



LIBRARIAN

IN THE LOOP

AI Methods within Systematic Review Search Strategies

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ABOUT ME

Originally an NHS Health Librarian (Now a bit of a *'Jack of All Trades'*). I support Systematic Reviews and Evidence-Based Practice at Lancaster.

I use **AI** for various **unimportant** things. Usually improving my PowerPoint presentations on **AI**.

I am also the Director of a Busy Makerspace in the North of England. Which is helpful!

I am also “over” AI now. I am at the stage where I want to use it for **important** things!



About Systematic Reviews

Given the prolific nature of Academic Publishing, it can be very difficult to come to a conclusion based on single research papers, no matter how high-impact or widely read. This is especially important in the field of Medicine where high quality evidence of the benefits and risk of treatments is literally a matter of life and death.

Well-funded studies with large sample sizes but with possible evidence of bias may show one conclusion (for example the prescribing of a certain drug) while smaller independent studies may show possible evidence of harm of the same drug. These studies need to be looked at together, or we risk:

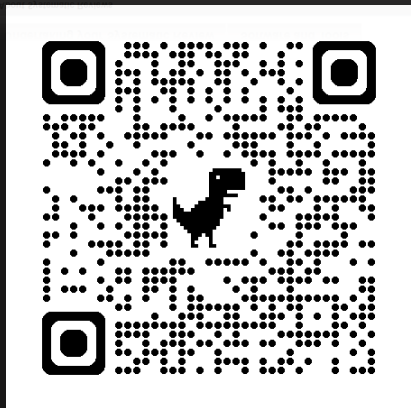
- Missing risks and benefits, even slight which may be surfaced by combining multiple studies.
- Never having a clear evidence-based conclusion, and relying on personal opinion, politics or personalities.
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- Falling prey to 'Confirmation Bias' where only studies that align with a persons prevailing or personalities
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ABOUT SYSTEMATIC REVIEWS AT LANCASTER

Embedded **Systematic Reviews**, with robust support via 121 appointments, online guidance and teams.

We support a high numbers of **Single Person Reviews**.

Often the 'first review' for many researchers, and sometimes the first academic work undertaken in many years!

Elements of Systematic Review Methods are also included in Undergraduate Medical Student teaching.

Grey Literature and Decolonising are championed by the library team and academics as key elements of a good systematic search.

WE HAVE ENGAGED STAFF AND RESEARCHERS!

ABOUT SYSTEMATIC REVIEWS AT LANCASTER

rayyan
INTELLIGENT SYSTEMATIC REVIEW

EPPI
Reviewer

covidence

ASRreview

Elicit

Engaged staff and students mean that AI tools in systematic reviews are excitedly adopted, and newer review types undertaken.

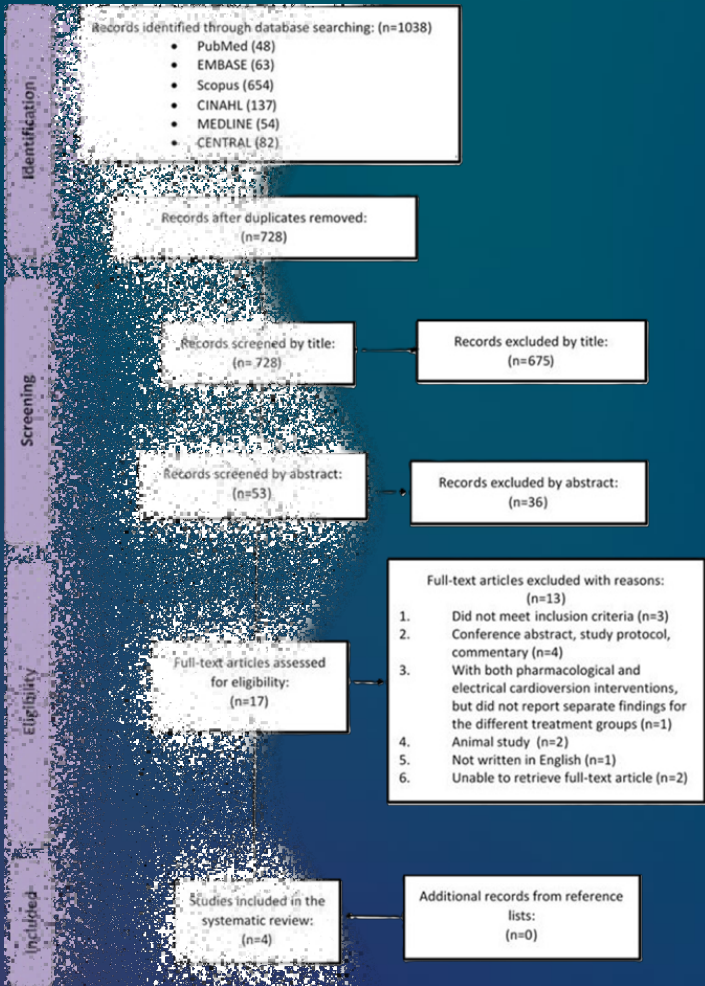
It can '*level the field*' for neurodiverse and ESL researchers and students

Unfortunately, the increase in Integrative and realist reviews result in a larger and possibly unmanageable workload, especially **for single person reviewers**, so AI is very tempting to speed up the review.

GREAT IDEAS ARE SOMETIMES A BIT DANGEROUS!

Half of supervisor referrals for 'Librarian Review' are due to using AI OVID searches within EBSCO databases, inappropriate database selection and a general lack of understanding of the review process are common.

Overcomplicated first-pass strategies and EMBASE usage is a 'giveaway'



PROBLEMS: BREAKING PROTOCOL

PEER REVIEW

Does the journal targeted for publication accept AI tools?

Are they now limited where they can publish?

BIAS

AI is trained on Bad Systematic Reviews!

Many miss Grey Literature Searching or have poor quality strategies.

PRISMA

Can the AI tool/method be reported ?

Does the user have the knowledge to evaluate and report effectively?

COGNITIVE DRIFT

We teach Systematic Reviews as Problem-Based Learning 'In Praxis'.

AI tools reduce that.

REPRODUCIBILITY

We have extensively championed good practice, reproducibility and documenting searches

AI undermines this.

BLACK BOX

No longer able to 'critically appraise' tools/methods.

Has any supplier provided a usable product first time?

SOLUTION LIBRARIAN!

HUMAN IN THE LOOP

Concept where AI usage is expert-mediated. (Thanks Makerspace!)

Librarians as 'AI experts' just as we became 'Google experts' and 'Information Specialists'.

ADDING SENSITIVITY

Advising and publishing strategies on improving search sensitivity for use when a researcher is new to the field.

Global South/LGBTQ+ topics commonly have researchers new to the subject.

CORE METHODOLOGIES

Working within **human-scale** systematic review methods that reduce bias in a review.

Introducing AI methods gradually so the understanding of a good search is not lost.

REPORTING

Researchers can also report the contributions of a Librarian within the protocol as a 'mitigation' if you wish to use AI

The aim of these examples are to demonstrate AI methods that do not need necessarily need reporting.

(Disclaimer your experience may vary!)

USE CASES DEMO



NAÏVE SEARCHING

Creating a search with a learner new to a topic.

Especially common in LGBTQ+ health topics, where the researcher does not identify at LGBTQ+



DECOLONISING

Adding valuable worldwide 'sensitivity' to improve a search.

Especially useful when searching Grey Literature.



SEARCH AUDIT

First pass feedback before booking a research appointment



TRANSLATION?

Translation strategies for including non-English research, guidance and policy.

Decolonised searching means no language limits!

USE CASES DEMO

WORKS ON CHATGPT, GEMINI

I **USUALLY** USE A SANDBOX INSTITUTIONAL AI CALLED SAIL

CREATE YOUR OWN PROMPTS!

LIMITED PROMPTS ON FREE AI SYSTEMS

TRANSLATION

Championing worldwide searches and grey lit mean considering non-English evidence. Librarian involvement and *Semi-automation rocks!* (Thanks to **Farhad Shokraneh**)

SMALL TEAMS WITH SINGLE NATIVE SPEAKER

Unacceptable burden within the team and possible accusations of ‘taking advantage’ of Global South co-authors.

Two native English Screeners using AI translation, passed along to the native language speaker for conflict resolution and abstract screening.

ENGLISH AS A SECOND LANGUAGE TEAMS

When the whole team are ESL learners, screening is slowed.

Using AI as a ‘third screener’ is effective to support rapid screening

Used with a project researching a non-English Language phenomenon for publication in English.

<https://farhadinfo.medium.com/need-help-with-including-non-english-language-nel-studies-in-systematic-reviews/>



ONGOING WORK

Presenting a tested version of AI strategy at ICML in Glasgow

Prompt Engineering for Systematic Reviews: Using AI for sensitivity improvements in LGBTQ+ and Ethnic Minority Search Strategies

Also working with the LSSR to evaluate the tools and methods used within AI so they can include tested platforms and methods within reviews.

<https://sites.google.com/view/searchresourceslib/>



ICML 2026

International Congress **Glasgow, Scotland**
on Medical Librarianship **14 - 16th of July**

AI Tool Information: <i>Generation information about the tool</i>
Title:
Developer name:
URL:
AI Model (type):
Cost:
Terms of use (link):
Privacy (link):



THANK YOU

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