

# HEALTHCARE ANALYTICS

## MetiStream & Cloudera

A comprehensive and interactive analytic platform for machine learning to drive improved patient outcomes and better genomic analysis

### Industry

Healthcare & Life Science

### Website

www.metistream.com

### Company and Product Overview

MetiStream specializes in making big data and analytic solutions faster and more accessible. Located in the Washington DC area and founded by healthcare industry experts, we offer a product called Ember, an intuitive and interactive healthcare analytics platform that delivers AI and machine learning capabilities.

MetiStream's Ember platform provides out-of-the-box advanced analytics capabilities to eliminate over 50-60% of costly ETL and data integration activities, build robust healthcare analytic models, and allow institutions to operationalize those models in days vs. months.

### Solution Highlights

- \_ Ingest and process variety of healthcare datasets including omics
- \_ FHIR-enabled to ease healthcare data interoperability and application development
- \_ Model-driven interactive user interface to enhance collaboration
- \_ Robust analytic model repository and execution engine to accelerate operationalization of analytics

### Benefits

- \_ Automate the process of extracting, processing and analyzing unstructured clinical notes within the EHR in batch or real-time.
- \_ Use patient EHR and genomic data to change patient behaviors with tools that demonstrate risk
- \_ Decrease time and cost of analytic deployments by over 60%
- \_ Ingest, process, conduct Quality Control, and apply advanced analytics such as Machine Learning (ML) against massive volumes of genomics data

### Industry Overview

Healthcare organizations struggle to access data and build meaningful interactive analytics that can be shared with data analysts, patients, clinicians and staff in real-time. Given the availability of big data in healthcare, organizations are focusing on how they can use data insight to improve both individual patient outcomes and positively impact population health at-large. However, factors such as the lack of skilled data analysts can limit the adoption of healthcare solutions. Healthcare payers and providers must seek cost-effective open-source solutions because many current high cost solutions, along with operational gaps between payers and providers, could limit the growth and success of this market.

### Product Overview

MetiStream's healthcare analytics solution is called Ember - named after the marriage of FHIR (Fast Healthcare Interoperability Resource) and Spark. The solution empowers clinicians, researchers, analysts and data scientists to build their own analytics and insight and share those insights interactively with patients, administrators and staff. Ember extends the next generation healthcare interoperability standard called FHIR to standardize healthcare data and accelerate predictions around patient risks while improving healthcare operations. Furthermore, Ember enables better patient and physician engagement and collaboration.

### Healthcare Analytics Solution

The solution empowers healthcare and life sciences organizations to leverage machine learning to gain insight from massive volumes of unstructured healthcare and biological data, delivering success with multiple use cases. By combining machine learning and analytics from Cloudera Enterprise and Cloudera Data Science Workbench, with the MetiStream Ember platform's ability to ingest and build models on everything from clinical notes to genomic data, healthcare organizations can cost effectively enhance genomic research and accelerate time to patient insight.



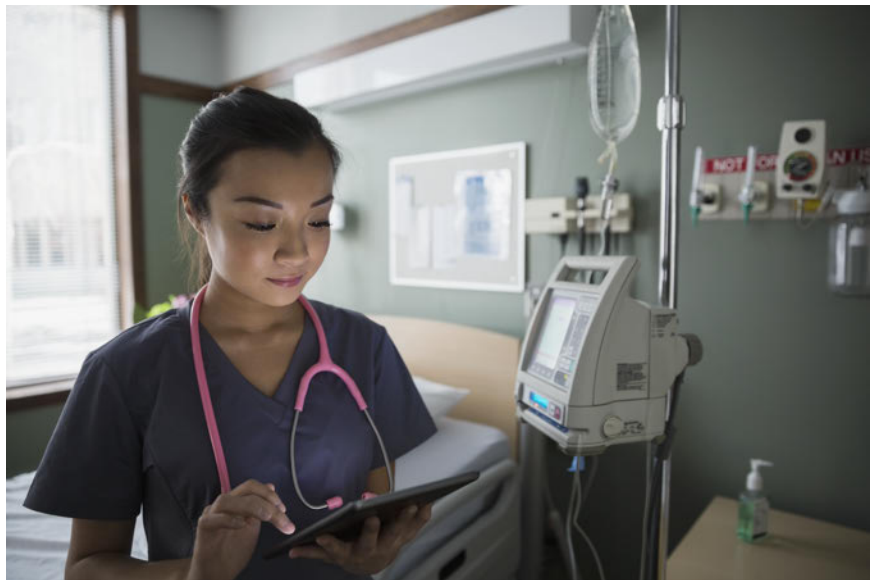
### Enhancing Patient Care

Healthcare organizations must access and process many complex and multi-structured data sets to be more prescriptive and proactive with patient care, and to more accurately report codes that impact financials and regulatory compliance. With comprehensive information that is now easier and faster to access, providers can share disease risk and prevention techniques with patients at the time of care instead of days or weeks later.

### Clinical Notes

By leveraging the scalable, massively parallel, in-memory power of Apache Spark, Cloudera and MetiStream support the end-to-end process of extracting, processing, storing and analyzing clinical text data in a fraction of the time this once-manual job required.

With the new solution, healthcare providers can now leverage NLP to discern clinical terms and then normalize these terms to well-known ontology codes, most notably UMLS CUI, Snomed-CT, and RxNorm. The result is a solution that allows healthcare organizations to flexibly search their entire notes history for any text, phrase, term, acronym, or code and return the date and time stamp along with other patient information within milliseconds. Coupled with open source Apache Spark, the now annotated clinical data can be used to train a model in Cloudera Data Science Workbench and develop risk predictions, allowing organizations to capitalize on machine learning and AI.



#### About Cloudera

At Cloudera, we believe that data can make what is impossible today, possible tomorrow. We empower people to transform complex data into clear and actionable insights. We are the leading platform provider for machine learning, analytics and data management built for the cloud. The world's largest enterprises trust Cloudera to help solve their most challenging business problems.

[Learn more at cloudera.com](https://www.cloudera.com)