Intelligent healthcare

A blueprint for creating value through AI-driven transformation

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Foreword

This report is the result of extensive research into the value being created by artificial intelligence (AI) within the healthcare sector. It is designed to provide actionable insights for leaders at every stage of their AI journey, from those deploying their first pilots to healthcare organizations seeking to scale enterprise-wide AI initiatives.

Artificial intelligence holds tremendous promise for the healthcare sector, offering powerful solutions to some of its most pressing challenges, from rising patient demand and persistent workforce shortages to growing clinical and administrative backlogs.

The research finds that while healthcare organizations are beginning to demonstrate advanced capabilities in their use of AI, many continue to struggle with the challenge of operationalizing use cases and scaling beyond pilots and proofs of concept. A range of barriers continue to impede progress. Fragmented implementations, difficulties in justifying the return on AI investments, and the need for deep cultural transformation — particularly in terms of workforce trust, training and engagement — remain common hurdles. Persistent issues such as data silos, lack of interoperability between systems, and the absence of clear, comprehensive AI regulatory frameworks further complicate adoption.

Where meaningful progress has been achieved, it has been the result of a deliberate strategy. Successful adopters have ensured use cases are closely linked to core value streams such as care delivery, diagnostics, and patient flow. They have embedded AI into everyday workflows rather than treating it as a separate innovation stream, building trust by involving clinicians early and often in the design, testing and refinement of AI tools.

As healthcare organizations embark on transformation, technology and AI should serve as a catalyst. Organizations should:

1. Formulate a clear AI strategy, with the aim of improving patient outcomes, workforce experiences, population health, health equity and reducing costs.
2. Create sustainable technology and data infrastructure by modernizing legacy systems and investing in secure, interoperable platforms.
3. Build trust through transparent AI practices, ethical governance, addressing concerns about bias and invest in robust cybersecurity.
4. Foster a culture that integrates AI to uplift the potential of the healthcare workforce and communities they serve.

Without a strategy focused on a clear value proposition, and a structured approach and governance, navigating the challenges and maximizing the impact of AI for healthcare organizations can be difficult. Our aim with this publication is to provide actionable insights on how to develop this strategy, approach and governance to create better outcomes for healthcare.

> “AI has the potential to fundamentally reshape healthcare — not by replacing the human touch, but by enhancing it. By integrating AI across different clinical and community settings and different operational streams, we can improve outcomes, ease the burden on healthcare workers, and create more resilient, patient-centered health systems.”

Dr. Anna van Poucke — Global Head of Healthcare
KPMG International

At a glance

AI usage is well established in healthcare

AI is having the biggest impact in IT **(68 percent)**, customer service **(66 percent)** and R&D **(65 percent)**

59% have systematically incorporated AI into product and service development

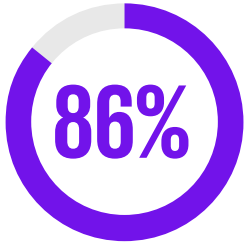
Benefits are already apparent

72% achieved efficiency improvements

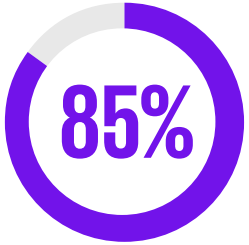
and

39% achieved improvement in their financials

The sector is focused on the future

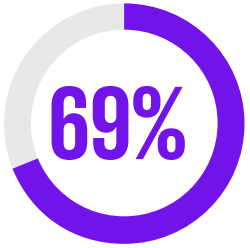


believe that organizations that embrace AI will develop a competitive edge over those that do not

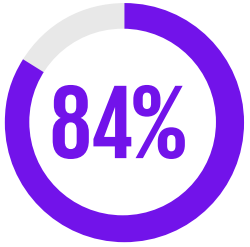


are investing in exploratory projects that do not have an immediate ROI

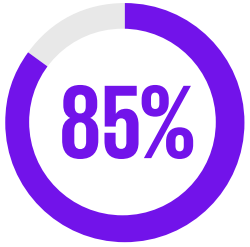
The infrastructure is being built to support AI implementation



are using cloud-based platforms



are using data platforms with AI capabilities



are developing AI solutions in-house

But significant challenges remain

84% have faced operational challenges when implementing AI, spanning data issues, lack of skills and legal issues

77% are responding by increasing their investment in AI

Introduction

Healthcare organizations are increasingly experimenting with AI across a range of use cases — from clinical decision support and imaging diagnostics to administrative automation and virtual assistants. However, many are finding it difficult to translate these experiments into meaningful and sustained value.

The Intelligent healthcare publication offers a roadmap for healthcare leaders to responsibly leverage trustworthy AI, helping to ensure it delivers measurable value while supporting sustainable, patient-centric healthcare systems. This report provides C-suite executives and decision-makers with actionable insights to navigate AI adoption complexities. In this report, we:

- Share insights on current AI strategy, investment, and implementation in healthcare, based on KPMG research and interviews with technology leaders globally.
- Explore the traits of intelligent healthcare organizations and strategies for their development.
- Provide a blueprint for intelligent healthcare organizations that outlines key, high-level capabilities for AI-powered, customer-centric healthcare.

The healthcare sector faces distinct adoption challenges

Healthcare presents a uniquely complex environment for AI adoption. Concerns around clinical safety, ethical use, patient data protection, and regulatory compliance create significant friction. Many organizations struggle to modernize legacy infrastructure, overcome data silos, and establish the governance frameworks necessary to scale AI responsibly. The highly fragmented nature of healthcare systems — often characterized by decentralized decision-making, workforce shortages and uneven digital maturity — further complicates progress.

> “Healthcare is a different territory because you are dealing with people’s lives. It’s a difficult area where AI adoption will be a little bit slow compared to the other organizations.”
>
> **Chief Technology Officer** — Australia

A new generation of AI agents could reshape care delivery

The emergence of intelligent AI agents has the potential to revolutionize healthcare. These agents can act as digital co-pilots, helping clinicians interpret diagnostic results, personalize treatment plans, and manage patient pathways in real time. They can also serve as virtual care navigators, supporting patients with proactive health management, appointment scheduling, and medication adherence. In administrative functions, AI agents are poised to streamline tasks such as claims processing, medical coding, prior authorization, and patient triage — unlocking significant productivity gains and improving staff experience.

A framework for realizing AI's value in healthcare

To move beyond experimentation and deliver impact at scale, healthcare organizations need a clear, structured approach to AI adoption. In this report, we introduce the three phases of AI value — a framework designed to help clinical providers maximize value by aligning AI investments to patient and operational outcomes, prioritize scalable use cases, and prepare for the next generation of AI technologies. Through this lens, we explore how leading healthcare systems are moving from pilots to enterprise-wide transformation — and how others can follow.

Three phases of AI value creation in healthcare

Enabling workforces and building AI foundations

Establishing the data, governance, technology architecture and skills necessary for responsible AI adoption.

Embedding AI across the enterprise

Scaling AI solutions across clinical decision support, operational efficiency and patient engagement to deliver greater value.

Evolving operating models and ecosystems

Shifting toward AI-powered, adaptive healthcare models that foster collaboration across primary care, provider networks, healthcare systems, and broader care ecosystems that include public health, social, mental health care and community-based organizations.

Research findings

Healthcare organizations are preparing to further integrate or explore new opportunities with AI, but in an environment where patient safety is critical, they are proceeding with caution, taking an evidence-driven approach to help ensure value-driven AI implementation that safeguards trust with the population and workforces.

Current state

Evolution versus revolution

Due to the inherently human-centric nature of certain healthcare functions, AI's impact thus far has been more evolutionary than revolutionary. Rather than driving radical transformation, its role is primarily focused on streamlining processes and specific use cases. The top five applications are:

1. Generative AI (71 percent)
2. Speech recognition (70 percent)
3. Agentic AI (68 percent)
4. Machine learning (66 percent)
5. Robotics (65 percent)

say AI represents greater than 10 percent of their organization's global technology budget

AI investments and impact

Healthcare organizations are starting to allocate larger portions of their IT budgets to AI-related technologies. Our research reveals almost one-third (32 percent) of healthcare leaders say AI represents greater than 10 percent of their organization's global technology budget. But when it comes to making further major investments, there is caution. A little over three-quarters (76 percent) of healthcare respondents agree that it is best to wait to see how the AI tech landscape evolves before making significant investments.

> Over the past 15 years, many sectors of the economy have been radically reshaped by digital technologies. Yet the NHS is in the foothills of digital transformation. The last decade was a missed opportunity to prepare the NHS for the future and to embrace the technologies that would enable a shift in the model from 'diagnose and treat' to 'predict and prevent' — a shift I called for…more than 15 years ago. [1]
>
> **The Rt Hon. Professor the Lord Darzi of Denham,**
> OM KBE FRS FMedSci HonFREng
> Independent Investigation of the National Health Service in England, September 2024

Growing realization, that organizational change management is required

Fifty-eight percent of healthcare leaders report that AI is either fully embedded in or is a core component of their operations; the remaining respondents are exploring or in the early stages of adopting AI. Many institutions recognize that AI will necessitate shifts in their operational models, requiring a strategic rethinking of workflows and patient care pathways to fully integrate AI.

Success demands a new level of collaboration

Only 44 percent note that their operating model consistently enables cross-functional collaboration. Our interviewees observed that clinical healthcare has traditionally been highly siloed, largely due to the depth of expertise required by specialist clinicians. Each medical specialty — whether cardiology, oncology, radiology or neurology — has developed its own highly specialized knowledge, diagnostic protocols, and treatment methodologies.

This specialization has led to fragmented care pathways, where different specialists manage specific aspects of a patient's condition without seamless coordination.

Additionally, healthcare IT systems have reinforced these silos, with department-specific electronic health record (EHR) systems, imaging databases, and workflow tools often lacking interoperability. AI has the potential to bridge these gaps by enabling more connected, intelligent systems that support integrated care pathways, improving coordination, efficiency, and patient outcomes.

Data quality and management is critical

Data privacy and security have emerged as critical priorities for organizations to proceed in the embedding of AI in their workflows. Organizations have learned that robust governance frameworks are needed to help ensure patient data protection, compliance with evolving regulations, and trust-building in AI-driven processes.

Exploration continues even though long-term ROI is uncertain

Sixty-nine percent of respondents state that they are under pressure from shareholders to demonstrate return on investment (ROI) from their AI investments. Respondents recognize that ROI is not always immediate; while it improves efficiency, its direct financial impact is still being assessed. Despite this, 85 percent are pursuing projects where the ROI is not yet certain.

[1] Darzi, A. (2024 September). Independent Investigation of the National Health Service in England, OGL, UK Open Government Licence. Contains public sector information licensed under the Open Government Licence v3.0.

Next-generation AI is being adopted in healthcare

The healthcare industry already has a high usage of AI agents (68 percent) and is preparing for the next new evolution of AI: autonomous agents (agentic). In fact, 84 percent of respondents feel comfortable with AI making end-to-end autonomous decisions for specific processes in their organization.

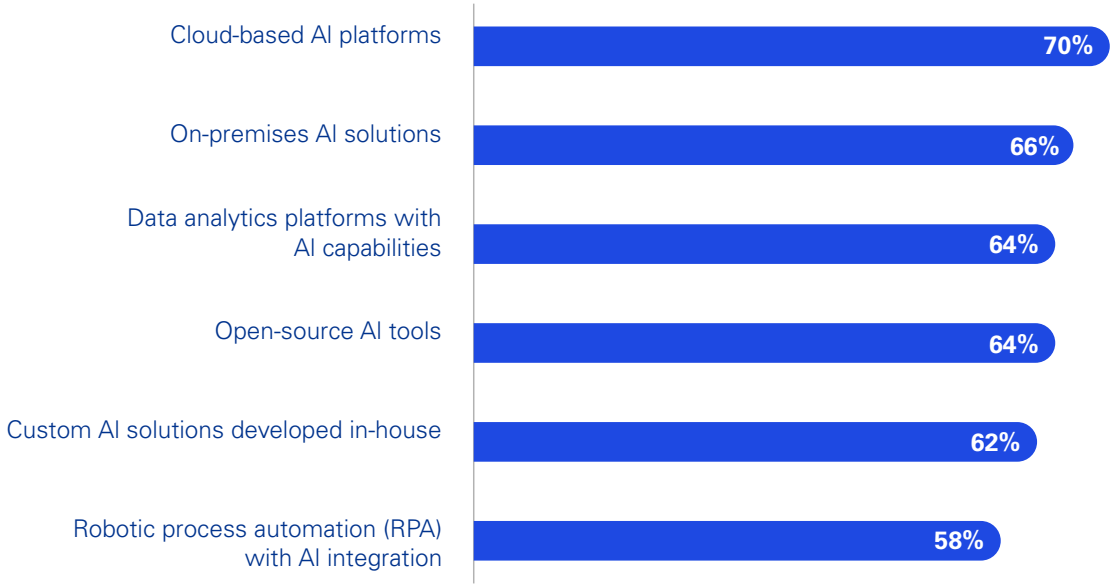
Agentic AI holds considerable promise across healthcare operations, from direct patient care to support and back-office processes. It goes beyond simple task automation by proactively identifying clinical and operational issues, recommending solutions and acting in collaboration with human teams.

By integrating seamlessly with electronic health records (EHRs) and hospital management systems, agentic AI can enhance care delivery at the bedside, streamline patient-facing support services, and help optimize administrative workflows behind the scenes. Unlike traditional AI models that rely on predefined inputs and outputs, agentic AI can interpret multimodal patient data, collaborate dynamically with medical teams, and initiate actions based on real-time clinical insights.

For example, AI agents could continuously analyze vital signs, imaging, and lab results to detect early deterioration in high-risk patients, alert clinicians proactively, and even suggest interventions. While reducing cognitive overload for healthcare professionals, agentic AI allows them to focus on complex decision-making and direct patient care, ultimately improving both outcomes and operational efficiency.

However, to implement agentic AI successfully requires modernizing the data infrastructure to support real-time, multimodal inputs; embedding robust governance to help ensure safety, transparency and accountability; and codesigning solutions with clinicians to help ensure AI agents enhance, rather than disrupt, clinical workflows.

Figure 1: Significant or extensive use of AI in healthcare



To what extent (if at all) does your organization use the following artificial intelligence (AI) platforms and solutions? n=183

Source: Intelligent healthcare: A blueprint for creating value through AI-driven transformation, KPMG International, 2025

Barriers to progress

Regulation and ethics

Forty-two percent of healthcare organizations have encountered challenges in meeting strict regulatory requirements to help ensure patient safety, data privacy, and ethical AI use. Data privacy laws and emerging AI regulations impose stringent compliance measures, making implementation complex. Ethical concerns around bias, transparency, and patient consent further complicate AI deployment. Organizations are having to navigate these evolving legal frameworks while ensuring AI solutions align with ethical and regulatory standards.

System interoperability

Many healthcare organizations face difficulties integrating AI into legacy IT systems that were not designed for AI-driven applications. Interoperability issues, cybersecurity risks, and computing limitations create barriers to effective AI deployment. Ensuring AI solutions work seamlessly within EHR systems and broader hospital ERP infrastructure requires significant investment in technology upgrades and cybersecurity measures.

Data quality and consolidation

Sixty-two percent identified that data quality had proven to be a major constraint. AI's effectiveness depends on high-quality, well-structured data, yet healthcare data is often fragmented, inconsistent and stored in silos across different departments. Additionally, concerns over data security and patient confidentiality pose significant risks to AI integration. Addressing data standardization, governance, and integration challenges is essential for AI to deliver reliable and actionable insights.

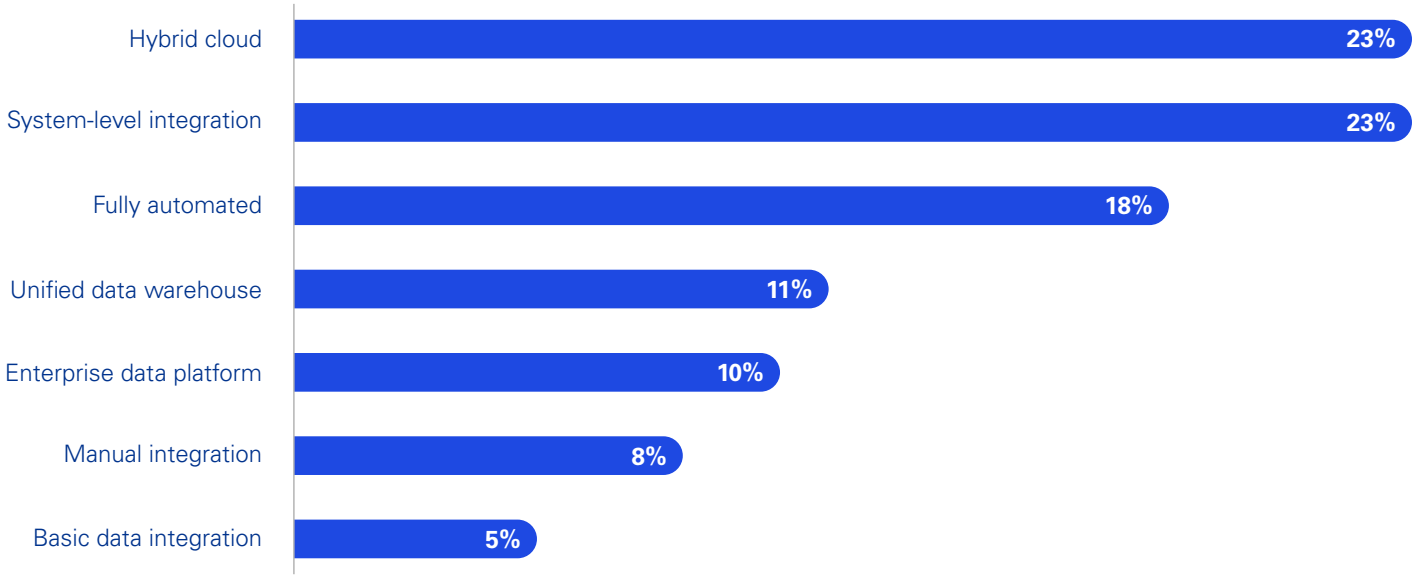
62%

identified that data quality had proven to be a major constraint

> Different departments have their own independent systems and databases, and there's virtually no communication between these systems. As a result, even if data from one department could be very valuable to another, the lack of an effective sharing mechanism means this data is locked away in silos, unable to flow freely.

Chief Technology Officer — China

Figure 2: Organizational structure for managing and implementing AI initiatives in healthcare



How would you describe the current level of data integration in your organization? n=183

Source: Intelligent healthcare: A blueprint for creating value through AI-driven transformation, KPMG International, 2025

Scalability

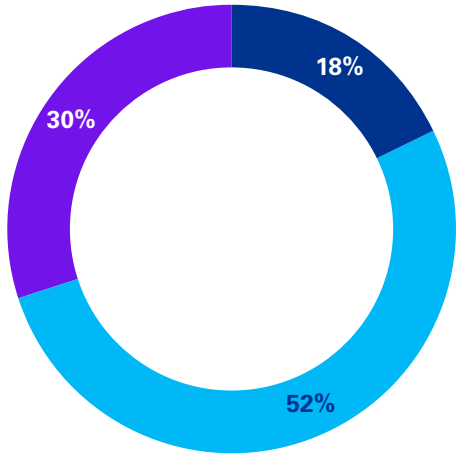
The high cost of AI implementation — including the development and adoption of infrastructure, software and training — is a major obstacle for many healthcare organizations. Beyond financial constraints, respondents report that they struggle to identify the right AI use cases that align with operational goals and deliver measurable value.

Additionally, only 33 percent have more than three specialist AI partners; finding the right technology partners is said to be a challenge, as they must carefully assess vendors and solutions to help ensure they align with both clinical and business needs.

Workforce resistance and lack of AI talent

Forty-seven percent report formidable challenges with workforce acceptance and AI skills development. Despite AI's potential to enhance healthcare outcomes, dual concerns over role redundancy and distrust in AI-driven decisions lead to resistance among healthcare professionals. Overcoming resistance from healthcare professionals has been a crucial challenge, making transparent communication and targeted training programs essential.

Figure 3: Estimated ROI in initiatives in healthcare



- Negative/break-even/low ROI
- Moderate ROI
- High/very high ROI

What has been the estimated return on investment (ROI) from your organization's AI initiative so far? (Responses for those whose organizations measure ROI) n=123

Source: Intelligent healthcare: A blueprint for creating value through AI-driven transformation, KPMG International, 2025

Moving forward

Implementation has emerged as a major stumbling block in the adoption of AI across healthcare. This is highlighted by research showing that 60 percent of nurses in the US do not trust their employer to prioritize patient safety when implementing AI tools.[2] While significant efforts have been made to introduce AI, many initiatives remain isolated and limited in scope. To scale AI effectively, healthcare organizations must move beyond single-point applications and take a truly end-to-end, enterprise-wide approach that builds trust, safeguards patient outcomes, and embeds AI into core clinical and operational processes.

In this report we introduce the three phases of AI value creation, which is an organizational framework designed to help healthcare enterprises progress from isolated foundational capabilities to enterprise-wide innovation. By building trust, aligning strategies, enabling technology and empowering their workforce, organizations can unlock AI's transformative potential while mitigating risks. This framework not only offers an approach for successful adoption but also helps ensure that AI becomes a sustainable, strategic enabler for long-term growth and value.

> "While people may be fascinated with AI, they care more about clinical and business outcomes. Technology and AI are huge enablers for improved outcomes, but the missing piece is implementation. Understanding how to implement AI efficiently and effectively may be the secret sauce for how we derive value from AI."

David Rhew, M.D.
Global Chief Medical Officer and Vice President of Healthcare
Microsoft

[2] National Nurses United. (2024 May 15). National Nurses United survey finds A.I. technology degrades and undermines patient safety. Press Release. www.nationalnursesunited.org/artificial-intelligence

Building the intelligent healthcare organization

The research shows that many healthcare organizations are focused on integrating disparate data sources, modernizing legacy systems and adapting ways of working to AI-driven insights. An intelligent healthcare organization is one that seamlessly integrates AI across clinical, operational and administrative value streams to deliver proactive, personalized and data-driven care with measurable improvements in outcomes, efficiency and experience.

Implementing AI to achieve this requires a structured, multi-layered approach that builds capability across foundational, functional and enterprise layers.

Enterprise

This layer plots AI transformation initiatives on a roadmap and, with help from a transformation office, adjusts priorities dynamically to maximize value delivery. It orchestrates transformational change of the whole enterprise, starting with how AI can adjust strategy, operational models and key objectives for the enterprise, and defines operating model shifts, workforce evolution and risks and controls.

Functions

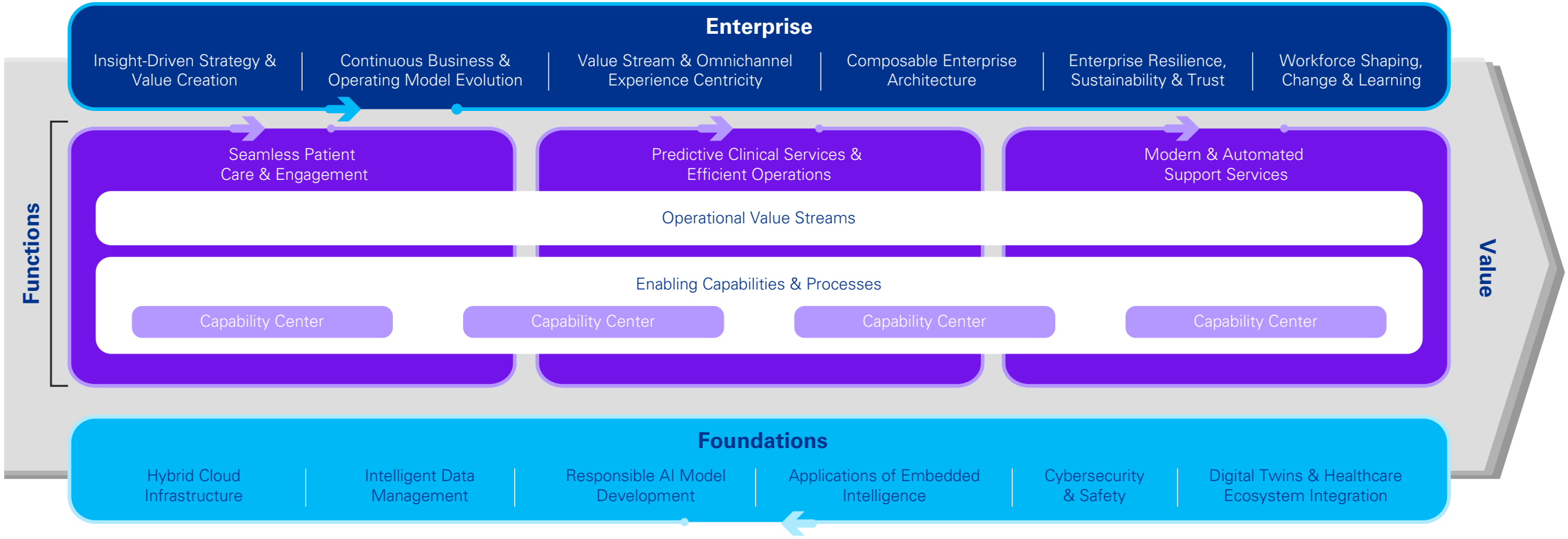
Data silos are among the biggest challenges when it comes to AI implementation, but to maximize value, organizations must allow data to flow freely between departments. This layer drives AI-enabled transformation across business functions, prioritizing customer-facing value streams and end-to-end enabling processes and workflows. AI applications, agents and robotics are embedded in the workflows and functional operating model changes are implemented to further realize benefits.

Foundations

This layer establishes the AI-first technology stack, including infrastructure, cloud and choices on chips. High-quality enterprise data needs to be curated, and diverse models are likely to be deployed to handle domain-specific AI. An increased focus on cybersecurity for AI is needed as well as a plan for other emerging technology, such as agentic AI.

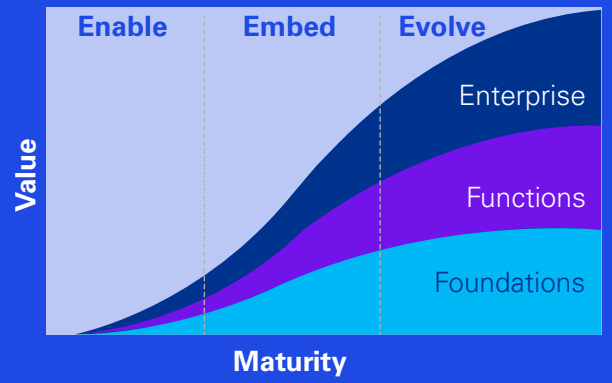
Blueprint of an intelligent healthcare organization

This blueprint outlines the transformation of an AI-powered, customer-centric enterprise. An intelligent healthcare organization leverages advanced technologies, personalized experiences, data-driven insights and automated operations to enhance efficiency, innovation and resilience. Focused on embedding intelligence across value streams, capability centers and processes, it helps to ensure seamless patient interactions, robust risk management and future-ready adaptability.



The three-phase journey to become an intelligent healthcare organization

Healthcare organizations can increase capability and value across three phases of AI transformation. This structured yet flexible framework balances the need for short-term efficiency gains with the imperative to prepare for future needs and innovation.



Enable

The Enable phase builds AI foundations and empowers people. Organizations appoint a responsible executive, create an AI strategy, identify high-value use cases, boost AI literacy, align with regulations and establish ethical guardrails. There is a focus on creating the right data infrastructure, overcoming dependencies on EMR and other systems. AI pilots are launched across functions, while cloud platforms and pre-trained models are leveraged with minimal customization.

Embed

The Embed phase delivers value by integrating AI into workflows, products, services, value streams, robotics and wearables. A senior leader drives enterprise-wide workforce redesign and reskilling, embedding AI into operating models with a focus on ethics, trust and security. AI agents and diverse models are deployed, supported by cloud and legacy tech modernization, while enterprise-wide data enhances operations.

Evolve

The Evolve phase uses AI and frontier technologies like quantum computing to elevate business models and ecosystems to solve large sector-wide challenges. AI can orchestrate seamless value across enterprises and partners. Emphasizing ethics and trust with real-time security, this phase uplifts human potential with broad and deep workforce training, fostering a creative, innovative and value-driven future.

Intelligent organizations may have a portfolio of initiatives aimed at any phase. The ratio of effort and investment across the phases will likely vary as the organization matures. Initially, most resources will likely focus on the Enable phase, with a small effort to explore enterprise-wide transformation. Over time, as foundational efficiencies are realized, more effort is invested in the Embed phase; with an eye on the future, long-term investments in phase three start to lay the groundwork for transformative innovation. This balancing act helps ensure that healthcare organizations can achieve immediate results and lasting impact.

The first phase: Enable

Enable people with AI

> We have lots of sessions, lots of user acceptance tests where we work together with the users, show it to them, ask for feedback, go back, make updates, and then give it to them, so that they play with it, so that they understand it's not there to steal their job. It's there to support them.

Chief Data and Analytics Officer — Germany

The Enable phase focuses on equipping healthcare organizations with the foundations for AI adoption, ensuring that clinicians, administrators and decision-makers can effectively integrate AI into their workflows. At the enterprise level, this includes appointing a senior AI leader, developing a clear AI strategy, and aligning AI initiatives with clinical, operational and regulatory priorities. Healthcare organizations must also establish AI literacy programs to train physicians, nurses and administrators on AI's capabilities, limitations, and ethical considerations while ensuring compliance with privacy and other healthcare regulations.

At the functional level, healthcare organizations begin piloting AI solutions in targeted areas, such as automated medical documentation, AI-assisted diagnostics, and workflow automation in hospital administration. These pilots foster learning, skill-building and innovation, allowing teams to understand AI's impact on efficiency and patient outcomes before scaling adoption. At the foundation level, organizations leverage cloud-based AI platforms and pre-trained medical AI models with minimal customization, reducing complexity while gaining early benefits. This phase is about creating awareness, experimentation and alignment, ensuring that AI adoption is strategic and scalable.

The initial focus in healthcare AI deployment is identifying low-hanging fruit — areas where AI can deliver quick, measurable improvements by automating routine administrative tasks, streamlining workflows, and reducing cognitive burden on clinicians. AI is already proving invaluable in medical documentation automation, reducing time spent on charting, scanning, indexing, and data extraction. Additionally, AI-powered clinical decision support systems are enhancing diagnostic accuracy, while AI-driven patient triage and scheduling tools are optimizing resource allocation. In the early phase of adoption, AI is not about replacing medical professionals but about freeing them from repetitive tasks, allowing them to focus more on patient care and complex clinical decisions.

To guide clients' AI strategy and investments, KPMG in the US analyzed vast amounts of data to quantify the Gen AI opportunity. The analysis calculated the potential value at stake from fully deploying and adopting Gen AI across all potential uses within companies.

Over

17 million companies globally assessed.

After looking in depth at

7,000 companies employing

72 million people and pressure-testing results with

500 clients,

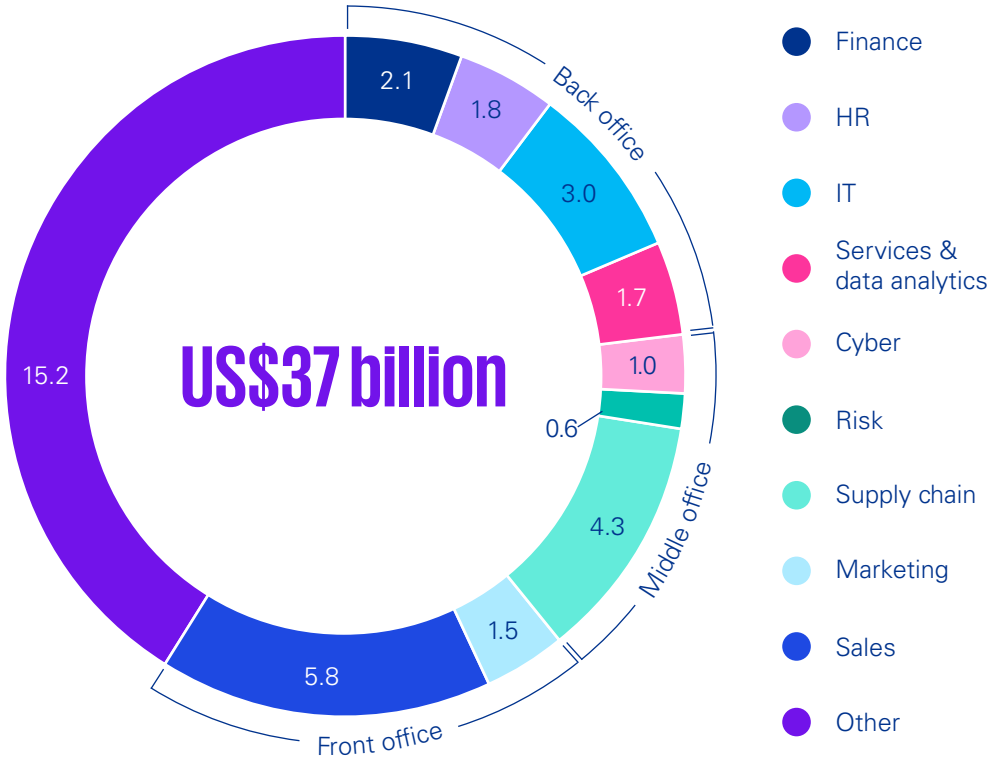
the results equate to

4–18% EBITDA* improvement in labor productivity alone.

Our calculations and methodologies show the potential value opportunity within the healthcare sector in the chart to the right.

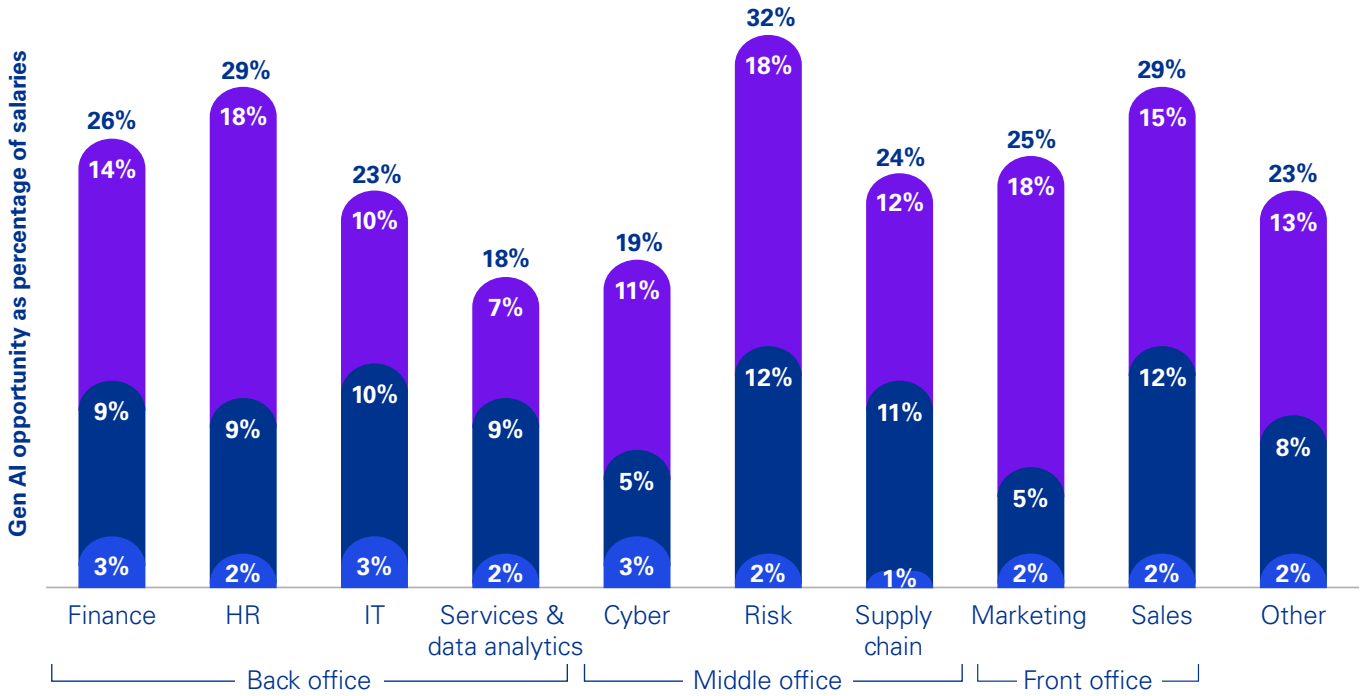
*EBITDA = Earnings before interest, taxes, depreciation and amortization

Figure 4a: Gen AI opportunity by function: Healthcare (Value in US$ billions)



Source: Quantifying the GenAI opportunity, KPMG in the US, February 2025

Figure 4b: Gen AI opportunity, task complexity breakdown: Healthcare



Low complexity

Based on tasks that are relatively simple and can be effectively augmented using readily available Gen AI tools such as Copilot, ChatGPT and other out-of-the-box technologies.

Medium complexity

Based on tasks that have potential for Gen AI augmentation but may necessitate the development of more integrated and customized solutions.

High complexity

Based on tasks that have potential for Gen AI augmentation but will likely require the creation of integrated and sophisticated solutions, as well as comprehensive governance and change management to enable adoption.

Note: Figure 4b shows the Gen AI opportunity by function as a share of salary cost across all healthcare companies in the sample. The axis represents share of the Gen AI opportunity as a proportion of the total salary cost by degree of complexity within the function. Percentages in the graph were rounded to the nearest whole number.

Source: Quantifying the GenAI opportunity, KPMG in the US, February 2025

Top 10 areas of opportunity: Healthcare

01 Personalized treatment planning

02 Customer relationship management

03 Healthcare resource optimization

04 Operations execution

05 Therapy services

06 Performance optimization

07 In-store analytics

08 Treatment protocol summaries

09 Quality assurance testing

10 Marketing and sales

Source: Quantifying the GenAI opportunity, KPMG in the US, February 2025

AI is changing the patient experience

AI is fundamentally reshaping the patient experience, potentially making it personalized, predictive, preventative and proactive. AI enables care tailored to the individual, anticipates health issues before they arise, forecasts disease progression using real-time and historical data, and triggers timely interventions to improve outcomes and reduce system strain.

AI-powered virtual assistants and chatbots provide on-demand medical guidance, helping patients navigate symptoms, schedule appointments, and receive medication reminders. AI-driven predictive analytics can anticipate health risks, enabling proactive interventions that reduce hospital visits and prevent complications. Additionally, AI can streamline patient triage, ensuring that individuals receive the right level of care at the right time, whether through telemedicine, urgent care, or specialist referrals. In radiology and diagnostics, AI can enhance early disease detection, allowing for faster, more accurate diagnoses, leading to better treatment outcomes.

AI is also driving a shift toward patient-centered, continuous care. Wearable devices and remote monitoring solutions powered by AI enable real-time tracking of vital signs, glucose levels, and heart rhythms, allowing physicians to intervene before a health crisis occurs. Personalized AI-driven health recommendations, based on an individual's genetic profile, lifestyle, and medical history, are transforming preventative care and chronic disease management. AI is also reducing wait times and improving patient flow in hospitals by predicting bed availability, optimizing discharge planning, and streamlining administrative processes.

AI is changing the healthcare professional experience

For healthcare professionals, AI is not just a tool — it is reshaping how work is performed, alleviating administrative burdens, and enhancing clinical decision-making. Burnout is recognized as a huge problem in health services. AI could help alleviate this by removing barriers that restricts their ability to deliver patient care. For example, next-generation electronic medical records (EMRs) are evolving rapidly, with capabilities such as ambient listening, automated clinical summaries, and real-time medical documentation offering tangible solutions to some of healthcare's most pressing challenges. These innovations aim to dramatically reduce the burden of administrative tasks on clinicians — helping to prevent the all-too-common 'pyjama time,' where doctors and nurses are forced to complete hours of documentation after their official shifts have ended. By streamlining data capture at the point of care, these advancements not only free up valuable clinician time but also support workforce well-being, improve accuracy, and allow greater focus on direct patient care.

By automating low-value administrative tasks, AI frees clinicians to focus on what they do best: delivering high-quality, hands-on care. Intelligent decision support tools are improving diagnostic accuracy and clinical confidence, helping clinicians make better decisions faster — ultimately leading to healthier, more satisfied patients.

The use of AI is transforming telehealth and remote monitoring from standalone services into integral components of care delivery. By continuously capturing patient data and feeding it into broader data and analytics (D&A) ecosystems, these tools now contribute directly to a more comprehensive, real-time understanding of patient health.

On a system level, predictive analytics is empowering healthcare organizations to better manage their resources — optimizing staff allocation, anticipating demand, and supporting more effective population health strategies.

AI-driven virtual training platforms and digital twins allow healthcare professionals to simulate medical procedures, refine surgical techniques, and practice complex cases in a risk-free environment. As AI becomes more embedded into the flow of clinical work, it can continue to support, enhance and extend the capabilities of healthcare professionals, allowing them to deliver higher-quality care with greater efficiency and less stress.

> We are running a lot of our digital literacy courses inside the organization to make sure that people are more aware of AI. We are partnering with one of the Australian Universities called RMIT, to run an internal course over the next six to eight months, so that we can continue to make the staff aware of how AI will work, what AI in general means, and what are the use cases where it can be implemented.

Chief Technology Officer — Australia

First phase use cases

Examples of early AI use cases in healthcare include:

Clinical documentation automation

AI-driven tools such as natural language processing (NLP) capture clinician-patient conversations and automatically generate medical notes, reducing administrative burden and allowing healthcare providers to spend more time on direct patient care.

Diagnostic image analysis support

Machine learning models assist radiologists and specialists by rapidly analyzing medical images (such as X-rays, CT scans, and MRIs) to flag potential abnormalities, supporting faster, more accurate diagnoses while easing workload pressures.

Virtual health assistants for patient communication

Conversational AI tools help manage routine patient interactions — including appointment scheduling, pre-visit instructions, post-visit follow-ups, and medication reminders — improving access, adherence, and patient satisfaction.

Early warning systems for patient deterioration

Predictive AI models continuously monitor patient vitals from EHRs and bedside devices to detect subtle signs of deterioration earlier, enabling faster clinical interventions and reducing the risk of adverse events in hospitals.

Back-office claims processing and billing optimization

AI algorithms automate claims processing, coding, and billing by cross-checking clinical documentation against payer requirements, reducing errors, speeding up reimbursement, and lowering administrative cost.

The second phase: Embed

Embedding AI in the flow of clinical work

> We are moving towards the digitalization of anatomopathology, which we think we will soon have thanks to AI. We will reduce the need for anatomopathologists for this field. That is part of the attractiveness since it is a medical profession in shortage.

Chief Technology Officer — France

The Embed phase marks the transition from AI experimentation to fully integrating AI into clinical workflows, patient care pathways, and operational processes. In this stage, AI is no longer a standalone tool but a core enabler of healthcare transformation, enhancing efficiency, clinical accuracy, and workforce productivity. AI supports large care teams in handling complex decision-making by streamlining diagnostics, automating administrative tasks, and enabling real-time clinical insights. To help ensure strategic alignment, a senior healthcare executive must oversee AI-driven change at the enterprise level, embedding AI into operating models, robotics, and wearable health technologies to drive systemic improvements.

An effective AI strategy must be anchored in the healthcare organization's value streams, with a clear view of where AI creates the greatest impact across clinical, operational and patient pathways. Success depends not just on isolated applications, but on coordinating AI deployment across value streams — connecting departments, specialties and care settings — to unlock maximum collective value.

This requires a unified approach, integrating AI across the front, middle and back office, and bridging acute, primary, community and home care. For example, AI solutions that support hospital clinicians, GPs and community health workers can enable earlier, safer discharges, freeing up critical infrastructure, lowering costs, and improving patient outcomes at every stage of the care journey.

This phase also prioritizes ethics, patient safety, security, and trust, ensuring AI adoption enhances inclusivity and transparency across all areas of care. AI agents and diverse models (large-scale, small, open-source, closed, and domain-specific) become deeply embedded into electronic health records (EHRs), diagnostic workflows, telemedicine platforms, and hospital administration systems. AI's effectiveness is further strengthened by multimodal data integration, pulling from structured clinical records, imaging, genomics, and real-time patient monitoring. Healthcare infrastructure evolves to a hybrid model, combining cloud-based AI capabilities with on-premises computing resources, ensuring scalability, compliance, and security.

While some clinical and administrative processes may still be in early adoption phases, organizations can now actively explore AI's potential for value creation beyond cost savings. AI becomes a growth driver, improving patient outcomes, streamlining workforce efficiency, enabling proactive care models, and expanding new digital health services. As AI becomes deeply embedded into care delivery, administrative processes, and financial operations, healthcare operating models will shift from departmental silos to integrated, value-stream-driven care models that span clinical disciplines and patient needs holistically.

> "Initially AI is going to bring in efficiencies, which means that we can do more, and we could have a better work-life balance; we could deliver more; we can get even more efficiencies by applying lean principles to processes, automating workflows with AI; which I think, ultimately, will improve patient outcomes and treatments."
>
> **Chief Data Officer** — Australia

Value streams in healthcare

Value streams in healthcare represent the various steps and processes across the care continuum and map out the series of activities that contribute to value creation. By focusing on AI-driven value streams, healthcare organizations can create value aligned to the quintuple aim of improving patient outcomes, workforce experiences, population health, health equity and reducing costs.

Ultimately the value for society created by the healthcare industry is a healthier population. Healthcare organizations are using AI to transition from reactive to proactive healthcare models. AI-powered remote patient monitoring and predictive analytics help prevent hospital readmissions and optimize chronic disease management. By integrating real-world data from wearables, social determinants and public health sources, AI enables personalized treatment plans and more effective preventative health strategies. AI-driven insights also enhance public health crisis management, helping providers and policymakers respond more effectively to emerging health threats.

> “If AI doesn’t help us drive down costs, improve the customer experience or give us leverage to scale, it’s just noise. We’re not going to pursue it. We’ve been trying to run everything through those filters to be thoughtful about where we want to deploy AI.”

Chief Information Officer — US

By focusing on AI-driven value streams, healthcare providers can create a more intelligent, efficient and patient-centric system, unlocking sustainable improvements in care delivery, workforce efficiency, financial performance, and long-term health outcomes.

Stakeholder group	What they value	Value focus areas
All stakeholders	• **Data security and privacy** • **Ethical use of technology**	**Interoperable and secure data exchange** Facilitating safe sharing of health information across hospitals, primary care, specialists, payers, and community services. **AI governance and clinical validation** Ensuring that AI and digital tools are clinically validated, explainable, unbiased, and used appropriately in patient care and operations.
Patients and caregivers	• **Improved access to services** • **Faster diagnosis** • **Personalized care** • **Safe, effective and personalized treatment**	**Access to care** Enabling timely and equitable access to healthcare services for patients across different settings (hospitals, clinics, virtual care, community health). **Diagnosis and treatment** Efficient and accurate diagnosis followed by the initiation of appropriate, evidence-based treatments. **Personalized medicine** Tailoring treatments and interventions based on individual patient characteristics, preferences and genetics. **Treatment and recovery** Delivering clinical interventions, therapies, surgeries and follow-up care to support patient recovery and health improvement.
Healthcare workers	• **Reduced administrative tasks** • **Improved work/life balance**	**Care delivery operations** Managing the workflows, scheduling, documentation, and administrative activities that support clinical staff and help ensure care continuity.

Stakeholder group	What they value	Value focus areas
Healthcare systems or provider organizations	• **Improved patient and workforce experiences** • **Operational efficiencies** • **Customer retention and revenue optimization (commercial markets)**	**Patient journey management** Orchestrating the entire patient experience across multiple touchpoints, ensuring seamless transitions between services and settings.
Policymakers and payors	• **Reduced costs** • **Improved population health**	**Operational and support services** Providing non-clinical services like billing, IT management, supply chain, facilities management, and human resources that enable care delivery. **Public health and prevention** Focusing on early intervention, disease prevention, vaccination programs, health education, and community health initiatives.
Regulators	• **Safe and effective therapies**	**Therapy development and regulatory oversight** Researching, developing, testing and regulating new therapies, drugs and devices to help ensure safety, efficacy and compliance.

“The key to success is stakeholder collaboration. AI is never an isolated decision. It’s always in collaboration, because the benefits will be realized across several departments, especially when it comes to healthcare. For example, if you have a better turnaround time, that will improve patient care, and that has an impact on the number of beds in the hospital and how fast we can treat patients. That will also have a positive impact on the workload, burden and so on.”

Chief Technology Officer — Australia

Example value stream: Transfers of care

The transition of patients from hospitals to home or other care settings is a critical value stream in healthcare, often undermined by delays and inefficiencies due to diagnostic bottlenecks, poor discharge planning, fragmented communication between hospitals and community services, and delays in arranging social care or transport. The issue of delayed transfer of care, or "bed blocking," results in avoidable costs, poor patient outcomes, and increased pressure on hospital capacity. A 2023 Australian Medical Association study estimated that between

AU$811M to $2.17B (US$561M to $1.38B)

could be saved annually by targeted programs to address this issue.

AI and autonomous agents have the potential to radically improve transitions of care processes. Predictive algorithms can identify patients nearing discharge readiness and trigger early care planning. AI agents can monitor clinical workflows, prioritize discharge-critical diagnostics, and escalate pending tests. Natural language models can automate discharge documentation, freeing clinicians from administrative burdens while improving the clarity of communication with patients and families.

More critically, agentic AI can coordinate the complex web of care providers, scheduling follow-ups, booking home visits, and ensuring continuity of care across hospital and community settings. Conversational AI tools can keep families informed, answer questions, and support logistics, while remote monitoring tools track patient recovery at home and alert care teams to signs of deterioration. Together, these technologies shift the transfer of care from a reactive, manual process to a proactive, intelligent value stream — improving outcomes, optimizing resources, and enhancing patient and provider experiences.[3]

[3] AMA, "Hospital exit block: a symptom of a sick system", 2 February 2023

Case study

Engaging clinicians in building and implementing an AI strategy

KPMG in the Netherlands case study

In the southern part of The Netherlands, Zuyderland Medical Center struggled with fragmented and small-scale AI initiatives and required a cohesive strategy to effectively utilize AI in healthcare delivery.

A pressing question for the organization's leadership was where to deploy AI, how to organize it, and how to help ensure that staff members supported these initiatives.

Zuyderland Medical Center turned to KPMG in the Netherlands to develop a bottom-up strategy aimed at fostering engagement and ownership among medical center employees. The approach began with master classes focusing on data and AI to educate the staff, leveraging the organization's internal concept of 'the wisdom of the crowd.' Through collaborative work sessions, more than 50 ideas were generated, leading to four strategic goals for AI implementation:

1. Automating business operations to reduce administrative burdens
2. Enhancing the alignment of healthcare demand and supply within the healthcare ecosystem, between the hospital and regional partners
3. Developing new methods for care delivery, such as AI-supported diagnostics
4. Providing personalized care solutions through tailored AI applications that enable proactive treatment

KPMG digital health professionals closely collaborated with Zuyderland to develop an AI and data strategy that encompassed design principles, stakeholder collaboration, and change management to support organizational readiness for AI adoption. A critical aspect of the strategy included creating a decision framework to assess whether to buy, develop internally, or co-create AI solutions, helping to ensure that all applications were scientifically backed.

A central and dedicated team was established to streamline AI implementation, ensuring a strong connection between healthcare professionals and the data solutions in their workflows. This alignment helped address their needs and challenges, fostering better adoption of AI technologies. Additionally, Zuyderland created an AI community serving as a knowledge and service center, further solidifying the organizational commitment to integrating AI into everyday healthcare practices. With the formulation of a clear data and AI strategy, alongside investments in a modern cloud infrastructure, Zuyderland Medical Center has positioned itself to leverage new technologies effectively. These efforts helped ensure readiness for substantial advancements in healthcare delivery, accelerating innovation and addressing broader healthcare challenges.

The third phase: Evolve

Evolving healthcare ecosystems

The Evolve phase transforms healthcare organizations at the enterprise level to adapt to demographic changes, and geopolitical and climate-related disruptions, forming new operating models and ecosystems to solve larger, industry-wide problems.

Healthcare is rapidly evolving from a collection of independent organizations into integrated health ecosystems designed to tackle the sector's most pressing challenges. This shift, supported by AI at its core, mirrors a "health in all policies" approach, where healthcare is no longer seen in isolation but as part of a broader, connected system.

To succeed, organizations must think beyond traditional structures and embrace multidisciplinary collaboration across different fields — including consumer goods, retail, and nutrition, where offerings such as nutraceuticals can complement clinical care. AI will play a critical role in orchestrating these ecosystems, enabling real-time data sharing, decision support, and coordinated action across hospitals, primary care, community health services, and adjacent industries.

A key part of the future of healthcare will likely involve keeping populations healthy by addressing the broader environmental and social factors that influence well-being. This means collaborating not only within traditional healthcare settings, but also with food suppliers, supermarkets, education providers, community organizations, and social activity groups. AI can be essential in supporting this "health in all policies" approach, enabling data-driven insights, early risk identification, and coordinated interventions across multidisciplinary settings. By connecting healthcare with adjacent sectors, AI can help create integrated ecosystems that focus on prevention, support healthier lifestyles, and manage population health more proactively and effectively.

The future is not about optimizing isolated healthcare organizations, but about building intelligent, AI-enabled systems that integrate people, services and industries to deliver better, more holistic health outcomes.

> The third phase gives the biggest payoff. As AI enables costs to come down, some markets will grow, some decline, and new ones emerge. Invest in areas of biggest impact — things we can do more of with AI as costs decline. Your competitors may focus more on what is disappearing and risk being replaced.

Erik Brynjolfsson — Professor and Senior Fellow at the Stanford Institute for Human-Centered AI (HAI), Director of the Stanford Digital Economy Lab

AI integrates with frontier technologies like quantum computing and advanced visualization, driving breakthroughs in innovation in products and services and involving close collaboration with customers, key alliances and partners. Ethics, safety and trust are paramount, with real-time monitoring and security updates ensuring platform integrity. This phase emphasizes uplifting human potential, improving experiences, and providing robust training and support to help the workforce transition into a creative, imaginative future of value creation and collaboration. In the third phase, organizations use predictive insights to continuously help optimize for better, more sustainable outcomes. AI agents, no longer inhibited by silos, are organized along value streams and can enable embedded intelligence in core processes, uplifting and empowering workforces and communities.

Leading healthcare organizations are entering the third phase of AI adoption — reimagining care through intelligent ecosystems

Pioneering healthcare organizations are already exhibiting third-phase characteristics, moving beyond isolated use cases to orchestrate intelligent, interconnected health ecosystems. These organizations are integrating AI-driven care capabilities with partners across diagnostics, digital therapeutics, social care, wellness, and even non-traditional sectors such as retail and housing. By doing so, they are creating comprehensive health and well-being platforms that address the full spectrum of patient needs — clinical, behavioral, social and lifestyle.

For example, patients might engage with a single, AI-enabled platform that delivers proactive health monitoring, remote consultations, medication reminders, mental health support, and tailored nutritional or fitness recommendations. Healthcare organizations are collaborating with MedTech innovators, digital health startups, and consumer technology companies to extend their reach beyond the hospital or clinic and into the home and community.

AI is also making healthcare deeply predictive and personalized. Instead of patients initiating care episodes, intelligent systems anticipate health risks and intervene earlier. Wearable devices and ambient sensors can continuously monitor patient health, with AI detecting subtle changes that indicate early signs of deterioration or disease onset. Virtual agents can trigger tailored interventions, adjust care plans, and coordinate services automatically enhancing outcomes while reducing system burden.

Care becomes seamlessly embedded into people's daily lives — delivered when, where, and how it is most needed. AI enables this by interpreting multimodal data (from clinical records to social determinants) in real time, ensuring care is not only more accessible but also more equitable, efficient and patient-centered.

Third phase use cases

AI-powered preventative and personalized medicine

Healthcare organizations collaborate with pharmaceutical companies, insurers and wellness platforms to deliver tailored treatment plans and risk-based prevention strategies. AI can continuously analyze patient genomic and phenotypic data, real-time biometrics from medical devices and wearables, and social determinants of health to predict disease onset before symptoms appear. By integrating predictive AI models with risk assessments and pharmaceutical research, healthcare organizations can offer early interventions, lifestyle-based precision treatments and optimized medication regimens, reducing long-term healthcare costs and improving patient outcomes.

AI-integrated clinical trials and drug development

Hospitals, healthcare companies and AI research labs collaborate to accelerate drug discovery and clinical validation. AI models can identify ideal patient candidates for trials based on real-world data, helping ensure greater diversity and more efficient, outcome-driven research. Federated learning and AI-powered digital twins will likely enable simulations of drug effects on virtual patient populations, reducing the need for traditional, lengthy clinical trials. Healthcare organizations can become key data hubs, facilitating faster regulatory approvals and reduced trial costs.

AI-enhanced remote and home-based care

Healthcare organizations partner with telehealth platforms, AI-powered digital assistants and remote monitoring companies to manage chronic diseases, post-surgical recovery and aged care. Virtual nurses, Software-as-a-Medical Device and autonomous monitoring systems can track patient vitals in real time, flagging early signs of deterioration and coordinating automated interventions such as medication adjustments, teleconsultations or emergency escalations. This approach can significantly reduce hospital admissions, help optimize clinician workloads and create truly patient-centric, decentralized healthcare models.

AI-driven value-based healthcare ecosystems

AI can track patient progress, adherence to treatment plans and long-term health improvements, ensuring that payments, incentives or reimbursement are tied to actual health outcomes rather than procedure volumes. This ecosystem approach can help drive cost efficiencies, enhance transparency, and realign incentives toward patient wellness, fostering sustainable, AI-powered healthcare economies.

Conclusion

The promise of AI in healthcare is no longer a distant vision — it is already beginning to reshape how care is delivered, managed and experienced. Yet realizing its full potential requires more than isolated pilots or fragmented initiatives. It demands a clear, strategic approach grounded in healthcare's value streams, coordinated across departments, settings and disciplines, and focused on delivering collective, system-wide benefits.

AI can unlock new levels of efficiency, improve clinical accuracy, reduce workforce burdens, and support healthier populations by connecting care across hospitals, primary care, community services, and even into industries such as retail, nutrition and social care. However, successful adoption hinges on addressing foundational enablers such as data security, privacy, ethical use, and building trust with both patients and the healthcare workforce.

The future of healthcare lies not in optimizing individual organizations, but in creating integrated, AI-enabled ecosystems that focus on prevention, early intervention, personalized care and seamless patient journeys. Multidisciplinary collaboration — supported and orchestrated by AI — will be central to this evolution.

Leaders must act now to design enterprise-wide AI strategies, establish strong governance, invest in workforce readiness, and prioritize initiatives that deliver tangible value. By doing so, healthcare systems can utilize AI as a catalyst for healthier societies.

Key recommendations

The research reveals that those organizations that are realizing the most value from their AI investments have focused on four strategic actions:

1 Design AI strategies that align with core competencies and unlock value

To help maximize value creation from AI, healthcare organizations should develop an AI strategy aligned with their clinical and operational strengths, focusing on enhancing patient and workforce experiences, improving population health and reducing costs. AI initiatives should target diagnostics, administrative automation and personalized care, prioritizing projects based on scalability, interoperability and impact.

> “It takes quite a bit of engineering participation, time and energy on our side to fully understand the AI solution and how that’s going to integrate with our environment and how not only are we going to deploy, but how are we going to maintain it.”
>
> **Chief Information Officer** — US

Key actions

- **Adopt a holistic approach to AI agent deployment:**

  Move beyond isolated use cases to identify end-to-end value opportunities across front, middle and back-office workflows. By embedding AI agents into digitally enabled care, operational, and administrative processes, healthcare organizations can accelerate transformation, improve coordination, and drive enterprise-wide performance gains.

- **Develop a governance and leadership framework:**

  Establish a cross-functional AI steering committee. Include clinicians, IT leaders, data scientists, representatives from patient organizations and administrators to oversee strategy, ethics and implementation.

- **Help ensure scalability and interoperability:**

  Design AI solutions that can seamlessly integrate with existing EHRs, imaging systems and clinical workflows. Focus on scalability and interoperability across departments.

- **Define clear metrics:**

  To fully understand the enterprise impact of AI agents’, healthcare organizations should go beyond traditional performance KPIs and add targeted AI-specific measures. This includes tracking outcomes pre- and post-agent deployment, evaluating agent-to-agent interactions, and assessing softer yet critical impacts such as reduced clinical burnout and improved staff experience through enhanced productivity.

2 Build trust into your roadmap

Healthcare organizations should implement transparent, explainable AI (XAI), ethical governance frameworks and robust regulatory compliance. Addressing concerns about bias and security early on — while offering proof that AI delivers successful outcomes — can build stakeholder acceptance and trust.

> We've got terabytes of data, but the data is not clean and because data is not clean, can you trust the data or the outcome that is being represented by AI?

Chief Technology Officer — Australia

Key actions

- **Establish robust AI governance frameworks:**

  Implement comprehensive AI governance structures that set clear standards for accountability, transparency and compliance, using the World Health Organization's Guidance on Ethics & Governance of AI for Health (2021) as a starting point. This framework should define roles and responsibilities, establish protocols for monitoring AI performance, and proactively address risks such as algorithmic accountability.

- **Embed ethical and bias-detection mechanisms:**

  Develop tools to continuously audit AI models for unintended biases, especially in sensitive areas like gender and ethnicity diagnostics and patient prioritization. This requires diverse, representative datasets, regular testing and independent oversight along the model's lifecycle to help ensure compliance.

- **Prioritize privacy by design:**

  Integrate privacy considerations throughout AI development. This includes implementing encryption, anonymization and secure data-sharing practices as standard. That helps ensure compliance with personal data protection laws while also building patient and clinician trust.

- **Leverage the work of peers:**

  When it comes to creating AI best practices, healthcare organizations don't have to go it alone. For example, the Trustworthy and Responsible AI Network (TRAIN) was created by consortiums of healthcare systems in the United States and Europe with Microsoft as their technology enabling partner. TRAIN is dedicated to operationalizing trustworthy AI in healthcare and develops, adopts and shares best practices to help ensure AI is used responsibly and ethically with its member organizations.

3 Build a culture that uses AI to uplift human potential

When it comes to taking a longer-term strategic view on AI, half of respondents say their organizations are currently developing a clear vision on how the tech can support their transformational ambitions in the next five years. AI should augment, not replace, human expertise. Foster human-AI collaboration by reskilling clinicians and working with higher education institutions to integrate AI into medical education. Illustrate the ways AI can reduce burnout, enhance efficiency and improve the quality of care.

> Our doctors didn't like the idea that a tool would be telling them a different way to diagnose something.

Chief Information Officer — US

Key actions

- **Foster transformational leadership:**

  Leadership should champion AI by fostering trust, transparency and collaboration. Leaders should actively communicate AI's role as an enabler of innovation, empowering teams to experiment and embrace change. Foster cross-functional collaboration by creating teams of clinicians, data analysts, tech specialists and user experience specialists to build the solutions together.

- **Build an AI-literate workforce:**

  Create tailored learning programs that equip employees with the skills needed to thrive in an AI-driven environment. Training should extend beyond technical teams, ensuring all employees understand AI's implications for their roles. Integrate AI training into continuing medical education to prepare current and future clinicians for AI-augmented healthcare.

- **Prioritize change management:**

  Address job displacement fears by demonstrating how AI augments human roles, builds skills and improves efficiency. Foster buy-in through clear communication, robust support systems and by engaging employees to co-create solutions. Highlight the ways AI automates repetitive tasks and enhances diagnostic precision.

- **Redefine roles and career pathways:**

  AI will reshape roles. Foster partnerships between clinicians, data scientists and AI developers to co-create new roles that align with real-world clinical needs, ensuring practicality and user acceptance. Clearly map these new career opportunities and establish roles like AI ethics officers or value-stream leaders to align human expertise with AI capabilities.

4 Create sustainable technology and data infrastructure for AI adoption

Modernize legacy systems, unify fragmented data sources and enable real-time AI integration. Investing in cloud platforms enables secure, scalable access to vast datasets and advanced AI tools, supporting real-time collaboration, diagnostics and innovation across care settings. Adopting a federated learning approach for AI models helps ensure that the model is sent to where the data resides and learns from it locally. Because only the learned updates (not the data itself) are shared back and aggregated, sensitive data remains private and secure.

> Medical data is particularly complex, not only because it comes in various types including text, images, videos, etc., but also because the quality varies greatly. We have spent considerable time cleaning and standardizing this data to ensure that it can be accurately understood and analyzed by AI algorithms.

Chief Technology Officer — China

Key actions

- **Invest in scalable and flexible infrastructure:**

  Work with partners to build cloud-native infrastructure capable of supporting AI's dynamic needs. Platforms for machine learning operations enable efficient deployment and lifecycle management, ensuring flexibility as AI initiatives grow.

- **Establish comprehensive data management practices:**

  Invest in advanced data platforms that consolidate siloed datasets into a single source of truth. Tools for data quality, lineage and security help ensure AI models remain reliable and adaptable to evolving business needs. Enable privacy-preserving AI model training across multiple healthcare institutions, allowing AI to learn from diverse patient populations while maintaining data security.

- **Focus on modular and interoperable solutions:**

  Future-proof technology stacks with modular AI systems to help ensure integration with existing tools and emerging innovations. Open APIs and vendor-agnostic solutions allow healthcare organizations to experiment without locking into restrictive ecosystems.

- **Create a balanced investment portfolio:**

  Pair foundational investments, like governance frameworks and infrastructure, with controlled experimentation in emerging AI technologies such as generative AI or real-time risk assessment tools. This dual strategy helps to ensure immediate value while staying adaptable for future advancements.

Methodology

To gain a broad understanding of how leaders are navigating the opportunities and challenges of implementing AI, KPMG International conducted a robust research program involving multiple methodologies.

This included in-depth interviews with eight AI experts spanning technology, government regulation and industry, as well as discussions with sector-specific KPMG specialists. Qualitative research was conducted to uncover nuanced, industry-specific challenges and opportunities, including insights from several industry experts, such as Erik Brynjolfsson of Stanford University, a renowned authority on AI and digital transformation.

The research was further strengthened by a quantitative survey of 1,390 decision-makers in eight industries (healthcare, life sciences, insurance, technology, banking, retail, industrial manufacturing and energy) across eight countries (Australia, Canada, China, France, Germany, Japan, the United Kingdom, and the United States), including 183 from the healthcare sector. These leaders shared their experiences and perspectives on overcoming barriers to AI adoption, from dismantling legacy systems to addressing organizational inertia.

In parallel, an 18-month research project evaluated the realistic value at stake for fully deploying and adopting generative AI. Together, these inputs offer a clear roadmap for organizations to unlock AI's potential and drive meaningful, enterprise-wide change.

About the healthcare respondents

Included in this multi-sector study were:

- 183 senior healthcare leaders from mid-to large-sized healthcare systems
- 49 percent of whom held C-suite titles

Organization operating/revenue size	Percentage of respondents
Less than US$1B	23%
US$1B to $5B	48%
US$5B to $10B	15%
US$10B to $15B	4%
US$15B to $35B	7%
US$35B+	3%

KPMG: Guiding your AI transformation with experience and trust

We are a global organization of professional services firms whose consultants provide support to healthcare systems, providers, and insurance organizations around the world. Our multidisciplinary approach allows us to pull resources from across geographies, disciplines and areas of experience from a network of 5,000 dedicated professionals who are focused on healthcare in more than 70 countries and jurisdictions. This network includes almost 200 clinicians who have a wealth of frontline health and care experience as physicians, nurses, paramedics, social workers and other professions.

With over 150 years of experience in data, industry insights, technology and regulatory expertise, KPMG is uniquely positioned to help you uncover AI opportunities, work through critical business challenges and unlock new revenue streams. From strategy to implementation, we guide you in taking small, impactful steps to tackle even the most complex problems — all underpinned by trust. We've invested in an AI-enabled platform for organizational change. It brings together the best of our thinking, frameworks, strategies and tools. So, you can change smarter and move faster — eliminating inefficiencies and building trust and confidence, at every step.

Wherever you are on your AI journey, KPMG can help:

Develop a transformational AI strategy

Define your AI goals, identify opportunities and risks, and create a tailored strategy and execution plan. Build a business case with clear metrics to secure investments and help ensure measurable success by scaling AI for enterprise-wide impact and building lasting capabilities.

Ensure AI trust and compliance

Scaling AI introduces complexities and risks. KPMG Trusted AI teams can help ensure your AI solutions are ethical, secure and compliant. Our Trusted AI Framework, built on ten ethical pillars, empowers organizations to boldly deploy AI responsibly, transparently and with confidence.

Empower your workforce with AI

The KPMG AI Enabled Workforce approach delivers personalized adoption and upskilling experiences, helping your team transform the functions of your business, embrace AI and infuse it into everyday work.

Building a sustainable AI technology infrastructure

Leverage KPMG professionals' experience to integrate AI frameworks, platforms and accelerators, helping you ensure your technology infrastructure is ready to scale AI initiatives.

We help clients harness the power and potential of AI. From strategy to implementation. Small steps to solving seemingly impenetrable problems. Underpinned by trust.

You can discover endless opportunities with AI. You can with KPMG.

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Designed by Evalueserve.

Publication name: Intelligent healthcare: A blueprint for creating value through AI-driven transformation | Publication number: 139989-G
Publication date: May 2025