

**CUSTOMER**

Stanford Health Care

**CHALLENGE**

Accelerate data ingestion for Healthcare AI assistant

**SOLUTION**

InterSystems IRIS for Health

**OUTCOME**

InterSystems IRIS for Health FHIR repository slashes query times from minutes to seconds

## Meeting Stringent Healthcare AI Performance Demands with FHIR

**Stanford Health Care**, one of the world's leading academic health systems, uses InterSystems IRIS® for Health in its ChatEHR application. ChatEHR allows their medical team to securely interact with patient records in plain language. InterSystems IRIS for Health's advanced HL7® FHIR®<sup>1</sup> repository accelerates the AI pipeline by consolidating diverse data, minimizing API calls, and reducing latency.

### The Challenge: Providing Real-Time Access to Complete Medical Records at Scale

ChatEHR is an innovative AI application that enables clinicians to ask about a patient's history, automatically summarize charts, and get real-time clinical and administrative support using plain language. It helps providers streamline patient encounters and make faster, better-informed decisions. To be fully effective, it must provide accurate, context-aware responses within seconds, leveraging hundreds of FHIR resources to inform each query. In high-pressure settings like the ER, even a brief delay in finding the right information can negatively impact outcomes. An unresponsive interface can impair care quality, frustrate users, and impede adoption. ChatEHR alleviates the burden on clinicians dealing with the complex, growing datasets available at the point of care.

Meeting these stringent performance requirements was no simple matter for the ChatEHR development team. The application was originally interrogating various data sources individually, issuing multiple API calls to get the information it needed. It was taking minutes or even hours to generate certain responses. Stanford's data science and integration teams needed to find a way to collect and examine massive volumes of disparate data—quickly and efficiently.

<sup>1</sup> Fast Healthcare Interoperability Resources (FHIR) is a modern, global standard for efficiently accessing electronic healthcare information in EHRs and other systems.

## The Solution: Unified FHIR Repository Streamlines Data Ingestion

The team pursued a FHIR repository approach to overcome its performance and scalability challenges, implementing a standards-based data management framework called AXIOM (Advanced Extraction for Intelligent Orchestration and Medical Insights) to speed up data flows and act as the foundation of Stanford's clinical AI development projects. AXIOM is built on InterSystems IRIS for Health, a cloud-first digital health development platform that provides all the building blocks needed to work with any healthcare data standard, including FHIR. Stanford Health Care has been using InterSystems products in various applications for over 15 years.

InterSystems IRIS for Health includes an extensible FHIR repository and comprehensive REST APIs for collecting, storing, updating, and exchanging patient data efficiently and securely. It minimizes API calls, reducing latency and overhead, slashing query times from minutes to seconds.

AXIOM creates a composite view of the patient by ingesting and unifying data from a variety of sources. It accelerates the AI pipeline, enabling swift analysis of vast datasets. The FHIR-based framework easily integrates with a wide range of healthcare IT applications and systems.

## The Results: Rapid Insights and Improved Productivity

With ChatEHR, clinicians spend less time sifting through data and more time focusing on what matters most—the patient. The AI assistant streamlines clinical workflows, surfaces critical information, and automates routine administrative tasks related to patient transfers and admissions. The InterSystems IRIS for Health FHIR repository eliminates performance impediments, providing near-instant access to fragmented patient data.

AXIOM lays a solid foundation for future innovations. In time, ChatEHR could expand beyond data summarization to suggest diagnoses, propose personalized treatment plans, or proactively flag early indicators of emerging health risks.

## For More Information

To learn how InterSystems can help your organization accelerate Healthcare AI pipelines, visit [intersystems.com](https://intersystems.com).

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