

Google Cloud Announces New Generative AI Advancements for Healthcare and Life Science Organizations

Updates to Vertex AI Search, Healthcare Data Engine, and MedLM bring Google innovations to Cloud customers and ultimately improve patient care

ORLANDO, Fla., March 12, 2024 /PRNewswire/ -- Today at [HIMSS24](#), Google Cloud announced several new solutions to help healthcare and life sciences organizations enable interoperability, build a better data foundation for their businesses, and deploy generative AI (gen AI) tools to improve patient outcomes.

Vertex AI Search: smarter search for healthcare data

Healthcare administrative costs were up by 30% in 2022, to reach \$60 billion annually ([CAQH](#)), physician burnout increased to 53% in 2022 ([Medscape](#)), and there is a shortage of more than 13 million nurses in the world ([World Health Organization](#), 2020). This presents a clear opportunity for healthcare providers, payers, electronic health records companies, and life science companies to build gen AI solutions that empower healthcare workers and other employees to work more efficiently and effectively.

Launched today, Google Cloud's Vertex AI Search for Healthcare helps developers build better assistive technology for clinicians and other health system workers to alleviate administrative burden. Specifically, it enables medically-tuned, gen AI search on a broad spectrum of data, including FHIR data and clinical notes. These search and question-answering capabilities now integrate with [MedLM](#), [Healthcare Data Engine](#) (HDE) and [Cloud Healthcare FHIR APIs](#), making it easier for healthcare and life science organizations to build the data analytics and AI solutions needed for next era health systems.

Key Vertex AI Search for Healthcare features include:

- **Medically-tuned search:** By enabling medically-tuned search on electronic health record (EHR) data, scanned documents, and other clinical data, healthcare applications can now surface the most relevant information to clinicians, and others engaged in the decision making and processing, without the need to click through hundreds of pages of notes or toggle between different screens and applications.
- **Configurable cloud APIs:** Healthcare application developers can integrate the medically-tuned search directly into the clinician workflow tools using configurable cloud APIs.
- **Question-answering:** Clinicians can now use the service to answer questions such as "Does the patient have a history of cancer?" which typically involves not only an understanding of medical terminology related to cancers but also understanding the nuances of language in medical notes and scanned documents.
- **Factuality:** Because the results are grounded in the healthcare organizations' real data, Vertex AI Search for Healthcare can also cite and link to the specific data points that generated the answers, providing transparency to users, increasing confidence in the responses, and helping reduce the risks of hallucinations or inaccurate responses.
- **Data platform integration:** Gen AI and search applications require high-quality data to ensure that the outputs of gen AI are useful. HDE provides automated tooling and components to build a unified high quality patient data platform quickly and easily. The out-of-the-box integration of Vertex AI Search with HDE enables search and summarization use cases without the need for custom integrations.
- **Deeper medical understanding:** While MedLM tools are expert in complex medical topics, Vertex AI Search for Healthcare delivers medically-tuned search capabilities grounded in the patient record. When combined, healthcare organizations can find the most relevant answers to complex medical questions both from MedLM, as well as within the patient's medical record. Select customers will have early access to Vertex AI Search for healthcare and life science integration with MedLM.

"Not all generative AI is created equal, and in healthcare, the stakes are particularly high," said Aashima Gupta, global director for Healthcare Strategy & Solutions, Google Cloud. "Healthcare organizations require enterprise-grade gen AI solutions, grounded in real data. Vertex AI Search for Healthcare is already making a difference for healthcare organizations by helping ensure clinicians have the right information and insights at the right time to inform decisions and improve the overall quality of patient care."

"At Highmark Health, we are constantly seeking ways to harness the power of data and technology to transform the healthcare ecosystem," said Richard Clarke, chief data and analytics officer, Highmark Health. "Google Cloud's Vertex AI Search integration with Healthcare Data Engine will enable us to provide even more personalized and proactive care to our members."

"MEDITECH is dedicated to providing healthcare organizations with innovative tools to improve patient outcomes and streamline clinician experiences," said MEDITECH Executive Vice President and Chief Operating Officer Helen Waters. "The

ability to quickly locate information within EHRs is a well-documented problem today. MEDITECH's vision to embed search within the Expanse workflows allows us to leverage Google Cloud's AI capabilities to ease this burden. We will continue to empower clinicians with cutting edge decision making tools and enable clinician efficiency."

Healthcare Data Engine: healthcare data platform for the AI era

To help healthcare organizations around the world build an interoperable high quality data platform, the foundation to take advantage of gen AI, Google Cloud today announced a new consumption-priced managed service of [Healthcare Data Engine](#) (HDE), and expanded availability internationally with new features. Key updates include:

- **Simplified management, and streamlined pricing:** Customers can now deploy HDE as a consumption priced, pay-as-you-go, managed service, which opens up the product to more healthcare organizations, helping them to deploy, build, and manage a near real-time healthcare data platform in the cloud.
- **Global Availability:** HDE will expand beyond North America, and [roll out globally](#) to most cloud regions in Europe and in the Asia Pacific.
- **Low-code graphical data mapping IDE:** By introducing HDE Data Mapper, a new low-code graphical integrated development environment (IDE), purpose-built by Google Research for healthcare, customers can easily transform their data to build high quality longitudinal patient records in FHIR format to power gen AI applications.
- **Foundation for AI and analytics solutions:** By integrating HDE with Vertex AI Search for Healthcare, clinicians can look across multiple systems and formats in one search, saving valuable time that can instead be focused on patient engagement and improving the overall patient experience. Integration with MedLM will allow customers to answer complex questions grounded in the patient's data.

"At HCA Healthcare, we're focused on integrating technology into solutions that will empower our clinicians to perform at the top of their license and deliver exceptional patient care," said Michael J. Schlosser, MD, MBA, FAANS, SVP, Care Transformation and Innovation, HCA Healthcare. "Google Cloud understands our commitment. Through our partnership and by deploying its Healthcare Data Engine, HCA Healthcare has the ability to harmonize data from disparate sources into a comprehensive longitudinal patient record, which is fundamental to our advanced analytics and Responsible AI initiatives."

"Oscar is focused on reorienting the healthcare system around the consumer," said Mario Schlosser, co-founder and Chief Technology Officer of Oscar Health. "Our end-to-end tech stack enables us to capture the emerging opportunities of new technologies – from machine learning to generative AI – to deliver seamless experiences for members. We continue to partner with forward-looking companies like Google Cloud to accelerate our efforts and drive the change we want to see in healthcare."

"Becoming the world's most trusted wellbeing company is a complex journey, and one of the most critical foundational elements is a strong data strategy," said Steve Fast, CIO, TELUS Health. "Google Cloud's Healthcare Data Engine, search and gen AI capabilities combined with our unmatched range of services and tools to support the total health and wellbeing of our global population, will help us streamline workflows at scale, unlock deeper insights from healthcare data, and ultimately drive better health outcomes for the nearly 70 million lives we serve worldwide."

MedLM and more: Google Research innovations coming to Google Cloud customers

Finally, [MedLM](#), a family of foundation models fine-tuned for healthcare industry use cases, will add two new capabilities for Google Cloud customers to explore and test. First, MedLM for Chest X-ray can help with classification of chest x-rays for operational, screening, and diagnostics use cases. It is a domain-specialized model, launched as an application programming interface (API) that converts chest x-ray images into embeddings. App developers and data scientists can use those embeddings along with ground truth labels to train a simple classification model in Vertex AI.

The second new capability is a task-specific API called Condition Summary that aims to provide a chronological list of patient conditions, along with AI-generated briefs about each condition, with citations from original text.

In the coming months, Google Cloud is planning to bring additional functionality to the MedLM suite to offer even more capabilities.

Google Cloud's customers retain control over their data. In healthcare settings, access and use of patient data is protected through the implementation of Google Cloud's reliable infrastructure and secure data storage that support HIPAA compliance, along with each customer's security, privacy controls, and processes.

For more information on these technology advancements for healthcare and life sciences, stop by the Google booth #2512 at [HIMSS24](#), and please contact your Google Cloud sales team to learn more.

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organizations transform. Customers in more than 200 countries and territories turn to Google Cloud as their trusted technology partner.

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