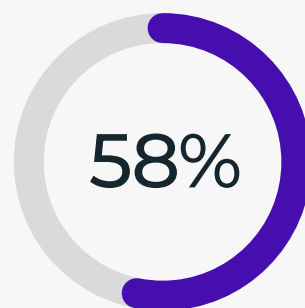**infor**

# Healthcare Technology Trends: Pioneering Change Across the Industry

An in-depth analysis of emerging technologies poised to redefine healthcare operations, patient engagement, and clinical outcomes.

**25% of healthcare** organizations are just beginning to utilize AI

**58%**

of healthcare executives said they are looking to purchase and adopt Generative AI in 2024

# Table of contents

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# The future of healthcare technology is more promising than precarious

Change was a constant for the healthcare industry in 2023, as hospitals and health systems grappled with ever-evolving challenges and expectations after the pandemic. As last year drew to a close, many healthcare leaders looked ahead to this year and wondered what was in store.

Prior investments into digital transformation have paved the way for new technological possibilities, and forward-thinking organizations have the opportunity to innovate with AI/ML capabilities, data-driven personalized care, and improved workforce management solutions, to name a few. However, challenges abound, and healthcare operators will need a combination of foresight and the right technologies to overcome them – and unlock a future of possibilities for their organization.

# Technology trends: Healthcare is poised to reap the benefits of digitization

Over the last few years, healthcare organizations have rapidly modernized to meet new patient demands, comply with evolving regulations, and resolve internal challenges like employee burnout and lack of interoperability. Thanks to these efforts, the industry is in excellent shape to pursue the many technological innovations emerging for the rest of 2024.

**Here are our top technology trends for the near future:**

**1. The maturity of telehealth and the emergence of hybrid care:**
The pandemic has normalized virtual care, making it a valuable addition to in-person consultations for both patients and primary care physicians extending the shift to specialty areas as specialists seek enhanced patient access and collaboration.[1]

As telehealth's accessibility attracts patients seeking opinions or specialists abroad, hospitals must anticipate the rise of hybrid care, blending virtual and in-person services to meet evolving patient expectations.[2] Drivers include value-based care, talent shortages, and favorable regulations. Virtual care ensures cost-effective access globally, enabling hospitals to meet demands without significant financial impact.

As a result, interoperability is a big consideration for healthcare organizations seeking to embrace this trend. Ensuring patient data can flow seamlessly across the organization is critical for delivering personalized and coordinated patient care, and investments in technology and expertise that improve interoperability between healthcare systems must be a priority.

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[1] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9581700/
[2] https://www.healthcareitnews.com/news/how-hybrid-future-telemedicine-may-play-out

**2. Experimental use of Generative AI across the healthcare organization:** Artificial Intelligence has taken business by storm, and soon healthcare. While few healthcare organizations currently utilize AI, almost 58% of healthcare executives reportedly look to adopt Generative AI this year.[3] Predictably, adoption will be greatest among larger health systems racing to harness Generative AI to improve outcomes.

What's behind the urgency? Generative AI promises to enrich patient self-service, make staff more efficient, and accelerate innovation and research. By automating administrative tasks, EHR management, and claims management with some human oversight, Generative AI can streamline operations. Clinically, AI could support manual, time-consuming tasks like prior authorization documentation or discharge procedures, allowing more time for patient care.

To realize AI's benefits, healthcare organizations must rethink data management, as AI models require sizable, structured data to learn and optimize. It's early days, so organizations should begin consolidating medical data, improving interoperability, and modernizing formats now to take advantage of this future opportunity.

3   https://klasresearch.com/report/generative-ai-2023-what-are-organizations-current-adoption-and-future-plans/3296

**3. Increased use of predictive analytics for population health management:** The pandemic cemented predictive analytics' reputation for accurately modeling health and infection risks. Unsurprisingly, healthcare organizations plan implementations for various use cases, from predicting chronic disease progression,[4] to clinical decisions, and even risks in readmissions, supply chain, and resource allocation.

A key use case is detecting early chronic disease signs by analyzing social determinants and historical data. By creating prediction models for risks like diabetes or cancer and readmissions for different patients, organizations can devise targeted treatment plans, adopt preventative care, and forecast resource utilization – reducing long-term costs of chronic diseases.

This requires improving system interoperability and data modernization to integrate, ingest, store, and analyze diverse data sources. Executives should pursue solutions providing full, scalable data capabilities so population health initiatives benefit fully from all data.

## The importance of data modernization

Most healthcare organizations commonly create and store data in HL7 V2 or CDA formats – the accepted standard of the industry for the past three decades. However, modern applications and solutions typically utilize the HL7 FHIR data format, which was designed for more seamless and flexible data exchanges between modern healthcare systems.

Beyond interoperability benefits, FHIR also facilitates data transfers to external systems and applications through REST-full APIs that use full HTTP protocols, allowing health systems to analyze sensitive healthcare data securely and at scale.

4  https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8896926/

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**4. Workforce retention and development remain a prime focus:**
Experts predict healthcare talent shortages and workforce challenges beyond this year, largely due to huge vacancies, demand, and growing infectious disease risks globally.[5] Concerned leaders must rethink workforce management and development to retain talent and stay competitive.

The best approach is providing clinicians with tools for schedule control and visibility, empowering them to negotiate equitable hours and prevent burnout-inducing last-minute work. Even better if these tools automate manual tasks like data entry and timesheets, giving more time to focus on patients or career development.

The right solution will also overview patient care workload versus staff levels for more precise demand forecasting. This subsequently informs everything from scheduling to hiring and training, providing greater control over utilizing and promoting talent and keeping staff satisfied.

5 https://www.mckinsey.com/industries/healthcare/our-insights/how-health-systems-and-educators-can-work-to-close-the-talent-gap

**5. Growing consumer demand for price transparency and affordability**

With rising costs of living and predicted 7% medical cost increases this year alone,[6] patients are also price-conscious consumers. Value-based care will continue to push organizations to control supply chain costs to provide affordable, minimized-waste treatment.

Hospitals offering pricing transparency and tools to manage medical and coverage costs will appeal to future patients. Convenience will also be key as patients seek pricing details or fill coverage forms – organizations that make self-service easy will see greater satisfaction than those that don't.

Robust data automation is essential to meet demands. The right solution will ingest and parse pricing data from systems and providers before automatically updating online. It would also auto-populate insurance forms with EHR/EMR patient data, reducing friction and errors.

The benefits are threefold: comply with pricing transparency, minimize failed claims from errors, and satisfy price-conscious customers. In this inflationary era, such benefits may mean the difference between healthy margins and extreme cost-cutting.

# Technology challenges: Enduring barriers and considerations remain

In opposition to these emerging opportunities there are enduring technological challenges that hospitals and health systems have contended with for the past few years – with some predicted changes that align with the realities of this year. The good news: with a strong vision, proactive action, and the right technology partner, the impact of these challenges can be minimized – or be completely overcome – no matter the size of your healthcare organization.

**Here are our top technology trends we are seeing that will continue to take shape:**

## Preserving the momentum for digital transformation and modernization

While noteworthy progress has been made in digitization over the last few years, much of healthcare still operates within siloed layers of traditional systems, workflows, and processes. Moving forward, the priority for progressive healthcare leaders and organizations would be to close existing technological gaps and break down data siloes between systems, with the long-term goal of improving interoperability levels across the organization.

Healthcare organizations can begin making headway by adopting modern platforms or solutions designed to facilitate seamless communication and exchange of data from one system or application to another. This establishes a strong foundation that healthcare CIOs can then use to further establish standardized data exchange formats, syntax, and processes – the first step toward a cohesive data framework that's required for innovative R&D, predictive modeling, analytics, and initiatives that further the delivery of equitable patient-centered care.

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## Data security and governance will be a parallel concern

Healthcare CSOs and CIOs will need to strengthen cybersecurity and data security measures, in line with their organization's growing appetite for data. According to some industry observers, over 55% of health systems are investing heavily in hardening their security posture[7] during this year. Emerging concerns about the ethical use of data for AI and preventative care in certain regions[8] will also test the ability of healthcare organizations to deliver cutting-edge patient care, while complying with ever-tightening data security and privacy requirements.

Healthcare executives can protect their organizations without stifling innovation and delivery of patient care by adopting provider solutions built with data security in mind. Investing into cloud-based data management and storage, for starters, provides a secure and scalable foundation to base their data initiatives. Leading cloud solution providers even comply with HIPAA regulations as well as local and regional laws, empowering organizations to leverage healthcare data to benefit patients and clinicians with greater confidence.

## Workplace inequity continues to challenge healthcare employers

Fueled by workplace conditions and demands during the pandemic, calls within the industry for a more equitable work culture will continue to intensify this year.[9] Admittedly it can be challenging to identify areas of employee well-being that need urgent attention, or the right moves to make. Fortunately, healthcare leaders can once again turn to their data to provide insight into the best ways to develop, empower, and promote employees.

Cloud-based workforce management solutions will equip supervisors and managers with visibility over their team's entire schedule, allowing them to balance staff workloads and free up time for employees to attend training and professional development. This visibility could also support equitable nurse/clinician-patient assignments, ensuring the employees are given tasks that provide the on-the-job experience they need to progress in their careers.

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[7] https://guidehouse.com/news/healthcare/2023/health-systems-prioritizing-cybersecurity
[8] https://www.idc.com/getdoc.jsp?containerId=prAP50420223
[9] https://www.shrm.org/about-shrm/press-room/press-releases/pages/health-equity-in-the-workforce-initiative-equips-employers-to-address-health-inequities-and-improves-employee-well-being.aspx
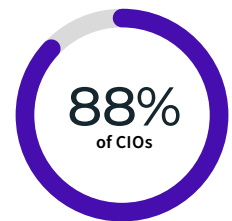
# Conclusion

Years-long digital transformation efforts have likely positioned most healthcare organizations for the technology trends and challenges in this whitepaper, but further investments into the modernization of traditional health systems and legacy data formats will be needed to reap the full benefits of these trends.
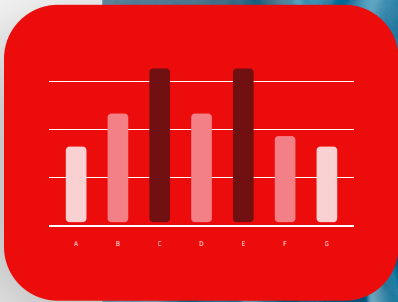
It's more cost-efficient and sustainable for healthcare leaders to leverage solution providers for modernization solutions, instead of building themselves. Throughout this year, over 88% of CIOs[10] are planning to increase investments into third-party technology to support digital transformation efforts

– a clear indicator that some healthcare leaders are planning ahead to secure their organization's ability to innovate and utilize data to meet future patient expectations.

Leading software providers like Infor can play a key supporting role in helping leaders accelerate the modernization of their organization. With an established track record in healthcare and a wide range of industry-specific software solutions, Infor can be a valuable contributor to your digital transformation efforts and partner to meet the ever-shifting needs of the healthcare industry in the years to come.

**88%**
of CIOs

**are amplifying their investments in third-party technology in 2024**

[10] https://www.healthcareitnews.com/news/healthcare-cios-plan-increased-it-investments-year-ahead

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