Microsoft

Clarity from Complexity:
Data and AI in Healthcare



Healthcare leaders are moving beyond isolated AI pilots toward AI that is embedded in daily workflows, decisions, and experiences. When data, knowledge, and AI work together, healthcare organizations can improve productivity, support better-informed decisions, and create more connected experiences for patients, clinicians, researchers, and teams across the enterprise.

Microsoft for Healthcare brings together trusted infrastructure, Microsoft Fabric for data and analytics, Microsoft Foundry for advanced AI applications and models, Microsoft Copilot Studio for custom agents, Microsoft 365 Copilot for productivity, and Microsoft IQ, the intelligence layer that connects organizational knowledge and business context to AI experiences. Together, these capabilities provide a connected approach for building, using, and governing AI across healthcare.

Our responsible AI principles and commitment to security, privacy, and compliance are foundational to our approach. Microsoft develops and deploys AI guided by fairness, reliability and safety, privacy and security, inclusiveness, transparency, and accountability, with the goal of helping organizations safeguard people and sensitive healthcare data.

Explore this e-book

- Build the foundation for AI-driven insights
- A launchpad for innovation
- Accelerate innovation with multimodal AI
- Put AI to work across healthcare
- AI assistants and agents for everyday healthcare workflows
- Scale the value of data and AI
- Learn more | Proven success & resources

Build the foundation for AI-driven insights

Healthcare professionals rely on data—notes, images, test results, scans, and more—to help create a more comprehensive view of patient health and support informed decision-making. Yet that information often lives across disconnected systems and formats. Given the high stakes and sensitivity of healthcare, organizations need a clean, connected view of this information across systems for organizations to use AI effectively and drive advances in risk stratification, research, care planning, population health analysis, operational forecasting, and more.

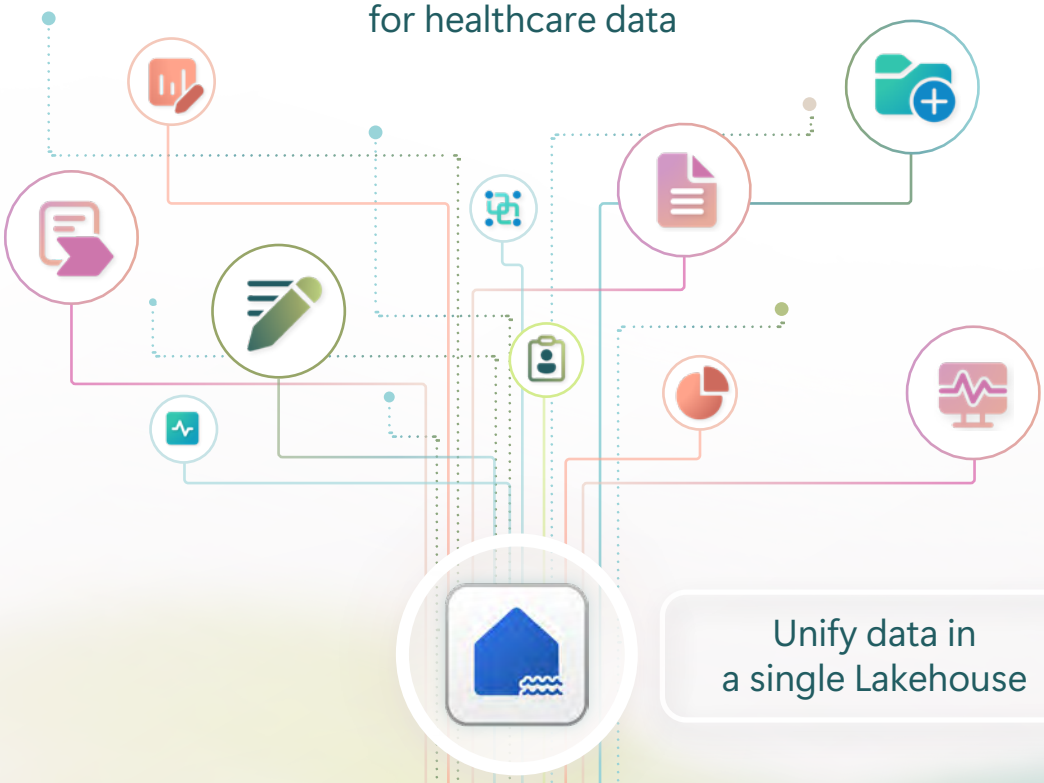
A unified data platform

To power AI innovation, healthcare organizations need to break down data silos and enhance data accessibility. Fabric gives healthcare organizations a unified, enterprise grade data and analytics platform for improving data access, applying governance, and simplifying data estate management, while helping reduce cost and effort for data teams. With a clean, well-structured data foundation, organizations can support informed decisions, improve operational performance, and uncover new opportunities to enhance care experiences at scale. Emerging Fabric innovations, including Fabric IQ, can further strengthen the connection between data, business context, and AI across the healthcare data estate.



Microsoft Fabric

Create a unified, governed foundation for healthcare data



Unify data in a single Lakehouse

Generate insights with analytics and AI

Conduct exploratory analysis

Run large-scale analytics

Turn insights into action

Implement conversational AI in contact centers

Generate actionable insights from healthcare data

Automate manual processes to streamline workflows

Building on the data foundation: Turning healthcare data into trusted insight

With Fabric, healthcare organizations can use a unified data and analytics platform to connect data sources, organize information in OneLake, build trusted data assets, apply governance, and deliver insights through analytics and reporting experiences. Rather than relying on disconnected tools or one-off data projects, teams can create a reusable foundation that supports current analytics needs while preparing for future AI-enabled scenarios.

UNC HEALTH



UNC Health's legacy data infrastructure couldn't keep pace with 40% annual data growth, culminating in a 2023 warehouse outage: leaving clinical, research, and operational teams unable to build on data rather than just maintain it.

The institution standardized its entire data estate on Microsoft Fabric, creating a single governed analytics platform that supports clinical AI, population health programs, and secure research environments at full production scale.

Read the story

"Having an environment that's more SaaS, where a lot of that was built into the system itself, gave us confidence that we could move in that direction rather than infrastructure in the cloud that we had to maintain ourselves."

– **Shaun McDonald**, Manager, Enterprise Data Warehouse Team, UNC Health

From fragmented data to governed insight

When healthcare data is connected, governed, and ready for analysis, organizations are better positioned to unlock insights today and support AI innovation tomorrow.

Connect and organize data

Bring together data from Electronic Health Records (EHRs), operational systems, CRM platforms, claims, finance, and other enterprise sources into a unified data estate.

Build a governed foundation

Use Fabric capabilities such as OneLake, data engineering, data pipelines, semantic models, security, and governance to create trusted, reusable data assets.

Enable analytics and reporting

Deliver insights through Power BI, dashboards, operational reporting, and cross-functional analytics that help teams understand performance, trends, and opportunities.

Prepare for AI innovation

Establish a trusted, analytics-ready data foundation that can support advanced analytics, copilots, and AI-enabled experiences as organizational needs evolve.

PRHC
Peterborough Regional Health Centre

Rising patient volumes, limited resources, and fragmented data made it difficult for leaders and clinicians at Peterborough Regional Health Centre (PRHC) to access trusted insight quickly enough to support care and operations. PRHC unified clinical and operational data on Microsoft Fabric and layered governed AI on top, helping teams monitor performance, identify variation, and continuously improve care delivery and operational efficiency.

Read the story

"You get in front of clinicians with a solution, and the first thing they say is, 'show me the data, show me the evidence, so that's what we did. We met people where they were, put accurate evidence in their hands, gave them some agency to make decisions with it, and started bringing them along one step at a time toward the bigger vision around agents, orchestration, and governed AI."

– Lynn Mikula, CEO, Peterborough Regional Health Centre

A launchpad for innovation

Healthcare organizations need more than individual AI tools. They need a connected AI platform where people can work, developers can build, and leaders can scale value securely across the enterprise. Microsoft brings together Fabric, Microsoft Foundry, Copilot Studio, Microsoft 365 Copilot, and Microsoft IQ to help organizations build, connect, deploy, and govern AI across the enterprise. This platform approach helps teams use data, healthcare intelligence, organizational context, connected workflows, and AI together on a single platform, helping organizations scale more consistently and securely.

Healthcare AI built for trusted action

In healthcare, AI must work with the systems, safeguards, and review processes that organizations rely on every day. Microsoft AI capabilities can connect to approved information sources, support human oversight, and keep people in control of decisions and outcomes.



Virtua Health

Virtua Health sought a secure, scalable way to use its data better to improve patient outcomes, empower staff, and boost efficiency.

Virtua Health presents AI-powered data insights to clinicians and operational leaders at the point at which it's needed to reduce cognitive load on staff and improve patient outcomes. Staff see information more clearly and faster.

Read the story

"It's really changing the way we deliver care on a daily basis."

– **Dr. Tolulope Adesiyun Agunbiade**, Medical Director of Advanced Heart Failure, Virtua Health

Accelerate innovation with multimodal AI

Healthcare AI models in Microsoft Foundry help developers and researchers build and evaluate AI applications for specialized healthcare data, including medical imaging, clinical records, genomics, and other modalities. Open-source models provide a flexible starting point for research and customization. Premium models provide managed options for advanced imaging analysis and report-generation scenarios. These models are foundations to build on, with outputs that should be evaluated, reviewed, and governed for the intended use.

Healthcare AI models in action

Find similar medical images to support research, comparison, and review workflows.

Classify or segment imaging data to help identify patterns for defined research or workflow tasks.

Fine-tune models for specific use cases using organization-specific data and evaluation processes.

Draft structured reports for review with model-generated outputs that a qualified professional can edit and finalize.

Combine multimodal signals such as imaging, clinical records, and genomics to help identify patterns, generate insights, and support a more complete view of a research or care question.



Put AI to work across healthcare

Copilots and agents help bring intelligence into everyday work. Microsoft 365 Copilot helps employees draft, summarize, search, and collaborate in the apps they use every day. Copilot Studio helps organizations build custom agents for healthcare-specific workflows and information needs. Microsoft Foundry supports advanced AI applications and multi-agent patterns for more complex scenarios. Together, these options bring data, information, and systems into the flow of work so teams can act faster while maintaining transparency, accountability, and human oversight.

Built for responsible use in healthcare

Microsoft AI tools help organizations apply access controls, ground outputs in approved information sources, evaluate and monitor quality, and keep outputs reviewable and traceable. For healthcare scenarios, the human role must be explicit: AI should support work and decision-making. It should not replace professional medical judgment or autonomous clinical decision-making.

Trusted intelligence for agents

Microsoft IQ, a shared intelligence layer, helps agents and AI applications use organizational knowledge and business context. By understanding how people work, how information relates, and what matters across the organization, Microsoft IQ helps improve response relevance, coordination, and workflow consistency.

CareSource



Facing rapid growth and rising demand, CareSource partnered with Microsoft to scale operations and empower employees—delivering smarter, more compassionate care through AI and cloud innovation.

CareSource reduced documentation time by 75%, saved over $125,000 on automation, and boosted developer productivity by up to 30%—all through Microsoft-powered AI and cloud solutions.

Read the story

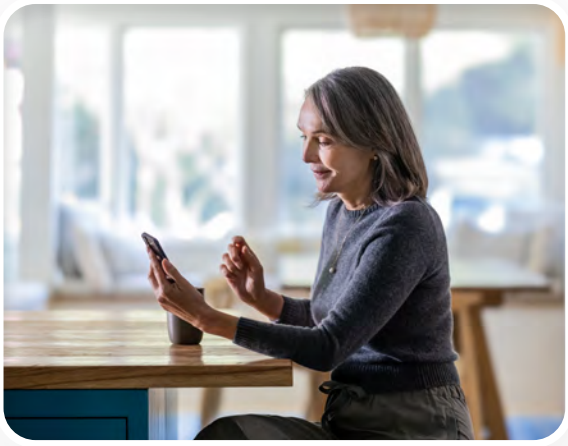
"For me, the most interesting part is how many people are benefiting from AI as we go on this journey. It's really a diverse set of people. Everyone from our call center agents to our technology experts to our analytics teams, who are trying to find trends and population data—the possibilities are endless."

– **Devon Valencia**, Chief Information Officer, CareSource

AI assistants and agents for everyday healthcare workflows



Give clinicians and care teams access to approved organizational information from organizational guidelines, medical protocols, and treatment resources.



Guide patients to relevant information, services, and next steps while reducing manual work for care teams and administrative staff.



Coordinate tasks, information, and approvals across systems and teams to help reduce operational friction.



Surface patients with similar clinical characteristics or imaging findings to support research, cohort discovery, and case review activities.

Scale the value of data and AI

AI in healthcare requires more than models alone. It requires data, healthcare intelligence, people, workflows, and governance working together. Microsoft brings these capabilities together on a connected platform that helps organizations scale AI across research, care delivery, operations, and business functions.

A roadmap to success

- Unify healthcare data so teams can analyze information at scale and prepare it for AI.
- Use healthcare AI models in Microsoft Foundry to build AI applications for specialized healthcare data.
- Apply Microsoft 365 Copilot to help employees work more effectively in the apps they use every day.
- Build custom agents with Copilot Studio to support healthcare-specific workflows and information needs.
- Scale with responsible governance through access controls, evaluation, monitoring, transparency, and human oversight.



Get started with these resources

1. Microsoft Fabric
2. Healthcare AI models in Microsoft Foundry
3. Microsoft Copilot Studio
4. Microsoft 365 Copilot
5. Microsoft IQ

Learn more | Proven success

PRHC Peterborough Regional Health Centre

[Peterborough Regional Health Centre turns fragmented data into trusted insight]

Apollo HOSPITALS

[Apollo Hospitals is revolutionizing healthcare efficiency with Microsoft Fabric]

"The involvement of Microsoft leadership gave us confidence that Fabric was the right platform. The commitment to security and the maturity of the platform made it clear we could trust it with our most sensitive data."

– **Dr. Madhu Sasidhar**, President and CEO, Apollo Hospitals

UNC HEALTH

[UNC Health modernizes data analytics for care, operations, and research with Fabric]

arcare

[ARcare expands care in rural communities with Microsoft Fabric Intelligent Data Platform]

"Fabric is helping us stay current and relevant. With all our data now easily accessible and quickly deliverable, Fabric is moving us forward to the next level."

– **Clark Osborne**, VP of Technology, ARcare

Virtua Health

[Virtua Health innovates to improve patient care using Copilot as the UI to AI with Azure]

CareSource

[Microsoft AI drives greater efficiency and a human touch in CareSource member experience]

AMGEN

[Accelerating drug development and optimizing business processes with Copilot Studio]

"As with all AI systems, the most important step for us was first having a carefully curated collection of information. Adding Copilot to that made our ever-growing body of knowledge instantly more accessible and is a key strategy in how we are advancing the way we learn in real-time."

– **Bryan Yee**, Executive Director of R&D Knowledge and Learning, Amgen

Learn more | Resources

i. Healthcare Data and AI Solutions | Microsoft for Healthcare

ii. Microsoft Industry Blog | Healthcare

Microsoft Learn

i. Microsoft Fabric

ii. Healthcare AI models in Microsoft Foundry - Microsoft Foundry | Microsoft Learn



Medical device disclaimer: Microsoft products and services (1) are not designed, intended or made available as a medical device, and (2) are not designed or intended to be a substitute for professional medical advice, diagnosis, treatment, or judgment and should not be used to replace or as a substitute for professional medical advice, diagnosis, treatment, or judgment. Customers/partners are responsible for ensuring solutions comply with applicable laws and regulations.

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