

NGPX

NEXT GENERATION PATIENT EXPERIENCE

INSIGHTS

AI Applications in Healthcare

Exploring AI Deployment Trends in Hospitals
and the Impact on Patient Care



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Foreword from the Producer

Hello to our NGPX community: healthcare leaders who continue to shape patient experiences across the country and beyond. We're pleased to share our new research report on AI applications in healthcare—a topic that's become critical for organizations at every stage of their technology journey.

This report from NGPX Insights examines how hospitals and health systems are currently implementing AI technologies, from early pilot programs to more established deployments. The findings reveal both the practical benefits leaders are seeing—improved workflow efficiency, enhanced patient engagement, and better care coordination—as well as the ongoing challenges around privacy, regulation, and technical reliability that organizations must navigate. NGPX Insights remains committed to providing healthcare leaders with the data-driven insights and industry intelligence needed to make informed decisions in this evolving field.

Thank you for your continued engagement with our research and community. Whether you are a regular guest at NGPX or you are exploring NGPX for the first time, we hope you'll consider registering for our next event as we continue advancing the future of patient experience together.



Charleen Ring
Event Director
NGPX

Register to Attend!

Executive Summary

Artificial intelligence is reshaping the healthcare landscape, with growing recognition of its ability to improve both patient outcomes and organizational performance. While the promise of AI is clear, healthcare leaders continue to navigate the challenges of implementation, organizational readiness, and long-term integration.

This report, based on a survey of senior healthcare leaders at both teaching and non-teaching hospitals, explores current AI applications in healthcare settings. The data reveals AI's impact on healthcare operations and patient outcomes, as well as what investments leaders will make to improve the results of this technology in the future.

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About the Respondents

The respondents are primarily senior leaders in:



51%
Teaching
Hospitals



49%
Non-teaching
Hospitals

Seniority:



55% Chief Officer (C-suite)
18% Vice President
3% Head of Department
55% Directors

Their roles span:

- ◆ Nursing
- ◆ Finance
- ◆ Patient Experience
- ◆ Education & Quality
- ◆ A variety of other clinical functions.

Key Insights



59% say AI is partially deployed in some PX areas.



88% say AI transparency is at least somewhat important in tool selection.



58% use AI predictive analytics for patient engagement.



37% say proactive patient engagement is the greatest opportunity for AI use in the next 2–3 years.



72% say their data is either mostly (55%) or fully (17%) ready for AI.



81% will increase their AI investments over the next 12 months.



68% source data from wearable devices for their AI tools.



Top concerns about the future of AI in patient experience:



54% say AI has had a high impact on appointment scheduling.



65% use staff satisfaction scores to measure AI success.

57% Technical accuracy

57% Regulatory issues

56% Patient acceptance

56% System bias and discrimination

Transforming Experiences

Hitachi Solutions empowers healthcare organizations with secure AI and the power of the Microsoft platform.



The Journey to
Enhanced
Experiences Starts
with Your Data and
Leads to Real,
AI-Empowered
Business
Transformation

**Your Language. Your Data.
Real Insights.
Real Innovation.
Real Transformation.**



Cloud-enabled core systems enhance resilience, ensure security, and empower operational agility.



A modernized data estate empowers innovation and real-time insights for improved risk monitoring, compliance, and decision making.



AI-driven automation delivers efficiencies across critical workflows including administrative tasks, care coordination, network provider onboarding & servicing, patient & member engagement, and more so that focus remains on high-value work.



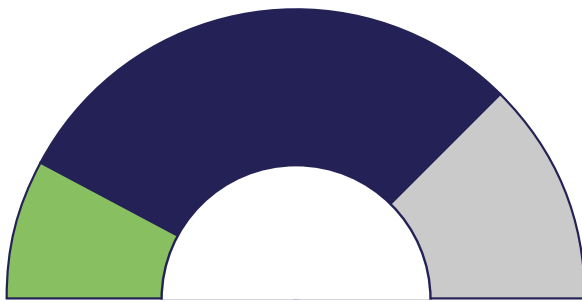
Intelligent experiences powered by self service and AI-powered agents generate business value throughout the patient & member journey.



Safeguarded interactions and personalized contact center experiences enable improved patient, provider, and member satisfaction KPIs.

AI is Partially Deployed & Making an Impact

How would you rate your organization's current level of AI adoption in patient experience?



- ◆ **16%** Fully deployed across multiple departments
- ◆ **59%** Partially deployed in select areas
- ◆ **25%** Pilot phase with limited implementation
- ◇ **0%** Planning/development stage
- ◇ **0%** Not currently using or planning for AI
- ◇ **0%** I'm not sure.

Survey results show that most organizations are still in the early to middle stages of adoption.

A majority (59%) report partial AI deployment, while only 16% have rolled out AI solutions more fully across departments. All the respondents have moved past the pilot phases of their AI projects.

Current AI adoption is concentrated around tools that directly support the patient journey. The most common applications include predictive analytics for patient engagement and care management (58%), patient education (52%), patient monitoring (51%), and discharge planning (50%).

These use cases reflect healthcare's ongoing shift toward proactive and personalized care, with predictive analytics serving as a cornerstone for early intervention and improved outcomes.

Which of the following AI applications is your organization currently using or piloting to enhance the patient and/or staff experience?

Predictive analytics for patient engagement and care management **58%**

Personalized patient education and communication **52%**

Real-time patient monitoring and alerts **51%**

AI-powered discharge planning and follow-up **50%**

AI-driven clinical decision support systems **49%**

Voice recognition for clinical documentation **49%**

Automated appointment scheduling and reminders **47%**

Chatbots and virtual assistants **41%**

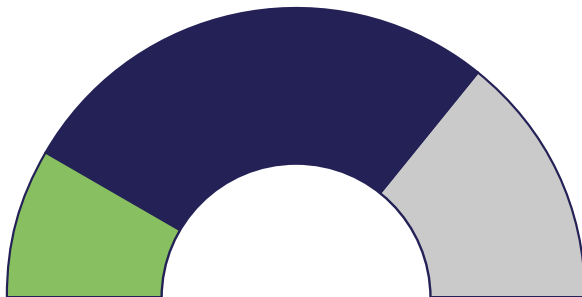
Medication adherence monitoring **40%**

AI-assisted triage and symptom checking **9%**

None of these apply. **0%**

Other (please specify) **0%**

In terms of data quality and interoperability, how would you rate your organization's readiness for AI in the patient experience?



- ◆ **17%** We are fully ready.
- ◆ **55%** We are mostly ready, with minor gaps.
- ◆ **28%** We are somewhat ready, with major gaps.
- ◇ **0%** We are not ready.
- ◇ **0%** I am not sure.

Nonetheless, hospitals report mixed levels of data readiness in terms of quality and interoperability.

Just over half (55%) report that their data quality and interoperability are mostly prepared for AI-driven applications, with some gaps. Meanwhile, 28% say they are only somewhat ready, pointing to more foundational issues.

The findings suggest progress but underline that for nearly one-third of organizations, data infrastructure challenges still pose a barrier to effective AI integration.

Hospitals are drawing from a variety of data streams to fuel their AI capabilities. The most common sources are wearable and remote monitoring devices (68%), followed by patient portals (61%) and billing systems (57%). Less prominently, more than half (55%) also incorporate electronic health and medical records (EHR/EMR) into their AI tools. Finally, only 21% have integrated social determinants of health (SDOH) data, such as a patient's economic situation or the conditions within their home and community.

Which data sources are currently integrated into your AI tools for patient experience?

Wearables and remote monitoring devices



Patient portals



Claims and billing systems



EHR/EMR systems



Social determinants of health data



None of these apply.

0%

Other (please specify)

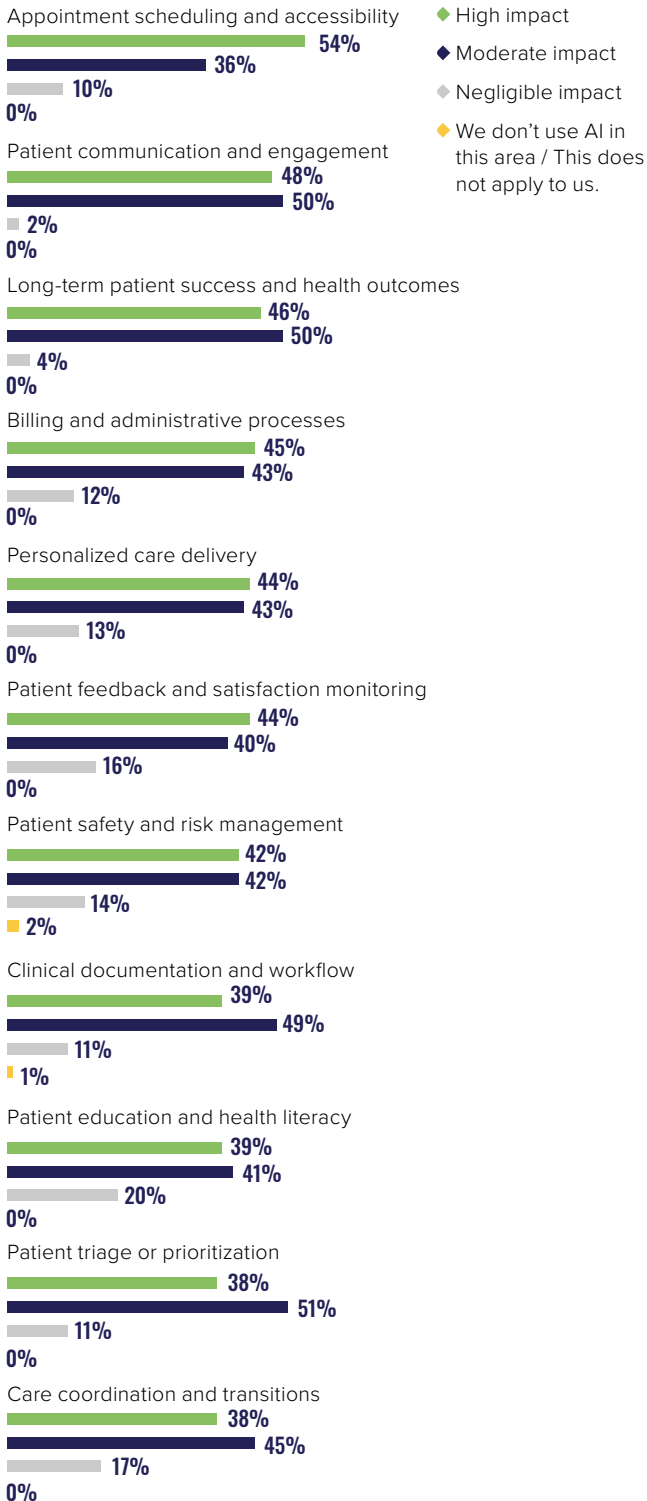
0%

The strong use of wearables and monitoring devices as sources of data is noteworthy. It signals a move toward continuous, real-time health insights as a standard part of care delivery. However, failure to incorporate SDOH data could be a determine to AI's effectiveness. While this data can be difficult to quantify, it is critical to generating a holistic understanding of a patient's health.

Early investments in AI technology appear to be worthwhile. The technology is already delivering measurable value by strengthening operational efficiency.

More than half of survey respondents (54%) report a high impact in areas such as appointment scheduling and care accessibility, two long-standing pressure points for healthcare organizations. These improvements illustrate AI's potential to streamline administrative processes while reducing friction for patients.

How much of an impact has your organization's use of artificial intelligence had on the following areas of the patient experience? In this context, an "impact" occurs when key performance metrics are improved due to a change or new implementation.



Beyond operational gains, AI is beginning to show real promise in patient engagement and health outcomes. Nearly half of respondents report a high impact on patient communication and engagement (48%) as well as on long-term patient health and success (46%). These results suggest that AI helps to connect patients with caregivers and supports more connected, personalized care experiences.

Despite these advances, not all areas of patient experience have seen equally strong results. Some respondents note that AI has had a limited impact on patient education and health literacy (20%), care coordination and transitions (17%), and patient feedback and satisfaction monitoring (16%).

These areas typically require nuanced human judgment and more sophisticated integration into existing care delivery workflows. More sophisticated AI solutions, or hybrid programs that blend technology with human expertise, may be necessary to achieve meaningful progress.

Practitioner Perspectives: AI Implementation

Conversations with healthcare practitioners by NGPX Insights reveal that they are optimistic about AI implementation in healthcare, but they are tempering that optimism with a sense of cautious realism.

Healthcare leaders at the beginning of their AI journeys are focusing on AI initiatives that deliver meaningful, measurable results quickly. Those with use cases already generating wins, like cost savings and efficiency gains, are beginning to explore more advanced applications of the technology.

They believe successful AI deployment requires strong governance structures and stakeholder involvement. That means experienced leaders must "fight for their seat at the table" to ensure the "voice of the patient" isn't lost in technical implementations.

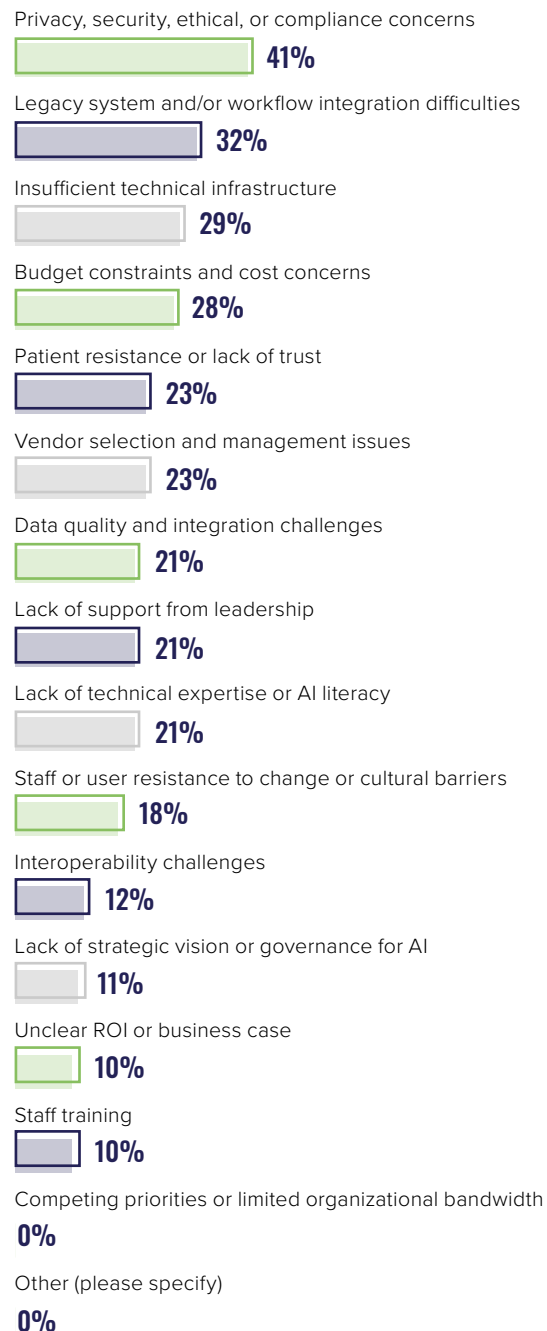
Top AI Concerns Are Privacy, Regulations, & Technical Reliability

While hospitals and other healthcare organizations recognize AI's transformative potential, they face both human and technological barriers to successful implementation. These challenges underscore the complex environment of healthcare settings, in which leaders must navigate competing priorities of innovation, safety, and regulatory compliance.

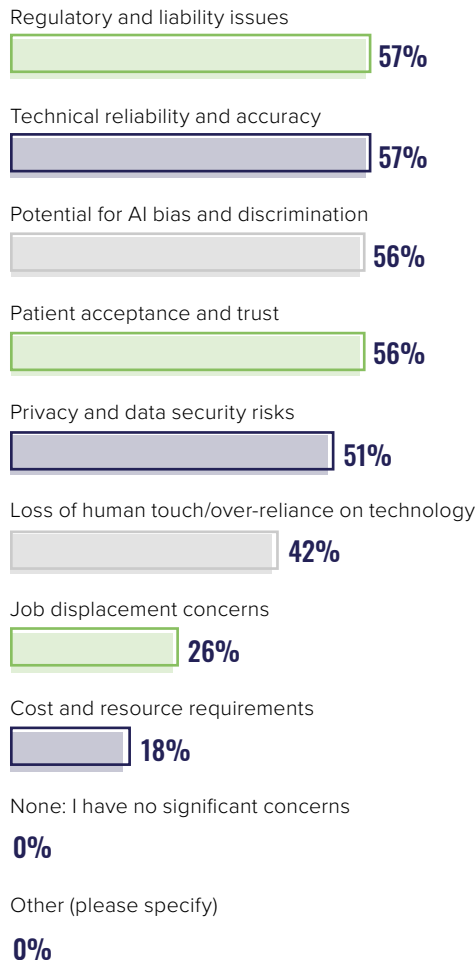
The three most common challenges to implementing AI are privacy, security, ethical, or compliance concerns (41%), followed by legacy system integration difficulties (32%) and technical infrastructure limitations (29%).

Healthcare's strict regulations and sensitive patient data requirements create challenges when using data for operational improvements. The fact that respondents pointed to legacy integration challenges highlights the sector's struggle to modernize decades-old infrastructure, much of which was never designed to support advanced AI capabilities.

Which of the following are the three biggest barriers your organization has encountered when implementing AI in the patient experience?



Which of the following are concerns you have about the future of AI in patient experience?



Healthcare leaders show consistent concern across multiple risk categories. In almost equal significance, their concerns include technical reliability (57%), regulatory issues (57%), potential for bias/discrimination (56%), and patient acceptance and trust (56%).

This reveals the multidimensional challenge of AI implementation anxiety in healthcare. In a hospital environment, technical performance, regulatory compliance, ethical considerations, and patient relationships all carry comparable importance in organizational decision-making.

Practitioner Perspectives: AI Concerns & Challenges

Healthcare practitioners tell NGPX Insights that their biggest concern is that AI implementation challenges could harm patient care and organizational effectiveness. They are particularly concerned about technical challenges and ethical issues, such as AI bias.

“If we train our data only on the ratio of the patients who gave us feedback, we create bias,” said one practitioner, “because we’re leaving a lot of people out.”

Healthcare leaders also warn about the risks of “AI hallucination.” These systems must produce an output that satisfies the query, so they have a tendency to “make things up very confidently” when they lack the information they need to do so. This makes it difficult to distinguish between real and fabricated responses, which poses serious risks in clinical decision-making.

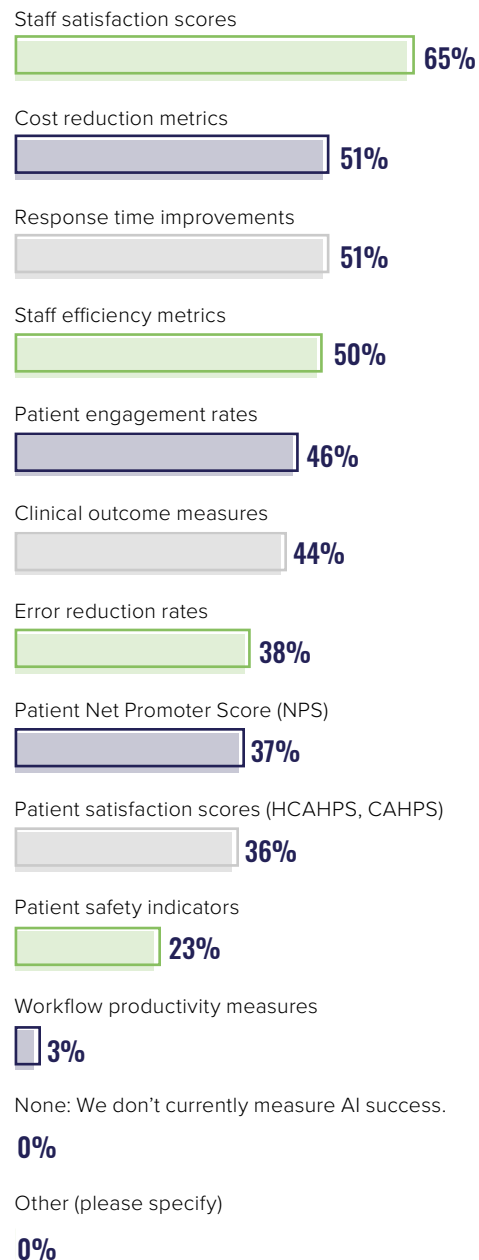
Leaders Measure AI Results Based on Efficiency, Outcomes, and Transparency

Hospitals, clinics, and healthcare organizations are developing sophisticated methods to evaluate AI success. If they can achieve measurable outcomes, those results can be critical during technology budget negotiations.

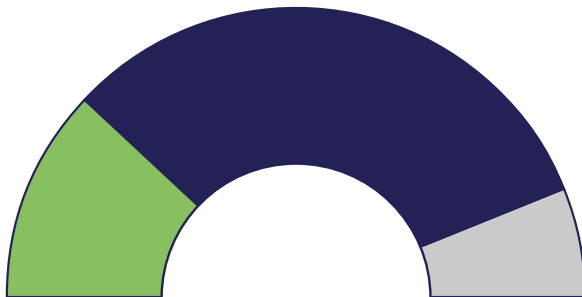
Staff satisfaction (65%), cost reduction (51%), and response time improvements (51%) are the most common tracked KPIs for AI success. These results suggest that healthcare leaders recognize the critical importance of workforce adoption and engagement in successful AI implementation.

Often, the success of technology depends on the skills and abilities of the people who use it daily. Furthermore, any measurable impact on cost and efficiency can justify spending and encourage future investment.

Which of the following metrics does your organization use to measure the success of AI implementations in patient experience?



How important are AI transparency and explainability to your organization when selecting AI tools for the patient experience?



- ◆ 24% Very important
- ◆ 64% Somewhat important
- ◆ 12% Not very important
- ◇ 0% Not important at all

AI interpretability is also an important consideration when planning for future deployments. Most respondents claim transparency and explainability in AI are somewhat important (64%) or very important (24%).

Clear performance metrics represent the most critical of the three priorities among respondents who deem AI transparency “very important.” Specifically, 50% of these respondents consider it one of the most critical aspects. The other two priorities for these respondents are audit trails for AI-driven decisions and their rationale (46%) and the ability to trace how AI decisions are made and what factors influence outcomes (46%).

Transparency is universally important in all areas of healthcare. However, many organizations are specifically prioritizing AI explainability to ensure their systems perform equitably across all patient groups. This reflects a growing awareness of potential algorithmic bias in AI-powered applications, as well as a need to justify AI-enabled decisions.

You said AI transparency and explainability are very important when selecting tools for the patient experience. Which of the following three aspects of AI transparency and explainability are most critical to your organization?

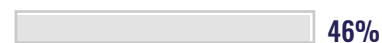
Clear performance metrics and accuracy rates for different patient populations



Ability to trace how AI decisions are made and what factors influence outcomes



Audit trails for AI-driven decisions and their rationale



Transparent reporting of training data sources and quality



Explainable outputs that can be communicated to patients



Real-time explanations of AI recommendations that clinicians can understand



Open disclosure of AI model limitations and potential biases



Regular bias monitoring and fairness assessments



Transparency about data governance and privacy protection measures



Practitioner Perspectives: Measuring AI Success

Leaders tell NGPX insights that a great deal of AI's value can be measured in its ability to reduce the time it takes to complete tasks. For example, AI can deliver specific, actionable insights instantly, rather than forcing leaders to wait weeks for a traditional analysis.

"It takes literally six seconds for you to get a report," said one patient experience practitioner.

However, many practitioners have discussed measuring the success of AI initiatives through their financial impact or through other operational efficiency gains. Cost savings of 5-10% are seen as meaningful, and there are multiple ways AI can contribute to them.

In hospitals, AI can make resource allocation more efficient and targeted. It can uncover specific operational bottlenecks, identifying the root causes of delayed services or supply chain breakdowns. This allows targeted interventions that reduce delays, overtime, and unnecessary expenses.

Additionally, predictive AI systems can forecast patient risks, prevent adverse events, and optimize staffing. This can reduce readmission rates, minimize safety incidents, and curb the high costs associated with both clinical errors and overstaffing.

AI Investments Will Increase as Initiatives Show Results

AI implementation is delivering measurable operational improvements for healthcare organizations. As we've already learned, it has improved appointment scheduling, patient communication, and long-term patient success.

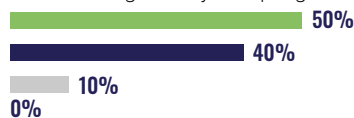
How strongly do you agree or disagree with the following statements about the use of AI in the patient experience?

- ◆ Strongly agree ◆ Somewhat agree
◆ Somewhat disagree ◆ Strongly disagree

AI implementation has improved our operational efficiency



Patients are generally accepting of AI in their healthcare experience



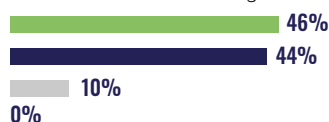
AI tools are reliable enough for critical patient interactions



AI has the potential to significantly improve patient satisfaction



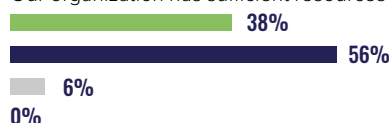
The benefits of AI outweigh the risks for patient experience



Our staff are adequately trained to work with AI tools



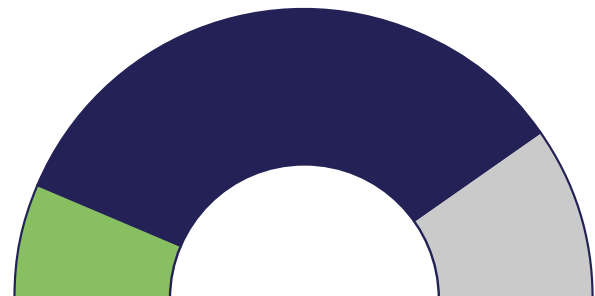
Our organization has sufficient resources to implement AI effectively



More than half of the respondents (52%) strongly agree that AI implementation in the patient experience has improved their operational efficiency. In each case, about half of the respondents strongly agree that patients are generally accepting of AI in their healthcare experience (50%) and that AI tools are reliable enough for critical patient interactions (49%).

Due to these results, leaders are showing strong confidence in AI's value, and they are already making financial commitments.

How will your organization's investment in patient experience-focused AI implementations change over the next 12 months?



◆ 13% Increase significantly

◆ 68% Increase somewhat

◆ 19% Stay about the same

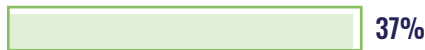
◆ 0% Decrease somewhat

◆ 0% Decrease significantly

Most respondents plan to increase AI investment somewhat (68%) or significantly (13%) in the next 12 months. Most current AI implementations are meeting or exceeding expectations, and this is creating organizational momentum for expanded deployment across additional use cases and departments.

Which of the following do you see as the greatest opportunity for AI to transform the patient experience in the next 2–3 years?

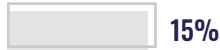
Proactive patient engagement and real-time support



Seamless care coordination across settings and locales



Improved clinical decision-making



Personalized care delivery at scale



Enhanced patient safety and risk management



Reduced administrative burden on staff



Other (please specify)

0%

Organizations are identifying specific domains where AI can deliver the greatest strategic value. Most respondents emphasize opportunities for either proactive patient engagement (37%) or better care coordination (32%). These priorities reflect healthcare's evolution toward preventive care models and integrated service delivery, with AI serving as an enabler for more sophisticated patient relationship management and seamless care transitions across multiple providers and settings.

Practitioner Perspectives: The Future of AI

Healthcare and patient experience
Practitioners tell NGPX Insights that advancements in AI technology are fundamentally transforming how patient experiences are understood and improved. They believe AI's ability to deliver real-time data, predict patient behavior, and integrate multiple data sources will empower health systems to eventually shift to personalized care at scale.

Despite acknowledging the challenges and pace of change, they are hopeful that AI will play a pivotal role in shaping a more patient-centered ecosystem. The hope is that their implementations will be ethical and transparent, elevating trust, satisfaction, and operational outcomes for both patients and staff.

Case Study: AI-Powered Healthcare Integration at Advocate Health

During a CXO Keynote address at NGPX 2024 called “Integrating AI into the Experience Journey to Break Silos and Demonstrate the Value of HX,” Vishal Bhalla, CEO & Co-Founder of AnalytAIX (Former SVP & Chief Experience Officer at Advocate Health), demonstrated how AI can improve efficiency and frontline outcomes.

The Problem: Siloed Departments

In this case, Advocate Health used AI to break down the organizational silos that traditionally separate patient experience, safety, operations, and employee engagement data.

The Solution: An Integrated AI Platform

Advocate Health implemented an integrated AI platform that could instantly analyze disparate data sources and provide leaders with unified, actionable insights. This replaced fragmented information flows that were time-consuming to parse.

The platform addressed three critical AI challenges in healthcare:

- ◆ Bias mitigation through data normalization
- ◆ “Hallucination” prevention by training models to acknowledge knowledge gaps
- ◆ Drift monitoring to ensure model relevance as organizations evolve

The implementation showcased the ability to quickly identify specific operational issues, such as linen delays in a burn unit, that would have taken weeks to uncover through conventional reporting.

The Result: Fast Insights to the Front

The system enabled leaders to ask natural language questions and receive immediate, data-driven responses that connected patient satisfaction with outcomes and financial performance. Thanks to the system’s rigorous training, it was prevented from “hallucinating,” which occurs when an AI produces false or imagined information simply to fulfill a query. As a result, decision-making was transformed from reactive, siloed responses to proactive, integrated actions.

This case demonstrates how AI can serve as the connective tissue between healthcare departments, empowering frontline staff with insights while keeping data secure.



“Our jobs are made up of many tasks. We should lay out all those tasks, like pieces of a puzzle, and decide which are best done by AI, automation, or by humans. Now, jobs require not just people skills, but also an understanding of technology. We need people who work well with technology, and technology that fits well with people.”

Vishal Bhalla, CEO & Co-Founder of **AnalytAIX** (Former SVP & Chief Experience Officer at Advocate Health), NGPX 2024, CXO Keynote: “Integrating AI into the Experience Journey to Break Silos and Demonstrate the Value of HX.”

Conclusion: What's Next for AI in Healthcare

The next phase for AI in healthcare will be defined by both growing maturity and deeper integration into patient-centric models of care.

As early investments yield operational improvements and more reliable patient engagement, organizations are shifting focus toward broadening the reach of AI beyond efficiency. This means expanding the use of AI beyond tertiary and back-office roles like administrative automation, embedding it in the heart of care delivery. From there, it can drive proactive, personalized, and continuous patient support.

However, the journey toward widespread adoption will require overcoming significant hurdles. Some of the most notable are a lack of data quality, a lack of transparency, and the need for robust, interoperable systems that can handle the complexity of real-world healthcare environments.

Looking ahead, healthcare leaders are poised to expand AI's footprint as trust in these technologies grows among both staff and patients. Success requires health systems to balance technical progress with privacy protection, ethical guidelines, and staff training.

As investments increase, organizations will continue to concentrate on AI explainability and responsible use. AI technology has the potential to power patient journeys that are significantly more integrated than in previous years. When used effectively, it could strengthen partnerships between patients and clinicians, empowering them to achieve better health outcomes.

Key Suggestions



Prioritize data infrastructure improvements before scaling AI deployment: Foundational data quality and interoperability gaps are still significant barriers to effective AI implementation and could undermine the operability of future initiatives.



Focus on proven high-impact areas while building more complex applications: Achieving AI success in operational and patient engagement applications can deliver quick results before branching into areas like care coordination and patient education.



Develop comprehensive AI transparency and explainability frameworks: Healthcare leaders must establish clear performance metrics, audit trails, and decision-tracing capabilities to meet regulatory requirements and build trust among both staff and patients.



Create robust change management programs that emphasize staff adoption and patient acceptance: The success of AI implementations depends heavily on user engagement and trust across all stakeholders in the healthcare ecosystem.

About the Author

NGPX Insights, the industry research and digital publishing arm of NGPX, delivers cutting-edge data and analysis on trends, challenges, and opportunities in the patient experience and healthcare innovation sectors. Through comprehensive research reports, webinars, and thought leadership initiatives, we empower senior-level healthcare leaders to make informed strategic decisions and stay ahead in the rapidly evolving patient-centric landscape.

Our deep industry intelligence not only informs healthcare leaders but also connects innovative solution providers with key decision-makers, fostering a dynamic ecosystem that drives the future of patient experience in the healthcare space.

For more information, please visit wbrinsights.com.

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companies - leverage AI business solutions and cloud platforms to securely increase productivity, reduce risks, enhance experiences, streamline business processes, accelerate innovation, and more, making real transformation easier in today's complex and competitive market.

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