

AWS HealthLake

Enhance patient care with AWS HealthLake, advanced analytics & artificial intelligence

AWS HealthLake is a HIPAA-eligible service enabling healthcare and life sciences (HCLS) companies to securely store and transform their data into a consistent and queryable fashion. Through using HealthLake's APIs, HCLS companies can easily ingest health data from on-premises systems to a secure data lake in the cloud, and analyze it at petabyte scale. AWS HealthLake uses machine learning (ML) models to automatically understand and extract meaningful medical information from the raw data, such as medications, procedures, and diagnoses, then organizes, indexes and stores it in the Fast Healthcare Interoperability Resources (FHIR) industry standard format to provide a complete view of each patient's medical history.

Caylent's data engineering experts will build a HIPAA-eligible data lake and partner with your team to use this environment for Exploratory Data Analysis (EDA). You will be taught to quickly and easily ingest health data and to use the FHIR REST API to access and transform your data into a meaningful format.

Key Activities

Discover & Planning

Through a HealthLake enablement workshop and discovery session, we'll discuss your data lake foundation and data exploration needs, then capture your requirements on data import, access patterns and governance

Design & Implementation

Based on your requirements, we'll design, deploy and configure AWS HealthLake. Set up a FHIR data store, enable data storage and user security. Store and tag data; transform data through structuring data and NLP extraction

Enablement

We'll conduct an EDA lab to provide hands-on experience performing CRUD and search operations via API, queries via SQL in Athena as well as data analysis with QuickSight, Amazon Transcribe and Amazon Comprehend

Engagement Details

Highlights

- Deploy FHIR APIs to help you build interoperability applications that conform to ONC and CMS patient access rules
- Gain hands-on experience with audio transcriptions through Amazon Transcribe Medical and interpret medical notes with Amazon Comprehend Medical
- Enable building ML models with Amazon SageMaker around predicting chronic or acute disease and build ML-enabled cognitive search applications

Deliverables

- AWS HealthLake educational workshop and requirements documentation
- Architecture diagram of HealthLake and data workflow designs
- HealthLake deployed in your environment with data sources ingested into a FHIR data store
- EDA enablement lab on data exploration and advance analysis of medical information
- All diagrams and documentation developed during the engagement including source code, scripts, templates, etc