and author communication. Authors increasingly employ GAI for language refinement, literature summarisation, and manuscript structuring, sometimes selectively to minimise detection [5]. These practices highlight the need for clear disclosure standards, consistent editorial guidance, and ongoing dialogue to maintain transparency and trust. For journals in the clinical and health sciences, these challenges carry additional significance because GAI-generated inaccuracies, hallucinations, or contextually inappropriate content have the potential to influence scientific interpretation, medical education, clinical decision-making, and ultimately public trust in healthcare.

1.1 The Evolving Landscape of GAI Policies in Academic Publishing

By late 2025, major academic publishers including Elsevier, Springer Nature, Wiley, Taylor & Francis, and SAGE have established publicly available policies regulating the use of generative GAI in scholarly publishing (6). Although these policies differ in structure and terminology, they reflect a collective effort in balancing technological innovation with research integrity.

A clear consensus has emerged across publishers on several foundational principles concerning the use of GAI in scientific publications:

- i) *GAI systems are uniformly prohibited from being listed as authors.*
Publishers argue that authorship entails accountability, consent, intellectual contribution, and legal responsibility requirements that GAI tools cannot fulfill. This position aligns implicitly with international authorship standards, even when not explicitly referenced.
- ii) *Disclosure of GAI use is widely mandated.*
Most publishers require authors to declare the use of generative GAI tools, including the name of the tool and its purpose. However, the threshold for disclosure varies. Some policies exempt basic language editing, while others leave the definition of “substantive” GAI use open to interpretation. This variability introduces uncertainty for authors and inconsistency across journals.
- iii) *Human oversight is emphasised as non-negotiable.*
GAI tools are framed as assistive technologies rather than contributors, with authors retaining full responsibility for accuracy, originality, and interpretation.

Nevertheless, it is important to recognise that generative AI capabilities are evolving rapidly. Policies developed for current-generation GAI tools may require further refinement as future versions introduce new functionalities, applications, or potential risks. Editorial guidance and journal policies must therefore be continuously reviewed and updated to remain relevant and effective, ensuring that governance frameworks evolve alongside technological advancement.

1.2 Editorial Realities: Challenges in Practice

While publisher policies provide ethical boundaries, they underestimate the editorial burden. Editors must interpret disclosures, assess adequacy, and judge whether omissions reflect misunderstanding, inconsistent reporting, or potential misconduct. Disclosures range from detailed methodological descriptions to vague statements such as “GAI was used for language editing” creating inconsistencies.

Plagiarism-detection platforms now generate GAI-use indices, yet these metrics often conflict with reviewer perceptions. Detection performance varies depending on text generation, editing, or paraphrasing, producing false positives and false negatives (7,8). Editorial judgement and contextual understanding therefore remain central.

No single GAI-detection tool is consistently accurate across text types or model versions (9). Combining outputs from multiple tools may improve reliability but cannot replace contextual interpretation. Editors must balance transparency, fairness, and credibility, particularly in smaller or resource-limited journals. Overly rigid enforcement risks discouraging disclosure; overly permissive approaches risk undermining trust in scholarly communication.

1.3 Ethical Considerations in Clinical and Health Sciences

GAI policy debates are especially critical in clinical and health sciences. Errors, hallucinations, or biased outputs can influence clinical interpretation, educational content, or policy recommendations (10). GAI-generated medical texts may be inaccurate or misleading, with potential consequences for patient care and public trust in healthcare (11).

Many GAI tools are trained primarily on high-income country data (12,13). Their outputs may overlook local practices, resource limitations, or region-specific health priorities. Journals serving diverse communities must therefore emphasise careful review, evidence-based interpretations, and contextual accuracy. Authors bear responsibility to ensure GAI-assisted content is rigorously verified, particularly in low- and middle-income research settings.

1.4 From Policy to Practice: The Role of Journals

While publisher-level policies provide an essential ethical framework, they are not sufficient on their own to ensure responsible and transparent use of GAI in scholarly publishing. Journals occupy a critical interface between policy and practice and will therefore be uniquely positioned to operationalise these principles in ways that are meaningful to authors, reviewers, and editors. Journals can play an active role by:

a. Providing clear, journal-specific guidance

Distinguish acceptable uses from that of inappropriate applications, such as minor language refinement referring to the former versus GAI-driven data interpretation or manuscript generation referring to the latter. Concrete examples reduce ambiguity and may encourage/support compliance.

b. Offering editorial commentary and educational pieces

Clarify expectations, address misconceptions, and highlight discipline-specific ethical considerations, including clinical accuracy and contextual relevance.

c. Standardising GAI disclosure statements

Structured templates can guide authors in reporting purpose, stage, and level of oversight. Therefore, the use of GAI may be categorised as:

Category I: Minor language refinement (minimal assistance)

GAI is used solely to correct superficial language errors without changing the author's intended meaning or structure.

Examples:

- Correction of spelling, grammar, punctuation, and typographical errors
- Minor improvements to sentence for fluency and/or readability
- Adjustment of tense consistency or subject-verb agreement
- Standardisation of terminology, abbreviations, capitalisation, or formatting

Category II: Substantial language or stylistic editing (author-generated content is preserved)

GAI improves the clarity, style, and organisation of existing author-written text while preserving the scientific content and interpretation.

Examples:

- Rewriting sentences or paragraphs for improved clarity and coherence
- Enhancing academic tone, conciseness, and readability
- Improving logical flow and transitions between paragraphs
- Reducing redundancy or simplifying complex language without introducing new scientific content
- Editing abstracts, figure legends, tables, or cover letters for language quality

Category III: Sentence or paragraph construction based on author inputs (full human verification required)

GAI generates new text using information, notes, outlines, or data supplied by the authors, with all outputs critically reviewed, verified, and approved by the authors before submission.

Examples:

- Expanding bullet points or outlines into complete paragraphs.
- Drafting sections of the Introduction, Methods, Results, or Discussion from author-provided notes.
- Summarising literature or study findings provided by the authors.
- Producing alternative wording or multiple versions of manuscript sections for author selection.

Category IV: Drafting or restructuring sections under direct author supervision (substantial portions of the manuscript)

GAI contributes to drafting, reorganising, or restructuring substantial portions of the manuscript under direct author supervision. Authors remain fully responsible for verifying factual accuracy, interpretation, citations, and originality.

Examples:

- Drafting complete manuscript sections from prompts
- Reorganising the structure or sequence of sections or arguments
- Rewriting extensive portions of the manuscript to improve narrative flow
- Generating section headings, subheadings, or proposed manuscript organisation
- Assisting with synthesis of multiple author-written sections into a cohesive manuscript

Category V: Use of GAI in scientific analysis, interpretation, or decision-making (requiring explicit justification or restriction)

GAI is used beyond language assistance and contributes to scientific reasoning, analysis, interpretation, or conclusions. Such use requires explicit disclosure, careful editorial scrutiny, and may not be acceptable depending on journal policy.

Examples:

- Interpretation of study results or generation of scientific conclusions
- Statistical analysis or recommendation of statistical methods
- Generation of hypotheses or research questions
- Identification of study limitations or clinical implications without independent author verification
- Interpretation of medical images, laboratory findings, or experimental data
- Automated literature synthesis used to support scientific arguments without independent verification
- Recommendation of clinical, diagnostic, or therapeutic decisions
- Generation or modification of data, images, figures, graphs, or other research outputs that could affect scientific integrity

1.5 Supporting editorial training and GAI literacy

Editors and reviewers increasingly interpret GAI disclosures and detection metrics. Basic training improves consistency and confidence, particularly for journals with limited resources and diverse author populations. Rather than framing GAI primarily as a threat or focusing solely on compliance, journals can position responsible GAI use as an integral part of broader research integrity education.

By doing so, authors, reviewers, and editors can be guided to understand both the potential benefits and limitations of GAI tools, foster transparency in reporting GAI-assisted work, and encourage critical reflection on how GAI may influence scientific reasoning, contextual accuracy, and ethical decision-making in research.

1.6 Editorial Reality: Emerging GAI Detection Metrics

As GAI-assisted writing becomes increasingly prevalent in academic submissions, editors are encountering new challenges in evaluating the extent and appropriateness of GAI use. Beyond traditional plagiarism detection, many platforms now provide GAI detection scores, GAI likelihood estimates, or similar indicators intended to estimate the probability that a manuscript or portions of it were generated or substantially assisted by GAI. These outputs vary widely in their underlying methodologies, score interpretation, and report reliability (14). Editorial experience suggests that scores can be inconsistent with reviewer perceptions or the actual nature of the text. Manuscripts flagged as high probability by one tool may appear typical to reviewers, while other manuscripts perceived as GAI-assisted may register very low scores. While publisher policies and COPE guidance encourage transparency and responsible reporting of GAI use, they provide limited operational instructions for interpreting these metrics.

Emerging evidence indicates that no single GAI detection tool is uniformly accurate across text types and model versions. Evaluations of multiple detection platforms demonstrate marked variability in sensitivity and specificity, underscoring the limitations of individual detectors (9). While combining outputs from multiple detection tools may improve confidence in GAI assessment, there is currently no established framework for interpreting or integrating these results. Implementing such approach would inevitably increase editorial workload and the need for additional training to interpret conflicting outputs, which may not be practical for many journals. Consequently, GAI detection metrics should support, rather than replace, contextual editorial judgement.

1.7 From Policy to Practice: Implementing Responsible Generative AI Governance at UiTM and JCHS

The principles advocated by major publishers are increasingly being translated into institutional policies that provide practical guidance for researchers. At Universiti Teknologi MARA (UiTM), Malaysia, the routine use of GAI tools for minor language assistance, such as grammar and spelling checks, is permitted without mandatory disclosure. However, the use of GAI for content generation, paraphrasing, or manuscript structuring must be explicitly declared, and GAI cannot be recognised as an author or contributor. Consistent with international guidance, UiTM further emphasises that researchers should be fully accountable for the accuracy, originality, and integrity of GAI-assisted work. Such institutional policies demonstrate how broad publishing principles can be translated into practical guidance and reinforce the importance of responsible GAI use throughout the research and publication process (15).

Building upon these institutional principles, the *Journal of Clinical and Health Sciences* (JCHS) has also incorporated them into its editorial and peer review processes to promote transparency, accountability, and responsible GAI use in scholarly publishing. The journal's GAI policy in accordance with the Committee on Publication Ethics (COPE), has explicitly outlined that it is mandatory for authors to disclose the use of GAI tools in manuscript preparation, including GAI-assisted writing, data analysis, and figure generation. Authors remain fully responsible for verifying the accuracy, originality, and integrity of GAI-assisted content, ensuring compliance with ethical standards, including appropriate attribution, avoidance of plagiarism, and protection of confidential or sensitive data. Consistent with both institutional and international publishing standards, GAI tools cannot be recognised as authors. During peer review, JCHS maintains strict confidentiality by prohibiting reviewers from uploading manuscripts or peer review reports onto generative GAI platforms, thereby protecting authors' intellectual property, confidentiality, and data privacy. Scientific peer review and editorial decision-making continue to rely on independent human judgement, critical appraisal, and subject expertise. Accordingly, editorial decisions and peer review reports remain the sole responsibility of editors and reviewers, with GAI serving only as a supplementary tool rather than a substitute for scholarly evaluation (16).

2. CONCLUSION

To date, considerable progress has been made in developing governance frameworks for generative GAI in academic publishing. Broad consensus has emerged on prohibiting GAI authorship, requiring transparent disclosure of GAI use, and maintaining human accountability. However, governance remains an evolving process, and gaps persist between policy and everyday practice as GAI technologies continue to advance. Editors must interpret disclosures, address reviewer concerns, and consider GAI-use metrics, which are probabilistic and context-dependent. Editorial judgement remains central. For journals in clinical and health sciences, responsible GAI governance should prioritise trust, ethical awareness, and scholarly integrity over strict compliance. Consistent with COPE guidance, GAI cannot assume authorship or accountability at the present time. Journals must therefore continue to promote transparency, provide education, and advocate for reliable GAI-detection tools. By embedding responsible GAI use within research integrity, publishers, reviewers, and authors can ensure these technologies enhance, rather than compromise, the credibility and quality of scholarly communication globally.



Figure 1: Key Recommendations for Responsible Use of GAI in Scholarly Publishing

Source: Norhafiza Razali et al. 2026

3. CONFLICT OF INTEREST

Authors declare none.

4. GENERATIVE A.I DISCLOSURE STATEMENT

The authors used ChatGPT 5.0 model to improve the readability and language of the manuscript. The GAI model was used with oversight and control by the authors, which was then carefully reviewed and edited to ensure the integrity and scientific accuracy of the content.

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