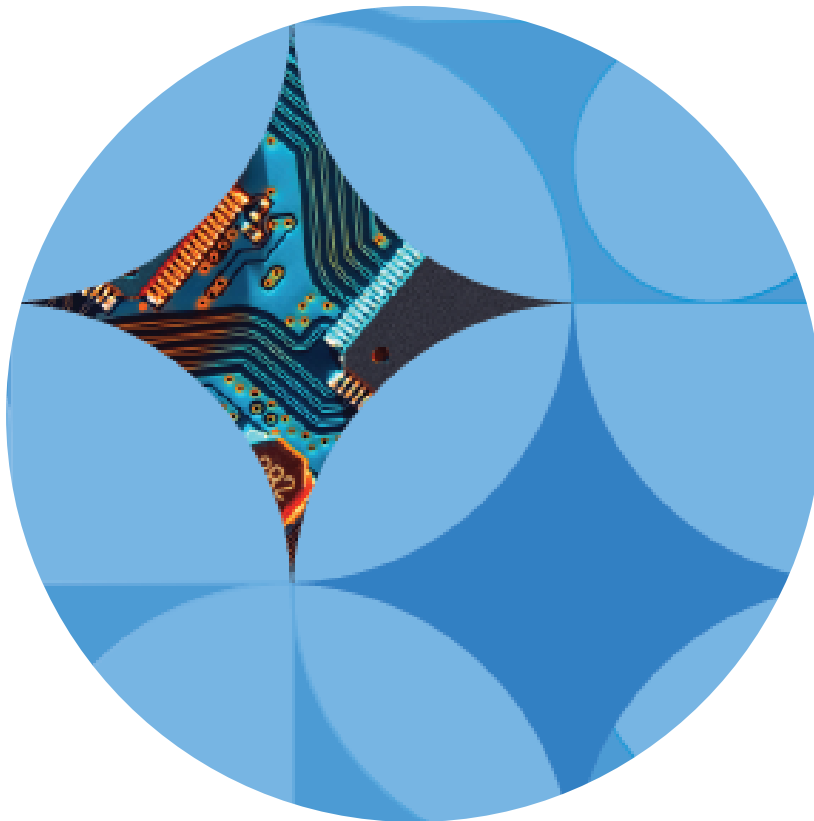


A practical framework for evaluating AI tools in clinical practice



There's no shortage of convenient AI tools, and they're maturing rapidly for healthcare use. But in high-stakes clinical environments, convenience alone isn't enough.

This paper provides a straightforward five-step framework to help you evaluate AI tools for safety, effectiveness, and clinical confidence.

5 key considerations

Not all AI tools are built for purpose, making it important for organizations to critically assess and evaluate these tools to ensure they align with their goals and standards.

Whether you're a clinician exploring AI-supported tools for clinical decision support or a healthcare leader seeking new ways to integrate AI into your organization, this paper provides practical guidance to help you assess these technologies. With clear strategies and frameworks, you can ensure AI is both effective and ethical for your healthcare practice.

We have built a practical framework of 5 key factors to consider as you evaluate AI tools for clinical practice in your team or organization.

01



PROBLEM RELEVANCE

Is the tool solving a real need or problem?

02



AI APPROACH AND SUITABILITY

Is the AI approach effective and tailored to the use case?

03



INFORMATION QUALITY AND TRACEABILITY

What is the source, composition, breadth, and depth of the underlying content?

04



CLINICIAN INVOLVEMENT

How has clinician expertise shaped product development?

05



SAFETY OVERSIGHT

What is the safety, quality, validation, and oversight process?

1. Problem relevance

Is the tool solving a real need or problem?

The application of AI must address real, tangible challenges to be meaningful. Healthcare and IT leaders need to ask whether the AI tool is specifically designed to solve a real need or problem, such as speeding up access to information, accelerating decision-making processes, or reducing administrative burdens. Only by targeting real pain points will AI tools empower healthcare teams to offer enhanced care and foster better patient outcomes.

2. AI approach and suitability

Is the AI approach effective and tailored to the use case?

When evaluating tools for clinical practice, it's essential to understand how the AI is used, whether it's been designed for healthcare-specific needs, and if AI is indeed truly the best solution for the task at hand. General AI models, like standalone LLMs, aren't ideal for clinical use without refinement. To be effective for clinical decision support, LLMs must be paired with a validated content set that ensures reliable information, fine-tuned appropriately for the specific types of questions that clinicians ask, and equipped with guardrails to handle questions the AI may struggle to answer accurately.

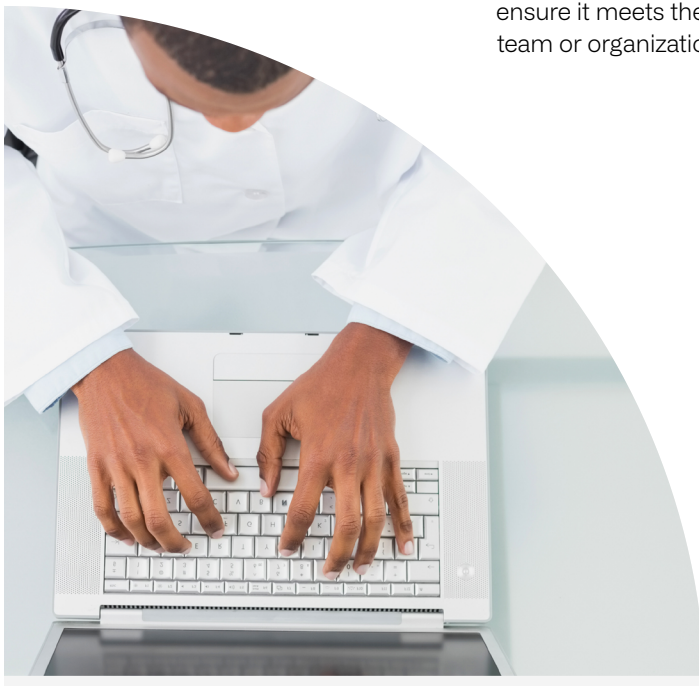
General-purpose LLMs can be helpful for low-risk, administrative tasks. RAG technology is a safer alternative for clinical scenarios that require precision, such as calculating drug dosages or determining intravenous (IV) compatibility. Focused attention and specialized testing can decrease risk of errors, such as missing critical steps in a procedure, or unintentional combining of drug indications. Always evaluate the tool's design, purpose, and testing process to ensure it meets the specific needs of your team or organization.

3. Information quality and traceability

What is the source, composition, breadth, and depth of the underlying content?

The information AI tools generate is highly dependent on its underlying knowledge source. For clinical AI tools to be useful, accurate, and trustworthy, special attention must be given to the content they search or are trained with. Consumers should examine the depth, breadth, and composition of the content being leveraged. Is it expert-curated? What is the update frequency? Is it full text or is the tool relying on abstracts/partial information? How are changes, errata, or corrections handled? Rigorous content data curation rooted in peer-reviewed research and clinical guidelines ensures credibility.

Additionally, transparent access to the specific text being cited facilitates explainable AI (XAI). It allows clinicians and stakeholders to fact check AI-generated answers with the original sources ensuring results are reliable and aligned with real-world medical practices.



4. Clinician involvement

How has clinician expertise shaped product development?

Are there clinicians on the product development team? In what capacity? A partnership between clinicians and data scientists across the development and deployment stages of AI tools is non-negotiable. Clinicians need to actively contribute their expertise to shape both algorithms and workflows, ensuring tools align with the realities of patient care. The language of healthcare is nuanced. Beyond development, clinicians should support ongoing evaluation by testing the tools in diverse clinical scenarios, reinforcing their practicality and reliability. This partnership ensures that AI supports and enhances human judgment rather than attempting to replace it.

5. Safety oversight

What is the safety, quality, validation, and oversight process?

Safety oversight is a critical factor for any clinical AI tool. Each stage of development should incorporate validation processes to minimize risks and maximize accuracy. Regular performance assessments, both automated and clinician expert-led, are key to ensuring quality does not falter over time or with changes to the system. Ask vendors about their initial and ongoing safety and quality program. A deliberate focus on safety ensures the use of AI contributes positively to patient outcomes while maintaining the integrity and quality expected in clinical environments. This is especially important given current gaps in defined standards or thresholds related to use of AI for non-medical device decision support solutions.

Conclusion

For AI tools in clinical practice, trust is critical, and safety-by-default is the standard. Clinicians need vetted tools that support informed decisions based on verifiable evidence.

Can your AI tool deliver that confidence?

WHAT'S NEXT?

[Learn more about the Micromedex approach to AI here.](#)

About Micromedex

Micromedex by Merative delivers award-winning clinical decision support to professionals across the healthcare ecosystem. Named 2026 Best in KLAS point-of-care drug reference, Micromedex is the market leader and now includes AI-powered search to accelerate workflows. The drug, toxicology and patient education content is trusted for its expert curation and ease of use, supporting informed, evidence-based decisions globally.

Learn more at merative.com/micromedex

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