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CONTENTS

Artificial intelligence and libraries

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Dear colleagues,

Historically, human civilisation has been shaped by successive waves of technological innovation, each bringing profound changes to the way we live, work and structure society. These technological revolutions have consistently followed a similar pattern of disruption, starting with the destabilisation of existing social systems, followed by gradual societal adaptation, and, finally, their integration into everyday life.

Furthermore, with every technological advance, from the printing press to the digital age, libraries –as institutions at the crossroads of preserving and disseminating knowledge – have had to reinvent how they operate and cater to their communities. Rising to the challenge of these transformations, libraries have managed to adapt time and again, steadfastly maintaining their core mission of ensuring access, privacy and intellectual freedom. Thus, from a historical perspective, libraries emerge not only as passive recipients of technological changes but as active participants involved in shaping how societies communicate knowledge and pass it on through each information revolution that arises. Throughout history, libraries have held on to their role as societal stabilisers in times of technological disruption.

The First Industrial Revolution, spanning the 18th to 19th centuries, radically transformed production through innovations such as the steam engine and mechanised manufacturing, upending traditional craftsmanship and giving rise to urban industrial centres. To cope with their rapidly growing collections, libraries turned to new systems of classification, notably the Dewey Decimal System.

In the wake of 20th-century technological developments, from electrification and mass production to the digital revolution, this pattern of adaptation has accelerated at a dramatic pace. It wasn't long until the invention of computers and the later development of the internet transformed nearly every aspect of modern life in ways that would have been unimaginable just a few generations earlier. The Third Industrial Revolution has had a profound effect on libraries through digital technologies, ushering in their transformation from physical book repositories to hybrid digital-physical spaces by adopting computerised cataloguing systems, electronic databases and early internet services. At the same time, in order to keep up with the technological shift, librarians had to acquire new skills in information retrieval and digital literacy instruction. The introduction of online public access catalogues (OPACs) and electronic databases such as MEDLINE revolutionised the search for information, pushing librarians to develop new skill sets with regard to searching databases and acquiring and teaching digital literacy.

Today, we arguably stand at the greatest watershed in the history of human civilisation – the Fourth Industrial Revolution – marked by the rise of artificial intelligence, machine learning, quantum computing and robotics.

In this thematic issue of *JEAHIL* dedicated to artificial intelligence, we are publishing five studies by authors from Finland, the Netherlands, Italy and the United Kingdom that explore the impact of AI, particularly generative AI, on health information retrieval, library services and user behaviour, emphasising its potential benefits and challenges in medical and health-related settings. These studies emphasise the importance of human oversight, the critical evaluation of AI outputs and ethical considerations such as transparency, bias and data privacy, emphasising that AI should augment rather than replace human expertise. They also highlight the necessity of AI literacy and professional training for librarians and information professionals so they can effectively integrate AI tools into their workflows while maintaining accuracy and trustworthiness.

The study *Artificial intelligence and health information literacy* by Andrew Cox argues for integrating AI literacy into health information education, addressing challenges such as accuracy and transparency in AI tools while advocating for critical and ethical engagement with the technology.

The survey-based study *AI will never replace us, or will it? Views of Finnish health librarians and information professionals on artificial intelligence in library and information services* by Tuulevi Ovaska examines the attitudes of Finnish health librarians to AI, revealing both optimism about its benefits and concerns about job displacement and the need for ongoing skill development.

The article *AI in literature research: a workshop perspective* by Sjoukje van der Werf shares insights from a workshop where information professionals evaluated AI tools for literature searches, noting their efficiency but also raising concerns about reliability, transparency, bias, ethical risks and privacy in AI-generated outputs.

The report *A training course on the employment of artificial intelligence to improve biomedical bibliographic searching* by Francesca Gualtieri et al. describes a training course for biomedical librarians about AI tools such as ChatGPT, PubMed Buddy, Scispace, Rayyan, Dimensions and others, emphasising their potential to enhance search efficiency, as well as the importance of critical evaluation and ethical use.

The scoping review AI and generative *AI in health and medical libraries: a scoping review of present use and emerging potential* by Shampa Sen explores the current applications and emerging potential of AI in health and medical libraries in areas such as event planning, content enhancement, searching the literature, training promotion and evidence synthesis, while emphasising the need for human oversight and ethical implementation.

Artificial intelligence and health information literacy

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Abstract

The proliferation of generative AI is changing health information behaviour. But the problems of accuracy and lack of transparency it has require users to develop some degree of AI literacy as an aspect of their health information literacy. There are many models of AI literacy suggesting key potential components such as knowledge of AI technologies; how to use them and evaluate outputs; how to protect one's own safety; and ethical awareness, including of wider societal impacts. Conceiving these components as making up AI competency implies that it consists of the persistent attitudes and values of a critical information user, not the satisfied consumer that generative AI models try to create.

Key words: *AI (artificial intelligence); health literacy; patient education; libraries.*

Introduction

While Artificial Intelligence (AI) undoubtedly has huge potential to assist in improving healthcare, as information professionals we are much more ambivalent about the rise of mass generative AI and its impact on how health information is accessed. Generative AI's issues of low accuracy and lack of transparency suggest that we need to incorporate some elements of AI literacy into models of Health Information Literacy.

At the time of writing we are experiencing the rapid proliferation of generative AI across search and information use experiences in general. It now appears in AI chatbots, like ChatGPT, CoPilot, Gemini and the like, in their many versions, including their deep research agents; in search engines, such as Google overviews; in bespoke research tools like Consensus and ResearchRabbit; in library licensed databases; and in Retrieval Augmented Generation (RAG) applications.

Generative AI is proliferating partly because it genuinely makes it easier to find and use information. As well as doing lots of other useful things, such as generate images, code and checking grammar, generative AI offers a complete answer to a search query not just a list of resources. It summarises an individual source and allows us to pose questions to a collection of sources. It turns search into a conversation in natural language. These are attractive features making access to information easier.

Specifically for patients searching for health information, generative AI has considerable potential. For example, it can help explain diagnoses in non-technical language and translate information for audiences whose first language is not English. Indeed, generative AI is almost certainly reshaping information behaviour, including health information behaviour, although there seems to be scant research so far on how exactly behaviour is changing.

However, the use of mass AI systems like ChatGPT to discover health information is fraught with problems. Generative AI has a fundamental problem of inaccuracy. It often makes mistakes, is out of date and fails to cite its sources. Pushed to give sources it often invents them. Yet it presents its answers in such a confident tone that it promotes undue trust. AI lacks transparency. That is partly because it is based on hard-to-understand computation and statistics. As a result, it is difficult to form a clear mental model of how it

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works and when it might be more or less reliable. Often its errors such as ignoring parts of prompts are hard to understand. It is also partly lacking transparency because of commercial secrecy. Big Tech deliberately withholds information on how their models are trained. More immediately at the point of use, although the chatbot interface to AI like ChatGPT is attractive, it answers as if it were a human, anthropomorphizing itself, promoting the wrong sort of trust.

At root AI chatbots are designed to create satisfied consumers not critical health information users. So, for example, they are prone to agree with you when you are wrong. The recent case of an AI model being withdrawn by ChatGPT because it was too sycophantic is just an extreme example of how AI Chatbots' "designed personality" and their invisible guardrails distort access to information (1). Furthermore, as generative AI functions proliferate into all search experiences it becomes less transparent to us that we are using AI, reinforcing the need for all users to have greater awareness of the structures within which they are searching. Such inaccuracy and lack of transparency is a source of hazard, particularly in the health context. Given that generative AI is not transparent, and governments and regulators have not yet forced providers to make it more transparent, so AI literacy becomes important for its safe and successful use. AI literacy needs to be incorporated in some way into Health Information Literacy programmes, including for those with low or no digital skills (2). This is a natural role for information professionals, not least because generative AI use appears in search behaviours alongside searching Google and more authoritative health resources.

Models of AI literacy

There are now no shortage of models of AI literacy, though most are intended for the educational domain: I have reviewed some of them in Cox (3). There have been more produced since that review. Two starting points for thinking about the makeup of AI literacy are Hibbert *et al.* from Educause (4) and Hervieux and Wheatley's recent synthesis (5). We also produced a generative AI specific model in Zhao, Cox and Cai (6). There are some common elements. Understanding of basic concepts of AI as a technology offers a foundation for AI literacy and this is referred to as "understand AI" in Hibbert *et al.* (4) and "know the basic

principles" and "understand the fundamental different types of AI" in Hervieux and Wheatley (5). The assumption here is that we all need to know the basics of how AI works.

The second key element is to pick the right tool, know how to use it and evaluate its outputs for accuracy and bias. In the Hibbert *et al.* model this is covered by "Use and apply" and "analyse and evaluate" (4). In Hervieux and Wheatley it is "Experiment with AI tools" and "Review the outputs or outcomes of AI tools" (5). In our model we refer to it as pragmatic understanding (6). In the context of generative AI this is partly about understanding better prompt techniques to ask questions in ways that boost its richness and reliability. Some of the wisdom of prompt engineering could be encapsulated in the following points:

- define your question as precisely as possible;
- define the context for the question;
- upload training resources for the AI (if they are not copyright or confidential) to give it data or a model for its answer;
- define the character of the answer required, for example, in terms of word length or style;
- iterate the question and synthesise answers;
- ask for sources and check them (including that they actually exist);
- ask AI to define its confidence with its answers.

Good prompting is important, but AI literacy is as much about recognising that something is an output of AI and appreciating the consistent weaknesses in their outputs. Given what we know about bias in LLMs we should be actively anticipating them making biased assumptions (7).

Hervieux and Wheatley's emphasis on "experiment" usefully acknowledges the continuing evolution of the platforms and the need to constantly learn, as does their principle of "engage in the AI discourse" (5).

In the health context there is also the safety dimension. It is important to avoid sharing private information with generative AI. We refer to that as safety understanding (6).

The ethics of AI is sometimes embedded into these building blocks of AI literacy, sometimes separated out. In either case, it is important that generative AI is not seen merely as "a tool" and that consideration is given to wider ethical issues and social implications: such as work displacement or environmental impacts. In Hib-

work displacement or environmental impacts. In Hibbert *et al*. it is part of "analyse and evaluate" (4). In Hervieux and Wheatley "Evaluate the impact of AI on a societal scale" (5). In Zhao *et al*. we talk about socio-ethical understanding (6).

Another AI literacy model that will undoubtedly be influential is the UNESCO AI competency framework (8). It is much broader in its scope than the information literacy aspects, but one element that could influence how we define AI literacy in Health Information Literacy is that it places emphasis on a human centred/ethical approach, prior to any consideration of more technical or pragmatic aspects. This seems useful.

The UNESCO framework also uses the term competencies rather than literacy. The term literacy aligns to our professional commitments in the tradition of developing AI literacy models. The term "skills" might be more accessible to many audiences. But the term "competencies" usefully implies persistent attitudes, values, identities. This is helpful in defining how AI is understood with commitment to being a critical information user and learner in tension with the generative AI driver to create a satisfied consumer.

Conclusion

There is little doubt that health information behaviour is being changed by generative AI. We do not know very clearly the extent or nature of these changes. However, it is apparent that in the health context generative AI's low accuracy and lack of transparency are significant issues. Incorporating some forms of AI literacy into Health Information Literacy will be increasingly important.

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AI will never replace us, or will it? Views of Finnish health librarians and information professionals on artificial intelligence in library and information services

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Abstract

The paper explores the impact of artificial intelligence (AI) on Finnish health librarians and information professionals (HLIP), focusing on their attitudes and the evolving role of library services. A survey conducted in 2024 and repeated in 2025 revealed that most HLIP view AI positively, though concerns about job replacement exist. AI is used for various tasks, including translations, planning searches, and creating teaching materials. The study highlights the need for continuous skill development and adaptation to technological advancements. Despite rapid technological changes, Finnish HLIP remain confident in the relevance of their profession.

Key words: *artificial intelligence; librarians; surveys and questionnaires; work/trends.*

Background

Like other Nordic countries, Finland is among the best performing societies regarding digital development (1), and has a reputation as one of the top countries in the world in the field of library services (2). The role of the libraries of higher education institutions (HEI) and HLIP has transformed thoroughly during the last decades. Information skills guidance and teaching became one of the main tasks decades ago, and now also research support is a significant and time-consuming task. The newest tasks in the libraries of HEI are the use of AI, especially generative AI based on large language models (LLM).

AI refers to technology that aims to enable computers to simulate human intelligence. It has a long history, and covers many tools. It is not a single concept, but an umbrella term for various tech-nologies. The impact of AI on the work of HLIP is a topic of growing interest and discussion. HLIP have varying attitudes to AI. AI is expected to influence various aspects of HLIP's work, including information retrieval and resource discovery, publishing, learning, teaching, acquisitions, and users' expectations. Challenges include ethical concerns, data quality, and the intelligibility of decision-making. The scope of AI is broad as it can be a technology for the automation of routine office processes like robotic process automation, or equally, something more at the end of strong AI, such as unsupervised machine learning or deep learning. Accepting AI as part of technological development in libraries and information services is inevitable. In the future, AI may also be an integral part of the work of HLIP in ways that cannot yet be predicted. Identifying the use and impact of AI technologies is important in order to avoid the risks associated with the technologies and to identify the opportunities they offer (3-6).

Objectives

New forms of professional practice often arise from new technologies, and the new practices require librarians to acquire new competencies (4). In spring 2024, with two questions in my mind: how will new technology help HLIP and is AI the answer or will it create new challenges, I conducted a survey on the trends of library and information service work – especially from the perspective of AI – for the members of Bibliothecarii Medicinae Fenniae (BMF), a professional association for HLIP in Finland.

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Methods

The anonymous survey was open from 2nd April to 2nd May 2024. The link to the survey was distributed on the email list of the association that has about 50 members who are in the workforce; on the list there are also retired members. There were 38 responses to the 17 survey questions, nine of which were obligatory. As eight questions were optional, and into some questions more than one option could be chosen, percentages do not necessarily add up to 100%. Two questions were open-ended, and the rest were multiple choice questions.

As the pace of AI development is staggeringly fast, the survey was repeated less than a year later, from 6th February to 2nd March 2025 with only the questions related to AI.

Results

In 2024, there were 38 respondents, out of which 30 (79%) were information specialists or subject librarians[1], four (10.5%) directors or chiefs, and four (10.5%) out of work (students, doctoral students, unemployed, retired).

In 2025 there were 33 respondents. A third of the respondents worked in universities, a fifth in UAS, 10% in research institutions, 10% in hospitals, and 10% in other organizations. The respondents had long experience both in the library and information field in general and in the health library field. 66% had more than 20 years of experience in general, and 58% more than 10 years of experience in health libraries. 10% were relatively new to the health field, with less than four years of experience, but all had at least four years of experience in general.

Many respondents shared their working hours between the health-related tasks and more general or other tasks. 45% stated that their tasks were primarily related to health, and 18% that their tasks were primarily general or other, and 37% that their tasks were both. They were also asked to predict if this will change in the future and it seems they saw a slight decline in specialization and some increase in the number of multi-skilled employees or generalists, as 43% believed that in the future their tasks will be both and 27% that their tasks will be more related to health, and 30% be-

lieved that in the future their tasks will be more general. Respondents were asked if they believe that HLIP will still be needed in the near future (until 2030) and in the more distant future (after 2030). Thirty-four (89%) replied "yes" and four (11%) "maybe" to former, and twenty-five (66%) "yes" and thirteen (34%) "maybe" to latter, while no one chose "no" to the either question. Respondents seemed quite sure about the near future, but more sceptical about the more distant future.

As AI is one of the technological trends that will change our work, the survey included seven questions about AI. First, I asked about the respondents' attitude to AI. In 2024, most of the respondents (26; 68%) had an interested, mainly positive attitude to AI. Ten (26%) had a neutral attitude, while one (3%) took an enthusiastic, eager, very positive attitude, and another one (3%) an interested, mainly negative attitude. No one stated a negative or a fearful, doubtful, or annoyed attitude. In 2025, most of the respondents (20; 61%) still had an interested, mainly positive attitude to AI though the percentage was somewhat smaller than a year before. Four (12%) had a neutral attitude, while two (6%) now took an enthusiastic, eager, very positive attitude, and six (18%) now had an interested, but mainly negative attitude. No one stated a very negative attitude but one now had fearful, doubtful, or annoyed one (*Figure 1*).

In 2024, thirty-two (84%) respondents used AI in their work: four (10%) all the time and twenty-eight (74%) sometimes. In 2025, the number of users was similar (97%): now eight (24%) all the time and twenty-four (73%) sometimes. In 2024, two (5%) said that never use AI in their work, and in 2025 there was one (3%) who did not use. In 2024, four (11%) did not know if they use AI in their work but in 2025 no one was unaware of that.

In 2024 and 2025, the respondents' usage of AI tools differed (*Figure 2*). They used AI for multiple tasks but in 2024 three options – service evaluation; management, HR, recruitment; job applications – out of fifteen were not chosen. In 2025, also three options – acquisitions, subscriptions; management, HR, recruitment; job applications – out of fifteen were not chosen. Both years, the most common (66%, 88%) choice was translations and proofreading. Second (53%, 58%) came

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[1] Finnish titles *informaatikko* and tietoasiantuntija that translate to information specialist are commonly used instead of different librarian (*kirjastonhoitaja*) titles.
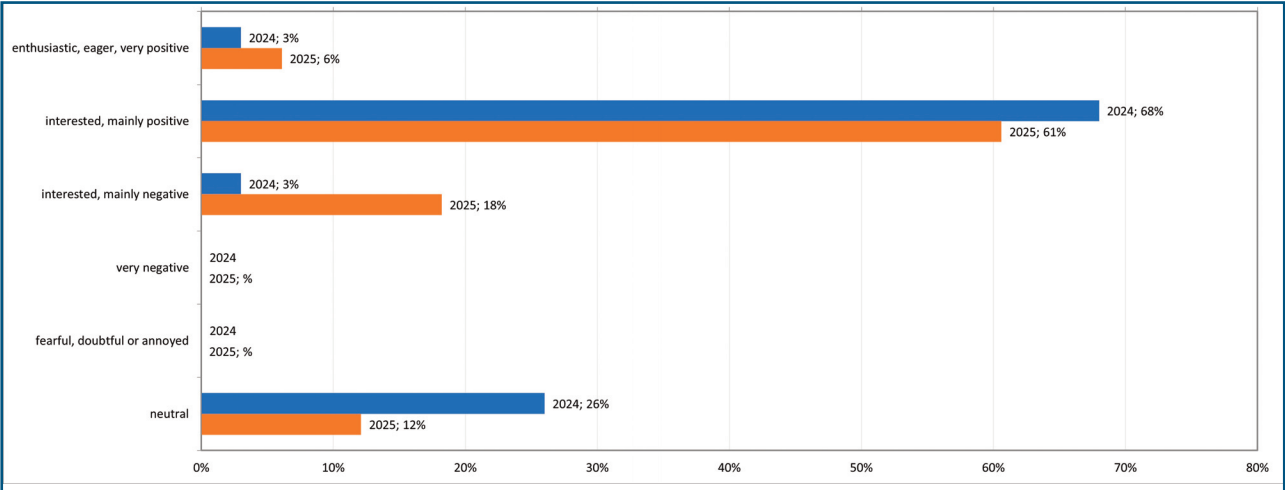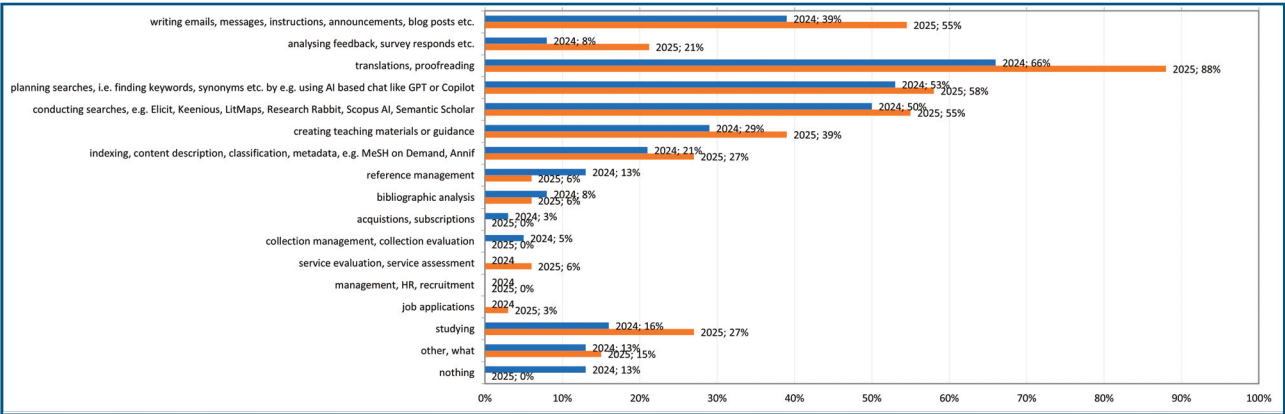
Fig. 1. *"Question: My attitude to AI is...".*

Fig. 2. *"Question: I have used AI tool for...".*

planning searches. The third position (50%, 55%) went to conducting searches, but in 2025 the position was shared with the same percentage with writing emails, messages, instructions, announcements, blog posts etc., while in 2024 this had the fourth place with 39%. Creating teaching materials (29%, 39%), and indexing, content description, classification, metadata (21%, 27%) were also relatively popular. In Finland, a tool for automatic content description called Annif was developed in the National Library (7). In medicine, many use MeSH on Demand.

AI tools were used by the respondents also for analysing feedback, survey responds etc. (8%, 21%) where numbers significantly increased; reference management (13%, 6%) where numbers interestingly decreased, bibliographic analysis (8%, 6%), acquisitions and subscriptions (3%, 0%), collection management

and evaluation (5%, 0%), and studying (16%, 27%). Five other purposes were listed in 2024: "testing to getting to know them", "Web of Science's View related articles", "matching a manuscript to potential journal", "image creation", "presentations". In 2025, the additional purposes were: "getting to know things that I'm not familiar with", "creating images", "making analysis and presentations", "finding information", "meeting reports", "brainstorming summaries". In 2024, five respondents (13%) had not used AI for anything but in 2025 no one said they used AI for nothing (Figure 2). When asked, regarding the tasks of HLIP, whether AI is currently helpful or not, the respondents could choose more than one option. In 2024 eight respondents (21%) and in 2025 ten respondents (30%) choose the option "helping us and making our work easier" while 13 (34%) and 12 (36%) thought that the option
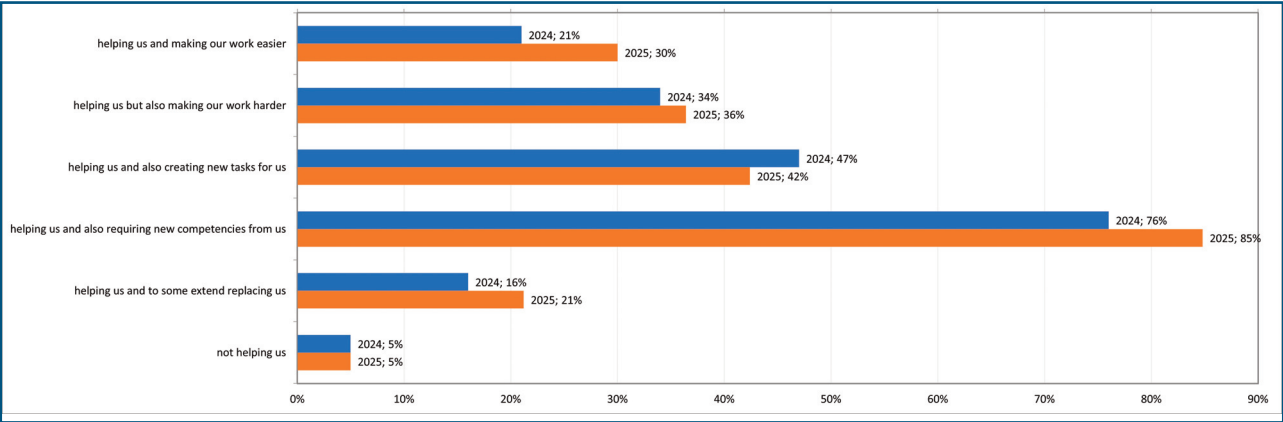
Fig. 3. *"Question: Regarding the tasks of health medical library and information professionals, artificial intelligence (AI) is currently…".*
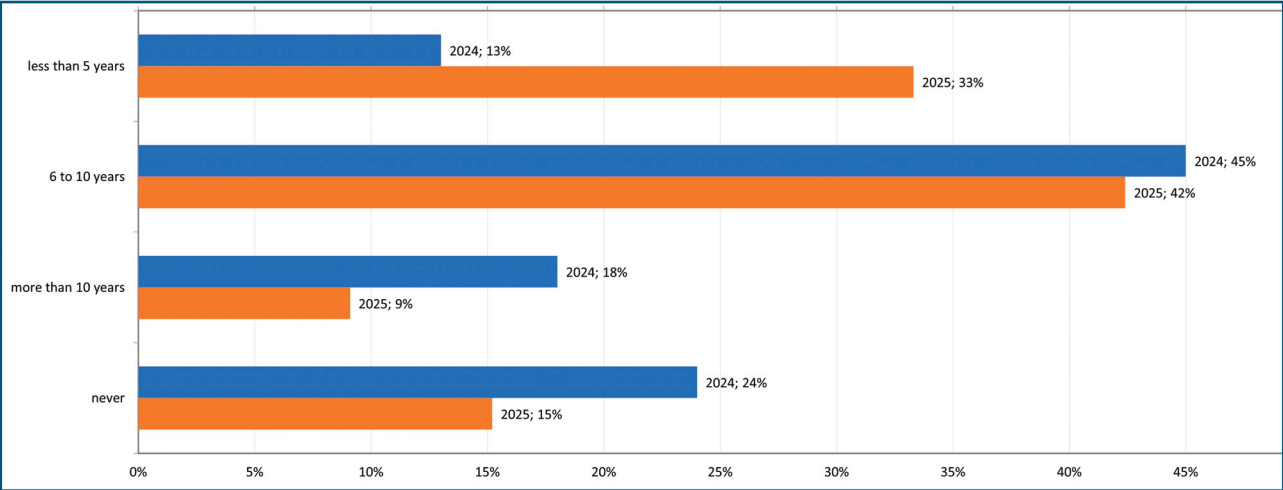

Fig. 4. *"Question: I think health medical library and information professionals will be PARTLY replaced by AI in…".*

"helping us but also making our work harder" describes the situation better, or as well, since both options could be chosen. In 2024, almost half of the respondents (18, 47%) thought that AI is "helping us and also creating new tasks for us" while in 2025 14 (42%) chose that option. Both years, the majority (29, 76%; 28, 85%) agreed that AI is "helping us and also requiring new competencies from us". The option "helping us and to some extend replacing us" was chosen by six respondents (16%) in 2024 and by seven respondents (21%) in 2025. Two (5%) chose the option "not helping us" in 2024 but no one in 2025 (*Figure 3*).

The following survey questions were related to possible concerns about whether AI will partly or completely re-

place HLIP in the future. In 2024, five respondents (13%) thought AI will partly replace HLIP in less than five years, while in 2025 11 (33%) thought so. In 2024, seventeen (45%) and in 2025 14 (42%) thought that will happen in 6 to 10 years. In 2024, seven (18%) and in 2025 3 (9%) thought that will happen in more than 10 years. In 2024, nine (24%) and 2025 five (15%) respondents believed that HLIP will never be even partly replaced by AI (*Figure 4*).

In 2024, six respondents (16%) and in 2025 seven (21%), thought AI will completely replace HLIP in more than 10 years. In 2024, none of respondents thought it will happen in 6 to 10 years, but in 2025 one (3%) had that view. In 2024, 32 respondents (84%) be-
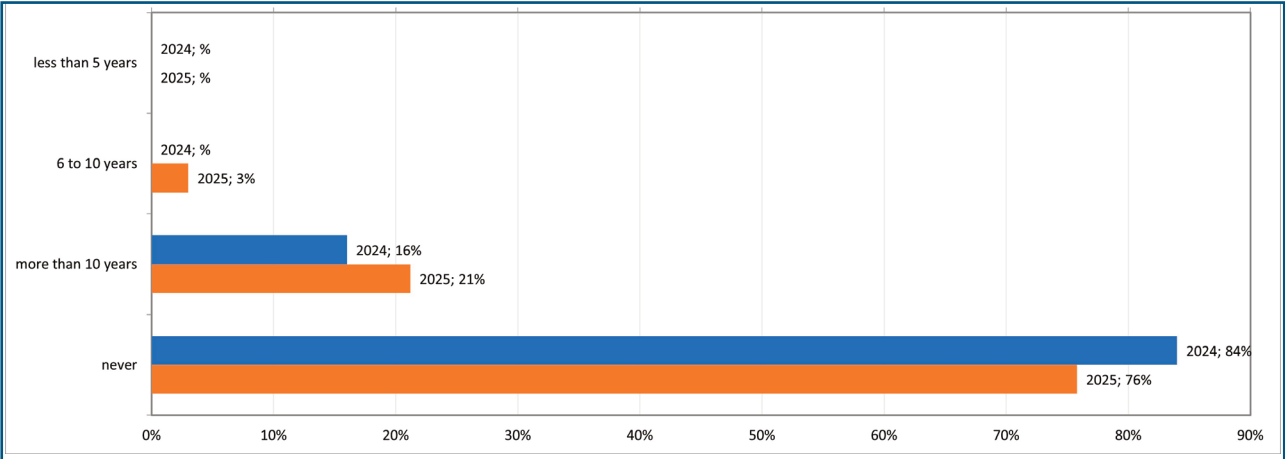
Fig. 5. *"Question: I think health medical library and information professionals will be COMPLETELY replaced by AI in...".*

lieved that HLIP will never be completely replaced by AI. In 2025, the number decreased to 25 (76%). Either year, no one chose the option of less than five years (*Figure 5*).

The last two questions were open-ended. The respondents were asked about their views about other trends than the development of AI, which will change the work, workplaces, working conditions or employment situation of HLIP.

About other trends than AI, it was firstly asked which trends they think, will affect the change in *addition* to the development AI. The respondents listed:

- diminishing budgets;
- fusions of HEIs;
- open science policies and open access;
- less collection management, and more teaching and research support, e.g. RDM;
- changing/diminishing library spaces;
- more remote work;
- smaller age-groups of students;
- new ways of learning;
- precarious work leading to less competence and shorter careers;
- shortage of competent staff;
- demand of generalist instead of subject librarians;
- division in people's understanding about scientific knowledge;
- increasing economic inequality;
- global crises (conflicts, environmental disasters, climate change).

Major global issues or matters related to the change in

the job descriptions, not other technological trends, appeared from the open-ended questions.

Secondly, it was asked which trends they think will affect the change *instead*, or *more*, than AI. There were less answers to this question, indicating that most of the respondents believe AI is the trend that will change the work, workplaces, working conditions and employment situation of HLIP. The respondents mentioned:

- new systems;
- fuzzier information landscape;
- demand for deeper and expanded professional competence of librarians;
- decreasing funding of public sector;
- policymakers demanding or preferring quick answers instead of slower evidence based and trusted information;
- environmental health an emerging topic due to climate change, global warming, and nature loss;
- questions of war and peace.

Both new systems and information landscape are broad terms and could easily include the development of AI. Funding issues and environmental challenges were mentioned, as well.

Conclusion

The survey results indicate a strong belief among respondents that HLIP will continue to be needed in the near future, with 89% affirming their necessity until 2030. However, there is a noticeable decline in confidence regarding their long-term relevance, with only 66% believing they will be needed beyond 2030. This

suggests a growing uncertainty about the future impact of technological advancements, particularly AI, on the profession.

Respondents generally had a positive attitude towards AI, with the majority expressing interest and positivity in both 2024 and 2025. However, there is a slight shift towards more neutral and negative attitudes over time. The use of AI tools is widespread among respondents, with a significant increase in those using AI all the time from 2024 to 2025. Despite the benefits, respondents acknowledge that AI also introduces new challenges and requires additional competencies. Concerns about AI replacing HLIP are evident, with an increasing number of respondents believing that AI will partly replace them within the next decade. However, the majority still believe that complete replacement by AI is unlikely in the near future.

The speed of technology will continue to impact health libraries in the future (9), but seeing AI tools as support, and not a substitute for human expertise, is important (10). Jobs are unlikely to disappear, but they are likely to change (10). Attitudes seem to change more slowly than technologies. It can be concluded that Finnish HLIP are confident in the relevance and permanence of their profession despite the rapid development of technology.

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AI in literature research: a workshop perspective

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Abstract

Artificial intelligence (AI) is increasingly used in academic research, including literature search and systematic reviews. This article shares insights from the "AI in Literature Research" workshop held at the 2025 VOGIN-IP-lezing in Amsterdam. The workshop, attended by 45 information professionals, included a poll, a theoretical session on AI tools, and a hands-on session exploring AI search tools (Perplexity, SciSpace, and Elicit). Participants were generally positive about AI developments but also raised concerns about transparency, reliability, and bias. The workshop enabled information professionals to explore tools, exchange perspectives and reflect on the role of AI in literature research and research support.

Key words: *artificial intelligence; information seeking behavior; information storage and retrieval; professional competence; systematic reviews. competence; systematic reviews.*

Introduction

The growing use of artificial intelligence (AI) technologies in academic research workflows is transforming the ways in which scientific literature is accessed and synthesised. This shift was the central theme of the "AI in literature research" workshop held in Amsterdam. To illustrate this transformation, the workshop opened with an audio passage generated by the AI tool NotebookLM. The passage featured a dialogue that compared traditional keyword searches with AI-driven approaches to literature retrieval, based on a published article (1):

"We have been stuck in this keyword world for so long. Now we have systems generating answers directly and summarising complex topics."

This example illustrates the potential of AI to support researchers in interpreting complex scientific information, including tasks involved in systematic reviews. AI tools can assist with various stages of the systematic review process, including search, screening, data extraction and risk of bias assessment (2-4). Screening is the most extensively studied step, with tools such as AS-Review helping to prioritise studies and potentially save time (5-7).

Although several studies have explored the use of AI in systematic reviews and have piloted or summarised available tools, there is no clear consensus on their effectiveness or implementation. Human validation of AI-generated outputs remains essential to preserve the integrity and reliability of the research process. Researchers advocate for stronger oversight and clear frameworks to guide responsible use (8-10).

Despite ongoing evaluation of their accuracy and effectiveness, AI tools are already used in everyday research environments. Researchers, healthcare professionals and students increasingly encounter them in their work or studies, often without clear guidance on how to use them effectively, critically or responsibly. Information specialists are well-positioned to meet this growing need for guidance on the responsible use of AI. Their expertise in designing systematic search strategies, structuring information, applying research frameworks and contributing to methodological rigour in systematic reviews supports this role (11, 12).

By actively engaging with AI developments, information specialists can guide users in selecting appropriate tools, understanding their limitations and applying them thoughtfully. Through training, best practices and

collaboration, libraries can strengthen their own expertise and capacity to support the effective and appropriate integration of AI into literature research.

The "AI in literature research" workshop aimed to share knowledge and perspectives, explore AI tools and facilitate discussion among information professionals. The insights may benefit libraries developing AI expertise and integrating it into their services.

Methods - Workshop details

Workshop setting, participants and schedule

The workshop was organised as part of the VOGIN-IP-lezing, an annual seminar for Dutch information professionals held in Amsterdam, the Netherlands on March 27th, 2025. A total of 45 participants attended the workshop, representing a diverse range of institutions, including technical universities, universities of applied sciences, medical centres, museums, research institutions, and governmental organisations.

The workshop was delivered in two identical sessions, each lasting two hours, and structured as follows:
- poll: participant perspectives on AI (15 minutes);
- theory: structuring AI and literature research (45 minutes);
- hands-on: exploring AI search tools (60 minutes).

Measuring participant perspectives on AI

A poll was used to gather insights into participants' views on AI developments and their current use of AI tools. Participants accessed the poll via Poll Everywhere by scanning a QR code with their mobile devices.

Poll questions:
1. Which AI tools do you use? (Multiple responses allowed; results displayed as a word cloud);
2. How do you view AI developments in the context of libraries, information landscape and science? (Participants selected one of five emoticons, from sad to happy);
3. Explain your choice of emoticon. (Participants provided brief explanations and could vote on others' responses).

Theoretical overview of AI and literature research

The theoretical part of the workshop began with an overview of key AI concepts, defining artificial intelli-

gence as an umbrella term that includes machine learning, deep learning, generative AI, and large language models (LLMs). This was followed by examples of how AI tools can support different stages of the systematic review process. For instance, PubReminer is a tool for analysing MeSH terms and text words, DedupEndNote for deduplicating records, and ASReview for prioritising articles during screening. LLMs such as ChatGPT can be applied across all stages of the review process.

To help participants write effective prompts for LLMs, a simple "Who, What and How" framework was introduced: defining the user and the LLM's role (Who), describing the task (What), and specifying the desired response format or tone (How). Examples illustrated how this method could be used to draft selection criteria or construct a PubMed search strategy.

Finally, the session categorized AI tools for finding and summarising scientific articles into three types: explain-PDF tools (e.g., ChatPDF, AskYourPDF, NotebookLM), snowballing tools that explore citation networks (e.g., ResearchRabbit, LitMaps), and AI search tools that respond to natural language queries with summaries and references (e.g., Perplexity, Elicit, SciSpace). The last type of tool was further explored in the hands-on session.

Hands-on exploration of AI search tools

Participants took part in a hands-on evaluation of three AI search tools: Perplexity, SciSpace and Elicit. Each participant was asked to submit a natural language query to all three tools and compare the outputs. Participants were instructed to:
- compare top-ranked results: assess whether the top articles retrieved were consistent across the three tools when using the same query;
- test reproducibility: submit identical queries in the same tool by two different participants and compare the results to evaluate consistency;
- test tool behaviour using atypical queries: investigate how the tools responded to unanswerable or Dutch-language queries.

Results

Participant perspectives on AI

Participants reported using a wide range of AI tools, with ChatGPT, Copilot, and Perplexity being the most

frequently mentioned. The tools fell into several categories including large language models (e.g., ChatGPT, Copilot, Deepl), AI search tools (e.g., Perplexity, Consensus, Semantic Scholar), AI-assisted screening tools (e.g., Rayyan, ASReview) and writing tools such as Grammarly (*Figure 1*).
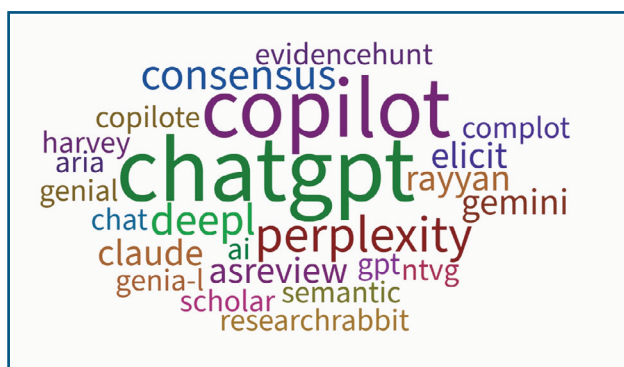

Fig. 1. *"Word cloud that reflects AI tools used in one of the workshop groups.*

When asked about their general attitudes towards AI developments in the context of libraries, the information landscape, and science, most participants selected either a slightly happy face or a neutral emoticon. In both groups, there was one sad face. None of the participants selected the most extreme options (very happy or very sad), suggesting a moderate but cautiously optimistic outlook (*Figure 2*).
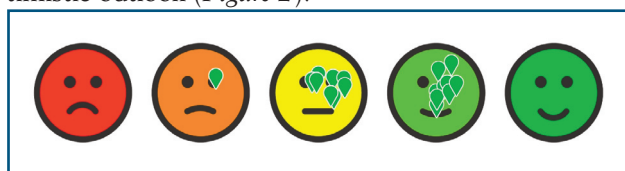

Fig. 2. *"Emotions reflecting participants' views related to AI developments in one of the workshop groups.*

Participants elaborated on their views through open-text responses, highlighting both opportunities and concerns. Reported benefits included increased efficiency, time-saving potential, and the ability to generate new insights. Some noted that AI might help engage students in literature research. Concerns reported were related to privacy, ethical and environmental implications, political misuse of information,

transparency, and the reliability of AI-generated content. Several participants also mentioned the overwhelming number of available tools, the need for structure and control, and the importance of learning to use AI responsibly.

The following quotations, translated into English from the original responses, reflect participants' views on AI developments:

– *AI is a useful tool that you can't escape. It is everywhere*
– *I cannot keep up. So many AI tools*
– *Many possibilities, makes many tasks in my daily life more efficient and give me more time for relevant things:)*
– *I don't care much about it. If it works: great. If it doesn't work that's fine too*
– *Handy, but I am concerned about privacy and giving away your data*
– *Concerns about the long-term value of information "what is true"*
– *AI is bad for the environment, but it is still used*
– *Role model as information specialist*
– *Sometimes I wonder what the future of our work looks like.*

Hands-on exploration of Perplexity, Elicit and SciSpace

Participants evaluated three AI search tools: Perplexity, Elicit, and SciSpace, focusing on their usability, output quality, and potential applications in literature research.

The tools were appreciated for their speed, ease of use and the ability to generate summaries and credible references to natural language queries. These features were seen as potentially useful for students and early-career researchers during the initial stages of topic exploration.

Elicit and SciSpace were also noted for helping users refine research questions, and their table-based result displays were considered helpful for understanding retrieved content.

Despite these advantages, participants identified challenges in using the tools reliably. It was noted that the tools returned top papers and summaries even when no clearly relevant literature was available, underscoring the need for critical evaluation of AI outputs, especially in evidence-based contexts. The core functionalities of the tools and observations from workshop participants are summarised in *Table 1*.

Category	Perplexity	Elicit	SciSpace
Question formulation	User-friendly, may serve as alternative for Google for general queries.	Provides feedback on research questions, helpful for students.	Offers suggestions for refining research questions.
Summary	Generates a narrative summary instantly, based on diverse sources.	Generates a narrative summary instantly, based on four top papers.	Creates a bulleted summary instantly, based on five top papers.
References	Includes references from sources such as Wikipedia, Reddit and blogs.	Presents scientific articles presented in a customisable comparison table.	Scientific articles presented in a customizable comparison table.
Reliability and Reproducibility	Generated the same summary for repeated queries, but with different references.	Returned different top papers than SciSpace for the same query, ranking method is not transparent.	Returned different top papers than Elicit for the same query, ranking method is not transparent.
Limitations	Not specifically designed for scientific sources.	Requires registration, limited functionality in the free version.	Limited functionality in the free version.
Specific features	"Research" option provides a more detailed summary (sign-in required)	"Research report" generates a more detailed summary in five minutes.	Additional features include PDF chat, writing assistance and a paraphrasing tool.

Table 1. *Key features and observations of AI search tools based on the workshop.*

Summary of findings
The hands-on session showed that AI search tools are fast and easy to use, but not transparent, reliable and limited in the free versions. Participants expressed a need for overviews, guidance and structure in applying AI.

Discussion
The workshop provided insight into how information professionals in the Netherlands perceive and engage with AI in the context of literature research. While participants were generally positive about AI developments, they also raised concerns about transparency, reliability, ethical risks, privacy and bias. The session facilitated the exchange of practical ideas, such as using AI tools to help students formulate more precise research questions.
A limitation of the workshop was that the hands-on session focused on AI search tools, which are only marginally applicable to systematic reviews. This reduced its practical relevance for participants support-

ing systematic literature research. Future workshops could be more effective by concentrating on a single AI tool and a specific step of the review process. Suggested topics for targeted workshops include:
- using ASReview for abstract screening in systematic reviews;
- using ChatGPT to assist in search strategy development, data extraction or risk of bias assessment;
- the value of AI tools as complementary search method in systematic reviews.

Beyond individual workshops, the developments point to a broader need for strategic engagement with AI across the library sector. As AI tools are increasingly used in research, libraries must both stay current with new technologies and ensure they are applied in a responsible and informed way. No single institution can address this alone. Collaboration allows libraries to combine their expertise, learn from each other's experiences and work together to find effective ways of using AI in practice. Workshops contribute to building

collaborative capacity by offering hands-on opportunities to explore tools, discuss real-world applications, and assess the implications of AI for research support and broader information services in health libraries.

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A training course on the employment of artificial intelligence (AI) to improve biomedical bibliographic searching: a report

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Abstract

The article describes a training course conducted by GIDIF-RBM (Italian Association of Health Librarians) aimed at introducing biomedical documentation professionals to the use of generative artificial intelligence (AI) tools for enhancing bibliographic research. Held in October 2024, the course covered the practical application of AI-powered platforms such as ChatGPT, PubMed Buddy, Scispace, Rayyan, Dimensions, and others. Participants explored how these tools can improve the efficiency, relevance, and organization of literature searches. Pre- and post-course surveys assessed participants' familiarity with AI technologies and their emotional responses to their integration in professional routines. Results highlighted a mixture of curiosity, skepticism, and cautious optimism. While AI tools demonstrated value in supporting complex research tasks, outcomes varied across platforms, underlining the continued need for human critical thinking and contextual judgment. The initiative signals GIDIF-RBM's proactive role in preparing health information professionals for the opportunities and challenges posed by AI in biomedical knowledge management.

Key words: *artificial intelligence; training course; bibliographic research; survey.*

Introduction

For nearly 40 years, GIDIF-RBM (Gruppo Italiano dei Documentalisti dell'Industria Farmaceutica e della Ricerca Biomedica, the Italian Association of Health Librarians) has dedicated its activities to training health information professionals in scientific documentation. On October 11th, 2024, GIDIF-RBM held a training course at the Anna and Fulvio Bracco Auditorium in Milan, Italy, focusing on the combined use of Chat-Bots, bibliographic management apps, and portals leveraging generative artificial intelligence (AI) (1) to improve the efficiency and effectiveness of biomedical bibliographic search.

AI tools have developed their own Chat-Bots designed to simulate human conversations, interact with users via text and/or voice messages, answer frequently asked questions, provide 24hrs-7days support, translate texts, and enable increasingly fluid and personalized interactions. Chatbots can be used in various contexts (2), such as customer service, e-commerce, and information services. They are becoming increasingly sophisticated due to advancements in natural language processing and machine learning, making them valuable tools for both companies and users, enhancing overall efficiency and satisfaction.

In the biomedical field, research portals and commercial and non-commercial databases are increasingly employing and integrating generative AI through browser extensions and algorithms. These algorithms operate in real-time while composing search strings or viewing initial bibliographic results (scientific publications), matching the need to order (rank) and organizing results to discover potential "relationships" and connections (network).

The course aimed to initiate the training of biomedical librarians and documentalists in the humanly "intelligent" and knowledgeable use of these tools. The exper-

tise and keen attention of the participants underscored the importance of understanding and using this innovative technology with critical awareness, as a sine qua non condition, capable of indicating differences and prompting caution and appropriate distance from what "appears" and is.

Materials and methods

At the beginning or the training course, all participants completed a questionnaire to assess their knowledge of AI software (the course's subject) and their emotional perception of these new professional skills ("To what extent does the advent of generative AI frightens you in your work?"). They received a second survey, one month after the end of the course, to verify eventual changes in their work routine after learning about these tools. Aim of the questionnaire was an analysis of the participants' feeling about the use of AI in daily routine, and compare, analyse, and evaluate the results of simple and/or complex search prompt (if used).

The training started with an overview of currently available "freemium"[1] systems, engaging thirty professionals in person and twenty-three remotely.

Application Programming Interface assistants (API)

This API assistant allows the creation of AI assistants within applications. An assistant has instructions and can use models, tools, and knowledge to answer user queries. The API Assistant currently supports three types of tools: Code Interpreter, Retrieval, and Function calling. Assistants are designed to be created by developers via the OpenAI API.

Generative Pre-trained Transformers (GPTs)

These are customized versions of ChatGPT that users can adapt for specific tasks or topics by combining instructions, knowledge, and capabilities. They can be simple or complex, addressing anything from language learning to technical support. Team and Enterprise users can create GPTs on chatgpt.com/create. GPTs reside within ChatGPT and are intended for creation by anyone with a simple user interface. They are:

- *PubMed Buddy:* accesses both PubMed and the Un-

Paywall database, enabling conversational exploration of scientific literature and access to the full text of articles;

- *Scispace*: executes complex searches in minutes by analysing documents, extracting relevant data on clinical studies and biological mechanisms, facilitating the understanding of drug interactions, the study of new molecules, and the evaluation of side effects. AI algorithms build connections and insights between publications;

- *Dimensions*: this academic GPT combines scientific evidence from Dimensions and the powerful generative AI capabilities of ChatGPT, providing summaries, insights, and citations for topics highlighted in academic articles. It enables pharmaceutical researchers to monitor the evolution of drug therapies and identify potential collaborations or scientific gaps, facilitating the identification of relevant research in clinical and therapeutic areas, such as comparative analysis between different therapeutic protocols and optimization of existing treatments;

- *Rayyan*: a collaborative, intelligent systematic literature review platform trusted by over 500,000 researchers worldwide. It accelerates and streamlines the review process through features like AI-powered screening, advanced filtering, and remote collaboration. It imports either formatted bibliographic references in Ris, EndNote, etc., or directly from databases like PubMed or Mendeley for rapid screening of titles and abstracts to include in systematic reviews, deduplicating results and categorizing studies;

- *Semantic Scholar*: managed by the Allen Institute for AI, a non-profit philanthropic institution founded by Paul G. Allen in 2014, it is a free tool that uses datasets and APIs provided by the user-friendly JSON archive. It explores new relationships, including data on authors, articles, citations, and locations, covering all STEM (Science, Technology, Engineering, Mathematics) and SSH (Social Science and Humanities) disciplines, including biology, medicine, computer science, geography, business, history, and economics. Over 221 million documents come from over 550 partners like

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[1] The concept of freemium is to offer a product with basic functionality for free but make it clear that there are other more advanced features available if the user wants to upgrade to the premium version or a subscription.

PubMed, Springer Nature, Taylor & Francis, SAGE, Wiley, ACM, IEEE, arXiv, Microsoft Academic, and Unpaywall;

- *Elicit*: an innovative tool designed to facilitate bibliographic research and information organization. It allows users to efficiently extract relevant data from scientific articles and academic sources, aiding in the synthesis and analysis of evidence. With its intuitive interface, Elicit allows users to formulate specific questions and collect detailed answers, simplifying the literature review process, making it particularly useful for researchers, students, and professionals;
- *Perplexity.ai*: using advanced natural language processing algorithms, it allows users to ask questions and receive accurate and contextualized answers, drawing from a wide range of sources. Thanks to its ability to understand the context of questions and provide relevant answers, Perplexity AI represents a significant step towards more fluid communication between humans and machines;
- *Character.ai*: offers a set of avatars that can be called upon (like a phone call) and interrogated in conversation, like Alexa and Siri; Awakened AI, an avatar with an elegant British accent, is noteworthy.

Due to space constraints, a detailed comparison of the tools described, tested, and compared during the afternoon sessions will not be provided. It should be noted that major bibliographic databases and platforms for researchers and health information professionals, such as Scopus, Embase, and Cochrane Library, are implementing AI functions.

Experimentation *in vivo* remains the next step.

Discussion and concluding remarks

AI tools have potential applications across all sectors, from production to services to healthcare, to optimize processes.

Opinions generally agree that this optimization would save time in solving problems, finding solutions, and searching for information.

Regarding the latter, the qualitative aspect cannot leave us indifferent, even though quality is a variable that no sector should ignore.

The article "Exploring the use of ChatGPT in OBGYN: a bibliometric analysis of the first ChatGPT" (3) is commented on by Enrico Finale, coordinator of the SOC Obstetrics and Gynecology of the ASL VCO

of Verbania, and Alessandro Gallo, General Manager of Springer Healthcare, in the online journal *Medici Oggi*. Finale and Gallo (4) reflect on how researchers, who emphasize the importance of AI in medicine for interpreting diagnostic images, analysing data, patient outcomes, and optimizing predictive models, state that with the aid of ChatGPT, they did not find significant literature references (see original research article) in the gynecological specialty. Why? Has the potential of ChatGPT not yet been considered in this area? The question seems necessary.

Our afternoon exercises, which involved posing the same question to different systems, yielded different outputs, some more or less satisfactory, some more pertinent, others less so, some more technical, others less so, some with more information, others less, some reporting sources, others not, etc.

These examples lead us to think that "much" is relative, at least today. Not knowing what the future holds, for now, we must deal with the *hic et nunc* (here and now). AI can play an important role on many fronts: increasing diagnostic effectiveness and therapeutic efficiency, preventing the spread of dangerous substances in the air, food, soil, and water, preventing accidents, diseases, and discomfort through suggestions for a healthy lifestyle, and not only preventing but also predicting pandemics, and so on. However, these opportunities are not without risks; the use of sensitive data for discriminatory purposes, attempts to replace professionals, and trading the benefits of increased well-being for cuts in financial resources are just some of the drawbacks.

An anonymous online questionnaire was administered to all the participants one month after the end of the course. Its purpose was to evaluate whether the different tools proposed during the course were employed and, above all, the participants' feelings about the AI tools.

What will be the new sensations in tackling bibliographic search with AI? To what extent should we trust and rely on this technology? Will AI create and/or increase a state of insecurity, or will it strengthen the awareness that critical thinking still makes the difference?

But less than a half of the participants filled the questionnaire back. Are most of us, perhaps, afraid of AI? Anyway, this GIDIF-RBM initiative, which is one of the initiatives about AI tools and topic, is symptomatic

of the fact that the Association feels committed to offer health information professionals a guide to address the new knowledge and skills and challenges that AI inevitably proposes.

If opposing change is an anachronistic attitude, what we can do is try to understand its application, at least in our field, finding a balance of roles for a possible serene cultural coexistence in which AI speaks, and the human being thinks.

We are reassured when the curious and captivating name of an AI system, Perplexity, recalls the empirical truth that nothing, whether in science or in any other sector as in life, is certain. Much less Artificial Intelligence.

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AI and generative AI in health and medical libraries: a scoping review of present use and emerging potential

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Abstract
This scoping review explores the current use and potential of artificial intelligence (AI), particularly generative AI, in medical and health libraries. Through a comprehensive literature search, eleven studies were identified that illustrate how AI is being applied in areas such as event planning, content enhancement, literature searching, training promotion, and evidence synthesis. The findings suggest that while AI can enhance efficiency and user engagement, significant limitations – especially in high-stakes tasks like systematic searching – require continued human oversight. Overall, AI is best viewed as a supportive tool that, if implemented ethically and strategically, can extend the reach and quality of library services.

Key words: *artificial intelligence; generative AI; medical libraries; health libraries.*

Introduction

Artificial intelligence (AI) is rapidly transforming the landscape of information management across various sectors, including health and medical libraries. As digital technologies evolve, library professionals are increasingly exploring the integration of AI – particularly generative AI – to improve service delivery, streamline operations, and enhance user engagement.

The impetus for this review arises from the need to understand both the practical uses and strategic implications of AI technologies in environments where information accuracy, accessibility, and ethical responsibility are critical. By synthesising the current evidence base, this paper seeks to provide a comprehensive overview of AI's role in medical and health libraries, identify promising areas for future development, and offer insights into how these tools can be integrated responsibly and effectively into health information services.

Aim of the paper

The aim of this paper is to investigate how artificial intelligence (AI), particularly generative AI, is being utilised in health and medical libraries. In this scoping review, the primary objective was to synthesise insights from existing literature on the potential of AI and gen-erative AI to enhance medical library services. The specific aims were to:

- provide a comprehensive overview of current knowledge on the applications of AI and generative AI in medical and health libraries;
- explore and evaluate the potential of AI and generative AI as tools for improving and advancing medical library services.

Limitations of the paper

This review focused exclusively on evidence related to the use of AI and generative AI within medical and health library settings. Although there is a substantial body of literature on the application of AI and generative AI in academic libraries more broadly, such studies were excluded from this review due to the specific aim of concentrating solely on the health and medical library context.

Methodology
Data collection

To address the research aim, a comprehensive literature search was carried out across multiple databases to identify relevant studies on the use of artificial intelligence (AI), including generative AI, in health and med-

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ical library settings. The databases searched included MEDLINE, EMBASE, PubMed, and Google Scholar.

Search strategy

The database searches were conducted on 27th May 2025. The following search terms were used in combination: "AI" OR "Artificial Intelligence" AND "Medical Libraries" OR "Health Libraries" OR "Hospital Libraries". The search was restricted to studies published in the English language, but no date limitations were applied, in order to capture both recent developments and foundational studies in this area.

Inclusion criteria

- studies that discuss the use or implementation of AI or generative AI specifically within health and medical library settings;
- articles published in English;
- any study type (qualitative, quantitative, reviews, case studies) as long as it relates to the topic.

Exclusion criteria

- studies focused solely on AI/generative AI in general academic, public, or school libraries without a health or medical focus;
- non-English language articles;
- articles that mention AI in healthcare broadly but do not involve library services.
- duplicates or studies where full text was not accessible for screening.

Search results and screening process

A comprehensive literature search was conducted across four major electronic databases, yielding a total of 1166 records. These included 96 records from MEDLINE, 228 from EMBASE, 745 from Google Scholar, and 97 from PubMed. Before the screening process began, 102 duplicate records were identified and removed. Record screened 1064. During this initial screening phase, 982 records were excluded based on relevance and predefined inclusion criteria.

The remaining 82 full-text reports were retrieved for a more detailed eligibility assessment. Of these, 71 were excluded: 38 due to lack of relevance to the research question and 31 because they focused on academic libraries rather than health libraries, which was outside the scope of the review and removed 2 articles for AI policies in medical libraries. Ultimately, 11 studies met

all inclusion criteria and were included in the final synthesis, providing the basis for the review's findings.

The overall screening and selection process is summarised and visually represented in a PRISMA flow diagram (*Figure 1*), outlining the number of records identified, screened, assessed for eligibility, and included in the final review.
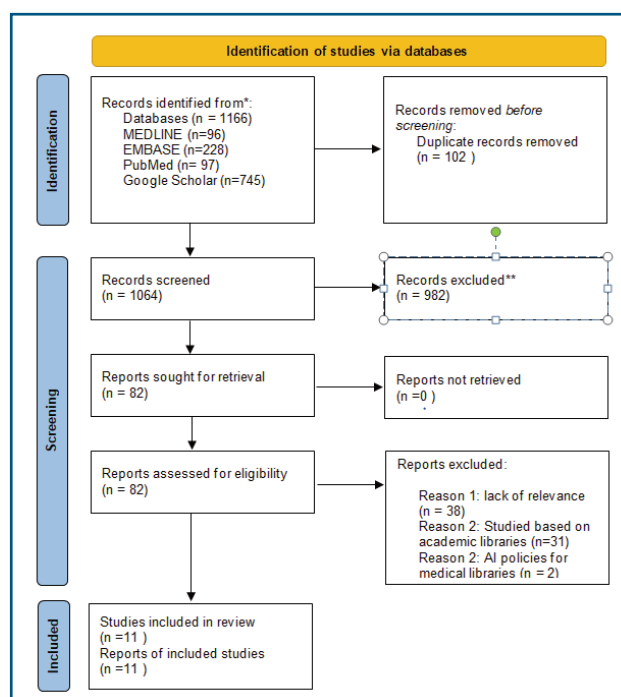

Fig. 1. *PRISMA 2020 flow diagram*

Key findings and interpretative analysis

The integration of artificial intelligence (AI) into medical and health libraries is shaping a new landscape for library services, operations, and user engagement. Across the reviewed articles, a common thread emerges: AI offers clear benefits in improving efficiency, enhancing user experience, and supporting decision-making, yet its success depends heavily on thoughtful implementation, human oversight, and ethical consideration.

One practical application of AI in medical libraries is in event planning, as demonstrated by the case study from Stanford's Lane Medical Library. Here, AI tools such as ResearchRabbit and ChatGPT 4.0 were used throughout the entire event lifecycle – from identifying speakers and creating promotional materials to drafting

questions during events and compiling post-event communications. This integration significantly reduced manual workload and enabled a more streamlined process. However, the project team emphasised the importance of human input to ensure accuracy and contextual relevance, particularly when refining AI-generated outputs (1).

Similarly, *content enhancement* emerged as a valuable use case in the redesign of a dentistry LibGuide using Claude.ai. The AI tool helped restructure the guide, improve usability, and generate concise summaries, resulting in a 131% increase in access and positive feedback from students. This suggests that AI can play a transformative role in making library resources more user-friendly and discoverable. Nonetheless, the librarian involved in the project stressed the continued need for human validation of AI-generated content due to concerns about bias and misinformation (2).

AI's role in *literature searching* was examined in a randomised controlled trial comparing IRIS.AI to PubMed and Google Search. The study found that IRIS.AI performed on par with PubMed and outperformed general search engines, particularly benefiting non-specialist users. This indicates that AI tools can enhance research processes by increasing accessibility and efficiency, though the results also suggest that such tools are best used as complements rather than replacements for established databases and expert guidance (3).

Further exploring ChatGPT's capabilities, an *integrative review* of 29 studies highlighted its potential to augment library services such as reference support, cataloguing, and personalised assistance. The review identified advantages like multilingual support and rapid access to information, but it also outlined limitations – including susceptibility to misinformation and the inability to handle complex queries accurately. The authors recommended that ChatGPT be used to supplement, not supplant, the work of librarians, and called for structured frameworks for quality control and user education (4).

In the area of *collection development*, a study at Chapman University evaluated the effectiveness of various generative AI tools. While models like ChatGPT 4.0, Google Gemini, and Perplexity failed to reliably generate accurate citations or book titles, they showed more promise in identifying subject gaps and analysing collection coverage using Library of Congress classifi-

cations. This illustrates that although AI is not yet a dependable source for content recommendations, it can be used strategically to support librarians in identifying areas of need within the collection (5).

Another significant application of AI is in *automated screening for systematic reviews*, as explored in a systematic review and meta-analysis. The study found that AI tools can achieve high recall – meaning they are effective at identifying relevant studies – when optimised for sensitivity. However, this comes at the cost of lower precision, increasing the likelihood of irrelevant results. When optimised for precision, recall dropped significantly, posing the risk of missing important literature. The authors concluded that while AI can substantially reduce screening workloads, human involvement is still necessary, particularly during the initial and final screening phases (6).

From a broader policy perspective, the use of AI in *shaping healthcare information systems* across the European Union highlights its strategic potential. AI applications such as automated cataloging, data analytics, and chatbots are improving library efficiency and fostering cross-border research collaboration. However, the article underscores the importance of ethical considerations, particularly around data privacy, algorithmic bias, and equitable access. It recommends coordinated policy development, librarian training, and partnerships with technology providers to ensure responsible and effective AI adoption (7).

In the ongoing conversation about AI in medical libraries, one recurring theme is the balance between innovation and responsibility. This is evident in the work by Orubebe *et al.*, who explored *how AI is reshaping core library functions* – from improving information retrieval to automating data management and enabling personalised user support. Their findings made it clear that while the opportunities are vast, the path forward isn't without obstacles. Ethical concerns, data privacy, staff readiness, and infrastructure gaps all stood out as key challenges. What their study emphasised most was the importance of a thoughtful, well-supported approach: one that combines strategic planning, investment, and ongoing training to ensure AI benefits are fully realised without compromising trust or quality (8).

Meanwhile, in Khyber Pakhtunkhwa, Tahira Bibi and Zakria took a closer look at *how AI is being applied in the medical libraries of developing regions in Pakistan.*

Their research, grounded in quantitative data, confirmed what many had suspected – AI has a tangible, positive impact on cataloging efficiency, user satisfaction, and administrative workflows. Tools like intelligent search systems and chatbots were especially valuable. But they also uncovered a significant hurdle: many library professionals lacked the technical skills needed to harness these tools effectively. For AI to make a lasting difference, they concluded, there needs to be a serious investment in training, infrastructure, and ethical standards tailored to local contexts (9).

As libraries continue to reimagine their roles in the digital age, another study explored the *broader potential of AI tools such as natural language processing, large language models, expert systems, and chatbots.* These technologies are pushing medical libraries toward greater accessibility and smarter services, allowing them to respond more efficiently to the needs of students, researchers, and clinicians. The study highlighted how these tools can help transform traditional library setups into dynamic, user-focused environments. But it also sounded a note of caution: while the technology is powerful, it still requires human oversight to ensure accuracy, fairness, and ethical use (10).

Adding to this evolving landscape, a unique perspective emerged around how librarians interact with AI itself. Instead of focusing on tools alone, one study turned its attention to how prompts – those carefully crafted instructions we give AI systems – can be refined for better outcomes. By blending the well-established *PICO framework* from evidence-based medicine with a structured model called TCEPFT (Task, Context, Example, Persona, Format, Tone), librarians were shown how to build more effective prompts that guide AI tools toward useful, relevant, and precise results. This method proved especially helpful in dealing with complex information requests. It reinforced the idea that, while AI can be powerful, the expertise of librarians in shaping the right questions remains just as vital as ever (11).

Future directions

The future of AI and generative AI in medical and health libraries are marked by both promising opportunities and critical limitations. As AI tools continue to evolve, their potential applications span literature searching, user services, training promotion, and evidence synthesis. However, findings from recent evaluations – including a systematic review of generative AI use in evidence synthesis – highlight important concerns. While generative AI demonstrated some usefulness in tasks like data extraction and risk-of-bias assessment, it consistently underperformed in literature searching and screening, with error rates too high for reliable use without human oversight. The review concluded that current generative AI tools are not ready to replace expert-driven processes and should only be used to assist, not automate, evidence synthesis (12).

In parallel, initiatives using ChatGPT to promote information skills training in medical libraries have shown success in increasing engagement and improving communication, suggesting that generative AI can play a valuable role in outreach and education (13). These developments point to a future where AI is integrated strategically and ethically, enhancing library services while preserving the central role of professional expertise. With thoughtful implementation, generative AI can serve as a powerful tool to support and extend the reach of health and medical library services, rather than replace the human judgement and critical thinking they depend on.

Conclusion

This scoping review highlights the growing interest in and potential of artificial intelligence – particularly generative AI – within health and medical library settings. Across the reviewed literature, AI has shown its capacity to enhance operational efficiency, support information delivery, and improve user engagement through applications such as literature searching, event planning, content enhancement, and user training. However, the findings also reveal that the adoption of these tools must be approached with caution. While generative AI can streamline certain workflows, such as data extraction or promotion of library services, its limitations – especially in tasks requiring high precision like systematic searching and critical evaluation – underscore the necessity of human oversight and professional judgement.

The reviewed evidence strongly suggests that AI should serve as an augmentative tool rather than a replacement for librarians. Ethical considerations, including data accuracy, transparency, algorithmic bias, and user trust, must be at the forefront of implementation strategies. Moreover, successful integration will require

continuous staff training, user-centred design, and institutional policies that balance innovation with accountability. With ongoing evaluation, ethical vigilance, and strategic investment, generative AI can become a valuable ally in the future of health librarianship.

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What do journals' author instructions state on search methods for systematic reviews: from evidence to implementation

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Abstract

Systematic reviews are essential in clinical decision-making, policy development, and evidence-based practice. Our previous research identified significant gaps in author instructions of biomedical and health journals regarding search methods for systematic reviews. To address this, we engaged with key stakeholders to disseminate our research findings and provide recommendations to implement and improve the quality of journals' author instructions, ultimately contributing to enhancing the quality of published systematic reviews. This brief note outlines the strategy and outcomes of this implementation project. Despite our efforts, limited adoption of our recommendations appears to be primarily due to misconceptions about relevance to different journal scopes, competing editorial priorities, resource constraints related to time and expertise needed for implementation, and a lack of clear responsibility or accountability. Further outreach is needed to raise awareness and improve the quality of journals' author instructions.

Key words: *editorial policies; librarians; periodicals as topic; publishing; systematic reviews as topic.*

Introduction and objectives

Ensuring the quality of published systematic reviews is essential, given their increasing number and critical role in shaping clinical practice and policies (1). Despite the availability of methodological standards, reporting guidelines, quality assessment checklists and expert information specialists to aid in the search process, the persistent publication of systematic reviews with low quality search methods raises concerns (2-8). There appears to be a gap between existing guidelines, the availability of expert support and authors' awareness or ability to apply these standards and resources effectively (9). Journal author instructions serve as an important tool to potentially bridge this gap by guiding authors in implementing rigorous search methods, which is the central focus of this project.

Our previous research identified significant shortcomings in the author instructions of biomedical and health journals regarding search methods for systematic reviews (10). We concluded that key issues such as the lack of tailored instructions for systematic reviewers, the under-recognition of the role of information specialists, and outdated guidance on search methodology need to be addressed. Therefore, we provided recommendations for editors and editorial teams in our publication. Additionally, we contacted relevant stakeholders to translate these recommendations into practice. Information specialists were approached to help disseminate our findings through their professional networks and to provide feedback on a draft template of improved author instructions. Our template was designed to be a sustainable resource by referencing established organisations for conducting and reporting systematic reviews. At the same time, we contacted other stakeholders, including editors, editorial teams, and editorial organisations, to adjust and enhance the journals' author instructions.

This brief note outlines the strategy and findings of this

implementation project, highlighting our progress and barriers encountered in improving journal instructions for systematic review search methods.

From evidence to implementation: strategy

After publishing our research on the shortcomings in author instructions and recommendations (10), we launched the implementation of our project in April 2024. The strategy for this implementation project is focused on targeted communication, setting clear milestones, and assessing the impact of our efforts, all aimed at achieving meaningful improvements in journals' author instructions. The implementation material and process are described below and visualised in *Figure 1*.

First, we developed a template (https://osf.io/x6nvm) that contained author instructions for systematic reviews, stating different recommendations and the reasoning behind each item based on our research findings (10). This also included additional information for editorial teams with further context and implementation advice. This template was refined and finalised based on feedback from other information specialists recruited via mailing lists. Contributors are listed and acknowledged below accordingly. Second, an author instruction section (https://osf.io/fh8qw) was subsequently created to facilitate implementation of the template for editorial teams. This section serves as a ready-to-use section that can be added to or replace the current section on systematic reviews in the journals' author instructions. Over the summer, the template and author instruction section were distributed to the journals and publishers that were included in our originally published analysis (9), and a reminder email was sent to all non-responders in October. Additionally, the editorial organisations International Committee of Medical Journal Editors (ICMJE) and The Committee on Publication Ethics (COPE) were approached via email since they offer recommendations and educational resources for editors and others involved in medical research and publication.

Finally, a more concise version of the author instruction section (https://osf.io/x5bpt) was developed based on suggestions from responders about its length to enhance usability. This brief version was sent to all listed stakeholders at the beginning of February 2025, officially concluding the active outreach to stakeholders via mailings.
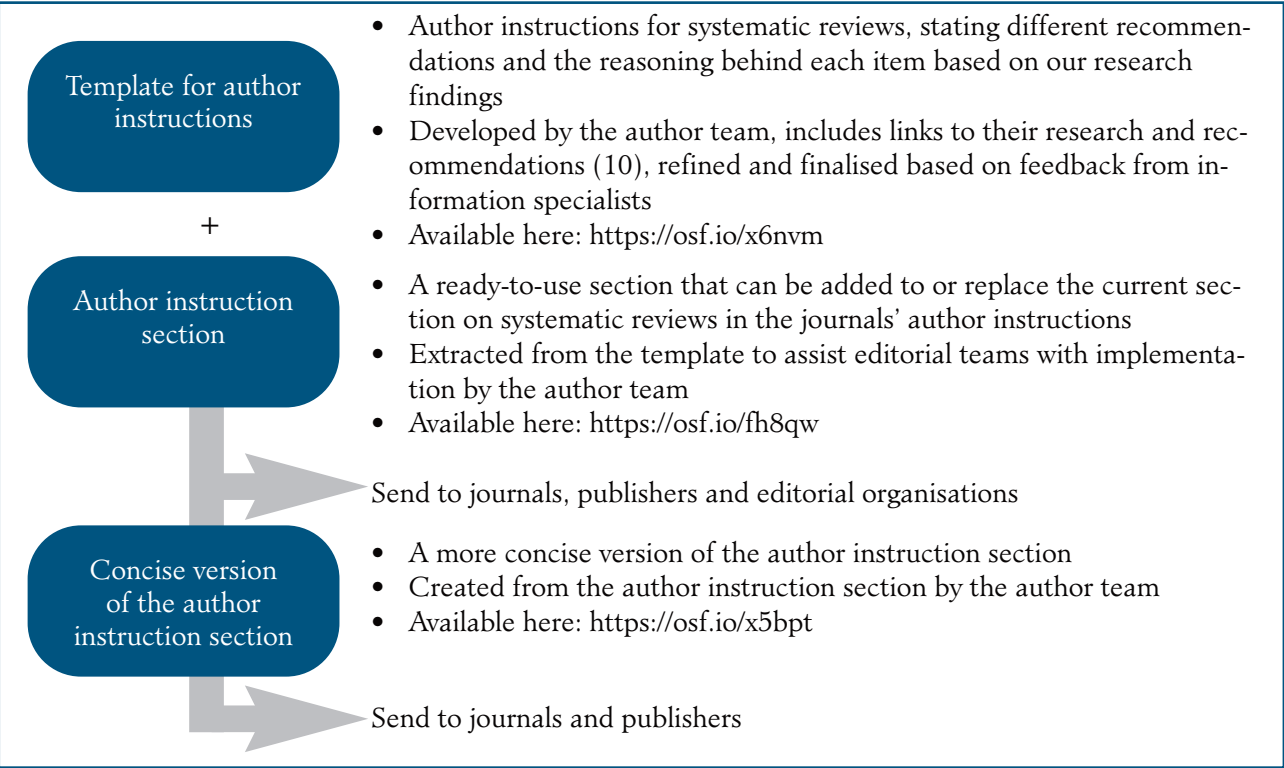

Template for author instructions
- Author instructions for systematic reviews, stating different recommendations and the reasoning behind each item based on our research findings
- Developed by the author team, includes links to their research and recommendations (10), refined and finalised based on feedback from information specialists
- Available here: https://osf.io/x6nvm

+

Author instruction section
- A ready-to-use section that can be added to or replace the current section on systematic reviews in the journals' author instructions
- Extracted from the template to assist editorial teams with implementation by the author team
- Available here: https://osf.io/fh8qw

Send to journals, publishers and editorial organisations

Concise version of the author instruction section
- A more concise version of the author instruction section
- Created from the author instruction section by the author team
- Available here: https://osf.io/x5bpt

Send to journals and publishers

Fig. 1. *Implementation process and material.*

From evidence to implementation: outcomes and discussion

Throughout the project, 3 rounds of emails were sent to editors, editorial team members and editorial organisations. When no specific contact person was identified, emails were sent to a general contact point. As of the project's conclusion in January 2025, 10 of the 168 selected journals were not contacted due to missing contact details on their website. In 146 cases, the emails to journals remained unanswered. Five messages were redirected to the appropriate contact, while six respondents indicated they had no interest, deemed the issue a low priority, or lacked the time to engage. One of the editorial organisations replied but could not take further action, as we are not a member of their organisation. To our knowledge and as of now, two author instructions have been modified using our template, effectively implementing (partly) our recommendations. One of these is European Review for Medical and Pharmacological Sciences (Online ISSN: 2284-0729 | Print ISSN: 1128-3602). Additionally, the publisher MDPI has incorporated elements of our template into its systematic review guidelines.

Several factors may explain the limited interest in putting our recommendations into practice. First, the method of contact being via email may not have been sufficiently effective or clear in engaging stakeholders and prompting action. To encourage responses, we did implement several strategies. We carefully crafted a concise, structured email with direct links to our templates on the Open Science Framework, which was reviewed by the authors and tested for clarity by using ChatGPT. Additionally, instead of sending a mass email, we prioritised personalised outreach by addressing individual contacts by name in the initial round of emails and reminders. We also offered meetings to clarify our project, leading to two respondents participating in discussing our project further. The follow-up meetings revealed this is an unusual offer and challenging to accept due to concerns about author rights related to the templates. We as authors of the template emphasise the importance of its implementation and do not expect attribution, as this is uncommon in author instructions.

Second, editors and editorial teams may not perceive a direct benefit or urgent need to revise their guidelines, especially if they believe their current instructions already fulfil their requirements. To address this, we ex-

plicitly informed them they were selected based on their relevance to systematic reviews. The selection criteria focused on the number of systematic reviews they publish and/or the impact of their published reviews. We clearly stated our rationale for selecting them and contacted them because we identified opportunities for improvement based on our analysis.

Third, journals and publishers often manage competing editorial priorities and may lack the time or resources to evaluate and integrate new recommendations. Because many did not respond and others forwarded our inquiry without clear follow-up, it became difficult to determine who was responsible for updating the author instructions. The authors got the impression that few felt responsible or actually were responsible or accountable for maintaining or improving these guidelines. If improving author instructions is not seen as an urgent or high-impact change compared to other pressing matters, they may deprioritise, delay engagement or be less inclined to respond. To overcome this barrier, we provided a ready-to-use template, assuming it would be low-hanging fruit for them, making it easy to implement. With this approach, we hoped it could trigger their engagement.

In conclusion, misconceptions about relevance, competing editorial priorities, resource constraints, and a lack of clear responsibility or accountability appear to be the main reasons for the limited adoption of our recommendations. As a result, author instructions may remain static and unchanged due to a lack of time and (human) resources to prioritise updates, rather than a deliberate editorial decision.

The authors hope that this work will serve as a catalyst, encouraging further implementation in the future. We are grateful to the journal of EAHIL for publishing this project, as broader outreach will be key to its success.

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Supplementary material

All supplementary material for this project is available at Open Science Framework, https://osf.io/6ax4p/

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Letter from the President

Francesca Gualtieri

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Dear EAHIL Members,

As I write, we are preparing to attend the EAHIL 2025 Workshop in Lodz, Poland, from 9 to 13 June 2025. By the time you read this, the event will have concluded, and I would like to extend my sincere thanks to our colleagues on the Local Organising Committee for their dedication to planning an outstanding workshop. Their efforts will surely provide us with a unique opportunity to connect, learn, and share insights, including through special initiatives such as the ERASMUS application for participation.

EAHIL continues to offer valuable opportunities for a meaningful dialogue on emerging trends and innovations in health information and libraries, especially as we navigate the evolving landscape of AI technologies. The 2025 Workshop's main theme, "IMAGINE," encouraged us to explore new concepts and approaches, fostering creativity and professional growth.

Looking ahead, we are already planning future meetings to further our mission of inspiring excellence in library and information services. I am pleased to announce that Antalya, Turkey, will host an upcoming EAHIL event (8-12 June 2026), and I encourage you to promote this opportunity within your networks.

We also invite bids to host the EAHIL Conference in 2027. Please consider this as a special opportunity for professional development and community growth. Your ideas and collaborative spirit are always welcome as we strive to advance knowledge and innovation together.

Thank you for your ongoing commitment.

Best regards,

Francesca Gualtieri
EAHIL President

EAHIL WORKSHOP 9-13 JUNE 2025

The 2025 EAHIL conference will be held in Lodz on 9-13.06.2025. The center of conference events will be a place that combines

IMAGINE

Antalya
Türkiye

EAHIL 2026
Conference

JUNE
08–12
2026

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June

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European
Association for
Health
Information and
Libraries

JEAHIL bibliometrician report 2024 issue summary

Rebecca Wojturska

Library & University Collections, University of Edinburgh, Edinburgh, Scotland, United Kingdom

Hello and welcome to the 2024 bibliometrician report summary!

Although *JEAHIL* has published reports like this before, we now have a dedicated bibliometrician who will be gathering statistics and metrics for the journal. From now on, readers can expect to see our annual report summaries in the first issue of each year.

2024 was another strong year for *JEAHIL*. We use OJS to host our journal and upgraded to the latest version in 2024. This does mean we only have partial statistics for the year (as the system only started tracking usage post-upgrade), but even the partial metrics show healthy traffic to website and strong article download figures.

In 2024, *JEAHIL* had over 14,000 homepage views, over 21,000 article landing page views, and almost 12,000 article downloads. The actual figures will be even higher considering these are partial statistics!

The most accessed article was "The role of ChatGPT in developing systematic literature searches: an evidence summary" by Veronica Parisi and Anthea Sutton, which had 956 downloads. The most accessed issue was Vol. 20 No. 2 (2024), with 572 downloads. This shows how well used and relevant the current content of the journal is.

In 2025 we hope to work on getting *JEAHIL* indexed in even more databases. This will help make the journal more discoverable and further increase our reach and impact.

In short, watch this space!

Publications and new products

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Dear all,

welcome back to my column! For this issue's "Publications and new products" I've searched the web and selected news and articles on the most discussed trends related to biomedical librarianship. A few words on what I've found: the news are somewhat focused on initiatives that, in one way or another, are related to the open access "crisis", from the end of cOAlition S's Journal Comparison Service (JCS) to the new DIAMAS initiatives, to the OASPA's "Next 50%". Moreover, among my suggested readings section I've selected two articles on Artificial Intelligence (AI) and one on research integrity. Also on AI, I suggest you listen to the episode - part of the 'Beyond the Shelves' podcast series from the International Association of University Libraries (IATUL) - "Supercharged by AI" on an exhibition on how artificial intelligence impacts our online lives. I would also like to take this occasion to wish you and your family all the best for the upcoming summer.

JOURNAL ISSUES

Health Information and Libraries Journal contents of June 2025 (42:2)

Editorial

- **Sustainability in health libraries: a report on CILIP's second Green Libraries Conference.**
  Janine Hall and Adam Tocock

Review

- **Effectiveness of educational interventions for improving healthcare professionals' information literacy: a systematic review.**
  Mauricette Lee Moling, Lin Xiaowen, Lee Eng Sing, Helen Elizabeth Smith and Lorainne Tudor Car

Original Articles

- **Evaluating the usability of public health data dashboards as information sources for professionals and the public: Findings from a case study with domain experts.**
  Bahareh Ansari

- **Information literacy instruction by librarians is integrated into the doctor of pharmacy curriculum in the United States but requires evidence of impact.**
  Mariana Lapidus and Irena Bond

- **Developing an online knowledge sharing platform and community of practice for health professionals: Experiences from C-WorKS developed in North East England and Yorkshire during COVID-19.**
  Peter van der Graaf, Andrea Burrows, Helen Park and Sarah Sowden

- **Information-seeking behaviour of primary care clinicians in Singapore at the point-of-care: A qualitative study.**
  Mauricette Moling Lee, Wern Ee Tang, Helen Elizabeth Smith, Lorainne Tudor Car

- **Predictors of online health information seeking behaviour of non-medical undergraduate students might vary.**
  Oluwaseun Adegbilero-Iwari, Tunrayo Oluwadare and Idowu Adegbilero-Iwari

Regular Features
AI and New Technologies

- **GenAI for systematic literature searching reflections from a UCL Change Makers project.**
  Zahra Mohri and Veronica Parisi

Learning and Teaching in Action

- **Impact of librarian-led case learning sessions on third-year medical students' clinical skills.**
  Rachael A. Lebo, Shelie Vacek and Valerie L. Hearns

Practice Based Studies

- **Applying User Experience (UX) strategies to enhance an NHS library space.**
  Dominic Gilroy and Beth Tapster

FROM THE WEB

- **cOAlition S has discontinued the Journal Comparison Service (JCS)**
  cOAlition S has announced that the Journal Comparison Service (JCS) has been discontinued since April 30th. The JCS was developed following detailed consultations with librarians, publishers, legal experts, and software developers with the aim to shed light on open access publishing fees and services and was launched in September 2022. The JCS was designed to create a useful and secure price transparency tool for assisting libraries and library consortia in their open access negotiations with all publishers. Unfortunately, only a small number of publishers responded positively to the call for transparent pricing of publishing services and agreed to share their data. cOAlition S declares that, although they are closing the JCS, they are continuing their work with committed partners towards more equitable and transparent open access fees and publishing models.

- **The European Diamond Capacity Hub (EDCH) new resources**
  The European Diamond Capacity Hub (EDCH) has announced the activation of two new resources: Registry & Forum services. Created with the help of CRAFT-OA and DIAMAS projects, the Registry & Forum supports Diamond Open Access Publishers, Service Providers, and Tools and Technology Providers across Europe to collaborate and enhance their visibility. Organizations can join the EDCH Registry signing up here: https://registry.diamas.org/. The EDCH Forum is a dedicated space for discussion, knowledge-sharing, and collaboration within the Diamond OA community. The forum can be useful to connect with peers, exchange best practices, and collectively address the challenges of Diamond OA publishing. It is possible to create an account here: https://forum.diamas.org/. All the resources implemented by the EDCH can be accessed at this link: https://toolsuite.diamas.org/toolsuite-sustainability

- **OASPA launches 'Next 50%' initiative to advance the open access transition**
  The Open Access Scholarly Publishing Association (OASPA) has launched a new initiative titled the 'Next 50%', intended to convene publishing organizations with the stakeholders who finance, support, and invest in scholarly communication systems to complete the open access transition. The premise of this initiative

is that half of the transition to open access is done but the other (arguably tougher) half is yet to be navigated and probably requires a "different conversation". The project will explore the multiple routes to open access, their contributions to date, and the roles they may play in shaping the next 50% of the transition. Sector-wide transition includes those operating on APCs and Read & Publish/Transformative open access publishing deals; those using Subscribe to Open and other forms of collective action; free to read, free to publish open access enabled through grant, society, library, or other funding; as well as open infrastructures and platforms.

- **Bibliography on paper mills**
  The United2Act working group n.3 "Catalyse research on paper mills" has collated a bibliography, regularly updated, of publications, preprints and news articles on paper mills to reveal the extent of this problem, how their practices are maturing, and possible actions to disrupt their impact. The bibliography can be downloaded at this link: https://united2act.org/working-groups/research-on-paper-mills-working-group-3/

READING SUGGESTIONS

- Nogueira LA, Moltubakk ST, Fagervik A, and Langfeldt IB. (2025). Cutting through the noise: Assessing tools that employ artificial intelligence. IFLA Journal, 0(0). https://doi.org/10.1177/03400352241304121
- Reed RB and Barnett DJ. (2024). Assessing the Quality of Biomedical Boolean Search Strings Generated by Prompted and Unprompted Models Using ChatGPT: A Pilot Study. Medical Reference Services Quarterly, 44(1), 31–40. https://doi.org/10.1080/02763869.2024.2440848
- Mousa, Aya et al. (2024). Research Integrity in Guidelines and evIDence synthesis (RIGID): a framework for assessing research integrity in guideline development and evidence synthesis. eClinicalMedicine, 74, 102717 DOI: 10.1016/j.eclinm.2024.102717

SOME FORTHCOMING EVENTS

IFLA world Library and Information Congress satellite meeting. Artificial Intelligence, Bibliographic Control and Legal Matters: Navigating New Horizons.
August, 14-15 Astana, Kazakhstan
This satellite meeting aims to explore the multifaceted impact of AI, both in its current applications and in the emerging paradigm of generative AI, on the core missions of libraries and information institutions, including national bibliographic agencies, and on metadata, library collections, copyright and legal deposit, in an AI-increasingly driven information landscape. More info at: https://2025.ifla.org/home/satellite-meetings/

89th IFLA world Library and Information Congress (WLIC)
August, 18-25 Astana, Kazakhstan
The theme of the 89th IFLA congress is "Uniting Knowledge, Building the Future". More info at: https://2025.ifla.org/

Peer review week
September 15-19 everywhere
To keep updated on all the initiatives related to the Peer review week click here https://peerreviewweek.net/

OASPA 2025 annual conference: Embracing the Complexity – how do we get to 100% OA?
September 22 – 24, Leuven, Belgium

OASPA's annual conference will focus on the complexities faced in achieving a future with 100% open access. For more info: https://www.oaspa.org/events/annualconference/

CRAFT-OA Conference
October 06-08, Göttingen, Germany
The overall theme will be "Crafting the Future of Diamond Open Access: Technical, Social & Political Perspectives of Scholarly Publishing". The first two days will feature presentations from and networking opportunities for the Diamond Open Access community, the third day will focus on CRAFT-OA accomplishments. The event is free, but registration is mandatory. Registration for the event will open in July. More info at https://www.craft-oa.eu/conference/

Open Science Conference 2025
October 8 – 9, 2025 Hamburg, Germany
The Open Science Conference is an annual international conference providing a unique forum for researchers, data stewards, librarians, practitioners, infrastructure providers, policy makers, and other important stakeholders to discuss the latest and future developments in Open Science. This year's conference will have a special focus on the intersection between Open Science and AI. For more info click here: https://www.open-science-conference.eu/

Please feel free to contact me (annarita.barbaro@iss.it) if you have any further suggestion about initiatives or events you would like to promote

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