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Reflections From the Frontlines of Health Innovation: AI in Healthcare

A Conversation with HIMSS25 Speakers

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INTRODUCTION

Ground-level insights from healthcare leaders turn AI ambition into real-world outcomes.

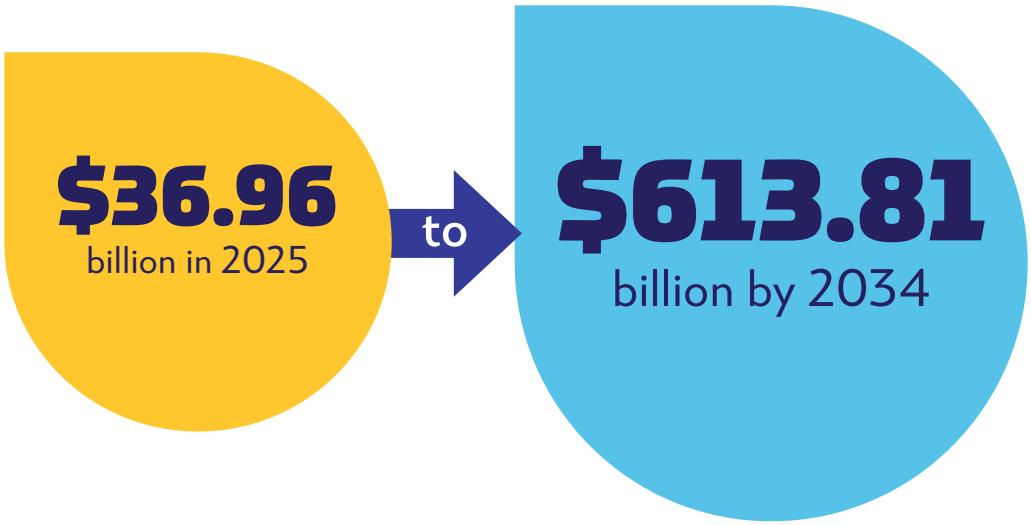
AI is no longer theoretical. It's in the workflow, on the care team, and increasingly part of the patient experience. But as adoption grows, so do the complexities. At the HIMSS25 AI in Healthcare Forum, healthcare and technology leaders came together to explore how AI is being implemented, evaluated, and scaled to meet real-world demands.

AI is no longer theoretical. It's in the workflow, on the care team, and increasingly part of the patient experience.

The insights shared here come directly from industry leaders who are deeply involved in building and deploying AI across the healthcare landscape. Their perspectives offer a grounded look at where AI is making an impact, where it's falling short, and what it will take to ensure it delivers lasting value - for patients, professionals, and systems alike.

Whether you're integrating AI today or planning for tomorrow, our speakers' insights offer a practical, candid look at the state of AI in healthcare - and where it's headed next. These reflections set the stage for even deeper exploration at HIMSS26.

The global AI in healthcare market is projected to grow from



(Source: Precedence Research. 2025. Artificial Intelligence in Healthcare Market Size to Hit USD 613.81 Bn by 2034)

REAL-WORLD EXAMPLES
of AI in Healthcare

From front-line frustrations to years of system-level innovation, these speakers shared what inspired their work in AI - and why real-world application, not theoretical potential, continues to shape their perspectives. Whether refining clinical workflows, improving operational efficiency, or confronting the hype gap head-on, their experiences reflect the complex realities of AI in healthcare today.

What real-world example or experience inspired your session(s) on AI?

Mark Sendak, MD, MPP: Our team at the Duke Institute for Health Innovation has completed over 100 innovation projects — nearly 60 of which are AI innovations in healthcare. We've addressed use cases ranging from chronic disease management to provider burden and operational efficiency. Through our work with Health AI Partnership, we convene leaders from 30 organizations nationwide to advance AI deployment at scale.

Graham Walker, MD: I see the disconnect every day between the promise of AI and how it actually gets deployed. As an emergency physician, I've seen tools launched with great fanfare - only to add more clicks, more friction, or more liability for clinicians. But I've also helped build tools that actually work, like MDCalc. That tension - between what's hyped and what's helpful - is what drove me to speak up. We don't just need AI in healthcare; we need AI that actually works for healthcare.

Brian R. Spisak, PhD: What inspired me is the repeated pattern I've seen of organizations chasing flashy AI solutions without first understanding their own people or processes. It's why I champion a 'leadership first, tech last' approach. Effective AI starts with understanding and solving real problems. Leaders must deeply engage with their teams before exploring tech or risk delivering 'all hype, no help' solutions.

Neri M. Cohen, MD, PhD: My experience centers on real-time, intelligent care augmentation — using technology to better engage patients in their healthcare journey and drive outstanding clinical outcomes. At the same time, we're focused on liberating clinicians from the crushing burden of administrivia, allowing them to be more efficient and effective at what drew them to medicine in the first place: help, hope, healing, and human touch.

> *"We're focused on liberating clinicians from the crushing burden of administrivia, allowing them to be more efficient and effective at what drew them to medicine in the first place: help, hope, healing, and human touch." – Neri Cohen*

Lessons You Can Apply Now:

KEY TAKEAWAYS FROM HIMSS25

As AI becomes more embedded in healthcare, our speakers urged stakeholders to think beyond the algorithm. From implementation challenges to risk-reward realities, these takeaways emphasize what truly matters when bringing AI into clinical and operational settings: responsible design, real-world utility, and systems that center the needs of both patients and professionals.

What is one main takeaway that you hope audiences walk away with about AI?

Mark Sendak, MD, MPP: When we talk about AI at DIHI and HAIP, we emphasize that the algorithm is just one component. As one of our site leaders says, "AI without effective workflow integration is just fancy math." Health system leaders need to understand the full AI product lifecycle - data quality, integration, communication, and downstream action. We recommend familiarizing with the eight key decision points we outlined at Health AI Partnership.

Brian R. Spisak, PhD: AI must serve strategy, operations, and users, not the other way around. Leaders need to start with clarity on what matters to their people and their mission. Only then can AI become a multiplier for impact. The worst outcomes happen when tech leads the way without clear purpose, governance, and accountability. Without this clarity, innovation becomes something that's shiny but shallow.

Graham Walker, MD: AI has risk, yes. But you can't think about that risk in a vacuum. Healthcare is already full of risk. If it takes three months to see a neurologist, that's a risk. If you're using outdated workflows from the 1990s, that's a risk. So the question isn't "is AI risky?" The real question is: what's the risk of not using it?

> *"AI without effective workflow integration is just fancy math."*
> *– Mark Sendak*

As of 2024, **80%** of hospitals reported leveraging AI for

PATIENT CARE ENHANCEMENT and **WORKFLOW EFFICIENCY**

(Source: Docus.ai. 2025. AI in Healthcare Statistics 2025: Overview of Trends)

CHARTING THE NEXT CHAPTER
for AI in Healthcare

The future of AI in healthcare hinges not only on technological advancement, but also on access, accountability, and design that reflects the real needs of the healthcare ecosystem. At the HIMSS25 AI in Healthcare Forum, speakers shared forward-looking insights on where AI is heading - from bridging the digital divide to setting a new standard for safety, trust, and value across care settings.

What do you see for the future of AI?

Mark Sendak, MD, MPP: I envision a future where AI meaningfully advances patient outcomes in all care settings. But right now, a digital divide separates elite institutions from community systems. At Duke, we've invested for years in infrastructure to locally evaluate and monitor AI. We need to make that support—tools, infrastructure, services—available everywhere, not just at the top. Only then can we fully realize AI's potential.

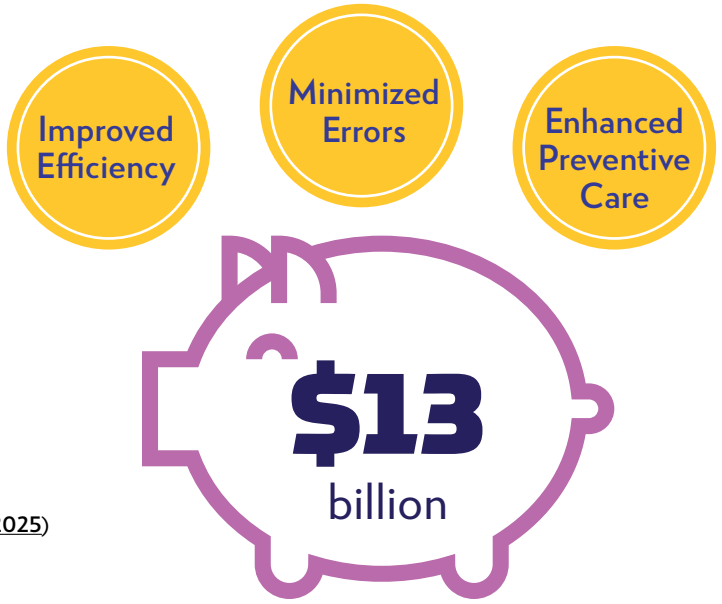
Graham Walker, MD: I'm cautiously optimistic. **We're at a fork in the road: AI could add more complexity and risk - or it could truly transform care.** The difference comes down to who builds it, who validates it, and who it's accountable to. AI feels like magic, but it's just math - wrapped in massive assumptions.

Brian R. Spisak, PhD: **I see a future where AI becomes a powerful copilot (augmenting, not replacing) for clinicians and healthcare leaders.** The most impactful systems will center human decision-makers and leverage AI to amplify their judgment and performance. This revolution will only succeed when leaders stay in the cockpit and guide AI to serve the well-defined (and deeply appreciated) needs of both healthcare workers and patients.

Neri M. Cohen, MD, PhD: The future of healthcare technology isn't just about having AI, it's about implementing it thoughtfully and responsibly to affect meaningful human-machine teaming.

In 2025, AI is anticipated to **REDUCE HEALTHCARE EXPENDITURES** by **$13 billion** through improved efficiency, minimized errors, and enhanced preventive care.

(Source: All About AI. 2025. 19+ Must Know AI Statistics For Healthcare In 2025)



SESSION SPOTLIGHTS

Each of the sessions at HIMSS25 AI in Healthcare Forum brought a unique lens to the role of AI in healthcare. From clinical burnout and equity gaps to vendor strategy and governance, these speakers offer hard-won lessons and firsthand examples of AI implementation in practice.

Mark Sendak, MD, MPP

AI can create efficiencies, and your panel spoke of the importance of reinvesting that time into employee well-being. Can you share an example of how that reinvestment can be done meaningfully in a healthcare setting?

Honestly, my answer is very personal. My wife is a primary care pediatrician. Over the past year, AI scribes have reduced her after-hours documentation load. That means more time with our kids, more rest, and more fulfillment. If we want to support our workforce, we need to think about AI in terms of what it gives back - not just what it automates.

In your experience, what role do community partnerships play in implementing equitable AI solutions, and how can organizations foster such collaborations?

Since we launched the Health AI Partnership (HAIP), we've had a community representative on our leadership council. She's helped ensure that our programs reflect the needs and concerns of patients - especially those from historically marginalized populations. We've also brought on a patient advocate from The Light Collective. Health systems have historically excluded community voices from tech procurement and implementation decisions. We're trying to change that, because how AI is embedded in care will have lasting implications for trust between patients, clinicians, and institutions.

> *"You don't need "big data" - you need reliable data. That starts with reducing noise at the source." – Graham Walker*

Graham Walker, MD

What are some key elements that healthcare organizations should consider to ensure responsible AI integration, especially in resource-limited settings?

I think the healthcare system and AI partners need to come up with standard evaluation and validation frameworks, especially around generative AI. Until we can assess whether these tools work - and how well they work - it's nearly impossible for resource-limited organizations to know if they're safe and appropriate. We also need consistent standards for identifying and mitigating bias. AI is only as good as the data it's trained on, and our current systems are far from neutral.

Data quality is crucial for successful AI implementation. What strategies can organizations employ to manage and maintain high-quality data, particularly when resources are constrained?

You don't need "big data" - you need reliable data. That starts with reducing noise at the source. Right now, clinical workflows are filled with low-value documentation requirements and administrative burdens. If we want better data, we need to let clinicians stop entering junk into the system. "Get Rid of Stupid Stuff," as Melinda Ashton wrote, should be a priority for every health system.

Brian R. Spisak, PhD

Developing frameworks that align with organizational goals while ensuring ethical considerations are met is challenging. How can healthcare organizations balance these priorities effectively?

Start with leadership clarity. If you don't understand the human needs and systemic pressures at play, you can't build ethical, effective AI. The best frameworks come from inclusive leadership that listens first, then translates those insights into governance. Ethics need to be baked in from the beginning and leaders must stay grounded in their mission, vision, and values.

Learning from both successes and failures is vital. Could you provide an example of a lesson learned from a less successful AI initiative or a struggle you overcame and how it informed future implementations?

Instead of talking about less successful examples, I think it's best to give leaders frameworks on how to avoid or mitigate failure. In my Healthcare IT News article, 'Key steps toward optimizing transformation in healthcare in 2025' with Tom Lawry and Spencer Dorn, I share a rubric from John Halamka, president of Mayo Clinic Platform. He asks the following questions:

- **Is it strategic?** It may be really cool tech, but what is the imperative, and is it addressing a current need?
- **Is there a quality or safety imperative?** Don't become a healthcare institution of lesser quality by standing still.
- **Is there a compliance or regulatory mandate?** If something could result in an action against you, pay attention.
- **What's the impact factor?** Do what impacts more patients, providers, social workers, and other stakeholders.
- **Is there a revenue impact?** Is there a cost reduction or significant impact to profit and loss?

> *"The best frameworks come from inclusive leadership that listens first, then translates those insights into governance." – Brian Spisak*

The key lesson here is that leaders must dedicate resources to clearly defined, patient-centered strategic goals. Investments should prioritize solutions that enhance patient outcomes, ensure quality care, and align with regulatory standards. As my coauthors and I note in our article, leaders should ask, 'Are we investing in innovation that aligns with our strategic goals and delivers real value or are we investing in new technology because it's flashy and exciting?' The bottom line? If leadership isn't leading, even the best tech can take you in the wrong direction.

AI in healthcare has been shown to save approximately 20% of doctors' time by reducing paperwork and administrative tasks.

(Source: Sci-Tech Today. 2025. AI in Healthcare Statistics By Market Share and Technology)

Neri M. Cohen, MD, PhD

What are your go-to strategies for ensuring vendor accountability from procurement through continuous optimization?

1. Contractual Guarantees and Performance-Based Agreements

- **Clear, measurable outcomes:** Contracts must include specific, measurable, achievable, relevant, and time-bound (SMART) key performance indicators (KPIs) tied to the AI's intended impact on clinical outcomes, operational efficiency, and patient experience.
- **Financial penalties/incentives:** Agreements should incorporate financial penalties for underperformance and incentives for exceeding expectations, driving continuous improvement and accountability.
- **Data access and audit rights:** Healthcare organizations need the right to access the data used to train and validate the AI model, as well as audit its performance regularly to ensure ongoing accuracy and fairness.

2. Transparent Model Governance and Explainability

- **Detailed documentation:** Vendors should provide comprehensive documentation of the AI model's development, training data, algorithms, and validation processes, enabling thorough evaluation and understanding.
- **Explainable AI (XAI) capabilities:** The AI solution must offer XAI features that allow clinicians to understand the rationale behind its predictions and recommendations, fostering trust and enabling informed decision-making.
- **Bias detection and mitigation:** Vendors should demonstrate proactive measures to identify and mitigate potential biases in the AI model, ensuring equitable and fair outcomes across diverse patient populations.

3. Continuous Monitoring, Feedback, and Improvement Mechanisms

- **Real-time performance monitoring:** The AI system should continuously monitor its performance in real-world settings, tracking key metrics and alerting stakeholders to any deviations from expected levels.
- **Feedback loops:** Establish formal mechanisms for clinicians and other users to provide feedback on the AI's performance, enabling ongoing refinement and improvement of the model.
- **Version control and updates:** Vendors should have a clear process for managing and deploying updates to the AI model, ensuring that it remains accurate, effective, and aligned with evolving clinical practices and regulatory requirements.

Your panel addressed how to evaluate AI vendors beyond the tech. What criteria do you consider essential when selecting a partner that aligns with an organization's care and operational goals?

While AI promises to transform healthcare diagnostics, treatment, and patient care, the truth is that many organizations still struggle to implement these technologies effectively. The gap between potential and practical application remains significant. The Synaptic Sync panel tackled the essential question: How do we move beyond the hype to achieve measurable success with AI in healthcare? The key insight? Technology alone isn't enough. We explored how prioritizing people, processes, and strategy creates the foundation for successful AI implementation.

Specifically, we showed how to:

- Develop a responsible AI strategy aligned with organizational goals
- Select appropriate technologies that solve real problems
- Build the infrastructure and governance needed for sustainable success

CONCLUSION

Where AI in healthcare goes next - and why execution will define its impact.

If there's one theme that emerged clearly at HIMSS25, it's this: AI's success in healthcare will depend less on what it can do, and more on how well it's implemented, measured, and trusted.

AI's success in healthcare will depend less on what it can do, and more on how well it's implemented, measured, and trusted.

The speakers featured here aren't just exploring what's possible - they're pushing the boundaries of what's effective and sustainable in practice. Their insights reflect the ongoing shift from experimentation to execution, where AI must prove its value across diverse environments and evolving care models.

The next frontier for AI in healthcare isn't about possibility. It's about execution.

At the HIMSS26 AI in Healthcare Forum, we'll challenge the status quo and focus on what it truly takes to make AI transformative at scale.

Together, we'll tackle critical priorities, including:

- Validate AI solutions to ensure they're safe, scalable, and sustainable
- Embed responsible governance into every layer of innovation
- Strengthen the human-AI partnership to amplify - not replace - clinical expertise
- Turn ambition into action with measurable gains in care quality, safety, and equity