What Gartner's 2025 Tech Trends Mean for Healthcare

Gartner has announced its **Top 10 Strategic Technology Trends for 2025** to help IT leaders forge fairly into the future. Join us as we dive into this year's list through a healthcare lens, along with actionable steps for each category.

1 | Agentic AI

> "Agentic AI has the potential to perform as a highly competent teammate by providing insights from derivative events that are often not visible to human teammates."
>
> Tom Coshow, Senior Director Analyst at Gartner

What are they?

Autonomous AI systems that are capable of making plans and taking actions to achieve pre-defined goals.

What do they mean for healthcare?

AI agents can function much like a human healthcare professional—learn, solve problems, and make decisions—but with the added ability to crunch massive volumes of medical data.

What you can do

- **Develop an AI-centric data strategy:** High-quality data is the foundation for any successful AI integration. Now AI advancements now happen overnight, and a solid data strategy ensures your organization always gets a foot in the door.
- **Pilot agentic AI solutions:** Begin with targeted pilot projects, such as the emerging LLM-powered agent for data analysis, before committing to full-scale implementation.

2 | AI Governance Platforms

What are they?

Systems that help organizations oversee and manage the ethical, legal, and operational aspects of their AI technologies.

What do they mean for healthcare?

> Gartner predicts that by 2028, enterprises using AI governance platforms will have 30% higher customer trust ratings.

In healthcare where patients demand the highest level of trust from AI as it directly impacts their lives —that metric will be the key to your success.

What you can do

- **Responsible AI leadership:** Build trust with customers, employees, and regulators by prioritizing AI ethics with C-suite oversight and thought leadership.
- **AI governance training:** Build in-house AI governance expertise or partner with experts to train your team on ethical AI usage.

3 | Disinformation Security

What are they?

Security solutions that detect and prevent the spread of disinformation and help people decide what to trust.

What do they mean for healthcare?

Health disinformation has significantly damaged public health efforts, as seen with the anti-vaccine movement during the COVID-19 pandemic. For healthcare organizations, it's not just public health at risk—your reputation could be on the line too.

What you can do

- **Seek assurance from vendors:** Ensure your technology vendors are equipped to defend against deepfake attacks. If they can't demonstrate strong detection capabilities, consider it a red flag.
- **Embrace emerging technologies:** Strengthen your defenses with customized security solutions for narrative intelligence, identity assurance, fraud prevention, and fact-checking.

4 | Post-Quantum Cryptography

What are they?

Cryptographic algorithms that are secure against the potential threats posed by quantum computers.

What do they mean for healthcare?

Healthcare relies on encryption to protect sensitive information, but quantum computing threatens traditional methods due to the sheer volume of attacks capable in a period of time.

What you can do

Scott Crowder, VP of IBM's quantum-safe adoption team, introduced his three-step process to achieve post-quantum safety:

1. **Discover**
   Identify and catalog all cryptographic assets within your systems to understand current encryption methods and potential vulnerabilities.
2. **Observe**
   Assess the compliance and security of your cryptographic implementations, pinpointing areas susceptible to quantum threats.
3. **Transform**
   Develop and execute a plan to transition to quantum-safe encryption solutions, ensuring data remains secure against emerging quantum computing risks.

5 | Ambient Invisible Intelligence

What are they?

Using small, low-cost sensors and tags to track the location and status of various objects and environments.

What do they mean for healthcare?

Think smart beds that adjust to patient movements and wearables tracking vital signs—these are some innovations of ambient invisible intelligence that are capturing investors' attention.

What you can do

Seek help from technology experts to start implementing ambient invisible intelligence through these promising applications:

6 | Energy-efficient Computing

What are they?

Designing and operating computers, data centers, and other digital systems in ways that minimize energy consumption and carbon footprint.

What do they mean for healthcare?

While blockchain has sounded the alarm on energy demands, AI is the tidal wave. Consumers today require their healthcare to be as sustainable as their travel, food, and accommodation.

> **Did you know? 30% of the world's data volume is being generated by the healthcare industry.**
>
> Source: RBC Capital Markets

What you can do

- **Upgrade to energy-efficient hardware:** Invest in servers and devices designed for lower power usage without compromising performance.
- **Contract with greener providers:** Choose technology providers who are committed to sustainability.

7 | Hybrid Computing

What are they?

Combining different computing, storage, and network mechanisms—such as CPUs, GPUs, edge devices as well as quantum and photonic systems—to solve computational problems.

What do they mean for healthcare?

As healthcare organizations implement more AI use cases, they will need the flexibility, scalability, and computing power provided by the hybrid infrastructure.

What you can do

Partner with cloud service providers and IT consultants who specialize in healthcare to optimize hybrid computing deployments.

8 | Spatial Computing

What are they?

Merging the physical and digital realities using technologies like augmented or virtual reality to offer immersive experiences.

What do they mean for healthcare?

Clinicians	Patients	Medical students
Employ AR and VR for surgical planning, allowing them to visualize complex anatomies in 3D before procedures.	Benefit from immersive therapies for mental health conditions, such as exposure therapy for phobias.	Engage with interactive simulations to better study human anatomy and surgical techniques.

What you can do

- **Enable clinician experimentation:** Know that spatial computing is still in its experimental phase. Give clinicians hands-on access to uncover practical uses within clinical environments.
- **Plan for integration:** Update your current infrastructure to ensure compatibility with emerging spatial computing innovations like virtual reality lenses.

9 | Polyfunctional Robots

What are they?

Robots that are capable of performing multiple tasks and seamlessly switching between them as required.

What do they mean for healthcare?

The marriage between robotics and AI has just begun and will soon create "children" capable of performing multiple healthcare tasks, such as:

Connected systems interop

- **Make wise investments:** Identify tasks that can be fully transitioned to robots or shared between humans and robots. Even if the cost seems high at first, the automation value will tip the balance.
- **Bring in expertise:** Build local or hire external expertise in robotology to ensure polyfunctional robots can be easily repurposed and adapted to meet changing needs.

10 | Neurological Enhancement

What are they?

Improving human cognitive abilities using technologies that read and decode brain activity and optionally write to the brain.

What do they mean for healthcare?

The FDA's approval of human trials for implantable brain chips has pushed neurotechnology into the mainstream, and we may soon see the rise of brain augmentation applications.

What you can do

- **Advocate for privacy policy:** Enforce data anonymity and privacy policies to protect patient information, especially from unauthorized wearables and implantables.
- **Start with early pilots:** Launch small-scale pilots with wearables to explore where neurological enhancements can benefit your organization.

KMS Healthcare is here to help you leverage these trends into your own solution. Reach out to discuss how we can support your journey.

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