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AI'S RISING IMPACT IN HEALTHCARE: PREPARING FOR WHAT'S NEXT

HealthLeaders webinar unpacks the potential of generative AI and other models

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Healthcare is on the threshold of a new period of innovation marked by the growing influence of artificial intelligence (AI). In a recent HealthLeaders webinar sponsored by MedeAnalytics, titled "The Art of the Possible with Analytics and Artificial Intelligence in Healthcare," industry leaders gathered to discuss AI's benefits, practical applications, and challenges in healthcare, with a close look at large language models and generative AI.

The panelists highlighted the rapid advancement of AI technologies with a balanced view of enthusiasm and caution. Andy Dé, Chief Marketing Officer at MedeAnalytics, pointed to the profound impact of Microsoft's recent incorporation of generative AI in its Office products, marking it as a critical shift with far-reaching implications for all industries, including healthcare.

Dé was joined by David Schweppe, Chief Analytics Officer of MedeAnalytics, and Ylan Kazi, Chief Data Officer of Blue Cross Blue Shield of North Dakota, for an in-depth discussion of AI's evolving role in healthcare. The panel emphasized the importance of:

- Cultivating a versatile portfolio of AI tools
- Maintaining data integrity
- Implementing ethical guidelines for AI
- Widening the application of AI in healthcare

Tech in action: Real-world use cases

The panel observed that AI, particularly generative AI, is poised to significantly open up access to advanced technology. "Generative AI and prompt engineering are democratizing AI and data science," said Dé. Kazi concurred. "There are going to be novel creations that nobody ever thought about, which will inevitably change the practice of medicine and healthcare."

The panel outlined AI's top benefits in healthcare:

- Raising patient experiences to online retail levels
- Utilizing broad data sets for predictive analytics to enhance patient outcomes
- Facilitating smoother care transitions
- Promoting health equity

Kazi emphasized AI's effectiveness in data-rich scenarios, such as risk scoring, fraud, waste, and abuse. He recounted an initiative he worked on that created AI-assisted risk scoring for Medicare patients with chronic conditions, leading to targeted patient outreach. He stressed AI's utility in workforce management areas—for example, using AI to forecast physician burnout and develop proactive measures. Kazi added that AI is also shaping a consumer-centric healthcare model that will generate large amounts of data from devices as more patient care moves to the home. "As you stream more of that data…you're essentially creating very large data sets where you can predict different health outcomes…and move from a retrospective look to being more predictive," he said.

Schweppe added that during the COVID-19 pandemic, the large healthcare organization where he previously worked employed AI to predict and manage critical resources, such as ventilators and contracted staff. He said that experience paved the way for rethinking resource deployment in other areas like telehealth. For example, the organization significantly expanded the reach and efficiency of mental healthcare through video and voice appointments. He also pointed to AI's role in bringing current medical research to clinicians to accelerate medical discoveries. "We've all heard the rule that every doctor is 17 years behind peer review research. The advantage with generative AI is clinicians can now access that data," said Schweppe.

Schweppe said AI will also help increase inclusivity by addressing social determinants of health and advancing health equity. "The AI space will present opportunities to improve the work environment by bringing together all the data and the right people and offering them actionable insights for decision making."

Troubleshooting AI's top issues

The panel also tackled AI's challenging public perception and identified several hurdles facing AI in healthcare, including biases and historical inaccuracies in data, lack of ethical governance, and bridging the divide between data science and clinician needs.

Dé addressed the mixed views surrounding AI, suggesting that while AI's drawbacks are often highlighted, its beneficial applications are more noteworthy. "The day is coming when large language models, which can ingest all of the medical literature, will offer the nurse practitioner running the MinuteClinic at a CVS all the information they need to handle minor ailments," he said. He recommended a hybrid strategy that leverages multiple AI technologies, not solely generative AI, to respond to healthcare's pressing issues more effectively.

Kazi called for better collaboration between AI developers and clinicians. "AI is good at generalizing across a huge population or millions of different data points," he said. "But it's not very good at doing one-off, unique, or complex cases where a clinician's training or even their gut instinct will go much further."

Schweppe discussed the problem of the lack of transparency with AI. "The more complicated the models, there are things that even data scientists, or those building these new large language models, will never understand," he said. "We have to be somewhat skeptical of what's coming out, but also embrace the technology when it gets it right and positively impacts patients."

Data integrity and technology diversity

Kazi acknowledged the challenges of working with AI, especially when dealing with imperfect data that can lead to 'hallucinations' or misinformation. Yet, he noted the substantial benefits of generative AI to healthcare, even with its imperfections. "As we learn how to utilize these tools better, and as we get better data sets, we'll start to see less and less hallucinations," he remarked. "We just need to be cognizant of the limitations of AI and how can we appropriately use these solutions."

Schweppe stressed the critical role humans play in overseeing AI outputs, warning that without careful scrutiny, AI could generate errant medical advice. He also noted that healthcare will need to address AI's inherent biases and the complexities of using historical data. "Being a responsible curator of that information will be an ongoing need."

Looking at AI holistically, the panel also discussed the merits of a comprehensive AI investment approach. Dé endorsed a portfolio strategy for its robustness and adaptability within the tech ecosystem. He listed key components of an AI portfolio, including machine learning, natural language processing, natural language generation, deep learning, machine vision, generative AI, and the potential inclusion of medical robotics.

Kazi advised a measured assessment of each technology within an AI portfolio, linking each step to overarching business goals and incorporating a systematic plan for integrating new data sources. "Then it's much easier to start to layer in some of these capabilities and do it more iteratively," he said.

AI's advancing front

Over the next 3-5 years, the panel forecasts AI's impact to be substantial. "AI is going to revolutionize the next stage of healthcare," asserted Kazi, predicting the technology's natural role in healthcare as people grow increasingly accustomed to its presence in everyday life.

Dé acknowledged healthcare's cautious approach to new tech but still predicted a swift uptake. "We'll see a far more accelerated adoption," he said, pointing to the increasing use of machine learning, natural language processing, and deep learning. "Hopefully, generative AI will move faster than previous generations of technology," he added.

Schweppe supported these views, observing that AI has become a part of people's lives, often without them realizing it. He believes AI will significantly contribute to population health, leading to novel discoveries and more efficient healthcare processes. "We're going to discover things we didn't know before," Schweppe said, citing AI's role in mRNA vaccine development and pointing to ambient technologies that aid medical documentation.

Schweppe shared that MedeAnalytics is moving towards providing trained models via an AI marketplace, aiming to distill vast amounts of data for practical use. "It's about ... narrowing it down in a guided process to where people can make actionable insights and prescriptive concepts come forward."