AI’s Role in Searching for Evidence: Friend AND Foe

- Basia Delawska-Elliott, MLIS, AHIP, Providence
- Brandon Wilkinson, MLS, OHSU

Who We Are

Basia Delawska-Elliott

Medical Librarian

barbara.delawska-elliott@providence.org

Brandon Wilkinson

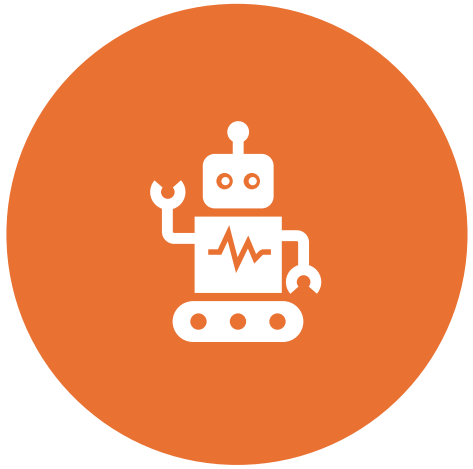
Health Sciences Education & Research Librarian

wilkinbr@ohsu.edu

What we will cover

- Identify what AI is and how it can help you with the EBP process
- Recognize ethical risks and common pitfalls
- Learn about best practices and verification steps
- Describe the librarian’s role in strengthening evidence retrieval

Quick precheck



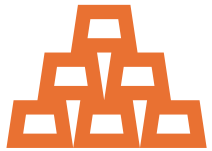
DO YOU CURRENTLY USE AI?

IF YES, WHAT DO YOU USE IT FOR?

How AI Works

- Training data. Trained on content from the public internet, including websites, free journal articles, news articles, Wikipedia, and social media platforms
- Predicting the next word
- Retrieval-Augmented. AI tools can now move beyond their training data and search the web in real time to help answer questions
- Agentic AI. Now it can decide by itself which tools or code it wants to use to answer questions

Gold Standard of EBP Searching



Databases are the gold standard for literature searching for clinical inquiry – quality improvement, evidence-based practice, and research

Librarians can help you navigate databases and do searches for you

Hospital libraries will find resources for you

But what about AI…

AI and EBP. Best uses.

In evidence searching, AI is great for:

Search strategy: builds your question (formerly PICO), keywords, synonyms

Brainstorming and Outlining: A tool to bounce ideas off of at the beginning of your process

Semantic search: concept-based discovery beyond exact terms

Summarizing: creates overviews of abstracts/papers

AI is NOT:

A validated clinical decision tool

A substitute for critical appraisal

A replacement for database searching

How AI Fits in the EBP Workflow

- **Evidence-Based Practice steps:**
  - Ask – define the clinical question
  - Acquire – find relevant evidence
  - Appraise – assess quality and relevance
  - Apply – integrate with patient context
  - Assess – evaluate outcomes
- **AI can support:** Ask, Acquire, Summarize, and Apply
- **Clinicians own:** Appraise and Apply
- **Librarians support:** Ask, Acquire, *and* Appraise

Generative AI Today

Current Capabilities

- Versatility across tasks
- Conversational awareness
- Interacts with external tools

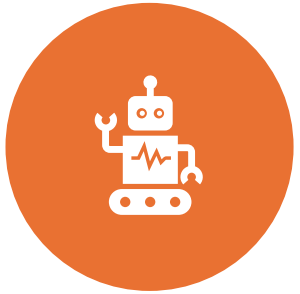
Current Limitations

- Potential for hallucinations
- Context window constraints

DEMO TIME! How we do it…

- Search Strategy
- Brainstorming
- Search
- Summarizing

Ethical and Safety Considerations



AI is trained on the Internet, which is very biased.

AI can be fluent and wrong. Treat it as a helpful assistant for drafting and discovery, not as an authority. **Verify, verify, verify!**

AI is sycophantic, and prone to make things up. You are ultimately responsible for what you use in your research and practice.

When working on policies, practice, patient care or legal question, always work with a librarian or use a database.

Which AI Tools to Consider

ChatGPT

GenAI tools like ChatGPT, Copilot, & Gemini search the web, deliver summaries and provide sources from its training data and from the web

scite_

OpenEvidence

Tools like Scite, Consensus, and OpenEvidence are built on databases of scholarly articles

SIFT – Verify AI Output!

- **S – Stop**
  - Did the AI provide at least one source?
- **I – Investigate the Source**
  - Is at least one source reputable and appropriate?
- **F – Find Different Coverage?**
  - Do you need to use a different source?
  - Do you know enough to verify?
- **T – Trace the Claim**
  - Can you find where in the source it says that?
  - Is that *really* what is says?

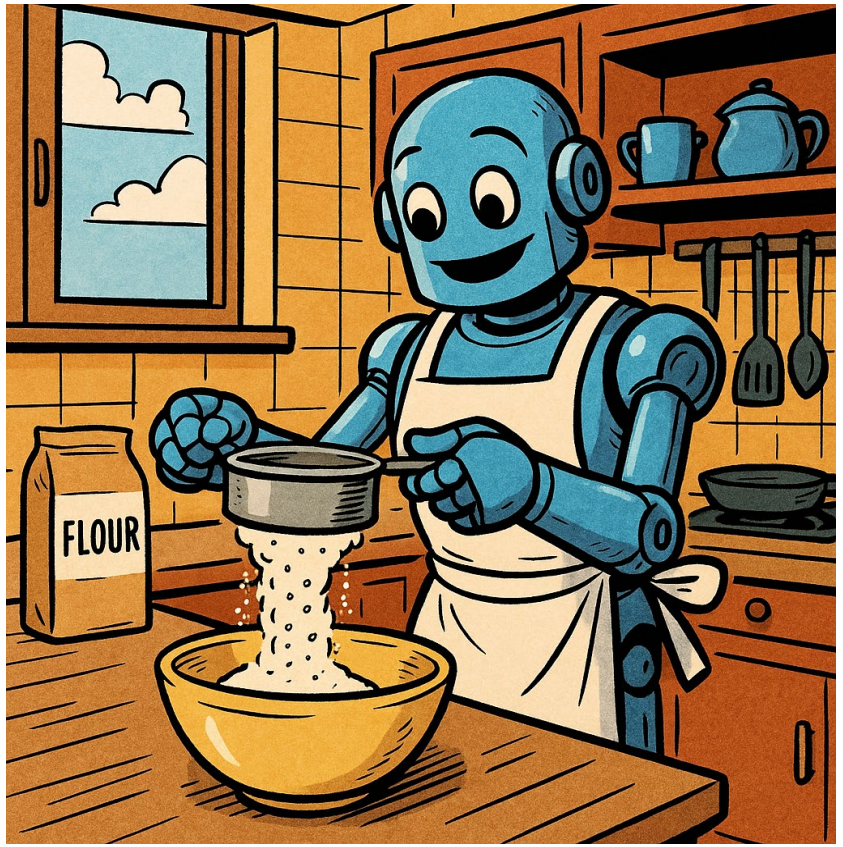


Image generated by Sora

Reach Out to Your Librarian

- Librarians have the expertise in searching database and the web.
- Librarians can provide reproducible tools and results.
- Librarians have organizational knowledge and understand organizational needs.
- Librarians can provide updates.
- Librarians can recommend tools for research organization.
- Librarians understand the nursing clinical inquiry process.

Your librarians

Kaiser – library team, kplibrariesNW@kp.org

Legacy – Heather Hawley, hhawley@lhs.org

OHSU – library team, http://libraryanswers.ohsu.edu/

PeaceHealth – Michael Graham, mgraham@peacehealth.org

Providence – library team, library@providence.org

Salem Health – Paul Howard, paul.howard@salemhospital.org

Sample Request – Quick Search

“The project is looking at whether standardizing the use of silver-alloy coated catheters in high-risk Neuro ICU patients will have a positive impact on Catheter-Associated Urinary Tract Infections(CAUTI) rates on the unit.

Right now, we are still looking for information on the efficacy of these silver-alloy coated catheters. There are also silver-oxide coated catheters… I welcome any data on these as well.”

Sample Request – PubMed Search

History and Search Details Download Delete

Search	Actions	Details	Query	Results	Time
#11	···	›	Search: **(silver-oxide coated catheters OR silver oxide coated catheters) AND (silver-alloy coated catheters OR silver alloy coated catheters)**	6	14:25:52
#10	···	›	Search: **silver-oxide coated catheters OR silver oxide coated catheters**	15	14:25:02
#9	···	›	Search: **(silver-alloy coated catheters OR silver alloy coated catheters) AND ((((("Urinary Tract Infections/prevention and control"[MAJR]) OR ("Catheters, Indwelling/adverse effects"[MAJR])) OR ("Urinary Tract Infections/nursing"[MeSH])) OR (catheter-associated urinary tract infections OR cauti))**	50	14:24:18
#8	···	›	Search: **(((((("Urinary Tract Infections/prevention and control"[MAJR]) OR ("Catheters, Indwelling/adverse effects"[MAJR])) OR ("Urinary Tract Infections/nursing"[MeSH])) OR (catheter-associated urinary tract infections OR cauti)) AND (intensive care unit patients OR icu patients)) AND (silver-alloy coated catheters OR silver alloy coated catheters)**	5	14:23:32
#7	···	›	Search: **silver-alloy coated catheters OR silver alloy coated catheters**	63	14:22:12
#6	···	›	Search: **intensive care unit patients OR icu patients**	250,951	14:20:51
#5	···	›	Search: **((("Urinary Tract Infections/prevention and control"[MAJR]) OR ("Catheters, Indwelling/adverse effects"[MAJR])) OR ("Urinary Tract Infections/nursing"[MeSH])) OR (catheter-associated urinary tract infections OR cauti)**	10,689	14:19:58
#4	···	›	Search: **"Urinary Tract Infections/nursing"[MeSH]** Sort by: **Most Recent**	283	14:19:40
#3	···	›	Search: **"Catheters, Indwelling/adverse effects"[MAJR]** Sort by: **Most Recent**	5,048	14:19:23
#2	···	›	Search: **"Urinary Tract Infections/prevention and control"[MAJR]** Sort by: **Most Recent**	3,517	14:19:04
#1	···	›	Search: **catheter-associated urinary tract infections OR cauti**	2,731	14:18:42

Sample Request - Librarian Response

“I've conducted a search for you using some of your concepts. If I try to fit all of them in, the middle of the Venn diagram gets vanishingly small, so I backed off that approach and went a little broader. When I included CAUTI, ICU patients, and silver-alloy catheters it took me down to 5 articles. Because of that, I didn't try to use the high-risk Neuro concept, since our search was already specific enough that there was almost nothing even without that patient group. I thought that since they would work the same in or out of an ICU I could just look at CAUTI and the catheters. That opened it up to around 50 articles, some of which look highly relevant to your question. To take a look at those articles, copy and paste the following search string into PubMed. (Make sure to use the OHSU library link so that you have access to all of these):

(silver-alloy coated catheters OR silver alloy coated catheters) AND ((((("Urinary Tract Infections/prevention and control"[Mesh]) OR ("Catheters, Indwelling/adverse effects"[Mesh])) OR ("Urinary Tract Infections/nursing"[MeSH])) OR (catheter-associated urinary tract infections OR cauti))

I also looked for articles about silver-oxide coatings vs. silver-alloy. There is evidence saying that silver-alloy is significantly more effective in preventing infection. Some of it is fairly old though. When I went into some of the article details pages, some newer research looking at nano materials was citing some of them. Let me know if that's something you are interested in. Here is the search string to look at those articles contrasting the two types of coatings:

(silver-oxide coated catheters OR silver oxide coated catheters) AND (silver-alloy coated catheters OR silver alloy coated catheters)

How This Process Differs from an AI Search

AI may not share how it searches

AI searches are not reproducible. The results are going to be different every time

Free AI tools generally rely on open access, often secondary sources

Sometimes AI will find articles that a database won't

Librarians can perform database, internet, and AI searches ☺

References

- SIFT: The Four Moves (Mike Caulfield)
  - SIFT – Hapgood
  - SIFT Library Guide

Resources

- Ithaka Generative AI Product Tracker – track AI developments
- AI in nursing practice, documentation, and clinical inquiry – PubMed search

Issues around AI:

- Hallucinated References: Five Excuses for Academic Misconduct - Dr. Dorothea Baur
- Trust me, I'm wrong: The perils of AI hallucinations, a silent killer - Sourav Kumar Samanta, Anirban Chakraborty, 2026
- Librarian finds 'preposterous number' of fake references in paper from Springer Nature journal – Retraction Watch
- Technically Accurate, Medically Fatal | by Nodesian | Nov, 2025 | Medium
- AI Hallucination Cases Database – Damien Charlotin
- Retraction Watch – Tracking retractions as a window into the scientific process

Let’s talk!

- Discussion and demo time. ☺

Thank you!