

Liability in Health Artificial Intelligence: A Scoping Review

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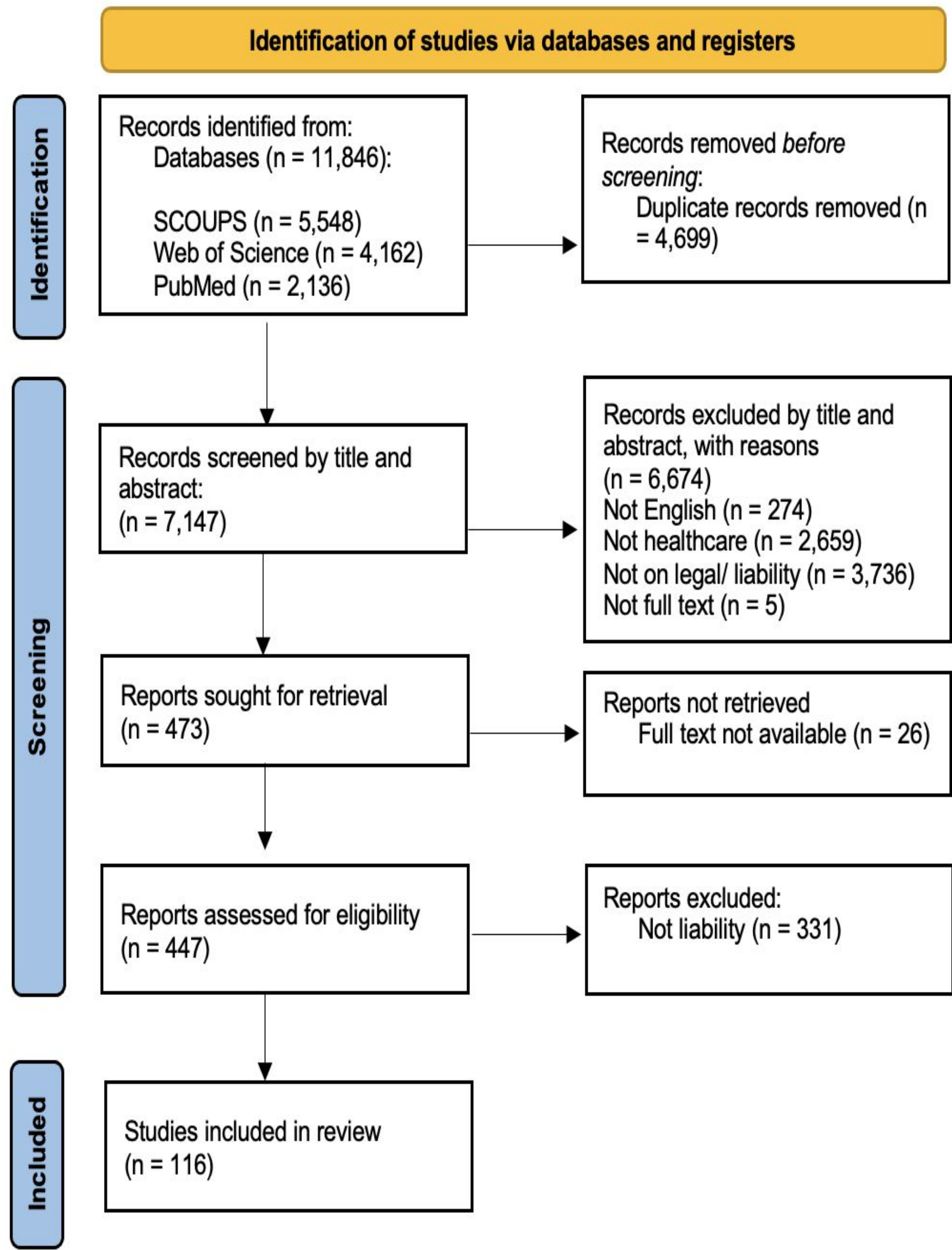
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Background

- The emergence of artificial Intelligence (AI), particularly autonomous health AI, is rapidly reshaping healthcare delivery
- Who is legally liable when health AI contributes to patient harm?
 - Conventional legal doctrines struggle to address this question¹
- Aims:
 - Evaluate the applicability of existing legal doctrines to health AI
 - Identify gaps within these frameworks

Methods

Figure 1: PRISMA flowchart



- SCOPUS, Web of Science and PubMed were searched for publications from 1 January 2000 to 4 August 2025
- Keywords related to: “Artificial Intelligence”, “Liability”, “Healthcare”
- Data were independently screened and extracted by three reviewers
- Given the heterogeneity of legal analysis, data were charted primarily using free-text fields and synthesised thematically

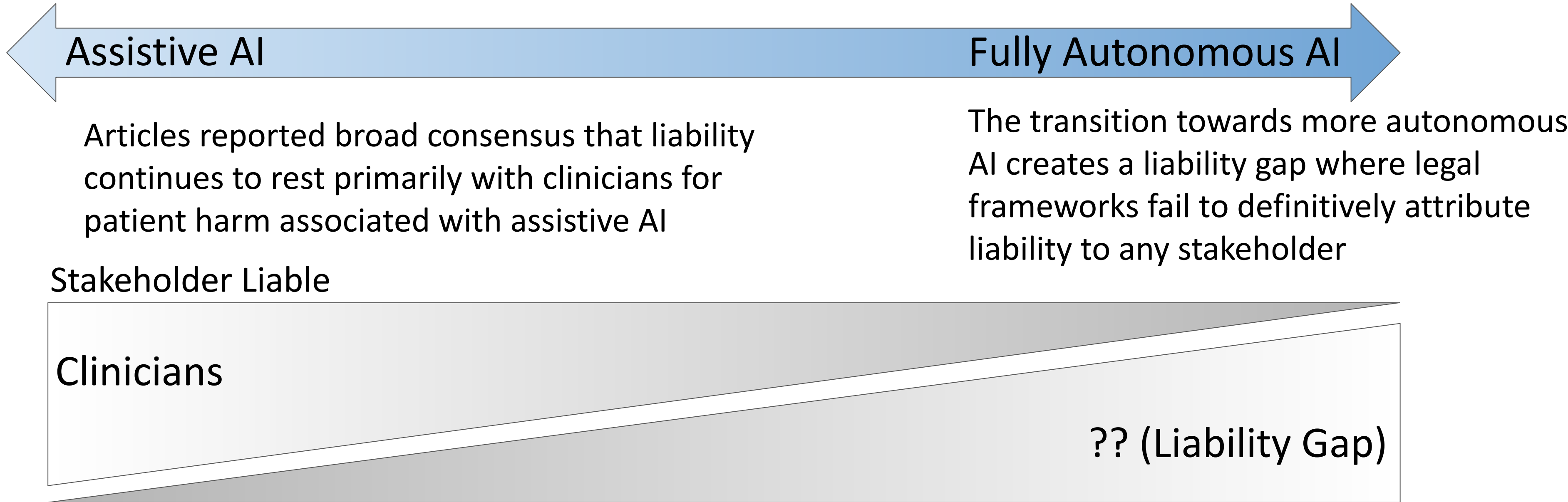
Results

Table 1: Stakeholder liable when health AI contributes to patient harm

Stakeholder Liable	Legal Doctrine Applied (with key definitions)
Clinicians	Medical Negligence (n=91) Failure of clinicians to meet the established standard of care, resulting in patient harm
Healthcare Institutions	Corporate Negligence (n=64) - Direct liability of an institution for breaching duties <u>Healthcare institutions</u> owe direct duties to patients Vicarious Liability (n=43) - A principle of indirect liability where the principal (e.g hospital) is liable for the actions of its employees or agents (e.g clinicians)
AI Developers	Corporate Negligence (n=64) <u>AI developers</u> owe duties to the users of their AI systems Product Liability (n=69) - Liability of any or all parties along the manufacturing chain for damage caused by a product
Contractual Allocation (n=20)	Contract law governs agreements between parties, creating mutual obligations that are enforceable by law.

Liability attribution is greatly dependent on the level of AI autonomy

Figure 2: Interface between level of AI autonomy and stakeholder liable



- Reasons for liability gap:
 - Current legal doctrines are grounded in assumptions of human-centered control
 - Causation challenges due to multi-source and distributed nature of AI-related harm

Conclusion

- Current legal frameworks remain largely adequate to attribute liability for assistive AI, but are increasingly misaligned with more autonomous health AI
- In the near term, the practical dynamics of litigation are unlikely to change as patients continue to seek redress from the most visible and contractually accessible actors – clinicians and healthcare institutions
- As legal reform will inevitably lag behind innovation, institutional governance is critical to guide stakeholders in health AI development and deployment under existing legal uncertainties