



ClinicalKey AI

Transforming hospital medicine with AI: *Enhancing* clinical practice and education



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Discover healthcare leaders' top use cases and strategies for deploying AI technology

Artificial intelligence (AI) holds significant potential to help solve a variety of problems for healthcare organizations; however, its use can also create new challenges, according to leaders who participated in the Society of Hospital Medicine's Virtual Executive Round Table on Generative AI in Medicine. The interactive discussion, which was sponsored by Elsevier, generated key insights that could help other hospitals as they seek to optimally leverage AI.

Insight 1: AI tools cannot succeed without human oversight. While AI offers significant potential to enhance decision-making and operational efficiencies, the clinician is still an integral part of the execution, namely as a critical reviewer and evaluator. This is especially important with generative AI, since not all generative AI tools draw information from trusted sources in response to prompts.

One hospital has implemented a length-of-stay predictor that provides a percentage of likelihood of patient discharge on any given day. The tool, however, cannot succeed in isolation. Instead, the technology acts as a clinical assistant, providing discharge suggestions that clinicians can either accept or decline with valid reasons for prolonging the patient's stay.

While AI can serve as a valuable tool for applications such as this, as well as for predicting adverse events or conducting root cause analysis, humans are still needed to input the best possible data into the system and to assess the resulting recommendations. In short, the quality of the AI's output is dependent on human input. Subsequently, the ability to act on the AI's recommendations depends on the clinical knowledge of the users hoping to leverage the technology.

Insight 2: AI tools must fit into organizational workflows and reduce clinician workload. AI is often touted for its ability to reduce clinician workload and enhance workflow. The opposite is possible as well, as generative AI can create new demands on clinicians and staff as they adapt to this new technology.

Therefore, leaders need to be wary of AI that simply pushes tasks back to physicians. For example, an AI tool that asks physicians to verify each generated recommendation is likely to prove burdensome. If the output of an AI tool results in alarm fatigue, clinicians are unlikely to use it.

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If an AI tool, however, can streamline work, it can add value by reducing clinicians' workload. For example, an AI tool that can spot bleeding in CT scans and identify images that a radiologist should look at first can potentially save considerable time. Still, one participant warned, "Sometimes AI can be so efficient, it can trigger increased work demands on people. If [the tool] forces them to read more scans, that can cancel out the benefit."

AI tools that don't seamlessly fit into clinicians' workflow also won't provide the desired value. For instance, one hospital is attempting to combine AI-generated predictions from multiple sources including its EMR, a home-grown tool and a vendor's solution. Trying to integrate these AI insights into the standard clinical workflow of hospitalists and surgeons is a challenge, making it difficult to effectively leverage this information.

To clear these hurdles, hospital leaders should evaluate how AI tools affect work demands and ensure that they are introduced into clinical workflows in a manner that supports and enhances, rather than replaces, human clinical reasoning and decision-making.

Insight 3: Providing opportunities for meaningful interaction with AI tools is crucial for building clinicians' trust and buy-in. Hospital leaders should engage different clinical groups by providing them with use cases for various

AI tools and letting these stakeholders pilot the tools. Linking AI to favorable financial outcomes has also proven to be a successful strategy.

To truly succeed, however, leaders need to identify serviceline and workforce champions and enable them to develop novel ideas and tailor solutions to meet their needs. Offering these tools to small pilot groups initially can also help to encourage support. Clinicians will then more readily adopt the technology at a system level, because they will already understand it and trust its value.

In addition, creating an environment where clinicians and other staff can bring ideas to the organization can help with technology adoption. When staff members bring novel ideas to the innovation team, this demonstrates that buy-in for the use of new tools is already there. One leader discussed how their organization engaged staff groups to "create and innovate a lot of homegrown [solutions] and... pilot a lot of [tools] on a smaller scale internally first."

Sometimes leaders need to get support from staff after an AI tool has been purchased. In these instances, it's important to solicit feedback from users while the tool is being rolled out. Their feedback on the product can then be incorporated into the ongoing implementation.

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Strategies such as these can encourage familiarity and build trust in new AI tools. However, leaders should begin using them as early as possible to address any skepticism from clinicians.

Insight 4: As AI transforms how students and residents learn, medical education will likely shift away from the traditional model. Just as cursive handwriting is almost obsolete in elementary schools, relying solely on memorization may soon no longer be the norm in medical education. Medical students are already leveraging generative AI tools to answer their questions. Because of this, educators must teach students how to use AI responsibly to assess information about clinical cases.

As the use of AI becomes more prevalent, medical school and residency programs are likely to shift from time-based to competency-based systems. AI may create individualized learning plans and produce curricula for each learner, meaning that some students may be able to complete their educations more quickly than others based on their demonstrated competencies.

The role of the faculty member may also change. With the assistance of AI tools, educators could spend decreased time on feedback and evaluation of students and residents. Faculty will then have more time to coach students on how to approach clinical problems as well as to demonstrate how to engage with patients to encourage them to follow treatment plans and take steps to improve their own outcomes. In addition, educators will need to train students on how to detect and deal with bias in AI tools and how to compensate for bias when treating specific patient populations.

AI could also ease overwhelmed residents' burden by helping to streamline their workflows and reduce routine administrative labor, giving them more time for direct patient care. One participant described a program at their hospital in which learners are provided with AI-generated

“educational nudges” offering summaries of articles to help guide them in treating their patients.

Insight 5: AI tools provide incredible value, but leaders should mitigate any potential risks as well. Reducing physicians' clinical documentation workload is a known benefit of ambient listening AI. The very act of producing documentation, however, can help physicians formulate an assessment and treatment plan. As one leader explained, the “pen to paper” cognitive processing during the documentation process may inform a clinician's therapeutic decisions when working with complex patients.

AI, like humans, is imperfect. If AI-generated diagnoses or treatment plans are presented as a primary resource before clinicians give their opinion on a case, clinicians' experience and knowledge may be devalued as a result. Since AI applications come with inherent risks, healthcare leaders must establish robust governance frameworks to oversee the use of AI, ensuring accountability and addressing ethical considerations.



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More specifically, leaders need to educate clinicians on AI tools' limitations and potential biases, then develop guidelines to mitigate such risks.

Exploring AI's future potential

While participants expressed concerns about AI, the technology is expected to have a positive impact in healthcare settings. Participants believe that AI will empower physicians to focus more on the hands-on practice of medicine by removing repetitive administrative tasks. This will enhance clinicians' efficiency and make them better diagnosticians who increasingly work at the top of their license. Perhaps most importantly, as one participant said, AI can make it possible for people who may not previously have had the resources to attend medical school to become physicians, ensuring that “your doctor looks like you, your doctor can understand you, your doctor can relate information that you take to heart — and that’s going to improve outcomes.”

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