Working with a Medical Librarian
Clinician-Librarian Collaboration

- Clinician published 17 Systematic Reviews/Meta-analyses, 4 Scoping Reviews with librarians as author
- Librarian included as author on 30+ Systematic Reviews/Scoping Reviews with WashU researchers
- Together – Scoping Reviews for GEAR Network 1.0, several Systematic Reviews
- Collaboration across institutions with a multi-librarian team for the GEAR Network scoping reviews increased consistency on 4 reviews¹

Lessons learned

• Collaborating with a librarian enables higher quality of search strategies and lower risk of bias, especially when included as author\(^2,3\)

• Clarity on review type is necessary for smooth completion of the project

Systematic Review vs. Scoping Review

Evidence Synthesis

Seeks to systematically search for, appraise and synthesize research evidence, often adhering to guidelines on the conduct of a review\(^4\)

Structured assessment of quality of evidence

Resulting data can be pooled as a meta-analysis

Aims to systematically identify and map the breadth of evidence available on a particular topic, field, concept, or issue within or across particular contexts.

Sources can vary (ie, primary research, reviews, non-empirical evidence).

Can clarify key concepts/definitions in the literature and identify key characteristics or factors related to a concept, including those related to methodological research.\(^5\)

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Systematic Review vs. Scoping Review

**Objective:** “... quantify whether low-dose ketamine is an effective and safe opioid alternative for acute pain reduction in adults in the ED setting.”  

**Objective:** “Identify and summarize the pooled diagnostic test characteristics (sensitivity, specificity, and likelihood ratios) for dementia screening instruments in the ED.”

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“The Geriatric Emergency Medicine Applied Research Falls core (GEAR-Falls) was created to identify existing research gaps and to prioritize future fall research foci.”

“Conclusions and implications: Research exploring Emergency Department communication with persons living with dementia is sparse and does not directly evaluate specific communication strategies. Defining barriers and facilitators of effective communication was the highest-ranked research priority...”

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### Systematic Review vs. Scoping Review

**Research question framework tools**

<table>
<thead>
<tr>
<th>PICO</th>
<th>PCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>P = Patient, Problem, or Population</td>
<td>P = Population</td>
</tr>
<tr>
<td>I = Intervention or exposure</td>
<td>C = Concept(s)</td>
</tr>
<tr>
<td>C = Comparison intervention</td>
<td>C = Context</td>
</tr>
<tr>
<td>O = Outcome</td>
<td></td>
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</tbody>
</table>

Lessons learned

The level of detail in constructing and reporting the search strategy for each database platform requires librarian expertise

Older Adults for Ovid Medline
exp Aged/or (elderly or elderlies or geriatric* or senium* or centenarian* or nonagenarian* or octogenarian* or septuagenarian* or sexagenarian*).mp. or (senior* adj1 citizen*).mp. or ((older or frail*) adj2 (hospitalized or hospitalised or elder* or patient* or person* or inpatient* or people or adult*)).mp. or "aged adult".mp. or "aged adults".mp. or "aged patient".mp. or "aged patients".mp. or gerontolog*.jw. or geriatric*.jw. or ageing.jw. or aging.jw.

Older Adults for Embase.com
'aged'/exp OR elderly:ti,ab,kw,de OR elderlies:ti,ab,kw OR centenarian*:ti,ab,kw OR nonagenarian*:ti,ab,kw OR octogenarian*:ti,ab,kw OR septuagenarian*:ti,ab,kw OR sexagenarian*:ti,ab,kw OR geriatric*:ti,ab,kw OR senium*:ti,ab,kw OR ((senior* NEAR/1 citizen*):ti,ab,kw,de) OR (((older OR frail*) NEAR/2 (hospitalized OR hospitalised OR elder* OR patient* OR person* OR inpatient* OR people OR adult*)):ti,ab,kw) OR 'aged adult':ti,ab,kw OR 'aged adults':ti,ab,kw OR 'aged patient':ti,ab,kw OR 'aged patients':ti,ab,kw OR gerontolog*:jt OR geriatric*:jt OR ageing:jt OR aging:jt

Lessons learned

- Involving a librarian ensures proper reporting of the search for the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) checklist.
- Requirements from PRISMA became more detailed in 2021, including an extension for reporting the search so that it is reproducible.

PRISMA checklist, items for reporting the search

- Describe what was searched and when
- Provide the full search strategy as run in each database so that it can be repeated
- Limits applied to the search strategy (e.g. date or language) with justification
- Describe any usage of validated search strategies and the validation process
- Describe any tools used for natural language processing, text frequency analysis, automatic cross-database translation
- Report any peer review process
- Describe search updates\textsuperscript{12}

Lessons learned

Expect a high number of search results for screening

Precise search

Sensitive search

All Citations in a Database

Results Retrieved

Relevant Citations

Relevant Citations

Results Retrieved

All Citations in a Database
Lessons learned

It is possible to collaborate with librarians on non-review projects

• Validating a search filter for diagnostic sensitivity and specificity\textsuperscript{13}
• The bibliometric construct for “clinical relevance” included article-level, author-level, and journal-level impact analyses\textsuperscript{14}
• Education topics, citation sorting to find top-cited validation studies

How to succeed as a clinician-librarian team

• Contact librarian when research question is solidified
  • Allow 1-2 months for the search after a search request, depending on librarian’s workload
  • Contact earlier if help is needed for protocol

• Provide a clearly stated research question restated in PICO or PCC framework, and inclusion/exclusion criteria

• Give example studies that will be used in the analysis to help refine the search strategy
How to succeed as a clinician-librarian team

• Peer-review of search strategy between medical librarians increasingly prevalent and usually additive\textsuperscript{15}
• Keep lines of communication open throughout the process so that everyone is on the same page
• Don’t hesitate to ask for more help! The librarian is typically available for citation management advice, etc.

\textsuperscript{15}. J Clin Epidemiol 2009; 62: 944-952. PMID: 19230612