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Editorial

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AI and libraries

Artificial Intelligence (AI) refers to technology that appears to enable computers and machines to simulate intelligence and problem-solving. Whilst it has a long history, and covers many tools, in recent years with the development of Generative AI, such as ChatGPT, that creates content in response to prompts, AI has come to the fore.

The six articles in this issue delve into the challenges, limitations, and opportunities of AI for libraries and information professionals.

Andrew Cox, Senior Lecturer at the University of Sheffield's Information School, highlights the skills and values of information professionals that are relevant to data and thus to the use and management of AI.

Our second paper by Emily Hopkins, Susan Smith and Hannah Wood from NHS England, is divided into two parts. The first part looks at the drivers to use AI within the UK healthcare system, the training provided and being further developed, ethics and the risks of AI. The second looks at case studies of AI use and support by Knowledge and Library Services.

Angela Young, Jon Chandler, Caroline Norris and Ayanna Prevatt-Goldstein of University College London (UCL), summaries a university's approach to developing AI literacy amongst staff and students, including referencing.

In the fourth article by Shampa Sen of the King's College Hospital NHS Trust, the use of AI to promote information skills training is described and analysed.

Claire Stansfield and James Thomas of the Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI), look at how Automation tools can help with the maintaining of research registers in health promotion.

Finally, Veronica Parisi (UCL Library Services) and Anthea Sutton a Research Fellow at the University of Sheffield's School of Medicine and Population Health, explore the use of ChatGPT to develop systematic literature searches.

We hope to hear from colleagues from other European countries on AI in future issues.

AI is firmly with us, having an impact on information work and these articles show that we have an important role, but must continue to develop our skills, as well as translating existing skills into this new environment.

Mobilising our skills and values for the data centric world of artificial intelligence

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Abstract

Because current conceptualisations of how to achieve Artificial Intelligence are data driven, so information professional skills applied to data become highly relevant. Translating our well established information skills to the context of data management and stewardship could be invaluable in such areas as data search, understanding data provenance, copyright issues, promoting data sharing and standards based description of data, data disposition or preservation, data ethics, and in promoting data literacy. As a profession we have a valuable and unique contribution to make through information skills applied to data, but we need to include data more in our vocabulary and thinking.

Key words: *artificial intelligence; data management; data curation; data stewardship; data governance.*

I suggest that librarians have a potential role in artificial intelligence (AI) because of the relevance of our existing skills and values to data and because data is the foundation of AI.

The current conceptualisation of Artificial Intelligence is based on training algorithms with data, in the case of large language models (LLMs) like GPT, very large amounts of data. It is not by chance that our era of AI follows the decade of big data. It is partly Google's and Microsoft's access to massive amounts of data that enable them to do clever things with AI.

Equally, when we understand the importance of data we better understand some of the problems of AI. For example, we do not know exactly what data was used to train ChatGPT which makes it harder to fully understand its operations. What we do know about the data sources used, we have an explanation why there is so much bias in its outputs (1). Because ChatGPT was trained on material from the Internet and sites like reddit, it reflects many of the biases and stereotypes propagated in those spaces. Another data problem is that the harvesting process for data to train AI was under a claim of fair use, but the legality of this is in question. A number of copyright holders are suing OpenAI over their alleged use of copyright material without permission. The new EU legislation also requires a clear statement of what training data was used to train AI services.

The hunt for data

Such concerns around data ownership and data quality are an increasingly important aspect of how AI is developing. CBInsights report that one of the key trends for generative AI in 2024 is that "We are running out of high-quality data to train LLMs" (2). A recent AvePoint report suggested that many organisations are keen to exploit AI, but are finding data quality a barrier (3). The search for high quality data also explains the news that OpenAI recently signed a content deal with the Financial Times (4). They have similar deals with Associated Press, Axel Springer, and Le Monde. Google has signed a deal with the Wall Street Journal. The data centric nature of AI opens up one avenue by which libraries might be involved in AI development: through the use of the high quality material in library collections as training data. Data in the context of AI can be structured, quantitative data, but could also be text (including publications), sounds, images, anything

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that has been made machine readable. The term collections as data has been coined to think about library collections as machine readable data, rather than primarily for humans to read. The Vancouver statement on collections as data, which lays out principles for ethical use of collections as data is highly relevant to AI (5). Meanwhile the availability of open data may be key to blocking the tendency of big Tech companies to control the direction of AI development. Advocacy for open science including open data is highly relevant as a result (6).

Data skills

And that leads us to another dimension of AI's data-centrism that opens up possibilities for librarians, including health librarians: the importance of data skills. I would argue that many of the key skills and values of the information professional are highly relevant to management and use of data in such contexts as machine learning and AI. These competencies could be very helpful in supporting data scientists within organisations like the NHS, as well as the growing number of researchers in all disciplines who want to use AI based research techniques.

Here are some of the relevant skills and values:

- *Data search expertise.* Many funders expect researchers to undertake a data search prior to commencing research. Indeed, a data search should be part of any literature review. Yet, searching for data sources remains hard in a fragmented data landscape. Librarians are good at search. We can support data scientists to uncover valuable data sources.
- *Understanding data provenance.* Using data for any purpose, including AI, is fraught with problems if there is not a good understanding of how and why it was produced and how far it is a valid form of data for a proposed analysis or other use. Again, this is where, as information professionals, we can play a role in informing the use of data.
- *Copyright knowledge.* Expertise in IPR is highly relevant to understanding how data can be used. Researchers often turn to the library to understand copyright better.
- *Belief in data sharing and standards-based description.* It is second nature for information professionals to promote the sharing of information and the use

standards in describing information to ensure that it can be found. The FAIR principles encapsulate this perspective. But not every researcher thinks like this. Librarians offer a distinctive contribution to the data ecosystem in promoting open data and data sharing more generally.

- *Expertise on preservation/ disposition.* Retention or destruction of data is an important, e.g. to comply with GDPR. Again, these are areas where our profession has long had expertise.
- *Strong stance on data ethics.* Our core professional values and ethical principles are relevant to data and AI. Our values include emphasis on equal access to information, avoidance of bias and misinformation, protection of confidentiality and support to intellectual property rights. Such guiding principles are highly relevant to data stewardship and AI.
- *Desire to promote data and AI literacy.* Our commitments access to information imply promoting literacy. In the AI context this includes data literacy, as an essential component of AI literacy (7).

In short, all these aspects of data stewardship are a strong match to librarians' skills and values. As a profession we talk a lot about "knowledge and information", "the evidence" and "the literature". We perhaps do not use the language of "data" enough. We may need to translate some of our skills to operate in a data world. But it is clear that our information skills are highly relevant to data stewardship and so to AI.

There are many other ways AI will touch information work (8), such as: through using generative AI for professional tasks, e.g. summarisation; through chatbot services to users; and in roles supporting users to pick from the plethora of generative AI-based tools for tasks such as search (9). So, there is a lot to do in terms of adjusting our professional skills, thinking and language for an AI world. But this paper argues strongly that translating our information management skills and values to the data centric world of AI would be a really positive path for the profession.

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Adoption and everyday use of artificial intelligence by NHS knowledge and library professionals in England
Part I: context and support

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Abstract

Knowledge and library professionals in the UK are exploring the use of generative artificial intelligence (AI) tools and contributing to discussions concerning data and knowledge, in the context of a country keen to drive forward the adoption of data driven services and digital technologies. In this article we introduce the drivers towards adoption of AI within NHS Knowledge and Library Services (KLS) in England, and the methodologies employed to upskill staff in new technologies. This is set against the backdrop of the ethics and risks associated with AI, which provide opportunities for KLS to improve services and support the safe and effective adoption of AI. In the follow up article we provide practical use case studies, to help inspire experimentation and adoption.

Key words: artificial intelligence; machine learning; information literacy; knowledge management; education, continuing.

Introduction

Artificial Intelligence (AI) technologies offer a collection of tools with the potential to alleviate various pressures in the healthcare system. The UK Government is currently exploring a "pro-innovation" approach (1) to AI regulation, including establishing the Office for Artificial Intelligence to regulate and oversee the growing adoption of AI tools, although challenges around information governance and intellectual property remain.

The NHS Digital Academy (2) defines AI as "systems capable of performing tasks commonly thought to require intelligence". This broad definition covers many different tools. It is worth understanding that AI is not a single concept, but an umbrella term for various technologies including broad and narrow AI, machine learning, natural language processing and automation, which all attempt to mimic a human approach to the task they are designed for. For the purposes of this article, we are using the term AI in this general sense, but we would encourage those interested in pursuing this topic to explore these various technologies to understand which is best for a specific task.

There is continuous, exponential growth of medical knowledge, (3) and as noted by the Knowledge for Healthcare Framework, healthcare is a knowledge industry (4). The #amilliondecisions campaign highlights how critical knowledge and library professionals are in this knowledge industry; knowledge being accessible and shared in the right place at the right time saves lives every day (5). Journals are publishing more and more every year (6). With this ever-growing body of knowledge, knowledge and library professionals are seeking out new tools and methods of sharing knowledge to adapt to this growing challenge.

AI is impacting numerous arms of the knowledge and library profession, from knowledge management to health literacy and search discovery. Its impact is changing the knowledge and library service (KLS) land-

scape; the Topol Review suggests that a greater number of knowledge specialists will be required to serve the expanding knowledge needs of the healthcare workforce (7). Likewise, CILIP's recent report concerning AI recommends that library and information services should actively engage with AI to explore the benefits to their end users (8).

With the mainstreaming of generative AI, KLS professionals are uniquely qualified to highlight the importance of AI literacy, the appropriate use of generative AI tools, and encouraging dialogue around the ethical use of AI. Copyright and intellectual property, research transparency and academic integrity are all long-standing concepts, which will see greater challenges as these tools become increasingly available.

Our profession is seeing a growing number of new skills to add to its diverse portfolio. The Chartered Institute of Library and Information Professionals' (CILIP) Professional Knowledge and Skills Base (PKSB) already has items dedicated to AI and algorithmic literacy (9). Acquiring the specialist skills to engage with AI is no different to our specialist knowledge of advanced search databases; the tools will only be as good as the skills to use them effectively, and the resources we have to hand. A well-structured search strategy in a well-chosen database achieves better results than a poor search strategy in an unsuitable database. The same rules apply to using AI tools.

Developing the workforce

Information is data, explained; data is the foundation of information (10). KLS professionals already have many of the necessary skills to take lead in the data revolution. This hasn't yet translated into widespread practice, due to the evolving language of technology. Where KLS professionals teach critical appraisal, this could be expanded with a complementary offer of courses in clinical data bias. Where we hold collection development policies, there are opportunities in expanding to data curation.

For the profession, the key drivers were the Topol Review (7) and the CILIP AI Impact Report (8) which prompted discussion around the future skills required to develop the workforce.

Initial training was delivered using Library Carpentry courses (11) to train on data cleansing, working with data, managing files, and automating processes. Work also began with the National School of Healthcare Sci-

ence (12) and the University of Manchester to develop a Clinical Data Science PG Cert (13) for KLS professionals and clinical staff as an introduction to clinical data skills. Some funded places are provided by NHS England for KLS in England to enrol. The course is designed to encourage the development of a project, with an assessment including the application for funding for the project. There is an aspirational aim for the course to develop a lasting community of practice for alumni, where KLS staff will be able to work with and support clinicians.

As well as formalised training there was a recognised need for collaboration, shared learning and experience. In 2017, a community of practice formed to look at Current and Emerging Technologies. This group was repurposed for KLS professionals to share digital projects, personal learning, and additional training opportunities. A sub-group later formed to develop four training sessions: Getting started with AI, Prompt engineering, The ethics of AI and How to spot AI content. The presentations were the cumulation of shared research, testing and specialist knowledge. The group discusses current projects and experiences with AI and machine learning.

A Digital Competency Framework for KLS staff is currently being developed, building on the existing framework for the healthcare workforce by NHS England, presenting those skills and competencies through a KLS lens. It will empower those self-directed learners to upskill themselves in practical ways and encourage building on existing skills.

Ethics

People-centred practice needs to be at the heart of all digital transformation. Without consideration and collaboration with the end user, and ultimately the patients and service users, there is a serious risk of harm. When considering how we use AI it is critical to understand how AI can impact workstreams and people.

Algorithmic transparency is a key concern. Like any database, the information contained within AI systems can create and exacerbate bias (14). Without knowing the scope of the content and the purpose, we cannot be sure of the quality of the response returned. There is also the risk that the content used to train AI products like Large Language Models is copyrighted material and may be undermining creative industries.

Many health care technologies fail due to non-adop-

tion, abandonment, scale-up, spread and sustainability (15). Getting ethics right in AI supports building trust and adoption of technology. Getting it wrong is something that leads to wasted time, money and can end up in the news. KLS professionals have an essential role in teaching AI literacy and instructing people in the principles of critical evaluation.

The Department of Health & Social Care has begun a pilot of the Algorithmic Impact Assessment which aims to tackle biases and improve transparency in the data (16).

There are other types of bias that shape AI effectiveness. Our cognitive bias is dependent on how we view technology and is shaped by our optimism, scepticism, and our alert fatigue of incorrect cases. It is easy to agree with a system where the output matches your own view and dismiss an output if it is something you disagree with (17). We can support in good practice in data stewardship, understanding how the use of historic data, or data selection may lead to health inequalities in rare diseases and minoritised groups.

There needs to a clear responsibility and accountability for the decision, and machine autonomy should not undermine that of a human (18). We need to foster awareness to mitigate future risks and encourage transparent use of AI tools. We also need to communicate that patients and service users continue to be at the heart of decision-making processes.

KLS professionals have a key role in the education around AI ethics, supporting good practice in data stewardship and supporting the balance between digital systems and human needs.

Risks and the importance of using AI effectively

It is critical that we treat generative AI as a tool like any other, rather than an infallible system. Generative AI tools are only as good as the skills of the person using them. With the regular release, and re-branding, and development of tools, keeping up to date can be difficult.

Poor practice and misuse of generative AI is filtering into healthcare research. Bader et al. (19) states "I'm very sorry, but I don't have access to real-time information or patient-specific data, as I am an AI language model". This not only displays a lack of due diligence and undermines confidence in the peer-review process, but it also highlights a lack of fundamental AI literacy.

KLS professionals have been asked to source non-existent articles generated by Large Language Models (LLMs) which have been prompted to list articles pertaining to various topics, even though the LLMs used do not have search capabilities. LLMs can be prone to generating untruthful content (14), especially if they are not used correctly.

Differentiating between generative AI tools that can perform accurate searches for knowledge, and tools that are better suited to language-based tasks (such as generating Boolean search strategies) will become increasingly important as more tools are made available. Alongside the safety risks, there are potential long-term impacts to our workforce through deskilling via automation. Without basic knowledge of how AI tools work and the importance of quality data curation, we may not be able to detect when things go wrong or provide solutions to resolve errors as they arise.

There is also a growing awareness of the human need to balance routine and complex tasks for good mental health. Without building this into job roles there is a risk of cognitive overload (20).

Conclusion

The growing knowledge and technology landscape brings both challenge and opportunity. The exponential growth of medical knowledge gives the potential for a health sector more well informed than ever before but requires the right tools to capitalise on this and use knowledge and data well. The tools themselves bring their own problems and risks and need to be used appropriately to avoid creating new problems around ethics, reliability and quality. Knowledge and library professionals are well placed to address this challenge, bringing information and digital literacy skills which can be honed for the world of AI technologies, with appropriate workforce development opportunities. This involves adapting our skills and understanding the particular challenges of AI technologies, and learning from our allied professions too, drawing on learning from data, digital and technology, but also offering our expertise in information literacy, access and use, to ensure the technologies are used to best effect and to enhance knowledge access and mitigate negative effects of the technology itself.

Many KLS teams are already making good use of various technologies, using them to enhance existing services and improve skills. In our accompanying article,

we explore some of these real-life use cases from a variety of organisations, and the opportunities they have brought, offering suggestions and practical considerations for those looking to enhance their service offers by taking advantage of these technologies.

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Adoption and everyday use of artificial intelligence by NHS knowledge and library professionals in England
Part II: practical application

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Abstract
In part I of this article, published in this same issue of the Journal of EAHIL, we set the background for the NHS in England context looking at the drivers, strategy, and actions taken to develop the Knowledge and Library Services (KLS) workforce. In this piece we provide a snapshot of how services are testing and beginning to adopt artificial intelligence (AI) in their practice. It also reflects on the role of KLS in educating the workforce and provides the challenge to adopt AI and skilfully weave into all we do until it becomes business as usual.

Key words: *artificial intelligence; machine learning; information literacy; library services; education, continuing.*

Introduction

KLS professionals are adapting. In smaller and larger services alike, we are beginning to see the prioritisation of artificial intelligence (AI) literacy skill development. Some are seeking qualifications via data bootcamps, clinical data apprenticeships, and postgraduate clinical data science courses.

There is greater interest in attending training, sharing practical knowledge and engaging with communities of practice. Even without formal education, KLS professionals are experimenting and using self-directed learning to try various generative AI applications to assist with day-to-day tasks, such as refining search strategies and carefully summarising literature searches.

There is a growing understanding that generative AI tools are a useful addition to the plethora of tools available to the KLS professional. Much like advanced search databases, skills and knowledge are required to use generative AI tools effectively and safely.

There have been failures around adoption of voice-controlled systems based on natural language processing

e.g. Siri, Alexa or chat bots integrated in resource management systems. Many of these systems have faded into the background and the lessons learned are not always captured. It is important we share our failures and learn, as well as celebrate the successes. Use our communities of practice to test ideas, even if they are not yet fully formed.

KLS professionals have skills that support digital data development, and we are beginning to see the evolution of data librarianship alongside hybrid informatics roles. We already widely understand taxonomies and ontologies, tools which are also used develop bespoke AI products. In the way we curate our online and print collections, we can support the curation of datasets; and in the way we teach critical appraisal of literature, we can teach the impact of bias in data (1).

AI generated content is passing some peer review processes; there are growing calls for greater transparency, and appropriate use of generative AI tools in research, as well as more vigorous peer-review processes (2). Most journal publishers now have guidance about the

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use of generative AI in their publications. KLS professionals can support embedding the importance of transparency and advocating the ethical use of AI. Students are generally being encouraged to experiment ethically with generative AI, and to ensure that they reference their work appropriately (3). This will have an impact on KLS professionals, who may be asked questions related to the use of generative AI in research and university assignments.

People need space not only to be taught, but to build confidence and hone their skills. Libraries are the ideal hosts for digital makerspaces. A physical place where people can meet to network, experiment, work in partnership with others and hone their skills to innovate. As digital leaders, KLS professionals can encourage and support these projects in partnership and ensuring lessons are captured and shared to inform others.

AI in the everyday

Suppliers of many of the systems we use are of course embracing AI technologies and integrating into systems such as search engines and databases, offering enhanced capabilities and functionality. Whether we realise it or not, the technologies are already impacting on search products, with examples already appearing such as Ask NT from the Nursing Times (4) offering summarised responses tailored to users' specific questions, rather than simply retrieving matching items from the database.

However, these capabilities and integration into products also bring risks and ethics issues to add into data privacy impact assessments when procuring products and call for new approaches to procurement assessment to ensure products still meet the needs of the end user without requiring additional skills or exposing them to risk.

The KLS professional's role in AI literacy

A large group of KLS professionals worked together to share their experiences of using different generative AI tools and examined them through their Community of Practice (CoP). This developed the skills, knowledge, and confidence of members and produced much-needed educational resources concerning AI tools for both professional development and supporting user education.

The outputs at present are four presentations which can be repurposed and shared, with more topics in development. The topics currently covered are:

- *Getting started with AI: what is it.* Looks at the definition and different types of AI, with examples of use within healthcare. It also introduces some of the terminology like Large Language Models and the use of tokens in generative AI. It also challenges misconceptions around job loss.
- *Ethics of AI.* This considers what good and poor implementation of AI looks like, and its impact. It introduces a range of ethical frameworks, copyright considerations, the health data ecosystem, impact assessments for workforce and around digital inclusion, bias and health inequalities. It also provides advice on preparing for change and frameworks to ensure quality project planning.
- *Generative AI and prompt engineering.* Highlights good practice principles like transparency, human oversight and consideration for the environment. Introduces some popular tools, differentiating between tools useful for searching, and tools useful for search strategy generation, guidance for structuring prompts and practical examples to experiment with. This presentation encourages users to purposefully prompt tools to hallucinate, thus enabling them to spot how tools can hallucinate if they are not used correctly.
- *How can I tell if it is AI generated?* Introduction to the SIFT health literacy framework, tools to support fact checking, how to spot deepfake videos, assignment submissions, job applications, journal articles and images. It also re-introduces good practice when using AI to ensure content is ethical and of high quality.

Practical examples

Large Language Models (LLMs) excel at language-based tasks. Knowing how to use these tools effectively is a skill well-suited to KLS professionals (5). The use of generative AI tools is an enhancement of core skills which are already predominant in the KLS profession; thinking critically about the information we read, collating knowledge for our service users, and ensuring the continuation of evidence-based practice.

Semantic search is distinct from keyword searching and offers context-specific results, using an underlying model to map relationships between words to give

more context and improve accuracy, compared with traditional keyword searching which matches words accurately, but may not disambiguate multiple meanings. Models may include an LLM or vector database to expand on hierarchical taxonomy structures, by mapping relationships between concepts and phrases. With medical subject headings, this may include relationships such as "is a treatment of" or "is a test for". This may reduce the need for, for example, generating large list of synonyms as the context will ensure results are accurate. However, it may also contribute to bias and discourage the searcher from thinking more broadly about the topic and different contexts and culturally dependent terminology.

Much like individual search behaviours, KLS professionals have developed their own methods of using generative AI tools to support their work.

Using generative AI may be a new skill, but the responsibilities remain the same. While generative AI tools can save time and improve quality, it is imperative that KLS professionals continue to diligently check their work for error, and reference source material appropriately. All information uploaded or inputted onto generative AI tools must not contain identifiable information and must be freely available online. Tools must be used transparently, and in line with any available guidance.

Generative AI tools can assist with generating search strategies, improving evidence summaries, and developing communicative content for service users.

Prompts, and inputs, can greatly impact the quality of generative AI responses (6). The more defined the prompt, the more defined the response. For example, asking a generative AI tool to summarise the Advanced Practitioner workforce will provide a generic response, likely with bias favouring US Advanced Practitioners, which is a slightly different role to the UK.

Uploading a list of journal article abstracts to a generative AI tool on the topic of Advanced Practitioner roles and asking pertinent questions such as "what is an Advanced Practitioner?" and "List some challenges faced by Advanced Practitioners" will provide a richer, more evidence-based response.

Asking tools to use UK English, drawing solely from the material you share with them, will also enhance the quality and relevance of responses for the target audience.

Ultimately, remembering that the responsibility lies with the searcher to check results are accurate and relevant, and understanding enough about how the search operates to fix common mistakes and help users refine queries will still be needed. Seeing the tools as support, and not a substitute for our expertise, is also important. For example, when creating an evidence summary, using a prompt to draw out key details or suggest categories can help this stage of the summary, but it does not truly 'understand' the response. The KLS professional has ultimate ownership of the summary creation, applying their expertise and domain knowledge to produce this.

Case studies
Screening and classifying search results
Amy Finnegan (senior information specialist), NICE
At the National Institute for Health and Care Excellence (NICE) the in-house reference management software (EPPI R5) is based on the University College, London (UCL) version of EPPI reviewer (7). The Digital and Information Technology Team incorporated two machine learning elements into EPPI R5:

1. *priority screening:* uses machine learning to order references in a review, presenting the ones most likely to be included studies first. This allows the analyst to stop the sifting process earlier once they have reached a threshold of irrelevant results. Additional checks are performed to ensure relevant results are not missed by terminating the screening process early;

2. *classifiers:* the randomised controlled trial (RCT) classifier allows the information specialists at NICE to further refine the search results for trial records. At NICE the classifier is used as an additional refinement, on top of using database RCT filters (e.g. the McMaster Balance RCT filter for use in OVID Medline and Embase). To use the classifier, the RCT results are exported in a separate file to the rest of the results, this is so other study types are not excluded by the RCT classifier. The results are then imported into EPPI R5, and the classifier is then run on the RCT files only. Records that have already been processed by a classifier (e.g. Cochrane CENTRAL records) are also excluded from this step. The classifier then provides a report of the number of records identified as either an RCT or a non-RCT. The non-RCT results are automatically assigned an exclude code but are still vis-

ible to the analyst sifting the review. The information from the report in then incorporated into the PRISMA-S write up of the search approach taken during a guideline search.

These are two examples of machine learning that are currently embedded into the search practices at NICE. Information Services continues to explore other ways machine learning can be used to reduce the overall sifting burden for analysts (e.g. custom classifiers and pattern matching). This approach demonstrates that machine learning can be used as a useful tool for information professionals, enhancing rather than threatening roles.

Using AI to support article selection for systematic reviews

Sophie Castle (clinical librarian) and Richard Pemberton (KLS strategic manager), Medway NHS Foundation Trust
A part of the KLS role is to assist NHS staff and students who are undertaking systematic reviews. The library identified ASReview as a potential support tool. ASReview is a Scandinavian AI system that will assist with screening the literature and reduce the time spent finding the most relevant documents for a study topic. The library presented the tool to Medway NHS Foundation Trust Consultants as part of a research group meeting. This led to the training of Junior Doctors and other NHS staff, within the library, on how to use ASReview as part of a systematic review process. As part of implementation, permission was granted to install Python on all site PCs to run the system.

This has led to staff and students being able to complete systematic reviews in weeks, rather than months. It has raised the library profile within the hospital, especially regarding provision of research support. Potentially this system could be applied to any other evidence-based documents.

AI as a learning tool

Josiah Richardson (senior library assistant), West Suffolk NHS Foundation Trust
The library team had no expertise in Excel and found it difficult to translate online tutorials into the specific data and tasks. A combination of ChatGPT4 and Bard was used to guide through functions such as COUNTIF, COUNTIFS, and referencing cells across multiple sheets. A description was provided of the worksheet layouts and terminology without sharing sensitive data.

When initial formulas failed, the AI application provided troubleshooting tips on checking parts step-by-step, verifying date formats, and fixing typos. In a similar exercise, AI helped to organise data into a format that made it easier to extrapolate the required information.

The conversational style of the AI helped to boost Excel skills and improved confidence in working with complex functions and pivot tables. It supplemented current knowledge and taught effective problem solving. AI can be used in a collaborative way as a personal learning assistant on many topics.

Process automation of a continuous improvement repository

Susan Smith (KLS manager), Mid Cheshire Hospitals NHS Foundation Trust
When people want to do a continuous improvement (CI) project they submit form, PowerAutomate creates process "flows", which means that the form is sent automatically to CI team (to approve), the KLS team (to conduct a search or link with other people with similar interest) and project sponsor (to approve). Once approved the project is automatically added to a SharePoint repository with a folder created with all the necessary files and templates (including automatic naming). When the A3 project summary is completed, a certificate is issued, and the CI Team is notified to promote. A PowerBI dashboard was created by the library monitor the process and breakdown the submissions and stages of projects against the divisions.

The repository now has over 300 completed projects, reports into CI Facility meetings and integrates the library within the system process. Similar processes are now being used in the Trust to create a process for managing agendas and meetings through Microsoft Teams. Committee members are responsible for timely addition of reports and content for agenda creation and distribution.

Assistance with mapping the discovered literature and generating search strategies

Hannah Wood (knowledge specialist), NHS England Workforce, Training & Education (WT&E)
GPT-4 is being used to pull out key themes of literature searches. By asking it questions about searches, such as identifying common themes in abstracts found as part of a literature search, it has proven useful in

quickly identifying themes which can then be presented alongside the search as a "map" of the evidence. GPT-4 is also a useful tool for generating Boolean searches for Google, expanding on phrases and synonyms. It produces strategies and terms, which might not be previously considered.

It has enabled the provision of higher quality searches and evidence products. Sharing the knowledge with other KLS colleagues and showing service users how these tools can be used to effectively enhance searching.

Conclusion

When this work first began, one of the first questions asked was around how KLS professionals would use this technology. There was resistance; people feared job losses and could not identify how the technology could be applied to their work. However, KLS professionals are creatively adapting, and case studies are developing.

There are still many barriers to overcome.

Often project investment can be ad hoc. We need to work in partnership and create concrete business cases for investment to develop new services. We can also learn from others and share business cases to support implementation in other organisations. Our current approaches can be opportunistic, dependent on systems we can access by procurement, licence allocation, other tools may be blocked by IT departments.

There are barriers to copyright and a nervousness about the impact on the creative industries. We need to work in partnership to ensure that progress can happen in a way that is fair. There is a need for us to research and evaluate, so we understand the impacts.

Jobs are unlikely to disappear, but they are likely to change. How do we effectively work with our staff and our organisations to create these new digital – data librarian roles?

We know that this is a very fast changing field. How do we as a profession keep on top of the development to ensure we have the right people with the right skills, using the right tools and right information to deliver a fast efficient service for the benefit of the workforce and ultimately the patients we care for?

How will you personally learn, adapt, celebrate and share progress made in this field within your service?

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Generative AI and academic skills support at UCL: an institutional approach

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Abstract
The release of OpenAI's ChatGPT-3.5 to the public in November 2022 marked the beginning of a new era in which generative AI (GenAI) tools are widely available. This has prompted a need for academic skills support for students' use of GenAI in Higher Education. This article outlines UCL's approach to developing this support, with a particular focus on referencing and acknowledging GenAI. It includes achievements to date, current initiatives and discussion on challenges and perspectives for the future.

Key words: *artificial intelligence; generative AI; referencing; academic skills; higher education.*

Introduction and context

Artificial Intelligence (AI) has long been utilised in many capacities, but the release of OpenAI's ChatGPT-3.5 to the public in November 2022 marked the beginning of a new era in which generative AI (GenAI) tools are widely available to the general population. This has impacted on many aspects of society, and the implications are particularly complex in education.

This article outlines UCL's response to the increasing prevalence of GenAI, particularly its approach to academic skills support for GenAI, with a focus on acknowledging and referencing GenAI. It includes achievements to date and current initiatives and concludes with a discussion on challenges and perspectives for the future.
University College London (UCL) is ranked in the top 5 universities in the UK (1) and has the highest student numbers of all research-intensive UK universities (2). More than 60 departments make up 11 faculties across the university, with approximately 51,000 students and 16,000 staff. UCL's approach was therefore of significant interest in the sector, and its commitment to

Open Science principles ensured its policy and resources were made openly available to others (3).
Following the release of ChatGPT, UCL established a cross-institutional AI scoping group, which included senior leaders, academic experts, and support services staff, to ensure a UCL-wide approach to generative AI in education. With its early development of guidance in this area, UCL was a sector leader and informed the Russell Group's principles on the use of generative AI tools (4). Within UCL's AI group were 4 workstreams, each with a distinct area of focus: academic skills, assessment design, policy development and opportunities. This article discusses the work of the Academic Skills Workstream, which comprised members from UCL's support services, including the library, and academic staff, including AI experts.

Academic skills support

UCL chose not to ban use of generative AI, but instead advocated for responsible and ethical use. Supporting the development of AI literacy among students and staff was therefore a priority and was the brief for the Academic Skills Workstream. As AI lit-

eracy is an emerging area, it is not easily defined, but it includes understanding its capabilities and limitations, having the skills to use it productively and effectively, the ability to critically evaluate AI tools and outputs, and to use it responsibly, ethically and transparently (5, 6).

Gathering evidence

The Academic Skills Workstream included representatives from UCL Library Skills, UCL Digital Skills, the UCL Academic Communication Centre, academic departments and UCL Arena (UCL's centre for support for teaching staff), and so provided input and perspective from a wide representation of UCL staff groups. However, an informed approach to AI literacy support also required an understanding of the student experience and viewpoint. In March 2023 the Workstream therefore ran a series of student focus groups, recruiting participants through the Student Union Academic Representatives network, ensuring balanced involvement from students across disciplines and level of study. The focus group aims included gaining an understanding of students' experience of using GenAI tools, their thoughts on its ethical use, their perspectives on the clarity, fairness and utility of UCL's initial guidance, and suggestions and expectations for how UCL could support ethical use through resources and training.

The activities of the Workstream were also informed by the AI group's collaborative monitoring of developments across the sector, including through literature and attendance at relevant events.

Priorities

The focus groups identified a need for students to receive timely, mandatory guidance on the ethical and appropriate use of GenAI, integrated into their academic programmes through in-person and online training (7). The workstream agreed and delivered on initial priorities of a webpage to provide a single point of access to all information, a teaching toolkit for academic staff to use with their students, a self-paced online introductory module on GenAI, and guidance on acknowledging and referencing the use of GenAI in academic work. The Academic Skills Workstream also consulted on the work of the Assessment Design Workstream to expand academic integrity guidance to include the use of GenAI.

Acknowledging use of generative AI and referencing generative AI

At UCL, the library provides training on referencing and the use of reference management software, as well as maintaining detailed online guidance for referencing (8). Responsibility for leading on the development of UCL recommendations for acknowledging use of GenAI and referencing GenAI therefore was recognised to be the library's remit.

UCL does not mandate the use of a single referencing style. While many academic departments specify a required style, others allow students to choose. The library maintains detailed guidance for the Harvard referencing style, which is widely used across UCL and beyond, receiving over 1 million views in 2023 (9). Despite this disconnected approach to the choice of referencing styles across the institution, a consensus position on acknowledging GenAI and referencing GenAI was desirable to facilitate the development of guidance, which in turn was critical to support students' transparent use of GenAI.

Challenges

As GenAI has evolved rapidly, there is as yet no consensus on how to acknowledge its use or to reference it. To inform the development of such guidance at UCL, a review was undertaken of guidance where it existed at other Higher Education institutions, from publishers and in standard referencing styles. At the time of the review (June 2023), many did not yet have guidance publicly available.

In line with many other institutions, initial UCL guidance advocated for acknowledgement of the use of GenAI to include extensive description of the processes and output generated from GenAI tools. This was challenged by student feedback in focus groups. Students were concerned about the difficulties of fully describing their use of GenAI when they utilise multiple prompts and it becomes more difficult to distinguish between AI-generated and non-AI-generated work, and whether their assessed mark would be impacted if they were transparent about their use of GenAI. On the other hand, in discussion with the broader AI group and at faculty and departmental level it was clear that many staff felt they would not be able to judge the merit of a student's 'own work' without seeing in as much detail as possible the extent to which they had used GenAI, and exactly how they had used it.

There were additional challenges when it came to guidance on referencing GenAI, with differing opinions as to whether GenAI could be considered as an author and cited as such (10). Consultation with the broader UCL AI group and different disciplinary experts revealed exceptions that needed to be considered, highlighting the need for flexibility.

A flexible approach

We therefore decided to present UCL's guidelines on acknowledging and referencing GenAI (11) as recommendations, rather than policy, to allow for a flexible approach which could be adapted according to the context. They include minimum requirements for acknowledging the use of GenAI, with further suggested requirements which may be stipulated by a department, academic programme, member of teaching staff or for a particular assessment.

We have taken the standpoint of many academic publishers and the MLA referencing style (12) that an AI tool cannot be classed as an author, as it cannot take responsibility for its work, and therefore should not be cited as such. In addition, citing AI-generated content does not satisfy one of the key functions of a reference list, which is to enable the reader to identify the original source. UCL's recommendations, therefore, are not to cite AI as an author nor include it in the reference list. Exceptions are accepted, such as reference to a formally published output generated by AI, where GenAI is being quoted directly, or where a standardised referencing style requires GenAI sources to be cited as an author and included in a reference list.

To ensure the guidance on acknowledging the use of GenAI would not be interpreted in isolation from guidance on the principles of the ethical and responsible use of AI or misinterpreted as legitimising its use, introductory text outlining considerations for using generative AI in academic work is included in the guidance.

Current and future developments

Since producing UCL's guidance on *Acknowledging the use of AI and referencing AI*, the library has been developing further guidance and support for AI literacy in relation to the library research process, in line with the LibrarySkills@UCL information literacy framework

(13), and in consultation with colleagues in the Academic Skills Workstream.

Considerations around the use of GenAI have been introduced into existing library skills training sessions where relevant. These sessions highlight the importance of using tools to inform and assist the research process, rather than as tools to generate an assignment or research outputs, and focus on thinking critically about responsible use and the impact of using GenAI on the learning process. The library has also addressed the use of GenAI as a source of information in online learning materials and guidance (14, 15). Guidance will soon be expanded to cover evaluating information in the context of GenAI and using GenAI to inform the process of searching for information, including for systematic reviews. All guidance will continue to be reviewed and updated.

Discussion

While it is perceived that many students across UCL are utilising GenAI tools in various contexts to inform their work, few are acknowledging its use. Reasons for this should be investigated. It is possible this is owing to lack of awareness of the guidance, but it is more likely owing to students' concerns as identified in the early focus groups: that transparency about their use of GenAI might have a negative impact on their assessed mark, issues with acknowledging in detail being too complex where use of AI tools is so fully integrated into workflows, and/or the extra work involved in acknowledging GenAI use making it impractical. Where the benefits of utilising GenAI tools for productivity are outweighed by the effort of ensuring complex acknowledgement of its use, such recommendations become obstructive. These issues will only increase as GenAI is increasingly integrated into existing technologies, which may result in users being unaware they are utilising AI. This will make acknowledgment of its use unsustainable.

Since February 2024, staff and students at UCL now have access to the Enterprise version of Microsoft CoPilot, which utilises GPT-4 and can generate text and images, with the added security of commercial data protection. With UCL facilitating this access, and so endorsing its use, it is critical that students are equipped with AI literacy skills to use it effectively and

responsibly. This poses a further challenge, as AI literacy is new not only to students but to staff who must develop skills themselves to be able to support students. A culture of supportive collaboration is essential. Within the department in which UCL Library Services is based (LCCOS (Library Culture Collections and Open Science)), an AI group has been established with a remit to identify opportunities and concerns relating to AI in the context of its services and support, and to help inform relevant LCCOS guidance on AI, including further incorporating AI guidance into existing skills offerings. LibrarySkills@UCL guidance and online materials are licensed under CC BY-NC-SA 4.0, enabling sharing across communities beyond UCL.

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AI in action: boost your information skills training promotion with ChatGPT integration

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Abstract

The integration of ChatGPT into library promotions has transformed promotional efforts for the library team at King's. With its adaptability, ChatGPT enables the creation of personalised, dynamic email content tailored to specific interests swiftly. This not only enhances promotional effectiveness but also saves considerable time, allowing the team to focus on other services like literature search support. Consistently, ChatGPT has increased attendance and service uptake, showcasing its potential to enrich promotional activities, amplify impact, and strengthen connections with patrons. This technological advancement is instrumental in advancing the role of library professionals in the digital age, demonstrating the profound impact of AI integration in library services.

Key words: *ChatGPT; library promotions; information literacy; hospital libraries.*

Introduction

In today's rapidly evolving healthcare landscape, where new information emerges constantly, the ability to access reliable and evidence-based resources is paramount for healthcare professionals. This necessity underscores the critical role of information literacy, which encompasses the capacity to evaluate, analyse, and utilise information effectively. According to CILIP "Information literacy is the ability to think critically and make balanced judgements about any information we find and use" (1).

Studies have consistently shown that information skills training sessions have a profound impact on users. These sessions not only empower healthcare professionals to navigate vast repositories of information but also foster critical thinking skills essential for refining the quality and relevance of information. As a result, attendees express increased confidence in their capacity to locate relevant information swiftly and proficiently. By equipping healthcare professionals with enhanced information-seeking abilities, information skills training contributes to better-informed decision-making processes. This, in turn, translates into improved patient outcomes (2, 3).

The significance of information skills training is further underscored by research conducted across Health Libraries in England. Their survey findings highlight the tangible benefits of such training across patientcare, learning and teaching, research and service development. These insights highlight the impact of information literacy initiatives, emphasising their pivotal role in supporting healthcare professionals as they strive to deliver optimal care in today's complex healthcare environment (4).

Objective

The objective of this study is to investigate the influence of promotional emails generated by ChatGPT on individuals' decision to enrol and attend information skills training sessions. The analysis will focus on understanding user's information seeking behaviour based on their job roles and identifying the potential opportunities for collaboration to address specific information needs within the departments. By examining the efficacy of ChatGPT-generated emails and possible outreach opportunity, this research seeks to inform strategies for optimising promotional efforts and enhancing the relevance and impact of information skills training sessions.

Limitation of the study

The team has specifically measured the effects of regularly scheduled information skills training, excluding other forms of training such as bespoke sessions and

those tailored for F1 (Foundation year 1 doctors), F2 (Foundation year 2 doctors), and IMTs. Internal Medicine Training (IMT) is the primary entry point and initial stage of training for those trainees who wish to follow a career in medical specialties.

Background

The Libraries at King's are constantly seeking innovative ways to promote their information skills training sessions and encourage greater attendance among users. Despite offering a diverse range of courses, they face the challenge of effectively reaching out to their target audience. Recognising the importance of maximising outreach through email campaigns and contributing to improved patient care, the team acknowledges the significant skills, time, and effort required for successful marketing emails. In their pursuit of leveraging current technologies to enhance service development, the team has turned its attention to AI, particularly ChatGPT.

ChatGPT is an AI language model developed by OpenAI. It's part of the GPT (Generative Pre-trained Transformer) series of models, designed to understand and generate human-like text based on the input it receives. It can perform various language-related tasks such as answering questions, generating text, translating languages, and more. ChatGPT is trained on a large dataset of text from the internet, allowing it to understand and generate responses in a conversational manner.

Exploring the potential of this platform, the team aim to transform their promotional activities. Through this approach, they hope not only to increase attendance at their training sessions but also contribute to the broader goal of enhancing patient care through improved access to evidence-based resources.

Exploring the integration of ChatGPT in library service: implications and considerations

Before initiating the project, the team embarked on exploring the potential benefits of integrating ChatGPT into library services. Through a comprehensive literature search, the findings revealed promising insights. Numerous studies have underscored the platform's potential across various domains, encompassing information retrieval, reference assistance, language support,

user engagement, personalisation, information literacy, collection development, cataloging etc.

However, amidst the enthusiasm for its capabilities, it's imperative to recognise that ChatGPT should serve as a complement to human librarians, acknowledging its inherent limitations and potential risks. Addressing concerns surrounding privacy and data security, establishing ethical guidelines, ensuring quality control and validation, providing user training and awareness, and seamlessly integrating the technology with existing systems are paramount considerations.

Continuous research, coupled with vigilance against bias and discrimination and solicitation of user feedback, are indispensable for the responsible and effective utilisation of ChatGPT within library services. By adhering to these principles, libraries can harness the full potential of AI technologies while upholding their commitment to serving their patrons ethically and responsibly (5-9).

How ChatGPT helps spread the word about training sessions

The emergence of AI-powered tools like ChatGPT has indeed remodeled the approach to promoting information skills training sessions. It has significantly boosted the promotion and its implications for enhancing outreach and engagement.

- *Making things easier:* ChatGPT has simplified team's workload by swiftly crafting compelling emails and messages for promoting the training sessions (*Box 1*). Rather than investing substantial time in writing, they can delegate this task to ChatGPT.
- *Personalisation and customisation:* among ChatGPT's standout attributes is its capacity for personalisation and customisation. By tailoring promotional messages to suit the specific interests and preferences of diverse target audiences, ChatGPT has facilitated more focused and impactful communication.
- *Expanded outreach:* its ability to create captivating content in a matter of seconds has enabled the team to reach a wider audience through various channels, including email campaigns. This broader outreach has translated into increased awareness and participation, ultimately contributing to the success of the training sessions.

Box 1: Example of email promotion for information skills training sessions compiled by ChatGPT.
Subject Heading: Elevate Your Research Skills: Information Skills Training exclusively for King's Staff this January and February

Dear King's Staff,
Supercharge your research capabilities with our information skills training program!
Are you ready to take your research skills to the next level? Look no further! We are thrilled to introduce a dynamic Information Skills Training program tailored exclusively for King's staff members.

Aim of the training: unlocking the power of reliable evidence
Our online workshop is designed to empower you in finding reliable evidence to enhance the quality of patient care and decision-making. Key areas covered include:

- Gain insights into efficiently accessing e-journal articles and e-books through the NHS Knowledge and Library Hub.
- Learn to utilize evidence-based resources like BMJ Best Practice and DynaMed, TRIP PRO effectively.
- Identifying other essential healthcare resources and their content
- Exploring different search techniques, including phrase searching

Why attend? Navigate our e-resources with confidence!
In today's digital age, the ability to navigate and extract valuable information from online resources is crucial. Whether you're a seasoned researcher or just starting your journey, our comprehensive training will equip you with the skills you need to excel.

Limited spaces available – Secure your spot today!
With limited spaces left, we encourage you to secure your spot now! Booking your place is quick and easy – simply click on the links below to reserve your spot in the courses that align with your interests.

Need assistance? We're here to help!
If you have any questions or need additional assistance, don't hesitate to reply to this email. Our team is here to support you every step of the way.

Data collection

Since April 2023, the library team has incorporated ChatGPT as a key promotional tool in their strategy. The team utilise "Bookitbee,"(www.bookitbee.com) a user-friendly platform for reserving spots for training sessions. This platform facilitates the collection of participant information, encompassing personal details such as their name, email address, the name of their organisation (given King's diverse hospital network), job title, and department. Additionally, "Bookitbee" furnishes analytics on ticket sales, offering insights into attendance metrics which enables the team to download comprehensive reports, for further analysis.

By leveraging the combined capabilities of ChatGPT and "Bookitbee," the team has established an integrated framework for promoting their training sessions efficiently and monitoring the uptake of number of attendees over the timeframe April 2023 to March 2024.

Data analysis and findings

Analysis of the total number of training sessions conducted and the attendance over the past five years

In the analysis of the training sessions conducted annually from April 2020 to March 2024, it becomes evident that each year, the team consistently organised a similar number of sessions, with figures ranging from 19 to 26 (*Table 1*). The one exception is the period April 2019 – March 2020, which pre-dates the COVID pandemic with a larger number of sessions (42) pre-dominantly delivered face-to-face instead of virtually. However, a notable surge in attendance occurred in April 2023 – March 2024, attributed to the integration of ChatGPT in promotional activities.

During April 2022 – March 2023 the library team encountered challenges due to staffing shortages, likely contributing to lower attendance levels during that time. Despite these challenges, ChatGPT's significant impact on information skills training promotion and the uptake of attendees per session remained apparent.
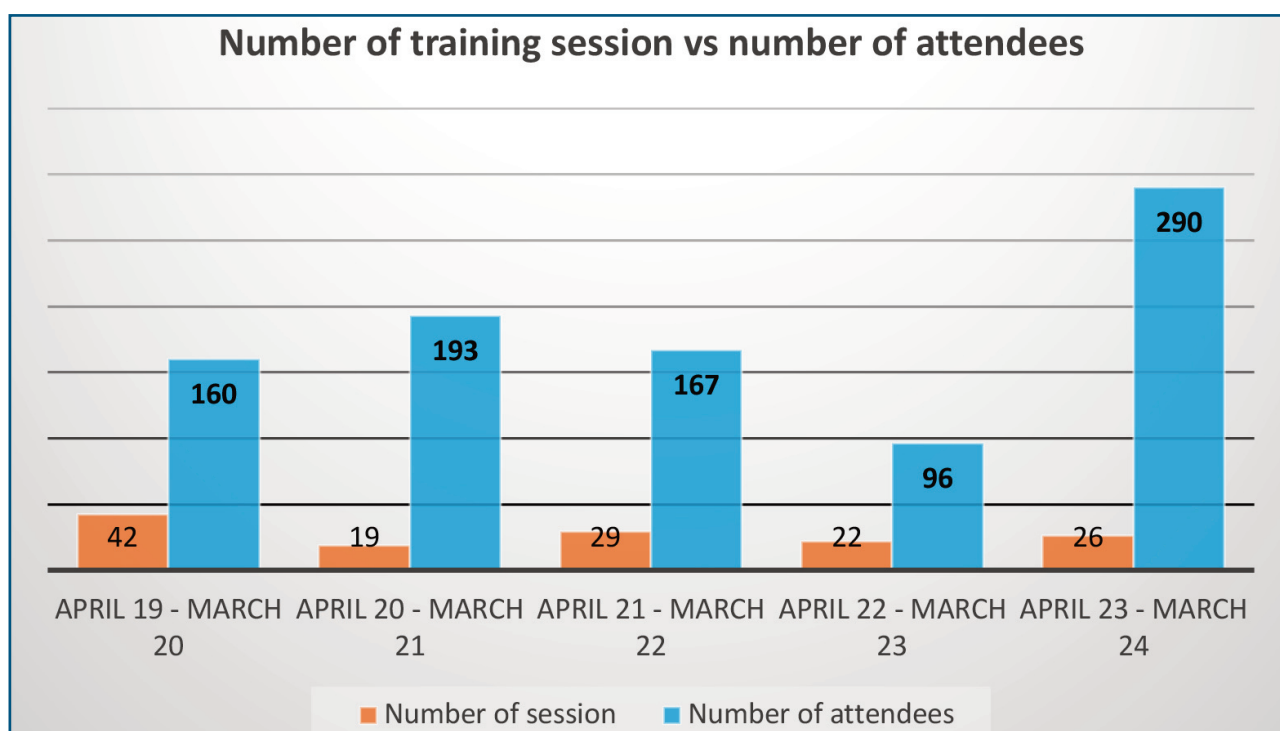

Table 1. *Number of training sessions vs number of attendees.*

Analysing session attendees by job role

The data offers insights into the distribution of personnel across various roles within the organisation who participated in the training sessions (*Table 2*). Doctors represented the largest cohort with 116 individuals (40%), closely followed by nurses at 112 (38.62%). Allied health personnel comprised 21 (7.24%), while administration roles and additional clinical support were represented by 22 (7.58%) and 14 (4.82%) individuals, respectively. Professional scientific and technical roles constituted only 5 individuals (1.72%).

This data underscores the critical need to prioritise access to up-to-date, evidence-based information for healthcare professionals, particularly doctors and nurses, given their pivotal roles in patient care. Additionally, it suggests a potential necessity for information skills training among these groups. In today's rapidly evolving healthcare landscape, adept information management is indispensable for delivering quality care, ensuring patient safety, and staying informed about the latest advancements.

Equipping doctors and nurses with improved information retrieval and evaluation skills enables them to access a wider array of evidence-based resources, ultimately resulting in elevated standards of patient care and outcomes.
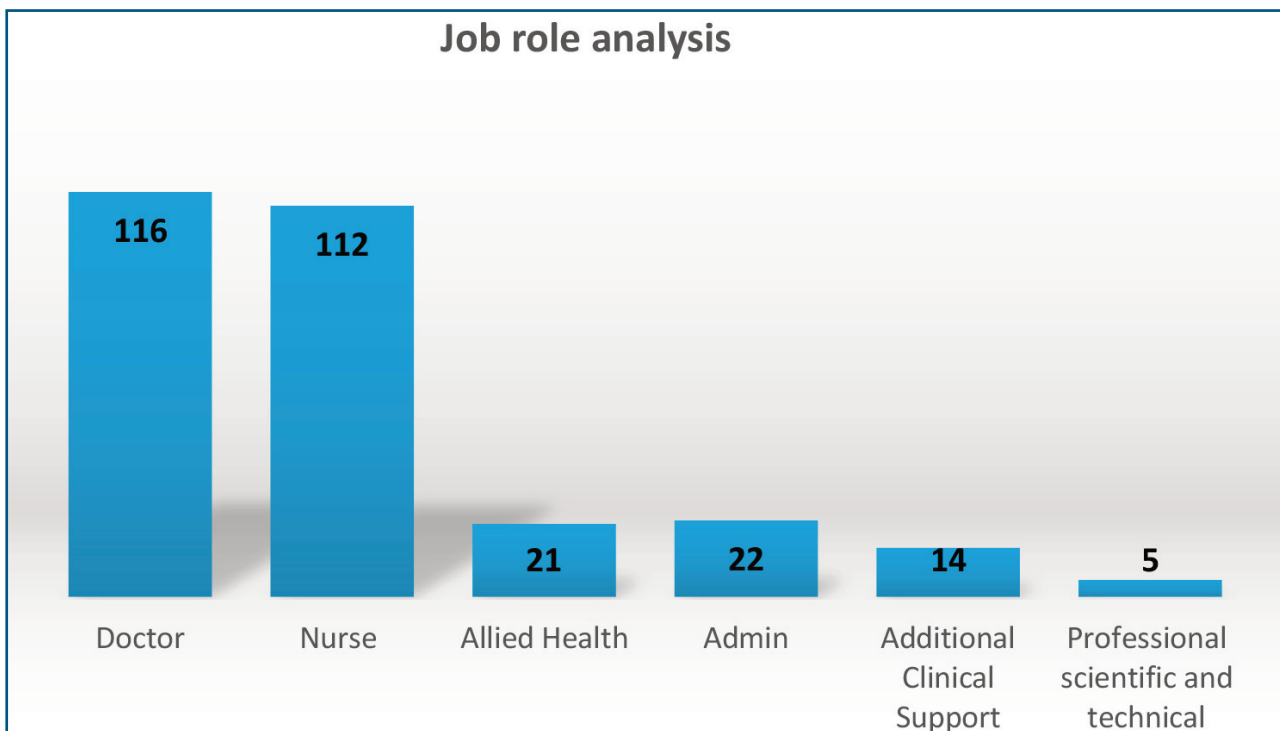
Job role analysis

Doctor	Nurse	Allied Health	Admin	Additional Clinical Support	Professional scientific and technical
116	112	21	22	14	5

Table 2. *Job role analysis.*

Analysis of departments with most frequent booking
After analysing the departments with the highest booking rates, it's evident that Critical Care stands out with 25 bookings, followed by Liver, Cardiac, and others (included only top 5 departments) (*Table 3*). This underscores a significant demand for additional research within these departments, providing a potential opportunity for the team to collaborate with them. Through specialised training team can address the gap between their information needs and the practical application of evidence-based resources. This initiative aims to enhance patient care by fulfilling their research needs and seamlessly integrating evidence-based practice into their daily activities.

Department	Number of Bookings
Critical Care	25
Liver	24
Cardiac	12
Haematology	11
Renal	10

Table 3. *Departments with most frequent bookings.*

Key strategies to generate relevant content with ChatGPT

- To enhance ChatGPT's understanding and output, the team consistently offer specific examples of the content that they aim to create. This approach aids in improving comprehension and generating more relevant responses.
- ChatGPT occasionally produces overly complex writing. To address this, they prompt it to use simpler language, ensuring that the content remains accessible and easy to understand for the intended audience.
- They found that presenting ChatGPT with an initial example of the content they want to generate, followed by a prompt to rewrite it, yields better results. This process helps refine the content and ensures it aligns with expectations.
- To enhance readability and attractiveness, they prompt ChatGPT to include bullet points and engaging heading and subheading in the content. These formatting elements make the content more visually appealing and easier to read.
- ChatGPT's ability to suggest subject headings for email content is particularly valuable. By leveraging

this feature, they can obtain suggestions that improve the clarity and relevance of the content, enhancing its overall effectiveness.

Conclusion

In conclusion, the integration of ChatGPT in promoting information skills training sessions has proven to be a powerful and innovative approach. The results constantly showing that it consistently enables team to increase attendance and uptake, showcasing its potential to enhance promotional activities and engage more users effectively. ChatGPT stands as a valuable tool that can enhance the impact of the library services, strengthen connections with patrons, and advance the role of librarians in this digital age. By tailoring promotional efforts to match the diverse information needs of healthcare professionals, the team can continue to optimise outreach and engagement, ultimately leading to improved patient care outcomes.

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Applying automation to maintain research registers in health promotion

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Abstract
Maintaining research registers and similar content can be resource intensive. Automation tools can help in identifying, assessing and describing content. This article describes some challenges and opportunities using automation to support coverage, keywording and improve sustainability for two research registers of health promotion effectiveness.

Key words: *health promotion; databases as topic; automation.*

Introduction

Health promotion research is challenging to identify owing to its breadth of topics and terminology. For over 20 years, the EPPI Centre has maintained two publicly available research registers that focus on research of the effectiveness of interventions in health promotion. Their longevity and focus make these unique resources that are useful for identifying such research, whether from brief enquiries or as a resource for conducting systematic reviews. They have largely been maintained through manual processes, which are challenging to maintain within the resources available. Although processes have been streamlined over the years and augmented using automation tools, a major change is using automation tools undertake the bulk of the processes, which will improve currency and sustainability. We describe here some of the challenges and opportunities from undertaking this shift across the processes of searching, screening, and keywording, and on forthcoming changes to the user-interface.

Context

The Trials Register of Promoting Health Interventions (TRoPHI) focuses on controlled trials and Database of Promoting Health Effectiveness Reviews (DoPHER) focuses on reviews (1). They contain over 20,000 and 9,000 records of research, respectively. They were developed following a methodological study of effectiveness reviews in health promotion (2) and undertaken as part of the former Systematic Reviews Facility in Health Promotion and Public Health at the EPPI Centre (UCL). TRoPHI was the research register of the former Cochrane Health Promotion and Public Health field (1996-2008). Initially, they were compiled from searching and coding research for systematic reviews of all study designs of health promotion research within the Bibliomap database (now archived) (1), and included content from the Field's initiatives to identify trials not indexed in electronic databases, and conference abstracts (3). The registers are now maintained as part of the EPPI Centre's Policy Reviews Facility, which uses research from across health, public health social care, much of which goes beyond effectiveness research within health promotion (4), and which is funded by the UK's National Institute for Health and Care Research (NIHR). The Facility's current focus is much broader than the coverage of the two registers. The registers are also useful for investigating aspects of using automation tools to support reviews of research, a core activity within the EPPI Centre, and uses tools available within EPPI-Reviewer, a systematic review management tool developed in-house (5).

What is within the scope of health promotion research registers?

Unfortunately, there is no clear boundary of what falls within scope of health promotion intervention research, though it includes the promotion of changes of

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behaviours to improve health through education, communication or structural means, rather than from drug or surgical treatments. It also includes interventions to improve caregiver health, improve health-protecting factors or reduce health risk factors, and includes public policies to improve equity of health service delivery. Topics include drug use, obesity, mental health, sexually transmitted infections, uptake of medical care, such as vaccinations and screening, hygiene and accidents, among others. It does not include rehabilitation, management or treatment of people's existing health conditions. It also concerns effectiveness rather than efficacy, such as exercise programmes to prevent hypertension, rather than exercise for preventing hypertension. Whether such research meets these requirements is assessed by the topic, intervention and outcomes measured that are described within titles and abstracts of research records.

Identification – increasing content from a graph-based recommender

Since 2004, a core part of maintaining currency and breadth of content has been from routine searching using keywords for health promotion, rather than keywords targeted on topic areas of interest, with additional website scanning to find reviews. For example, the PubMed search uses text words for the phrases "public health" "health promotion", "health education" "primary prevention" and MeSH terms for services in community health, child health, sanitation, preventive health, mass screening (for example), along with terms for randomised and non-randomised controlled trials. However, recently studies are also identified by a network graph "search" using OpenAlex within EPPI-Reviewer (5) (formerly using the discontinued Microsoft Academic Graph). The "search" is a recommender system which finds records that are similar to records that are within the register, Similarity is based on text in the titles and abstracts, citation connections, authorship, topics, and the set of records as whole. It was introduced based on previous work to produce a register on COVID-19 research (6-8). This method identifies more relevant records than the earlier approaches, partly owing to the large content coverage of OpenAlex, and is not solely dependent on terms for health promotion in the titles, abstracts and indexing. However, the great volume of content increases the workload of screening, whereby each record is checked for eligibility.

Screening – using machine classifiers

For many years, a machine learning classifier has been used in TRoPHI to rank records by relevance and automatically screen out the least relevant. The classifier was developed from using relevance decisions of humanly-screened records and checked against sets of gold standard data as described in Stansfield et al. (9). The classifier has subsequently been updated with more training data and applied to achieve 95% recall. A different classifier is used in DoPHER. However, given the increase in volume of records from research publishing generally, as well from using OpenAlex, we are investigating a threshold of automatic inclusion and exclusion without any human screening. While this approach inevitably introduces research records into the register that would ideally be screened out by a human screener, it helps makes the maintenance of the registers more sustainable and increases coverage. Although such a threshold may compromise recall and is a significant shift from previous procedures, which aimed for high recall of all relevant records from the searches, it is appealing in favour of providing currency, breadth and sustainability.

Keywording – using a large language model

Historically, both registers contained manually-applied keywords based on titles and abstracts for TRoPHI, and the full-text for DoPHER. Around 2013, this was replaced by no keywording for DoPHER and streamlined keywords for TRoPHI to study design, topic focus, population focus and country setting. User data over three months during 2013 and 2023 both showed that users favoured free-text searching. However, with the introduction of greater content from OpenAlex, the application of keywording could be increasingly useful for navigate these resources. Furthermore, the use of keywording supports greater visualisation of the database (described further down).

One solution is EPPI-Reviewer's beta-tool for automating data extraction using the large language model GPT-4 to apply keywords from text in the title and abstract (10). It is proving very promising and tests are ongoing to reduce some inaccuracies before finalising its use. Algorithmic keywording or indexing is challenging to achieve full accuracy and completeness, as highlighted recently by Amar-Zifkin et al. (11) in their commentary on its use in MEDLINE. However, our tests

with TRoPHI showed that the tool identifies relevant keywords that a human keyworder missed. Furthermore, the tool has promise for identifying certain traits present in some irrelevant records (such as study designs without a comparison group), and so could also be applied to support quality assurance of content and help remove these records. The consistency of GPT-4 in applying codes is also an aspect to investigate further. The model of humanly-applying codes requires interpretation of the abstract and applying to the most suitable keywords from a keyword tool. To use GPT-4, each keyword within the tool is translated into a yes or no question or "prompt", so that if the answer is true the keyword is assigned. For example, to keyword a record as being about mental health, the prompt asks if the focus of the intervention or outcome is about mental health. However, further specification has been needed than was present in the human guidance to include caregiver burden, self-efficacy, isolation and others into the same prompt for "mental health". This potentially introduces systematic bias to the keywords, whereas previously the bias would have been human interpretation on a case-by-case basis. Writing the prompts has required a tweaking of the health promotion keywording tool, largely unchanged since 1997. For example, a new keyword for diaspora and displaced populations is a useful addition.

Improved visualisation

The registers are being transferred from their old interface onto EPPI-Vis, which provides greater functionality and visualisation of content through graphical display of publication year and an interactive evidence maps. TRoPHI has functions for frequency and cross-tabulations based on available keywords. We expect the opportunities provided by automated keywording will enable this to be current for both registers, and will augment the basic search functions. A challenge is the expectations of users in utilising the keywords, and that they provide a greater functionality supporting exploration of registers rather than serve as definitive labels.

Conclusion: overall reflection and applicability

Maintaining research registers and similar content is resource intensive and there are many examples of specialist resources ceasing, most recently Social Care On-line (12). Using automation tools is one way to improve sustainability though bring to the fore the trade-off decisions of coverage, and accuracy of keywords. In the case of TRoPHI and DoPHER, we consider these relatively low-risk for their purpose. The automation tools applied here generally perform better on records with abstracts than titles alone, and so there is a risk that title-only content, including grey literature without abstracts will become less findable. Automation can support identification and classification of research though there appears to be a lack of standards and transparency in what is acceptable in terms of system performance. Furthermore, there is a danger that automation influences how we think in a way that perpetuates hidden biases with unforeseen consequences that might be different to humanly-curated systems. As always, careful communication to the users is needed to support the use of resources. This work is part of a number of initiatives supporting collation of registers. Other examples include the FAIR database (13), and living maps of research, such as the COVID-19 living map (7) which draw on other types of automation tools and processes.

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Feature Article

The role of ChatGPT in developing systematic literature searches: an evidence summary

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Abstract

This evidence summary explores the potential and limitations of using ChatGPT for developing systematic literature searches. A systematic search identified the current peer-reviewed and grey literature. Studies were selected according to eligibility criteria. Included studies were analysed and synthesised narratively, focusing on the strengths, limitations, and recommendations for using ChatGPT to assist with the systematic literature searching process. Current literature is mostly opinion-driven, and there is limited published literature originating from the library and information profession. At present, limitations outweigh the strengths of ChatGPT for systematic literature searching, caution should be exercised, and human oversight is essential. More research is required, and information specialists and librarians are in a prime position to develop guidelines and share examples of best practice.

Key words: *artificial intelligence; information storage and retrieval; systematic reviews as topic; methods.*

Introduction

Health librarians and information specialists have long contributed to the conducting of systematic reviews for clinical decision making and evidence-based medicine (1). Typically, the information specialist role in a review team would be to design and conduct systematic searches across a range of information sources, including bibliographic databases, trial registries and grey literature (2). The rapid growth of scientific literature presents challenges for the information specialist, and has an impact on the quest for a comprehensive search. Large language models (LLMs) like ChatGPT, with their ability to process information and generate text, are attracting attention for their potential to revolutionise information retrieval (3, 4). Currently, there is a lack of guidance on how we, the health library and information community can harness this potential to aid our work, and little is known about the effectiveness of these AI tools in practice. The aim of this article is to identify and summarise the current research literature on using ChatGPT to develop systematic literature searches.

Methods

Eligibility criteria

Studies were included if they involved researchers or individuals engaged in the development of systematic literature searches using ChatGPT. All versions of ChatGPT utilised for these purposes were considered. Studies investigating the use of other AI tools for developing systematic literature searches were excluded. No restrictions were applied regarding the date, language, or study design.

Information sources

Searches were conducted across PubMed, Web of Science, arXiv, PROSPERO, Cochrane Library (CENTRAL), and Google Scholar from their inception to 1 May 2024. Additional sources included citation searching and relevant organisation websites to capture grey literature.

Search strategy

Tailored search strategies were devised for each database to ensure comprehensive coverage of relevant

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literature. Given the novelty of ChatGPT, subject headings for this concept were unavailable, necessitating a strategy incorporating textwords, including synonyms and variations for both ChatGPT and literature search. For the complete PubMed search strategy, please refer to *Box 1*.

Box 1
PubMed search
("Chat Generative Pre-Trained Transformer" OR ChatGPT OR Chat-GPT) AND (Literature search* OR search strateg*)

Study selection
For the initial title and abstract screening, the total number of retrieved papers was divided equally among the review team using a randomly generated sample in Rayyan. Each reviewer independently screened their assigned portion of titles and abstracts.

Following the initial screening, the full texts of the included papers were retrieved for further evaluation. Disagreements during the full-text screening phase were resolved through discussion and consensus was reached.

Results
The database searches retrieved 438 references, and a further 20 references were identified through website and citation searching. All references were imported into EndNote and 340 references were left after deduplication. Following title and abstract screening against the eligibility criteria, 24 references remained. Following full-text screening, a further 8 were excluded, leaving 16 included publications in this review. Two publications were merged as they contained the same information in two different formats (blog post and editorial), therefore for the purpose of this review we counted those as one publication. From this point onwards, we will summarise the findings relating to 15 publications. A PRISMA diagram illustrating the search and selection process can be found below (*Figure 1*).
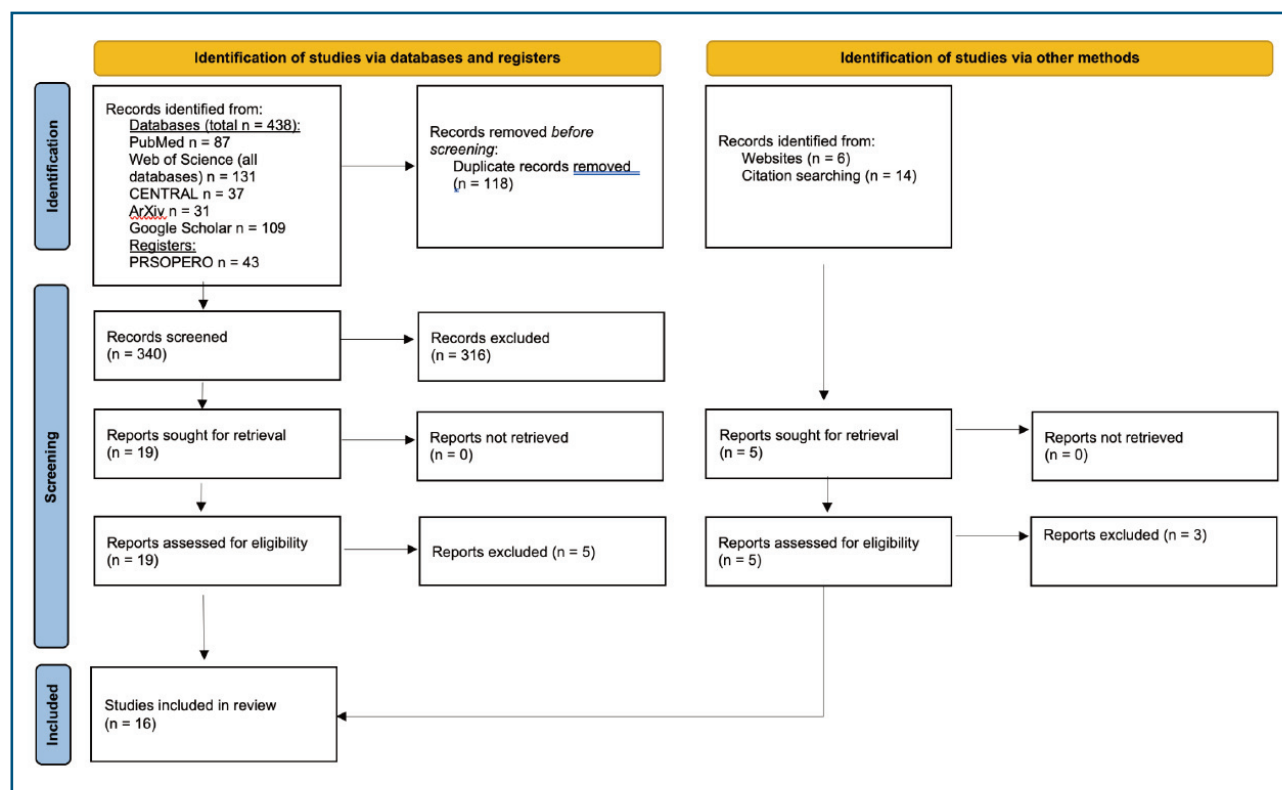
Fig. 1. *PRISMA flow diagram.*

Study characteristics

Over half of the publications included in this review are what we classified as "opinion pieces" (including letters, commentaries, editorials, blog posts). Four publications are articles in peer-reviewed journals (*Psychiatry Research, Journal of Clinical Medicine, JMIR Medical Informatics, Systems*) and two are published on preprint servers (e.g. pre-peer review). The majority of the publications are from the USA, with the remaining publications from Australia, Brazil, Czech Republic, and UK. We sought the author information roles from publications and checked for mentions of librarian/information specialist involvement. In all but three cases this was not reported. One single-authored publication was not by an information specialist role, and another publication stated that a librarian had been involved in validating the manual search strategy that was compared with ChatGPT. Only two publications were solely generated by library and information-based authors and these were our own on ChatGPT for systematic literature reviews and one on how ChatGPT and prompt engineering can be used in searching.

Strengths of ChatGPT for systematic literature searching

ChatGPT has the potential for generating search strategies, and there are some publications that suggest that this is possible, giving examples for PubMed/Medline and Scopus (5-10). In particular, Wang *et al.* (11) evaluate the precision and recall of ChatGPT's generated search strings and advise that these can lead to high search precision, to the expenses of recall. Some studies show that ChatGPT may also be helpful in translating search strategies from PubMed to Embase, Web of Science, Cochrane Library, and IEEE Xplore (5), and for ProQuest and Scopus databases (9). It is noted that ChatGPT could be a starting point for researchers unfamiliar with formulating search strategies (8, 12), but this would be at scoping stage, as the search strategies would need expert validation from a librarian/information specialist prior to utilising them for a systematic review. In the current literature, the limitations of ChatGPT appear to outweigh the strengths at this point.

Limitations of ChatGPT for systematic literature searching

While large language models like ChatGPT hold promise for various tasks, their application in systematic reviews currently faces significant limitations. These limitations hinder ChatGPT's current ability to generate comprehensive and reliable search strategies, a crucial step in the systematic review process.

The most often stated limitation in the current literature is ChatGPT's tendency to "hallucinate". Whilst in theory, ChatGPT can generate a search string, it struggles with database specific syntax and fabricates index terms such as MeSH headings (5, 8, 11-13), and is unable to execute the search once created (6). In some cases, ChatGPT states itself that it does not support database searching (8, 14). One publication raised the inability of ChatGPT to incorporate established search filters (for example to identify randomised controlled trials) in the search strings it produces (7).

ChatGPT has limited access to real-time data. The free version of ChatGPT, ChatGPT 3.5 (although in early May OpenAI has made available a free version of ChatGPT-4 on a limited basis), currently has a cut-off date of 2021, therefore concerns about currency are expressed in the literature. Alshami (6) emphasises the model's reliance on user prompts, which can be subjective and introduce bias. However, a manual search strategy is also subject to human input. Of more concern is the length of the prompts required and the iterative process, demonstrating that ChatGPT is unlikely to save time for the experienced information specialist. There is also a lack of transparency in prompts, and inconsistencies. Studies by Guimaraes, Qureshi, and Wang (7, 8, 11) raise concerns about inconsistent outputs, reporting different responses to the same research question at different times. This is because answers in such LLMs are non-deterministic, which may affect the reproducibility and transparency of searches.

Some publications attempt to validate ChatGPT against human-generated search strategies (14-18). However, it is not clear whether the manually generated searches have been validated or appraised for efficiency, so they may not be a reliable benchmark to use.

Recommendations from the literature

There are several important considerations to be considered when using ChatGPT for literature searches. While ChatGPT can assist in developing search strategies, relying solely on it is not recommended (7, 10, 19), and some authors suggest that traditional search methods and expert reviews are essential to ensure thoroughness and comprehensiveness (8).

Given the risks associated with hallucinations and inaccurate information, some authors even recommend against using ChatGPT at all for literature searches (14, 17).

To help mitigate these risks, it is essential to verify ChatGPT-assisted searches for accuracy and relevance. Human oversight is necessary to cross-check the validity of the information generated by ChatGPT (9, 13, 18). Implementing a structured framework, such as the one proposed by Alshami (6), may help integrate ChatGPT into the workflow with predefined protocols for human oversight, verification, and periodic reassessment of ChatGPT-generated outputs.

In terms of search strategy formulation, Boolean query development, as recommended by Wang (11), involve extensive refinement to ensure precision and comprehensiveness. Expert intervention is necessary to tailor the queries to the specific requirements of the systematic review and to optimise the search results (5).

Limitations and strengths of this study

This paper has certain limitations that should be acknowledged. Firstly, due to time constraints it has been developed at pace, which may have led to a less systematic and comprehensive exploration of the topic. To this end, it should also be noted that this manuscript has been augmented with the use of ChatGPT for summarisation and proofreading purposes. Secondly, the research question addressed in this study has been kept narrow by design, focusing specifically on the use of ChatGPT for developing search strategies for systematic literature searching. While this is a relevant area of study, it excludes broader discussions on ChatGPT's capabilities such as its use in creating literature reviews, aiding in clinical decision making, generating references, as well as the ethical and legal implications of using ChatGPT in education and research. All of these topics may offer invaluable intersections to help enrich the current discourse.

This study presents several strengths as well. In addition to traditionally structured searches, the adoption of iterative and purposive searching contributed to the identification of more sparse and unsystematic literature. As it has been discussed, "opinion pieces" represent more than half of the body of evidence on this topic, offering invaluable insights for our research. Another strength of this paper is that it has been devised and developed by information specialists/librarians, bringing a breadth of knowledge and expertise in the field of systematic literature searching. More significantly, this study has helped identify a research gap, which is the paucity of literature from information specialists/librarians on using ChatGPT for literature searches. In this regard, our review found that most studies included were not conducted by professionals in this field, despite their expertise in search strategies and systematic searching. This gap underscores the need for further research and contributions from information specialists/librarians, who are ideally positioned to provide insights and develop best practices in this area.

Call for action and conclusion

To address this gap, we would like to make a call for action and encourage more research that involves information specialists and librarians. The expertise brought by these professionals can significantly contribute to the development of a more informed and judicious use of ChatGPT for literature search processes. To help achieve this, opportunities for funding could be sought nationally, internationally or at institutional level to support the development of research initiatives to explore this topic.

In addition to this, the creation of a special interest group (SIG) across EAHIL, which focuses on the use of AI tools in literature searching could provide a platform for information specialists and librarians to collaborate, share knowledge, and advance the field. This SIG could organise conferences, workshops, and publications to disseminate findings and best practices, thereby contributing to the advancement of research in AI-assisted literature searches.

In conclusion, while this paper presents initial findings on the use of ChatGPT for developing search strategies for systematic literature searching, it also underscores the need for broader research. By involving information specialists and librarians, the academic and research communities can enhance their knowledge and understanding of literature searching and its applications within the context of AI. Future research, supported by appropriate funding and collaborative efforts, may be crucial in addressing the current gap and advancing the field.

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Letter from the President

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Dear EAHIL Colleague,

As I write this letter, we are on the brink of the much-anticipated EAHIL 2024 Conference in Riga. By the time you read this, the conference will have concluded, and I hope it was as enlightening and inspiring for you as I expect it will be. This year's theme, "Small Step and a Giant Leap: Reorienting Towards a New Environment", captures the need for libraries to adapt and thrive in an evolving landscape by embracing both incremental changes and significant advancements.

One of these changes in my day job involves the growing interest from universities and funders for quality assessment of science. In my university, the interest in bibliometrics is relatively new, while at the same time, many higher education institutions are signing the CoARA (Coalition for Advancing Research Assessment) agreement, taking them away from strictly using quantitative measures.

A few weeks ago, I had the opportunity to listen to our newly appointed honorary doctor, Ann MacPhail, from the University of Limerick, Irland. She spoke about, among other things, the evolution of research assessment methods from a heavy reliance on bibliometrics, such as citation counts and impact factors, to more qualitative approaches. MacPhail emphasised that traditional metrics often fail to capture the full scope of valuable research practices, including collaboration, societal impact, and open science initiatives. She argued that a more holistic approach is necessary to truly evaluate and reward the diverse contributions of researchers, fostering innovation and responsible research practices. Her views align closely with the CoARA initiative.

It will be very interesting to follow the development of new methods for research assessment and how libraries can contribute to this. I hope we will have the opportunity to listen to good examples of this at future EAHIL events.

I think many of us will agree that the strength of EAHIL lies in our community. Our events demonstrate the power of coming together, sharing knowledge, and building partnerships. To achieve this, we need members willing to work for us to meet each year, that is, to take responsibility for organising a workshop or conference. As I noted in the March letter, EAHIL will celebrate its 40th anniversary in 2027. Would you like to host the anniversary event in your city? Please consider submitting an expression of interest. It should be sent to EAHIL-SECR@LISTS.EAHIL.EU. Please refer to http://eahil.eu/events/arrange-conference/ for event guidelines, and feel free to contact other Board members or me for discussion and support.

I'm looking forward to hearing from you!

2024 Update from the Evaluation and Metrics Group

Alicia Fátima Gómez Sánchez (a), Valeria Scotti (b), Thomas Derek Halling (c) and Sílvia Sastre (d)
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(b) Fondazione IRCSS Policlinico San Matteo, Pavia, Italy
(c) Texas A&M University Libraries, Texas, TX, USA
(d) Biblioteca Virtual de Ciències de la Salut de les Illes Balears (Bibliosalut), Conselleria de Salut i Consum. Direcció General de Recerca en Salut, Formació i Acreditació, Palma, Islas Baleares, Spain

Purpose of the SIG

The Evaluation and Metrics group brings together and connects all members who are interested in research impact and its measurement.

We would like to develop a framework to share and discuss information, experiences, and practice about science evaluation indicators and resources. Moreover, this group should contribute to improving the networking and collaboration on metrics-related projects and efforts among health librarians and information specialists, and their institutions.

Other aims of the group are to promote the continuing professional development of EAHIL members through metrics-related training courses, and the development of tutorials and materials for researchers and librarians.

Membership update

412 subscribers to the listserv and registered in the group.

Current initiatives

As the SIG prepares for the upcoming 2024 EAHIL Conference on Thursday, June 13th, at 16:00 in Riga, they are also already making supplemental plans for other upcoming engagements. Some of which are directly hosted by the SIG, and some that are heavily influenced by SIG members.

During the conference meeting, there are suggestions and plans to create small groups identifying what single relevant topics are most critical for new librarians, and what topics are more current for librarians of all experience levels in the realm of evaluation and metrics. With 412 members on the list, there is a strong desire to cultivate more engagement in those areas selected as relevant. Examples might include incorporating AI into normal services, a series of short informative videos that demonstrate new perspectives such as how the H-index might be transformed into an impact narrative, and more.

Understanding that conference scheduling might have an impact on attendance for many people, the SIG is also promoting future webinars where members might have impact and see value. Some examples include an EAHIL workshop "Sharing Challenges for Research Assessment Supporting Services within the EAHIL," or a follow-up discussion and training session that is currently scheduled for June 18th, at 14:00 CEST. Also an already scheduled webinar in September 2024 about how AI is revolutionizing librarianship. The webinar will be hosted by Fabio Di Bello associate professor at CAST (Center for Advanced Studies and Technology), University "G. D'Annunzio" Chieti-Pescara, Chieti – Italy.

Future plans

Members will also be discussing and determining if they would like to opt in for receiving articles of interest on the topics of evaluation, open access, with the idea being to give all members the opportunity to have constant updates.

As always, the SIG anticipates reporting of educational events and conferences of interest.

For more information see: https://eahil.eu/sig-2/special-interest-group-evaluation-metrics/

We invite all members interested in different types of metrics (Infometrics, Bibliometrics, Altmetrics, etc.) to join us!

Publications and new products

Annarita Barbaro
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annarita.barbaro@iss.it

Dear all,

for this issue's "Publications and new products" column I've searched the web and selected news and articles regarding several current topics I hope would be of your interest. Among other news I've found on the web I would like to highlight some recent initiatives related to the switch towards prioritizing research quality over quantitative indicators when assessing research results.

JOURNAL ISSUES
Health Information and Libraries Journal: Contents of June 2024 (41:2)

Editorial

- **"Connecting" with the Health Libraries Group Conference.**
  Imrana Ghumra

Review

- **The historical development and current landscape of Health Library Standards: a critical review.**
  Marta De-la-Mano

Original Articles

- **Content analysis of medical college library websites in Pakistan indicates necessary improvements.**
  Midrar Ullah

- **Using an artificial intelligence tool can be as accurate as human assessors in level one screening for a systematic review.**
  Joseph Burns, Cole Etherington, Olivia Cheng-Boivin and Sylvain Boet

- **An alternative screening approach for Google Search identifies an accurate and manageable number of results for a systematic review (case study).**
  Simon Briscoe and Morwenna Rogers

- **Development and validation of search filters to retrieve medication discontinuation articles in Medline and Embase.**
  Thomas Morel, Jérôme Nguyen-Soenen, Wade Thompson and Jean-Pascal Fournier

- **A systematic review case study of urgent and emergency care configuration found citation searching of Web of Science and Google Scholar of similar value.**
  Anna Cantrell, Andrew Booth and Duncan Chambers

- **Expert searchers identified time, team, technology and tension as challenges when carrying out supplementary searches for systematic reviews: A thematic network analysis.**
  Simon Briscoe, Rebecca Abbott and G.J. Melendez-Torres

Regular Features

Dissertations into Practice

- **Exploring the learning preferences of farmworker-serving community health workers.**
  Jamie Bloss, Hannah Gordon, Genesis Ramirez, Emery L. Harwell, Raúl Gámez and Catherine LePrevost

International Perspectives and Initiatives

- **Transforming health science libraries around the globe: the impact of technology.**
  Jeannette Murphy

Teaching and Learning in Action

- **How developing a point of need training tool for evidence synthesis can improve librarians support for researchers.**
  Bronte Chiang & Caitlin McClurg

FROM THE WEB

- **Bill & Melinda Gates Foundation (BMGF) announces a new Open Access policy**
  The Bill & Melinda Gates Foundation is updating its Open Access policies to address ongoing challenges and to advance systemic change in scholarly publishing. While researchers and authors can continue to publish in their journal of choice, all foundation funded manuscripts will be made available as an Open Access preprint with a CC-BY license. Moreover, the foundation will no longer support Article Processing Charges (APCs) or open access fees on a per article basis and will work to support an Open Access system and infrastructure that ensures articles and data are readily available to a wider range of audiences. Their so-called Policy Refresh 2025 will take effect on January 1st, 2025.

- **The State of Open Data 2023**
  For the first time, The State of Open Data comes with two follow-up reports with the aim to provide additional perspective to its survey results. The first, "From theory to practice", collates a selection of case studies that offer real-life perspectives on the opportunities and challenges of sharing research data openly. The second, "The Global Lens", takes a closer look at survey responses from three different countries, Ethiopia, Japan and the United States and aims to uncover the "why" behind various countries' perspectives on open data. It is possible to read the State of the Open Data 2023 and the two follow-up reports on this webpage: https://www.digital-science.com/state-of-open-data/

- **IFLA Open Access Vocabularies**
  The IFLA Open Access Working Party has recently published a vocabulary with the aim to collate the most widely used terms and definitions related to Open Access, with reference to official statements or other documents where these terms are defined. It is intended to be an easy-to-read reference guide. As new terminology and definitions are regularly created, the vocabulary is intended to capture the most common terms used across the globe and is not exhaustive. The vocabulary can be freely accessible at this link: https://repository.ifla.org/handle/123456789/3272

PUBLICATIONS AND NEW PRODUCTS

- **DORA's Guidance on the responsible use of quantitative indicators in research assessment**
  The DORA (Declaration on Research Assessment) Research Assessment Metrics Task Force has published a briefing note with the aim to explain how the principles underlying DORA can apply to the quantitative indicators (the Journal Impact Factor and other measurements of journals, citation counts, h-index, field-normalized citation indicators, and altmetrics) that are used in the evaluation of research and researchers. The five principles guiding the use of these metrics are: be clear, be transparent, be specific, be contextual, and be fair. The principles of the DORA declaration can be applied also when other metrics are considered for use in assessment of research or researchers. The examples included in the Guidance refer only to publication-based metrics, but other indicators should be treated in the same way. The Guidance is available on Zenodo: https://zenodo.org/doi/10.5281/zenodo.10979643

- **Reformscape**
  There is a generally accepted opinion in the scientific community that evaluating scientific performance relying only on quantitative indicators (such as h-index or journal impact factors) is inadequate. As part of the TARA (Tools to Advance Research Assessment) project, created to facilitate the development of new policies and practices for academic career assessment, in January the Declaration on Research Assessment (DORA) launched a database, Reformscape, which collates publicly available policies, action plans, and other documents from research institutions worldwide to provide examples of institutions that have changed their assessment systems and to show administrators practical, actionable ways to shift their policies toward a fairer way of evaluating scientific research results.

- **Next Generation Metrics for Scientific and Scholarly Research in Europe**
  This LERU (League of European Research Universities) position paper recognises the need for next-generation metrics as a crucial aspect of responsible research evaluation and explores how universities can and should use currently available metrics and data to assess their research evaluation processes, in conjunction with qualitative expertise and information. The paper focuses on four main areas: an overview of the development of next-generation metrics, their use, and their limitations, an overview of the current status of metrics policies at LERU universities, a dynamic visualization of the opportunities to leverage university data that connects existing and potential next-generation metrics, and recommendations concerning next-generation metrics policies and evaluation practices. It is possible to read the full position paper on Zenodo: https://zenodo.org/records/11123148

- **DIAMAS Conversation series for libraries**
  The DIAMAS project has launched a Conversation series for libraries to engage them in advancing Diamond open access (OA) in Europe. Libraries are considered vital pillars of the Diamond OA ecosystem, providing infrastructure, services, and expert support to institutional publishers. Many libraries are also publishers. The first DIAMAS Conversation focused on the financial sustainability of European small- and medium-sized publishers at higher education institutions, and their service providers. Future conversations will cover different topics, and participants will gain valuable insights into the diverse funding mechanisms publishers have implemented and their feasibility, the indispensable role of the workforce in sustaining Diamond OA publishing, and the importance of shared resources and infrastructures. Those interested in further DIAMAS Conversation dates and topics can consult the DIAMAS website or their twitter account @DiamasProject.

READING SUGGESTIONS

- Qureshi R, Shaughnessy D, Gill KAR et al. Are ChatGPT and large language models "the answer" to bringing us closer to systematic review automation? Syst Rev 12, 72 (2023). https://doi.org/10.1186/s13643-023-02243-z

- Hosseini M, Horbach SPJM, Holmes KL, Ross-Hellauer T. (2024, May 24). Open Science at the Generative AI Turn: An Exploratory Analysis of Challenges and Opportunities. [preprint] https://doi.org/10.31235/osf.io/zns7g

- Jahn N. How open are hybrid journals included in transformative agreements? [preprint] https://arxiv.org/abs/2402.18255

SOME FORTHCOMING EVENTS
Data Stewardship in Ireland - Challenges and Opportunities
19 – 20 June, Cork, Ireland
Programme and registration at: https://datastewards.ie/conference/

EOSC Symposium 2024
21-23 October, Berlin, Germany
Hybrid conference organized in close cooperation with the Open Science Conference. Program and registration at: https://eosc.eu/symposium2024/

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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