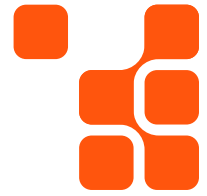


Cloudera for Precision Healthcare

Unlock real-time insights in the public sector to improve patient outcomes



Every minute matters in public health. From detecting outbreaks to preventing suicide, healthcare leaders need real-time insights to act quickly. Yet most healthcare organizations are still constrained by fragmented systems. Millions of Health Level Seven (HL7) messages, electronic health records (EHR), clinical notes, and claims datasets flow through disconnected platforms every day, delaying care and limiting visibility into patient outcomes.

Legacy healthcare IT systems create four core barriers to timely, data-informed care:

- Fragmented data sources: HL7 messages, EHR platforms, lab systems, and claims databases operate in isolation
- Delayed interventions: Manual reconciliation slows response to critical conditions
- Limited visibility: Organizations struggle to spot emerging disease trends and at-risk patients
- Compliance complexity: HIPAA and FedRAMP requirements make data sharing and analytics challenging

Without unified data pipelines, healthcare agencies and organizations miss opportunities for early intervention that could prevent medical crises and save lives.

Transforming Healthcare Data into Life-Saving Insights

Bring AI to your data anywhere your data lives: clouds, data centers, and at the edge. Cloudera's platform for data and AI enables healthcare organizations to modernize securely while serving patients at scale. Our FedRAMP Moderate and GovRAMP Moderate authorizations and TX-RAMP-certified solution processes millions of patient records as they arrive, enabling predictive analytics and AI-driven care recommendations.

Continuous HL7 and EHR Data Processing. Cloudera Data Flow (NiFi) ingests and routes HL7 messages instantly, enabling:

- Automatic parsing of complex medical data formats.
- Real-time alerts for critical lab values, such as glucose levels below 60 mg/dL.
- Seamless integration with existing Epic, Optum, and legacy systems.
- Lossless data transformation from raw HL7 to structured JSON.

AI-Driven Insights and Predictive Analytics. Our open data lakehouse enables healthcare organizations to achieve outcomes like:

- Identify prediabetes risk earlier using SNOMED-coded records.
- Assess suicide risk more effectively through the deployment of machine learning models.
- Surface population health trends through advanced analytics.
- Summarize physician notes, provide conversational access to health records, and support clinicians with copilot-style assistants by applying generative AI.

At a Glance

Public health agencies need real-time data to act quickly and improve outcomes.

Cloudera's platform is FedRAMP Moderate, GovRAMP Moderate, and certified TX-RAMP Level 2. It unifies HL7, EHR, IoT, and clinical data into secure, real-time pipelines ready for predictive and generative AI.

With Cloudera, healthcare organizations can spot at-risk patients earlier, act faster with AI-driven insights, stay HIPAA compliant, and scale toward precision medicine.

Scalable Data Architecture. Meet your mission and keep improving patient outcomes with architecture that lets organizations:

- Process continuously evolving patient data points each day.
- Store and query years of patient records using Apache Iceberg.
- Search millions of clinical notes instantly with Apache Solr.
- Scale from thousands to millions of patient records seamlessly.
- Capture continuous data streams from the Internet of Things (IoT) and edge data so information from wearables, remote monitoring devices, and telehealth systems all help power real-time population health insights.

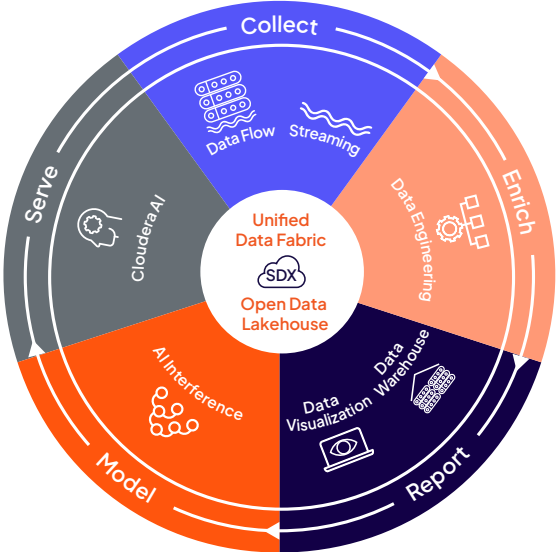


FIGURE 1: Cloudera Government Solutions enables real-time data ingestion, AI enrichment, and secure analytics—whether in clouds, on-premises, or at the edge.

Delivering Measurable Healthcare Outcomes

Better Patient Outcomes

- 60% faster pathogen behavior insights for disease surveillance
- Immediate clinical triage through automated HL7 message routing and alerts
- Predictive risk scoring identifies high-risk patients before crises occur, reducing hospital readmissions by up to 15%
- AI-enhanced decision support provides physicians with evidence-based recommendations, cutting diagnosis time by 30%
- Faster outbreak reporting reduces public health response times from weeks to days
- Data consolidation lowers duplicate testing costs by millions annually across large healthcare networks

Operational Efficiency

- Eliminate manual data reconciliation across disconnected healthcare systems
- Reduce administrative burden on clinical staff with automated report generation
- Streamline population health monitoring with unified dashboards and search capabilities
- Consolidate multiple data platforms into one secure environment, reducing IT complexity

Compliance and Trust

- FedRAMP Moderate authorized status ensures federal security standards compliance
- Built-in HIPAA compliance with comprehensive audit trails and data lineage
- GovRAMP Moderate authorized and TX-RAMP certified for state and local government healthcare initiatives
- End-to-end governance maintains data privacy while enabling analytics

Long-Term Innovation

- FedRAMP, GovRAMP, and TX-RAMP compliance for cloud and FIPS 140 configurability for cloud, on-premises and edge environments
- Open standards integration prevents vendor lock-in while maximizing existing investments
- AI/ML-ready infrastructure enables advanced analytics and generative AI applications
- Scalable foundation supports future healthcare technology evolution

Proven Results from Public Sector Healthcare Leaders

Healthcare leaders worldwide across public health, clinical care, and life sciences rely on Cloudera to deliver measurable results:

Public Health

A leading federal health agency has leveraged Cloudera to cut pathogen analysis times by 60%, dramatically accelerating outbreak response capabilities. Another major health organization uses the platform to support population health initiatives, improving outcomes across millions of patients. Federal health agencies have also deployed Cloudera to identify suicide risks earlier by combining EHR and behavioral data, enabling doctors to intervene before crises occur. They are also using Cloudera to process genomics data in real time, enabling faster detection of emerging pathogens and strengthening public health preparedness.

Clinical Providers

A major healthcare technology provider uses Cloudera to unify massive volumes of health data, delivering faster insights while ensuring compliance across their network. Leading academic medical centers have implemented Cloudera to power advanced clinical analytics, with one prominent university medical center processing more than 1,300 HL7 data points daily.

Life Sciences and Pharma

Global life sciences organizations rely on Cloudera to process research data at scale, driving faster research and development cycles. Major pharmaceutical companies have adopted the platform to accelerate drug discovery and innovation through secure, scalable analytics.

These are just a few of the ways public sector leaders are using Cloudera. [Explore more success stories](#) across healthcare organizations.

Transform Healthcare Data into Life-Saving Action

Public sector healthcare organizations are partnering with Cloudera to transform fragmented patient data into real-time insights that save lives and improve outcomes. They're building the foundation for precision medicine by applying predictive and generative AI to unlock insights from existing data while upholding the highest security, governance, and compliance standards.

Discover how Cloudera helps healthcare organizations improve outcomes.
Contact us to learn more: cloudera.com/publicsector



GovRAMP



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Cloudera is the only data and AI platform company that large organizations trust to bring AI to their data anywhere it lives. Unlike other providers, Cloudera delivers a consistent cloud experience that converges public clouds, data centers, and the edge, leveraging a proven open-source foundation. As the pioneer in big data, Cloudera empowers the public sector to apply AI and assert control over 100% of their data, in all forms, delivering unified security, governance, and real-time predictive insights. Over 200 top global government agencies rely on Cloudera to transform decision-making and ultimately boost bottom lines, safeguard against threats, and save lives.

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