

AI in Systematic Literature Review

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Conflicts of Interest

I am the founder, CEO, board member, and shareholder in Nested Knowledge, a company providing systematic review software that incorporates Artificial Intelligence.

I am the founder, board member, and shareholder in Superior Medical Experts, Inc., a company providing research services that include systematic reviews.

Utilization and Blockers for AI in Evidence Synthesis



Used with
Extensive AI

1. Rapid reviews / TLRs
2. Competitive intelligence
3. Landscape assessments or gap analyses
4. Scoping reviews



Used with
Limited AI

1. HTA-grade reviews
2. Publishable reviews



Not Used
(Barriers)

1. Lack of definitive guidance (Pre-2024 NICE reviews, some publication-grade reviews)
2. Uncertainty about AI rights or acceptability

Balancing AI and Human Oversight in SLR Standards

Automation Levels in SLR and Review Processes

No Automation

Driver has full manual control



Manual Review

Human researchers conduct all review steps manually

Not Relevant

Driver Assistance

Vehicle assists with single automated system



Recommendation / Prioritization Systems

AI suggests relevant studies and prioritizes them

Partial Automation

Vehicle performs steering and power control



Human-in-the-Loop

AI assists with specific tasks, but human remains in control (*Recommended for SLRs*)

Conditional Automation

Vehicle performs most driving tasks, driver still needed



Validation within Review

AI validates findings, but humans confirm them (*recommended for Rapid Reviews*)

High Automation

Vehicle performs all driving tasks in certain circumstances



Transparent AI Execution

AI performs most tasks, with full transparency and best practices

Full Automation

Vehicle performs all driving tasks without driver override




Black Box AI





AI handles the entire review process without human oversight

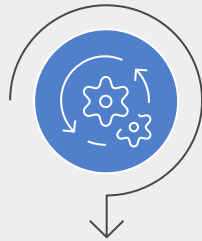
NOT CURRENTLY ALLOWED

AI Guidance Framework for Systematic Reviews



Principles

- 100% Verification 
- In-Review Validation 
- Exploratory Uses 
- Not Allowed 



Harmonization

Align to existing SLR best practices (e.g. RAISE), prioritize highest-standard reviews, and expand to additional use cases (e.g. Rapid Reviews).



Core Guidance

Human oversight, validation of accuracy, and transparency are essential for effective AI use.



By Review Stage

Search, screening, extraction, and optional synthesis and reporting are key stages.

Mapping RAISE Standards to Generative AI Tools

