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Transforming Healthcare Delivery with Generative AI

How Healthcare Leaders Are Navigating a Shifting Technology Landscape

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FROST & SULLIVAN VIRTUAL THINK TANK

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Consulting Director,
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Panelists:

▶ **Jake Lancaster, MD**
Chief Medical
Information Officer
Baptist Memorial Health Care

▶ **Jordan Asher, MD**
Executive VP and
Chief Clinical Officer
Sentara Health

▶ **Paul Testa, MD**
Chief Medical
Information Officer
NYU Langone Health

▶ **PJ Helmuth, MD**
Physician Clinical Executive
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Introduction

Generative AI, a type of artificial intelligence that generates new data based on existing patterns, is an exciting field with immense promise in healthcare for automating operational tasks, accessing clinical insights, modernizing health systems, and balancing risks and rewards. Generative AI technology offers a strong potential for building healthcare efficiencies, contributing to an unrealized $1 trillion of improvement within the industry.[1]

As part of exploring the current state of generative AI with healthcare provider organizations, Frost & Sullivan hosted a closed-door Virtual Think Tank discussion. In this session, Frost & Sullivan laid out a framework regarding how healthcare organization leaders use and think about generative AI today and for the long term.

Current State of Generative AI in Health Systems and Exciting Use Cases

In a relatively short amount of time, generative AI has made strong strides in different aspects of healthcare, including decision-making, scribing, clinical documentation automation, claims processing, patient engagement, and building operational efficiencies.

In this context, Dr. Jordan Asher, Executive VP and Chief Clinical Officer, Sentara Health, said, "One of the problems I am trying to solve is not how do I make clinicians more efficient, but how do I allow them to get back to enjoying what they do, which is diagnose and treat. Our mission is to improve health every day, which means I have to improve how well my clinicians do their job in the realm of operational efficiency, but also ability from a cerebral perspective."

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1   Bhasker, S., Bruce, D., Lamb, J. and Stein, G. (2023). Tackling healthcare's biggest burdens with generative AI. McKinsey & Co. Last accessed April 2, 2024 at https://www.mckinsey.com/industries/healthcare/our-insights/tackling-healthcares-biggest-burdens-with-generative-ai

While various approaches are being considered, from collaboration for specific use cases to building models for the entire organization, working together in the generative AI journey is important. Dr. Paul Testa, Chief Medical Information Officer at NYU Langone Health, reflected, "We've taken a centralized, singular approach. It's been all-in. Our first email out to the enterprise [about AI] wasn't, 'Don't,' but it was, 'Please do, and come to us.' And that's been a fairly bottom-up approach."

Companies are also working together to innovate and bring new value to providers leveraging generative AI. Dr. PJ Helmuth, Physician Clinical Executive at Elsevier, spoke about tapping into the space of knowledge retrieval via a partnership with OpenEvidence. Dr. Helmuth detailed, "Using their technology with our content, that's the place we're at in this very specific medical knowledge retrieval area of generative AI."

> The panelists discussed what excited them about generative AI's potential to help their organizations and the delivery of care to patients. One view related to the potential of using generative AI to solve one issue, but it could support solving other needs as well. Dr. Asher said, "I think what's most exciting to me is that generative AI is coming in to say, 'I'm going to solve the problems that you think you have,' but in reality, it ends up solving problems I didn't even realize... or other problems I knew I had, but I hadn't thought about, that I wasn't trying to purely solve."

According to the Centers for Disease Control and Prevention (CDC), chronic diseases and mental health conditions account for 90% of the nation's healthcare spending, translating to nearly $4.1 trillion annually.[2] Such staggering numbers make chronic condition management an immediate use case. If deployed in the most appropriate method, using AI for timely engagement with patients could be a game changer for better disease management. AI could make a demonstrable improvement in population health management and early intervention in chronic condition management.

Dr. Helmuth shared this view. "Another area I am excited about in this space is the impact generative AI can have on chronic condition management and patient engagement. As we move to value-based care and think about engaging and caring for patients between visits, whether it's remote monitoring or care management programs, and the ability of AI tools to help us maintain contact with our patients and ways to find early identifiable events that we should be intervening on, I think there's some really exciting things there for us that could change the way that we think about managing a population of patients with chronic conditions."

Other application areas highlighted during the think tank discussion included more administrative tasks, such as note creation during a physician-patient interaction on the ambulatory side, secure chat within an organization, and reminders for instances such as medication ordering on the provider side.

2   Centers for Disease Control and Prevention. https://www.cdc.gov/chronicdisease/about/costs/index.htm. Last accessed, April 23, 2024.

Creating an Ecosystem with Guidelines for the Implementation of Responsible Gen AI at a Healthcare Organization

Successfully integrating generative AI within an organization necessitates the establishment of robust governance guidelines and a structured decision-making framework that is underpinned by clearly defined use cases aimed at problem-solving. Questions a provider organization must ask themselves in this context include, "Are we ready?" and "Do we have a formal central body within to deploy AI?"

It is important to think about governance from a bottom-up approach, with a central body strategically planning the deployment of AI solutions that solve immediate pressing problems while ensuring seamless integration with other departments in the long term. Dr. Asher shared, "We were less worried about people with ideas, but more so about different departments implementing solutions in a silo, without a centralized approach. We need to know how to define trustworthy AI from eight different components of human oversight, robustness and safety, privacy data, and transparency. A big one for me is health equity and diversity, and the issues that we're concerned about in managing around that."

Dr. Testa also highlighted their governance model and said, "The one group we did put together that was separate from our current governance structure was a cross-functional advisory group comprised of ethicists, grouped from our institute in excellence in healthcare equity, and clinicians and finance folks, to look at how we're doing this in an ethically and inclusive way. With that approach, we're proper stewards of these tools, but we have the North Star of efficiency, quality, and safety, and moving fast to get live in a way that's scalable, and not just pilots."

Is Gaining Clinician Confidence Still the Real Challenge? Maybe Not...

Clinicians have had concerns with digitization and automation of healthcare processes due to workflow impacts and data sensitivity. However, during our discussion, panelists believed this is not a big challenge regarding generative AI. Dr. Asher said, "I'm not having any issues getting clinicians to, for lack of a better term, embrace. I'm trying to be a little careful on the other side."

Explainability is key. If clinicians understand how the AI models work and can see benefits in the real world, gaining their confidence is easier.

Furthermore, clinician confidence in generative AI tools can be boosted if they can validate the data and returns. Dr. Helmuth mentioned, "I think the thing that we've found to be most effective with our knowledge retrieval tool is that every statement that is made by the generative AI tool in response to a physician query has a reference. With the reference, you can open the text to see what evidence-based sources were used to generate that response." Clinicians need to know that information comes from trusted sources to gain confidence in generative AI's ability to help them be more efficient, and thereby spend more time with patients.

> Dr. Testa highlighted a case in which they deployed a COVID-19 model and said, "We deployed a COVID deterioration prediction model in early days, when we were trying to get patients out of different units, and in rapid A/B testing, we got pickup when we added a hovering explainability score to it. They were ignoring it before that, and when we explained the score and what was behind that, we had much greater partnership with our clinicians."

There is also a need to address training upcoming clinicians using generative AI functionalities. Dr. Helmuth noted, "You have to acknowledge that this [students using AI] is happening and figure out a way to give them guardrails. How do we work with digital natives in a way that still supports them in gaining the kind of critical thinking, as well as knowledge acquisition, using tools that are becoming available?"

Provider Expectations for Generative AI in Vendor Solutions

An ideal provider–vendor relationship is built on a thorough and transparent understanding of the technology company's vision for generative AI and can directly and collaboratively solve short-term issues seen within the provider organization.

To this, Dr. Testa reflected, "The [vendors] that are most pleasurable to work with, where we end up in the best place, are those that acknowledge that we're going to enter a partnership with them and not just a one and done transaction." He added, "If we're going to engage with you for the next five years in a product, be willing to develop a solution with us that we know you need to be successful, so you stay in the space and you keep servicing us the way we want to be. I need a partner who's willing to learn with us because we're all too new to this field to think anybody's got it down pat yet."

Another significant factor is being fair and transparent throughout the process. Dr. Jake Lancaster, Chief Medical Information Officer at Baptist Memorial Health Care, pointed out that basic actions such as vendor transparency regarding how they train their models and ensuring that customers have access to this knowledge are important in gaining provider confidence.
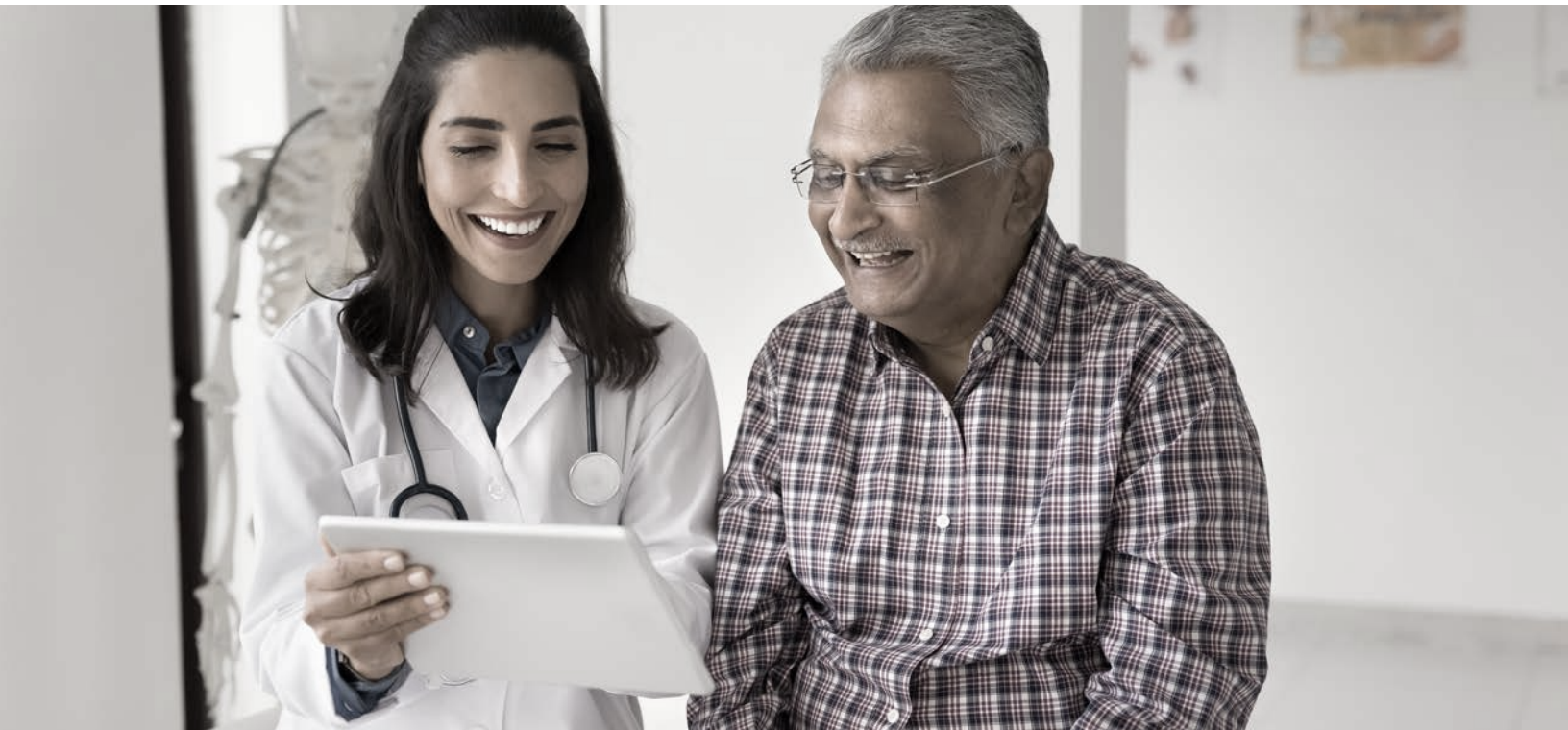
Key Takeaways

In the last two years, there has been a massive leap forward in the application of generative AI for healthcare among providers. Whether related to improving patient engagement and interactions, care coordination, notes, or administrative tasks, efforts to leverage generative AI for clinical and non-clinical purposes will continue. In the long term, improving the clinical decision-making process for physicians will be a game changer.

While the application areas for generative AI are becoming clear, the success of generative AI deployments in any situation depends on considering the problem you are trying to solve while looking to work with vendors and technology companies that wish to engage as long-term partners. Successful implementation of robust governance guidelines and a structured decision-making framework within a provider organization is an absolute necessity to making sure all parts of the organization work in tandem—to not just solve the short-term issues, but with an eye on the future regarding efficiencies, safety, and quality delivery of care.

To learn about Elsevier's generative AI knowledge retrieval tool, ClinicalKey AI, visit Elsevier.com/clinicalkey-ai. ➡

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