GE HealthCare Announces AI Innovation Lab Showcasing Five New Research Projects

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- Innovations include Health Companion research project powered by agentic AI
- Additional early innovations explore pressing care needs, including identifying new ways to detect breast cancer and improving quality of care for moms and babies

CHICAGO--(BUSINESS WIRE)--Oct. 21, 2024-- GE HealthCare (Nasdaq: GEHC) today announced a new AI Innovation Lab, an initiative designed to accelerate early-concept AI innovations within the company. These projects are one part of GE HealthCare's broader AI and digital strategy, which is focused on integrating AI into medical devices, building AI applications that enhance decision-making across the care journey and disease states, and using AI to support better outcomes and operational efficiencies system-wide. The company's investment in cloud technology underpins this strategy, providing the computing power to drive the development of AI at scale.

"The AI Innovation Lab lifts the curtain on the work we are undertaking at the vanguard of healthcare innovation. At GE HealthCare, we're not just developing technology—we're striving to break new ground by exploring novel ways that AI could enable healthcare. For example, through projects like Health Companion, we are evaluating ways to apply agentic AI in order to bring the clinical knowledge and problem-solving insights of a multi-disciplinary medical team to clinicians' fingertips and help them take action," said Dr. Taha Kass-Hout, GE HealthCare's Global Chief Science and Technology Officer. "The pioneering projects we're showcasing today are just some of the innovations we have underway, enabled by our AI and cloud computing capabilities. We will continue to gather feedback from our customers as we find ways to help them apply AI to their health data and convert information into actionable, care-enhancing strategies."

GE HealthCare's AI and cloud-related research and development efforts are focused on redefining the day-to-day experience of clinicians by creating new concepts to enhance the accuracy of diagnostics, reduce administrative burdens, and ensure that every patient receives the most informed, personalized care possible. Examples of these concept projects:

- **<u>Bringing the knowledge of a multi-disciplinary team to clinicians' fingertips with agentic AI</u>**: The Health Companion project explores whether an agentic AI approach driven by multiple agents, each an expert in a particular area (i.e., genomics, radiology, pathology, etc.), could help physicians streamline their clinical decision-making and deliver more personalized care. The project's vision is for these agents to collaborate and analyze multi-modal data in order to proactively generate treatment plan recommendations, continuously adapting based on new information. For example, GE HealthCare is exploring whether multi-agentic AI could understand the difference between an expected symptom as a function of treatment, and the same symptom as a signal of disease progression, such as cancer spread with the goal to alert the care team as appropriate with suggested next steps. Health Companion aims to provide the collaboration and discussion similar to a multi-disciplinary care team that is made up of specialized clinicians. This project is being built to incorporate safety and explainability principles.

- **<u>Using AI to better predict triple negative breast cancer recurrence</u>:** GE HealthCare is supporting the Winship Cancer Institute of Emory University on research focused on the early prediction of triple negative breast cancer recurrence. Triple negative breast cancer is the most aggressive breast cancer subtype, however, there is a shortage of tools to predict its recurrence. Today, as many as 50% of patients diagnosed with early-stage triple negative breast cancer (stages I to III) experience recurrence.[i] The goal of this research is to use deep learning to evaluate multi-modal data including genomics and pathology information to investigate if AI can better predict the likelihood of recurrence, and help the care team inform a treatment plan and monitoring schedule. This research is being funded by a grant from the National Institutes of Health (NIH Grant# 1R01CA281932-01A1). Dr. Sunil Badve from Emory University is the Principal Investigator (PI), and Dr. Soumya Ghose is the Co-PI from GE HealthCare for this project.

- **<u>Innovating solutions to enhance care for moms and babies</u>:** Preventable risks associated with childbirth are one of the most pressing health issues facing women today. GE HealthCare is working directly with health systems and their care teams to develop solutions that help address this challenge. For example, GE HealthCare is working on a care companion initiative that is investigating how generative AI could minimize the effort spent searching through data and seeking best practices. Powered by a large language model, this initiative intends to further explore how to make it easy for care teams to quickly find information about standard care protocols and clinical definitions and generate patient summarizations using historical and current multi-modal data for potential use in handoffs and care transitions.

- **<u>Researching multi-modal X-ray foundation model</u>**: GE HealthCare is working on a research project to create a full-body foundation model, built on a dataset of 1.2 million anonymized PHI-free X-ray images from diverse regions across the body. This model shows great potential, and is yielding promising early internal benchmark testing on key tasks including segmentation, classification, and visual localization. The project is also experimenting with having the model automate

medical report generation and interpret images into text to accelerate the workflow for radiologists, with the aim to help alleviate care teams' administrative burdens. The goal of GE HealthCare's research in this area is to provide practical value by reducing the cognitive burden to healthcare professionals seeking efficient and reliable tools for diagnostics. The model is being developed as a result of GE HealthCare's strategic collaboration with Amazon Web Services.

- **Helping radiologists scale mammography screenings:** Approximately 90% of screening mammograms in the U.S. are normal, yet there is no efficient way for radiologists to quickly separate the clearly normal scans from potentially suspicious ones.[ii] GE HealthCare is developing this cloud-based AI concept to explore how foundation models can help clinicians quickly identify normal breast screening exams, allowing radiologists to focus more of their time on suspicious cases. As countries grapple with a radiologist shortage, GE HealthCare aims to work with strategic and clinical collaborators to make advances in this space to help enhance accuracy, scale screenings, and improve access to this critical type of preventive care globally.

GE HealthCare is working on AI-enabled innovations that run the gamut in terms of maturity and market-readiness. For example, GE HealthCare has submitted a 510(k) with the U.S. Food and Drug Administration (FDA) requesting clearance of a new solution to address the needs of clinicians in providing care for moms and babies. This AI-powered fetal heart rate interpretation feature (FHR AI, FDA 510(k)-submitted)[iii] applies deep learning to waveform data to analyze fetal heart rate. This feature is designed to identify events such as accelerations and decelerations of fetal heart rates to help care teams quickly understand the baby's health, improving what is currently a highly manual and subjective task.

These projects showcase the groundbreaking work underway at GE HealthCare, a company that applies a 125-year legacy of innovation with the energy of a start-up as it works to help solve the healthcare industry's most pressing challenges. GE HealthCare has been investing in AI for years and has topped an FDA list of AI-enabled device authorizations for three years in a row with 80 authorizations.[iv]

To learn more about these projects, visit GE HealthCare in the AI Pavilion at booth #3816 at HLTH 2024 in Las Vegas, NV from October 20-23 or visit https://www.gehealthcare.com.

About GE HealthCare Technologies Inc.

GE HealthCare is a leading global medical technology, pharmaceutical diagnostics, and digital solutions innovator, dedicated to providing integrated solutions, services, and data analytics to make hospitals more efficient, clinicians more effective, therapies more precise, and patients healthier and happier. Serving patients and providers for more than 125 years, GE HealthCare is advancing personalized, connected, and compassionate care, while simplifying the patient's journey across the care pathway. Together our Imaging, Ultrasound, Patient Care Solutions, and Pharmaceutical Diagnostics businesses help improve patient care from diagnosis, to therapy, to monitoring. We are a $19.6 billion business with approximately 51,000 colleagues working to create a world where healthcare has no limits.

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[i] National Institutes of Health, "Early prediction of lethal phenotypes in triple negative breast cancer using multiscale, multi-modality platforms," https://reporter.nih.gov/project-details/10883284.

[ii] "Breast Cancer Screening (PDQ®)–Health Professional Version," March 28, 2024, https://www.cancer.gov/types/breast/hp/breast-screening-pdq.

[iii] The FHR AI 510(k) has been submitted to the FDA and is not currently available for sale in the United States.

[iv] U.S. Food and Drug Administration, "Artificial Intelligence and Machine Learning (AI/ML)-Enabled Medical Devices," August 7, 2024, https://www.fda.gov/medical-devices/software-medical-device-samd/artificial-intelligence-and-machine-learning-aiml-enabled-medical-devices.

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