servicenow

PULSE REPORT

Healthcare in 2030: How AI Agents Promote Integrated, Collaborative, and Proactive Care

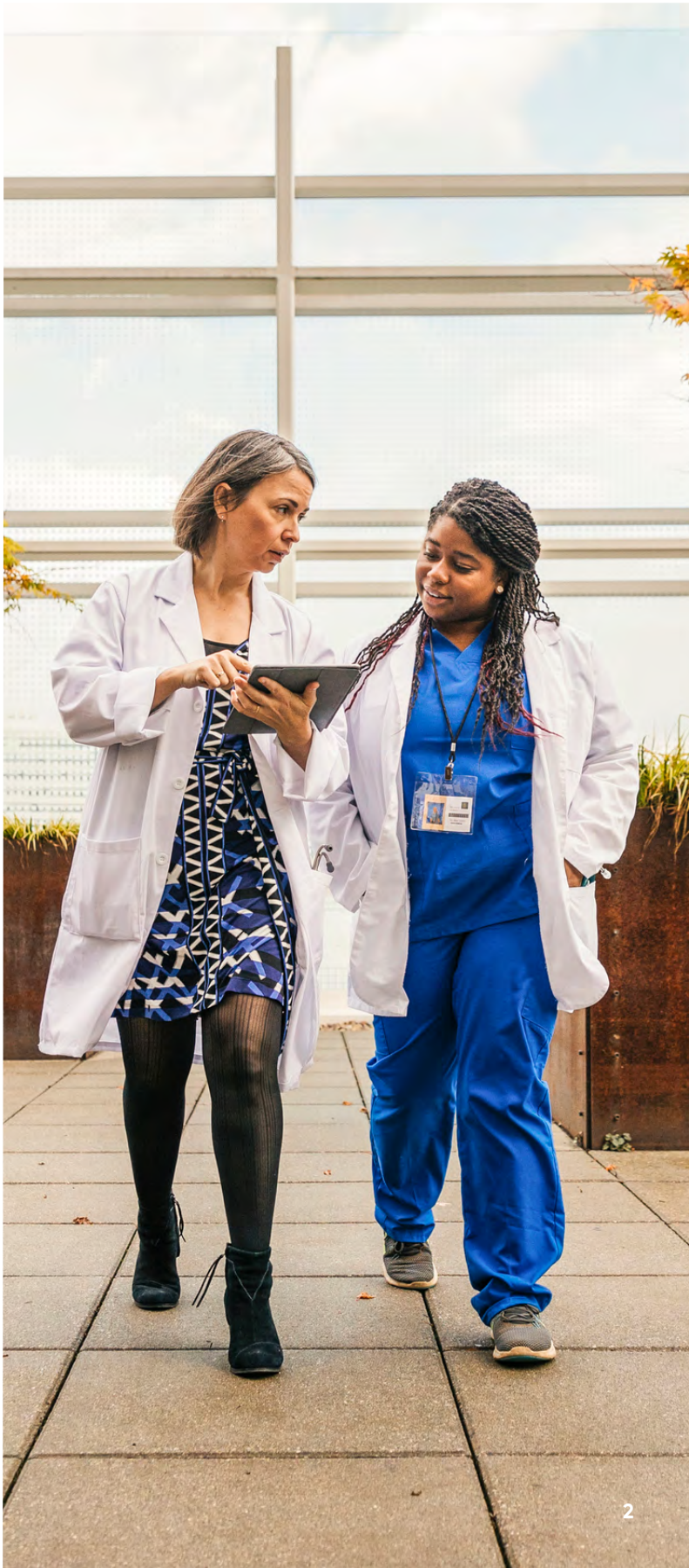
By John Licata
Innovation Officer

CONTRIBUTORS

Spencer Beemiller, Director, Executive Innovation
Brian Solis, Head of Global Innovation
Alexis Walker, Thought Leadership Manager

The Innovation Office

Healthcare in 2030: How AI Agents Promote Integrated, Collaborative, and Proactive Care



Executive Summary

- Healthcare organizations face challenges due to siloed departments and outdated systems, which make it difficult to utilize growing amounts of data and provide efficient care.
- Healthcare is on the precipice of an AI and AI agent-driven revolution where true digital and operational transformation will reimagine operations, workflows, and patient care.
- Over the next five years, AI agents will greatly impact healthcare in three ways:
    - **Integration:** Unifying legacy and modern systems for streamlined workflows and optimized results.
    - **Collaboration:** Connecting systems to support improved health outcomes.
    - **Proactive Care:** Learning and evolving to create innovative workflows and approaches for a proactive healthcare environment.
- The ServiceNow platform integrates data, agents, and workflows to help healthcare organizations leverage AI for transformed delivery and operations.

Introduction

With the rapid democratization of AI, the future of healthcare was already under redevelopment. Now in an era of AI agents, that future is getting reshaped. What might this new healthcare future powered by AI agents look like? Imagine analyzing the most complex, distributed data, across vast ecosystems to forecast possible health events or predict surges in demand, activating both mitigation efforts and staffing and supply chain workflows to prepare for what may come. Picture disparate patient records that can now be unified in one intelligent dashboard so doctors are provided with the insights they need in real-time during appointments or in clinical care plans. Imagine how much better the patient experience would be if every interaction with healthcare organizations was seamless, intelligent, and proactive. What if today's tasks of scheduling, referrals, billing, diagnoses, treatments, and prescriptions were automated, connected, predictive, and managed by a team of intelligent AI assistants? Thanks to AI agents, a revolutionized healthcare future is just around the corner, and it promises to modernize and change the way healthcare will be experienced.

The adoption of Electronic Health Record systems has led to the accumulation of a

wealth of data, but legacy systems and a lack of true digital and operational transformation mean most organizations are being crushed trying to manage this data rather than harnessing it to transform. AI agents represent one of the most significant advancements in healthcare. With the right vision and execution, AI agents can put AI to work for providers and enable connected end-to-end experiences, systems, and data for patients, caregivers, payers, and the supporting ecosystem.

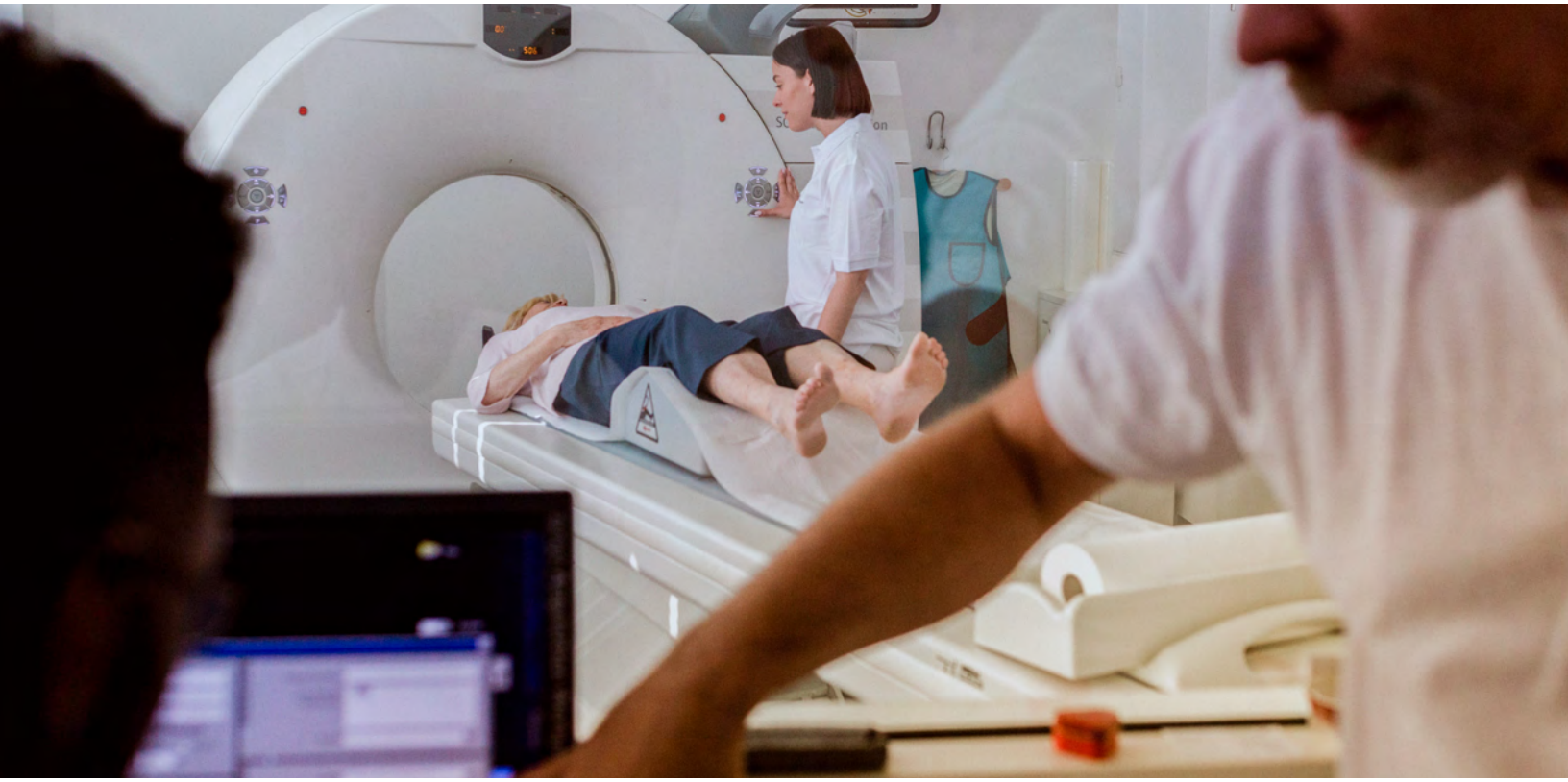
Healthcare organizations that successfully deploy AI agents alongside humans will be able to improve existing processes and operations so everyone can reallocate time and resources to improve healthcare. AI agents will enable an industry-changing shift in services from reactive to proactive, ultimately enhancing end-to-end experiences, capabilities, and outcomes for providers and the entire health ecosystem.

The healthcare industry's growing data and legacy tech problem

Today, the healthcare sector faces substantial barriers that significantly slow or hamper digital and operational transformation while compromising patient and caregiver experiences and outcomes.

Healthcare is dealing with an unprecedented surge in data that is crippling human capacity. The healthcare industry is now generating approximately 30 percent of the world's data volume.[1] That number is expected to rise to 36 percent in 2025, outpacing data generated by other sectors including financial services, manufacturing, and media and entertainment.[2]

With data and systems strewn across healthcare enterprises, several trends are further complicating and siloing important patient information. Digital transformation has sparked the widespread adoption of electronic health records.[3] Imaging technologies have resulted in higher-resolution images and file sizes.[4] The rise of wearable devices for health monitoring has swelled from 325 million users to



73% of healthcare organizations report still using legacy technology[6]

over one billion in 2022, with each continuously collecting and transmitting health data.[5] Added to that, dated systems, data fragmentation, disconnected processes, and analog workflows continue to weigh on a healthcare sector plagued with burgeoning tech debt, patient dissatisfaction, and caregiver burnout.

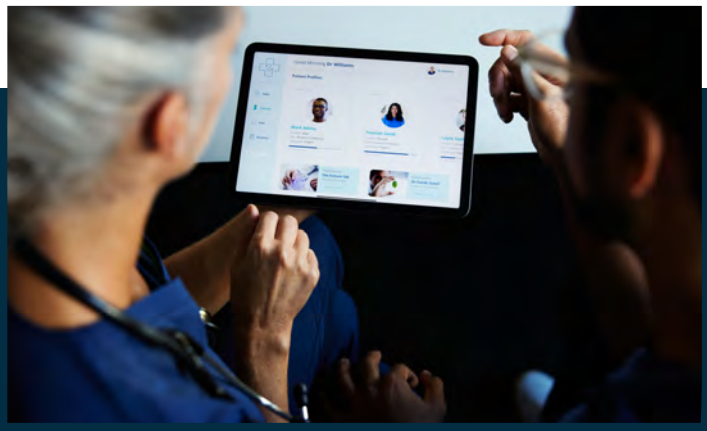
The problem of growing amounts of unmanaged data is compounded by the fact that many healthcare organizations operate on legacy systems that are not compatible with modern AI solutions. A survey conducted by HIMSS found that 73% of healthcare organizations were still using legacy technologies with many not "necessarily planning for obsolescence."[6] ServiceNow and Oxford Economics' "Enterprise AI Maturity Index" study likewise found that only 28% of Healthcare and Lifesciences organizations say they have integrated workflows between their direct team and other business functions and streamlined with AI.[7] The widespread reliance on legacy systems underscores critical challenges, including operational inefficiency, cybersecurity risks, and cost burden.

In addition, healthcare organizations must deal with a unique regulatory environment including

patient privacy laws that make data confidentiality and security paramount when integrating AI technologies.[8] The industry can also be slow to adopt change.[9] These challenges have resulted in a disconnected web of operational and data silos that are stifling growth and the ability to use patient data, securely, to help the sector move from digital to business transformation.

Now, AI agents are set to change everything. Today's AI agents are designed to connect, automate, and act across disparate processes, data, and systems spanning both legacy and modern systems. This will radically transform patient-facing processes and experiences, and the back-office systems that support them, while greatly enhancing care and outcomes, and freeing up precious time for caregivers.

But for AI agents to transform healthcare, leaders must be willing to tackle challenges that have long prevented meaningful digital and operational transformation. A recent study found that "only the construction industry ranks lower than healthcare in AI adoption."[10] There is momentum for change though. ServiceNow and Oxford Economics' "Enterprise AI Maturity Index" research found that 80% of Healthcare and Lifesciences organizations say achieving improved customer experience by leveraging AI solutions is very or extremely important, and 81% expect their AI investments will increase in the next fiscal year.[11] Digital and operational transformation is possible if healthcare organizations rethink existing systems and processes and embrace a more connected, collaborative, and proactive future enabled by AI agents.



Defining AI agents

AI agents are systems or programs capable of autonomously performing tasks supervised by users or other systems to achieve specific goals.[12] AI agents can operate independently, making decisions and executing tasks without continuous human oversight. The advantage of AI agents is that they can operate 24/7, handle repetitive tasks at scale, and continually learn from data, which leads to continuous improvements in their performance. As a result,

organizations can free up human resources for more strategic work while ensuring consistency and accuracy in routine operations.

Gartner®[13] predicts that "By 2028, 33% of enterprise software applications will include Agentic AI, up from less than 1% in 2024, enabling 15% of day-to-day work decisions to be made autonomously."[14]

In healthcare, AI agents are transforming operations by automating, connecting, and executing routine tasks, supporting decision-making, and enhancing patient care. By leveraging AI agents, healthcare organizations can modernize disparate processes and systems, leading to intelligent, autonomous, end-to-end workflows that increase efficiency, reduce costs, and improve experiences for both patients and caregivers.

33%

of enterprise software applications will include agentic AI by 2028[14]

Consider AI-powered electronic health records (EHRs). These systems are no longer just repositories of patient information; they are dynamic, learning-driven assistants that streamline workflows, anticipate clinician needs, and eliminate inefficiencies. By reducing administrative friction, agents can liberate healthcare providers, allowing them to spend more time where they're needed most—with patients.[15]

These intelligent systems can seamlessly manage records, communications, and reminders, and even facilitate appointment scheduling, elevating the standard of care.

The future of AI agents in healthcare

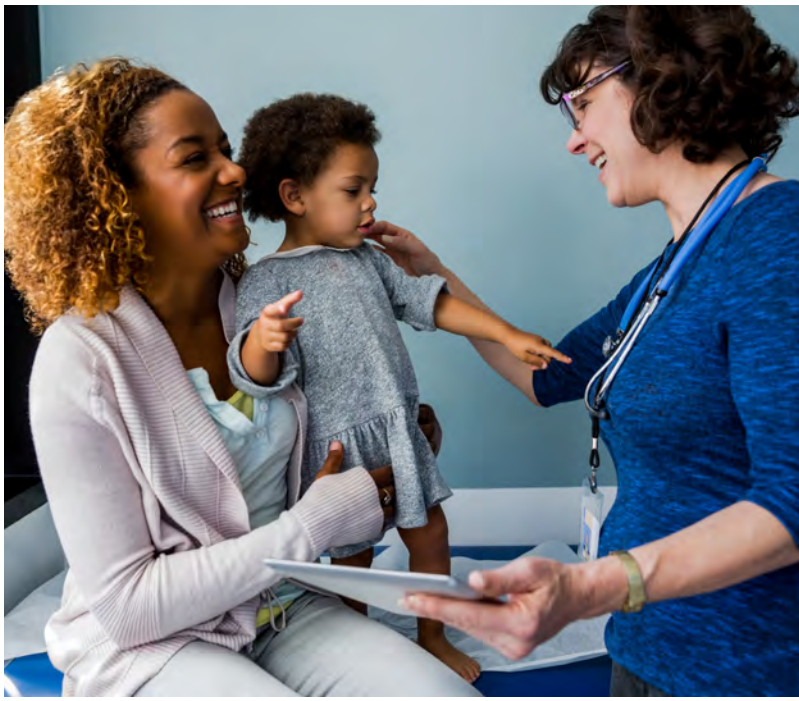
Over the next five years, AI agents will move beyond targeted use cases to tackle complex problems and systems. They will revolutionize healthcare in three key areas:

01 Integration

One of the most promising advancements is the use of AI agents for enterprise automation across both legacy and modern hospital systems. This orchestration is critical and represents an innovative approach that will revolutionize how healthcare providers reduce high-volume repetitive manual tasks and deliver enhanced care, helping to ensure that patients receive the most accurate and personalized treatments possible.

By taking a platform approach to AI business transformation, AI agents can connect legacy and modern healthcare systems to bridge disparate systems to assemble intelligent, integrated, and efficient workflows. This integration will have cascading effects across all levels of healthcare delivery.

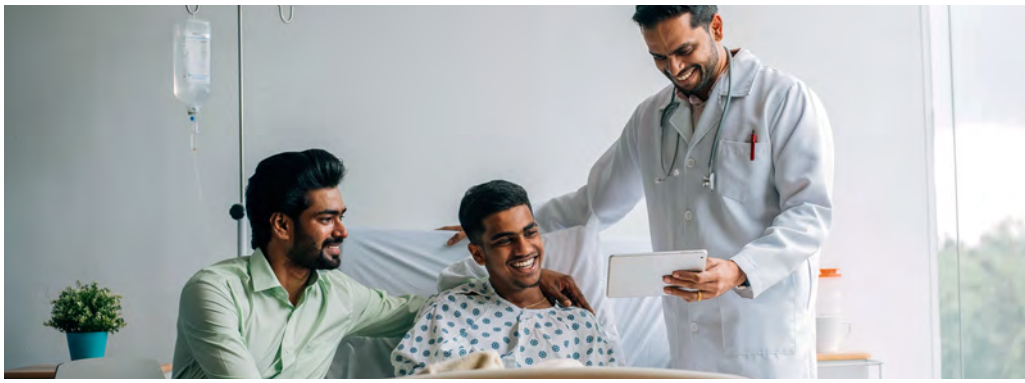
For example, automating routine administrative tasks with AI agents may include integrated appointment scheduling, billing, and medical transcription. AI agents could help automate insurance prior authorization and document medical charts and billing codes, as well as being used to facilitate discharge or care planning. This would allow healthcare providers to focus more on patient care rather than paperwork. This efficiency may not only reduce operational costs but also enhance the overall standards providers can ultimately deliver.



Additionally, AI agents could help providers spend less time doing painstaking, frustrating tasks like sitting on the phone transferring data, verifying reimbursement with insurance, and manually following up post-appointment.

02 Collaboration

By connecting systems, data, and people, AI agents can promote more collaborative, comprehensive patient care.



a. End-to-end analysis, forecasting, and planning

AI agents could analyze current and historical data to forecast potential health risks before they manifest. By analyzing trends in patient data, these agents may be able to help medical providers assess and forecast potential events and recommend preventive measures or early interventions, significantly reducing the incidence of severe health issues and hospital admissions.[16]

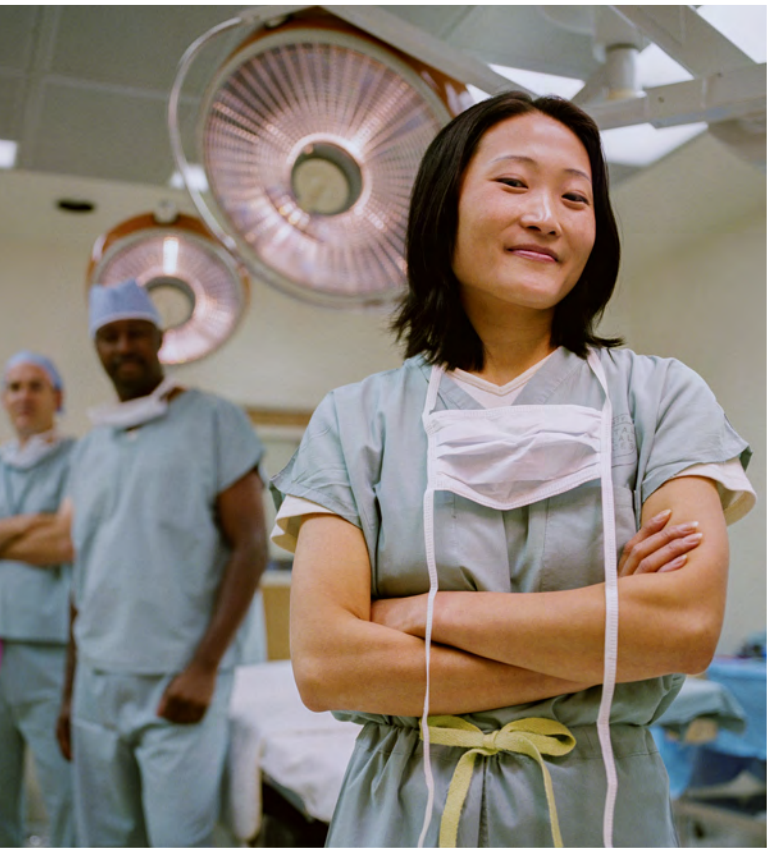
For example, environmental AI agents might process information about mosquito populations, rainfall patterns,[17] sea surface temperatures,[18] and human travel data[19] to forecast the likelihood and location of a malaria outbreak in a specific region. Other AI agents might track and analyze deforestation, construction developments, and hydrology data that may spawn notable breeding grounds.[20] Other collaborative AI agents could then generate risk maps;[21] recommend preventative resource allocation[22] and targeted interventions to limit outbreaks;[23] and prepare healthcare providers by optimizing hospital resource allocation.[24] As this example illustrates, AI agents could create new levels of collaboration all the way from public health forecasting and prevention measures to frontline care delivery.

b. Collaboration across care providers

AI agents can enhance collaborative efforts across systems and providers by integrating and analyzing data from multiple sources. This transforms various systems of record into an intelligent, connected system of action, helping ensure providers have access to up-to-date information, reducing errors, and improving coordination. Additionally, AI agents facilitate real-time data sharing and streamlined communication, enabling timely interventions and efficient collaboration.

c. Human-machine collaboration

AI agents can help optimize patient care at scale. Today, only 20% of Healthcare and Lifesciences organizations say they have invented new workflows across business



functions where human and AI collaboration makes work more efficient.[25] This demonstrates the tremendous opportunity for AI Agents in the industry to not just improve but reimagine workflows. By analyzing a patient's medical history, genetics, and lifestyle factors, AI agents may be able to create and monitor tailored treatment plans and usage. For instance, agents could monitor real-time health metrics like blood sugar levels and adjust medication recommendations to help medical providers optimize care trajectory and patient outcomes. AI agents could further learn preferences and optimize engagement over time and also help identify when a human in the loop should be needed for situations that may require more hands-on human specialist care.

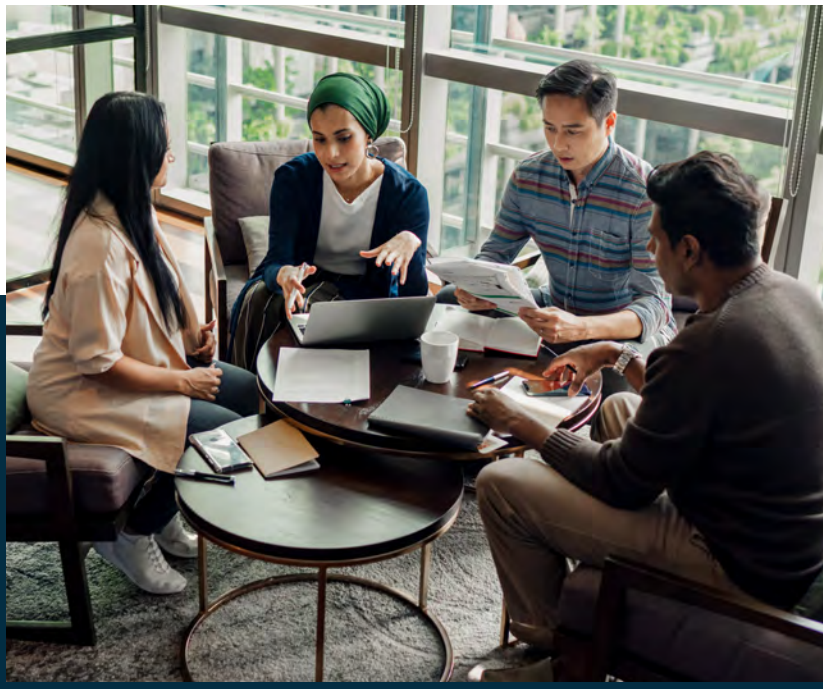
With purpose, the collaboration between humans and AI agents can help the healthcare industry become more agile and proficient. Considering AI agents can learn and become better over time, human-machine collaboration can contribute to a more optimized, proactive, and intelligent healthcare system.

03 Proactive care

AI agents are poised to transform healthcare on a macro level by shifting organizations from a reactive to a proactive approach. As AI systems interact with patients and analyze outcomes, they will continuously learn from these experiences. This capability will enable them to refine their recommendations over time, update systems of record, and create a unified patient view that can analyze data to proactively recommend personalized medical guidelines based on evolving patient needs.

- By managing complex workflows, AI agents can predict challenges and adjust strategies in real-time. Agentic AI provides valuable recommendations to healthcare providers, guiding them toward the most effective treatment approaches. This support is based on real-time data and advanced analytics, assisting clinicians in making informed decisions swiftly to stay ahead of diagnoses and treatment plans.

- Over time, AI agents will foster learning, improvement, agility, and forecasting, resulting in healthcare delivery that is less about crisis management and more focused on proactive, effective care.



How ServiceNow ushers in the future of AI agents in Healthcare

As an AI-first platform with AI agents built-in to the core platform, ServiceNow Platform is uniquely positioned to help healthcare organizations transform. ServiceNow's key competitive strengths include:

01 Platform approach

Using a unified data architecture platform with HL7 FHIR data models to automate, simplify, and connect work across the enterprise, can help healthcare providers become future-ready. This includes connecting disparate systems and simplifying the management of legacy systems. This promotes seamless AI adoption without overhauling infrastructure.

Healthcare providers possess a substantial amount of valuable data related to technical infrastructure (CMDB) and hospital personnel. The volume of this data is expanding due to the proliferation of IoT-connected medical devices and advancements in Hospital Operations intelligence. Without proper management and integration, this data may appear overwhelming and difficult to utilize effectively.

ServiceNow's AI Agents present a solution for managing and leveraging this information. AI agents facilitate coordination across various information systems, offering insights such as device usage/value, investment lifecycles, and floor flow efficiency through proprietary computer vision intelligence. These agents can recommend efficiencies in room assignments, automatically update or upgrade critical medical devices before failure, place low-stock items on reserve, and most importantly, enable healthcare providers to allocate more time to patient care.

02 Data integrity and security

ServiceNow can leverage AI agents to access only permitted data, helping users ensure patient privacy, data security, and regulatory compliance. This approach helps maintain data integrity and protect sensitive information while enabling organizations to harness the power of AI and AI agents.

Imagine a personalized AI onboarding agent for caregivers that could connect to care systems, enabling quick document submission while cross-verifying records to ensure data integrity. Another AI agent might help dispatchers optimize schedules. In the future, ServiceNow's workflows could enable these AI agents to support caregivers with real-time information, accessing only authorized patient data to maintain privacy.

03 Data management

ServiceNow can help legacy healthcare organizations use data management capabilities to enhance, organize and analyze their data. By consolidating information from various sources, AI agents can help provide actionable insights or execute against them to improve decision-making and patient outcomes A unified platform architecture in healthcare is the foundation for transformation, enabling organizations to manage and also act on fragmented data securely.

Companies like PicnicHealth[26] and Novellia[27] are offering patients the ability to own and manage their medical history. This approach simplifies electronic medical records and gives patients control over their data management. As this type of patient agency becomes more popular, enterprise systems will need to integrate and cooperate seamlessly. As an intelligent workflow platform, ServiceNow connects emerging data hubs to link together workflows across systems. AI agents will then be able to execute tasks and extend what is currently possible.

Current medical systems are siloed and resistant to coordinated data management, but the growing amount of patient data and wearables demands a more intelligent and orchestrated approach that builds upon today's capabilities and reimagines the workflows that will evolve from them. Healthcare organizations that recognize the need for personalization and unified data management will gain a competitive edge. The next frontier of AI agents will optimize resources, maximize insights, and streamline processes, driving a more ambitious approach to data management while ensuring data integrity and security.

04 Resource optimization

Deploying AI agents can help alleviate the burden of resource allocation and scheduling in healthcare facilities. These AI-driven solutions, which can greatly benefit from ServiceNow's Workflow Data Fabric, are designed to connect, contextualize, and act on data securely, accurately, and seamlessly. They can also enable dynamic workflows that automatically adjust based on real-time resource data, helping users ensure optimal efficiency and healthcare management.

For example, AI agents can identify the highest demands for doctor visits and recommend actions to the healthcare leadership staff or take actions proactively, keeping caregivers in the loop. Agents might notice an uptick of 25% in heart surgeries in the winter of last year. As a result, they could then set up a plan for staffing, supplies, and medical equipment to help healthcare providers ensure they're ready to meet that demand ahead of need. Forecasting combined with action is a key way AI Agents will promote proactive care in the future.

Conclusion

Healthcare is on the precipice of an AI-driven revolution; intelligent agents will collaborate with caregivers, break down silos, automate tasks, and allow clinicians to focus more on human connection and healing. AI agents represent a welcome addition to the digital workforce to power a meaningful, and overdue, healthcare revolution, where technology works with providers.

By accelerating the adoption of AI technologies, healthcare organizations can build intelligent enterprises that streamline operations and reduce administrative burdens; deliver quality care at scale; and operate more proactively. Embracing AI agents represents more than digital transformation; it demonstrates a commitment to a more connected and effective healthcare experience for all.

An AI-first platform like ServiceNow can help healthcare companies leverage AI agents to promote integration, collaboration, and proactiveness, practically out of the box. By embracing these technologies now, we can pave the way today for a more efficient, secure, and patient-centric healthcare system tomorrow.

Endnotes

[1] Callaway, A. (n.d.). *The Healthcare Data Explosion.* RBC Capital Markets. https://www.rbccm.com/en/gib/healthcare/episode/the_healthcare_data_explosion

[2] Greene, L. (2023, September 6). *How healthcare data technology is leveraged by leaders*. Arcadia. https://arcadia.io/resources/healthcare-data-technology

[3] Devarakonda, S. (2023, May 11). *The peril and promise of the rising tide of healthcare data - Health Data Management.* (Health Data Management. https://www.healthdatamanagement.com/articles/the-peril-and-promise-of-the-rising-tide-of-healthcare-data

[4] Speciale, P. (2020, June 8). *The explosion of healthcare data: How providers are managing growth without breaking the bank.* Solved. https://www.solved.scality.com/explosion_of_healthcare_data/

[5] RWJF (2024). *Surge in Digital Health Information Impacting Wellbeing.* Robert Wood Johnson Foundation. https://www.rwjf.org/en/about-rwjf/how-we-work/learning-and-evaluation/learning-across-global-borders/six-global-trends-in-health-equity/surge-in-digital-health-information-impacting-wellbeing.html

[6] HIMSS (2021). 2021 HIMSS Healthcare Cybersecurity Survey. Page 18. https://www.himss.org/sites/hde/files/media/file/2022/01/28/2021_himss_cybersecurity_survey.pdf

[7] Enterprise AI Maturity Index (2024). ServiceNow, https://www.servicenow.com/workflow/hyperautomation-low-code/enterprise-ai-maturity-index-2024.html

[8] Healthcare Blog (2025, January 3). *Agentic AI in Healthcare: Why It Matters for Care Delivery?* AutomationEdge HomeCare. https://automationedge.com/home-health-care-automation/blogs/what-is-agentic-ai-in-healthcare-and-its-role-in-improving-care-delivery/

[9] Centre for Health and Healthcare and the Boston Consulting Group (2025). The future of AI-enabled health: leading the way. World Economic Forum. https://reports.weforum.org/docs/WEF_The_Future_of_AI_Enabled_Health_2025.pdf

[10] See endnote 9.

[11] Enterprise AI Maturity Index (2024). ServiceNow, https://www.servicenow.com/workflow/hyperautomation-low-code/enterprise-ai-maturity-index-2024.html

[12] Gutowska, A. (2024, July 3). *What Are AI Agents?* IBM. https://www.ibm.com/think/topics/ai-agents

[13] GARTNER is a registered trademark and service mark of Gartner, Inc. and/or its affiliates in the U.S. and internationally and is used herein with permission. All rights reserved.https://www.gartner.com/en/articles/intelligent-agent-in-ai

[14] Gartner Articles, Tom Coshow. (2024, October 1). *Intelligent agents in AI really can work alone. Here's how.* Gartner. https://www.gartner.com/en/articles/intelligent-agent-in-ai

[15] Gill, J.K. (2024, December 24). *Bringing Droids into Business processes and Enterprise Systems.* Akira. https://www.akira.ai/blog/electronic-medical-records-through-ai-agents

[16] Takyar, A. (2024, June 26). *AI agents for healthcare: applications and use cases, key components, benefits, implementation and future trends.* LeewayHertz. https://www.leewayhertz.com/ai-agent-for-healthcare/

[17] *Using Satellites to Predict Malaria Outbreaks* | NASA Global Precipitation Measurement Mission. (2017). NASA. https://gpm.nasa.gov/applications/health/using-satellites-predict-malaria-outbreaks

[18] Martineau, P. (2023, October 11). *Harnessing AI to Predict Malaria Outbreaks: A Game-Changer in Disease Prevention.* The Global Health Network. https://ai-globalhealthresearch.tghn.org/articles/harnessing-ai-predict-malaria-outbreaks-game-changer-disease-prevention/

[19] Thomas, J. (2024, July 16). *The role of AI in predicting and managing disease outbreaks*. Innovation News Network. https://www.innovationnewsnetwork.com/the-role-of-ai-in-predicting-and-managing-disease-outbreaks/49277/

[20] See endnote 18.

[21] See endnote 18.

[22] Mosquito and Mosquito Habitat Science. (2022). Globe Observer. https://observer.globe.gov/do-globe-observer/mosquito-habitats/science

[23] Anon. (2024, April 23). *New Study uses AI to predict malaria outbreaks in South Asia.* Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences. https://www.ndorms.ox.ac.uk/news/new-study-uses-ai-to-predict-malaria-outbreaks-in-south-asia

[24] See endnote 17.

[25] Enterprise AI Maturity Index (2024). ServiceNow, https://www.servicenow.com/workflow/hyperautomation-low-code/enterprise-ai-maturity-index-2024.html

[26] *Healthcare Simplified with the Universal Patient Record* (2024). Picnic Health. https://picnichealth.com/?utm_source=google&utm_medium=Brand&utm_campaign=SEM-PicnicHealth-Brand&utm_content=picnichealth&utm_term=picnichealth&gad_source=1&gclid=CjwKCAiAkc28BhB0EiwAM001TZzYutQERsVFUlfGf4GlpaWfMNgLCkmg9wahuTyF8giHg1MUqfnUwRoCw3cQAvD_BwE

[27] *Novellia* (2025). Novellia Health Systems. https://novellia.com/health-systems

The Innovation Office

The Innovation Office is the voice of future-focused innovation in ServiceNow. Our research, thought leadership, and co-innovation solutions serve as a blueprint for AI-first business transformation. We are a strategic partner with our colleagues and customers to ignite the 'spark of the possible.'

servicenow The Innovation Office

Publication date: April 2025