Geographical Differences in Attitudes on Artificial Intelligence Use in Scientific Publications: Survey of Healthcare Professionals and Medical Communications Professionals

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Current Situation

- The integration of artificial intelligence (AI) into scientific publishing holds the potential to revolutionize how research content is generated and disseminated.
- It is important to understand the views of professionals involved in scientific publishing to ensure AI technologies positively impact scientific publications.
- Prior research highlights differences in attitudes towards AI based on geography, years of experience, and professional focus amongst healthcare professionals (HCP) and researchers; however, data focused on attitude towards AI use for publications is limited.[1-3]

Aim

- To assess HCPs and medical communication professionals' perspectives regarding AI's benefits and barriers in scientific publishing across geographical regions, as well as different experience levels among HCPs.
- By evaluating these perspectives, we sought to identify areas where educational initiatives could facilitate smoother integration.

Recommendations

- Educational initiatives should be tailored and personalized, facilitating smoother integration of AI technologies into scientific publishing processes.
- Building trust and continuing to focus on quality is key. Recognizing the diverse perspectives on AI can guide strategic implementation efforts that enhance publication efficiency while addressing concerns related to accuracy and authorship.

Methods

Survey Design

- The survey was undertaken in September 2024; participants were asked four questions regarding their knowledge, experience and perceptions of AI in the generation of scientific publication content.
- Participants rated their agreement with statements about the role of AI in publication development using a 7-point Likert scale (1 = Strongly disagree; 7 = Strongly agree); a Net Promoter Score (NPS) was calculated to determine trends in opinions.

Data analysis: NPS calculation

Promoters:
Respondents scoring 5 6 or 7

Detractors:
Respondents scoring 1 2 or 3

Neutral:
Respondents scoring (not included in calculation) 4

The NPS was calculated by subtracting the % of **detractors** from the % **promoters**

NPS range:

−100 −25 0 +25 +100

No consensus

Strength of disagreement — Strength of agreement

Results

Participants (Figure 1; Table 1)

Figure 1. Study participants

	Europe	North America	AI knowledge or AI experience in publications	
HCPs N=94	48%	72%	None	15%
			Some	67%
			Extensive	18%
Med Comms N=68	72%	28%	None	16%
			Some	78%
			Extensive	6%

Med Comms, medical communication professional

Table 1. Professional experience of study participants

	Europe	North America
HCPs, N=94		
Practice experience, years		
<5	0	14
6–10	19	22
11–20	19	9
21–30	7	4
Medical communication professionals, N=68		
Medical communication experience, years		
<5	23	9
6–10	11	5
11–20	13	3
21–30	1	2
>30	1	0

Geographical differences:

- North American HCP participants had fewer years of practice experience than their European counterparts.
- European participants showed a more positive attitude towards AI adoption versus North American participants, and generally medical communications professionals had more concerns regarding accuracy of AI in publication content generation relative to HCPs (**Figure 2**).
- HCPs and medical communication professionals across North American regions recognized that AI's potential in scientific publishing includes improved efficiency, reduced timelines, and tailored content (**Figure 3A**).
- Geographical differences were apparent for potential AI barriers; North American professionals expressed the strongest concerns about accuracy and trust (**Figure 3B**).

Figure 2. Attitudes towards adoption of AI among medical communication professionals and HCPs

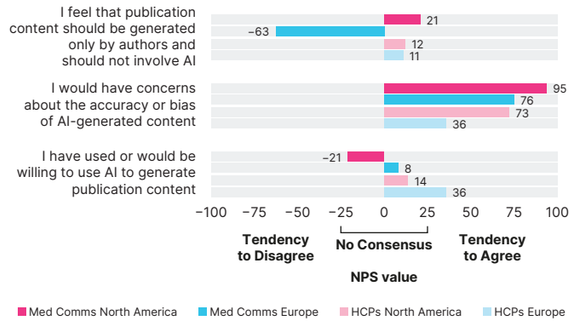
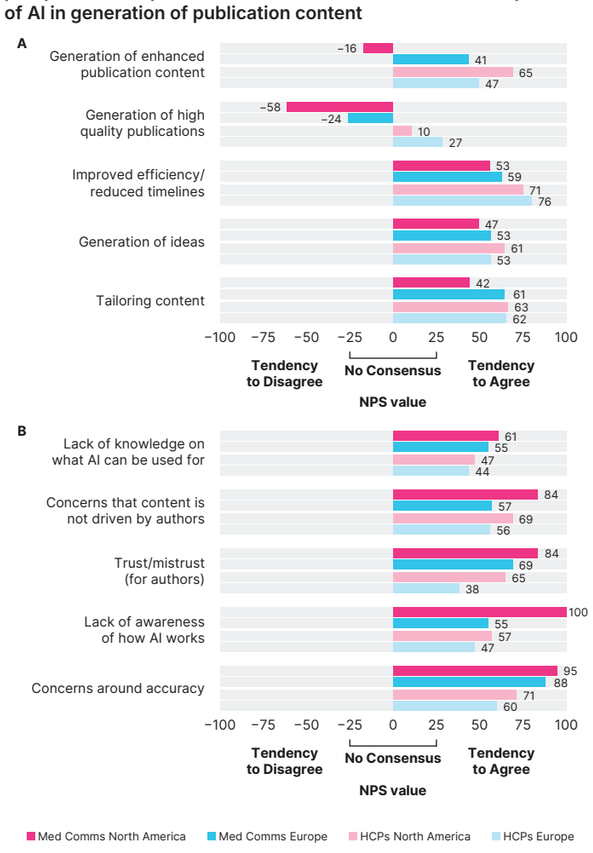


Figure 3. Medical communication professional and HCP perspectives on potential benefits (A) and barriers (B) to uptake of AI in generation of publication content



Additional insights

- Data for HCPs were also stratified according to years of professional practice, to determine whether this influenced attitudes towards adoption of AI in the generation of scientific publication content.
- **HCP experience:**
  - HCPs' attitudes on AI in publications vary by years of practice.
  - HCP region may have impacted observed differences and requires further research.
- **Combined insights:**
  - There is the potential for intersection of these results, as North American HCP participants had less practice experience than their European counterparts.

<5 years of practice (n=14); and 6–10 years of practice (n=41)

- No consensus on many aspects (<5 years)
- Tendency towards agreement that AI can be used to:
  - Enhance efficiency (NPS=71; 76)
  - Develop enhanced publication content (NPS=71; 56)
- Concerns about accuracy (NPS=79; 61)

11–20 years of practice (n=28)

- Small trend towards agreement on high-quality publication production (NPS=43)

21–30 years of practice (n=12)

- Strong support of idea generation
- Fewer concerns regarding accuracy in those with 11–20 or 21–30 years of practice experience (NPS=43; 36)

Discussion

Key insights

- Attitudes towards AI in scientific publishing were mixed globally and varied across professions and experience levels.
- Regional differences highlight the necessity for tailored approaches in promoting AI adoption, as European professionals generally exhibit more positive attitudes compared with their North American counterparts.
- HCPs with more years of practice tend to have fewer concerns about AI accuracy; the reasons behind this were beyond the remit of the present study and are an area for future investigation.
- Distribution of geographical location and professional experience underscores the complexity of perceptions regarding AI's role in scientific publishing.

Limitations and future directions

- The study's reliance on self-reported data may introduce bias; future research could benefit from objective measures or case studies demonstrating AI's impact on publication quality.
- Unequal distribution of demographic variables, including differences in AI experience and geographic regions varied across the experience-based groups, which could bias the results.
- Relatively low sample size numbers may limit interpretation of results.
- Further investigation is needed to explore how specific specialties within healthcare influence attitudes towards AI, potentially revealing nuanced insights beyond general trends observed by region or experience level. Expanding the survey to include additional regions or countries, could provide a more robust sample size, and a more global perspective on attitudes towards AI in scientific publications; monitoring opinions over time may also be valuable to track changes in attitudes in this fast-paced field.

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