



HL7 and AI: Guidance in Architecting the Future of Healthcare

Introduction

Artificial intelligence (AI) increasingly reaches into every aspect of daily life and is transforming our world in remarkable ways. Healthcare is one area of exceptional progress. Health Level Seven International® (HL7®) is the global authority on healthcare interoperability and a critical driver in developing open standards that fuel digital health innovation. As such, our organization is providing foundational leadership in the AI space and convening public and private experts across the globe to gain a better understanding and consensus about the promises, complexities and challenges at the crossroads of standards, interoperability and AI. HL7 Fast Healthcare Interoperability Resources (FHIR®) and many other standards also provide the backbone and building blocks of emerging AI highways.

HL7 AI Expertise

As a Standards Development Organization (SDO) with deep and broad-ranging international and United States (U.S.) stakeholder members, HL7 has a front row seat to both promises and perils emerging with AI use in healthcare. And, we are addressing these issues, breaking new ground in AI. HL7 is a rich resource with:

- Leadership steeped in AI, including our CEO Rachel Dunscombe and dedicated Chief AI Officer Dr. Daniel Vreeman, DPT;
- Recent and relevant legacy HL7 AI Taskforce and Initiative work;
- AI policy activities, responses and convenings such as HL7 policy conference on healthcare interoperability, genomics and AI;
- Critical HL7 Work Group, FHIR Accelerator and International Affiliate-focused AI efforts; and
- World-leading and globally relevant expertise regarding standards that incorporate appropriate rules and usage of AI.

HL7 AI Leadership and Special Initiatives

HL7 dedicates notable resources to both inform and accelerate the adoption and use of AI. These efforts include:

HL7 Artificial Intelligence (AI) Office

HL7 has an AI Office focused on establishing foundational standards for safe, trustworthy and scalable AI in healthcare and convening the global community driving this transformation. The office keeps HL7 at the forefront of healthcare's AI revolution, creating frameworks that ensure emerging technologies are trusted, explainable, interoperable and scalable across clinical, operational and research settings worldwide. The HL7 AI Office also ensures that healthcare interoperability and AI have a productive and symbiotic relationship, maximizing the promise of interoperability for better care, while continuing and expanding healthcare efficiencies. These are significant. The Organization for Economic Co-operation and Development estimates that the value of enabling interoperable sharing of health data is between 2.70% to 6.64% of health system expenditure and may be as high as 17%.

HL7 serves as the trusted global convener for responsible, standards-driven AI innovation—ensuring these transformative technologies deliver on their promise to improve health for all. Leading this initiative, HL7 has appointed Daniel Vreeman, DPT, as its first Chief AI Officer (CAIO). A globally recognized biomedical informatics

expert, Dr. Vreeman expanded his role as Chief Standards Development Officer to drive HL7's comprehensive AI strategy, including the HL7 AI Challenge, anti-fraud initiatives, and collaborations with regulators and industry partners globally. In our newest AI partnership, HL7 has become a founding member of the Vigilant AI Monitoring and Operations System (VAMOS) Collaborative, a consortium of leading academic medical centers and industry partners focused on AI governance and algorithm vigilance through open standards and platforms.

HL7 AI Office Workstreams

Four strategic pillars and distinct workstreams guide the HL7 AI Office in achieving transformative impact. These include:

Standards

Building the AI-ready interoperability stack for safe, explainable AI with provenance capabilities that advance human health.

Global Leadership & Partnerships

Convening the worldwide AI+health community to align standards, shape policy and accelerate responsible innovation.

AI Innovation Lab

Incubating AI solutions to enhance member experiences, accelerate standards development and pioneer new ways of working.

Community Excellence

Empowering implementers with tools and best practices for responsible, standards-powered AI deployment.

HL7 FHIR and AI

In January 2026, HL7 conducted the first ballot of a new specification: the [AI Transparency on FHIR Implementation Guide](#). This specification will provide crucial implementation guidance for the key aspects of documenting when FHIR resources have been created, updated, or influenced by AI. This type of data-level transparency – the practice of openly disclosing how AI systems work, including their data sources, logic and decision-making processes – is essential for establishing trustworthy AI systems.

HL7 is actively engineering FHIR to be AI-ready. Because FHIR is published under a Creative Commons Zero (CC0) public domain dedication and extensively documented on the open web, it is already deeply embedded in the training data of leading large language models — and AI toolmakers are building on that foundation, including Anthropic's Claude "Agent Skill" for FHIR app development. To accelerate machine consumption further, HL7 now publishes LLM-optimized Markdown "AI package" bundles of its specifications (e.g., <https://hl7.org/fhir/us/core/ai.zip>). In addition, FHIR's widely used, open-source reference implementations are further enabling AI-powered innovation. For example, HAPI FHIR's JPA Server Starter now ships with a built-in Model Context Protocol (MCP) server, letting AI agents interact directly with FHIR APIs.

HL7 AI Taskforce

Previously, HL7 convened a dedicated AI Initiative and Taskforce. We worked in collaboration with multiple partners – in both the public and private sectors – to develop white papers and guidance to ensure the reliability, safety and security of AI. HL7 is happy to share important lessons learned in these efforts. A May 2025 report specific to AI, healthcare, payment integrity and fraud can be found at: <https://info.hl7.org/ai-report>

HL7 Work Groups, Accelerators and Other Efforts

HL7 Work Groups, FHIR Accelerators, International Affiliates and special initiatives are conducting cutting-edge healthcare, interoperability and standards work related to AI. Examples of cross-cutting topics these groups address with direct relevance for AI use cases include: global and cross-border issues, data quality, provenance, consent, metadata labels and integrating external decision support applications into clinical workflows. For example, at HL7 FHIR Connectathons this year we've been developing and testing approaches to AI transparency through detailed provenance tracking, AI-enabled clinical trial eligibility, agentic AI in clinical decision support workflows, and more.

HL7 executive and policy leaders can facilitate structured, focused dialogue with these HL7 groups that have practical and field-leading expertise. Full listings for our HL7 Work Groups, FHIR Accelerators, International Council and information on our Policy Advisory Committee can be accessed at:

<http://www.hl7.org/Special/committees/index.cfm?ref=nav>

<https://www.hl7.org/about/fhir-accelerator/>

<https://www.hl7.org/Special/committees/international/index.cfm>

<https://confluence.hl7.org/spaces/PAC/pages/76159333/Policy+Advisory+Committee+Home>

An expanding list of specific HL7 Work Group, FHIR Accelerator and International Affiliate AI Initiatives can be found at:

<https://confluence.hl7.org/spaces/HAA/pages/248873447/Work+Group+AI+Activity>

HL7 AI Policy Responses and Key Points

HL7 is responsive in the global and U.S. policy environment, to calls for input on emerging healthcare issues such as AI. Recent HL7 AI policy letters can be found at:

[HHS Health Sector AI RFI]

<https://www.hl7.org/documentcenter/public/newsroom/HL7%20HHS%20Health%20Sector%20AI%20RFI%20Response%20Final.pdf>

[Request for Information (RFI) on the Development of an Artificial Intelligence (AI) Action Plan]

<https://www.hl7.org/documentcenter/public/newsroom/HL7%20AI%20Plan%20RFI%20Comments%203.14.25%20FINAL.pdf>

Key to HL7 AI policy recommendations is that governments should adopt voluntary consensus healthcare standards broadly in regulatory and sub-regulatory policies that govern the use of AI. This includes standards for creating, deploying, operating, measuring, reporting and ensuring the needed transparency, safety and privacy in use of AI. Adopting voluntary consensus standards that comply with the World Trade Organization's Agreement on Technical Barriers to Trade, such as American National Standards Institute (ANSI)-accredited American National Standards, is the optimal way for regulation to support the competitiveness of United States innovation in AI. The most qualified and effective organizations to develop AI standards are those that are broad-based, market-driven, and have a proven and trusted governance as demonstrated by ANSI accreditation. HL7 meets those criteria, and is immediately ready and willing to provide necessary and critical AI leadership in healthcare. As emphasized above, HL7 has flagship AI initiatives underway and is leading dialogue and progress on the four key objectives in ANSI's *The United States Standards Strategy 2025* as they relate to AI which are to:

1. Strengthen U.S. commitment to international standards by leading strategic collaboration and defending against geopolitical manipulation;

2. Demonstrate standards' broad value by expanding education about how standards drive innovation, safety and market access;
3. Make standards development more efficient by embracing process innovation and training the next generation of standards leaders; and
4. Address opportunities and challenges head-on through active participation in developing emerging technology standards and sustained investment in the standards ecosystem.

HL7 also notes that the need for AI transparency is paramount because clinical care operates in a high-stakes, regulated, trust-dependent environment where opaque decision-making can directly affect patient safety, equity and legal accountability.

Lastly – in the U.S. context – HL7 supports federal preemption of conflicting state laws to prevent undue burden and ensure consistent application and regulation of AI. When states impose conflicting standards, measures and other requirements, significant burdens can prevent achieving the potential benefits of AI.

Why Invest in HL7's AI Office and Initiatives?

HL7's open, consensus-based standards serve as the essential digital foundation that enables appropriate stakeholders to securely access, analyze and derive insights from healthcare data, accelerating the development of AI-powered solutions that can dramatically improve patient outcomes while reducing costs across the healthcare ecosystem. By supporting HL7 AI initiatives, governments, the private sector, global health leaders and others can unlock unprecedented market-driven innovation through ensuring standardized, interoperable health data exchange that allows new entrants and established players to compete based on the value they deliver, rather than being blocked by proprietary data silos. A strategic investment in HL7 and its standards will catalyze a new wave of healthcare entrepreneurship, enabling data-driven and AI-backed solutions to flourish in a competitive marketplace that rewards improved health outcomes, ultimately making healthcare more accessible, efficient and effective.

In addition, HL7's reach and impact are truly international and our expertise expansive. Our AI workstreams of: (1) standards; (2) global leadership and partnerships; (3) the AI Innovation Lab; and (4) implementer empowerment, highlight important signposts, innovations and collaborations in AI.

Contacts

Should you have any questions about HL7's AI efforts, please contact Daniel Vreeman, DPT, HL7's Chief AI Officer (CAIO) at Dan@hl7.org; Rachel Dunscombe, HL7's Chief Executive at ceo@HL7.org and/or Ticia Gerber, HL7's Global Director of Partnerships and Policy at tgerberg@hl7.org. We look forward to offering our assistance on the topic of artificial intelligence that is critical to the future of healthcare.