



Case Study

Enhanced data leads to improved care:

Hospital adopts AWS Data Lake capabilities



Client: Healthcare institution

A leading healthcare institution in Ontario is one of the largest and busiest community hospitals in the province with nearly 600 beds, 3,500 staff, and more than 600 physicians, dentists, midwives, and nurse practitioners. Serving the central region and surrounding areas, it operates multiple main campuses for acute care and rehabilitation, offering specialized programs in oncology, mental health, renal care, and pediatrics.

 Challenge	 CBTS solution	 Results
• The large primary care hospital was looking for a way to eliminate legacy healthcare infrastructure while maintaining and enhancing access to the historical data.	• CBTS assessment analysis identified and recommended the use of a modern data lake in AWS that would provide the client with both archival storage and efficient access to the data from a variety of data sources.	• CBTS implemented the data lake environment through a structured four-phase approach that follows the highest of security and data protection standards at all times.
• The client needed to integrate critical data from multiple departments to facilitate better decision-making, improve patient care, and ensure compliance with regulatory requirements.	• CBTS engineers and architects designed a secure AWS Landing Zone to ensure a solid foundation, followed by developing the data lake infrastructure and creating data pipelines, then modeling the data. Finally, they developed the analytics environment using AWS Redshift and Tableau, enabling an intuitive user interface for data analysis for ease of client use.	• This AWS Data Lake solution significantly enhanced the client's ability to access and utilize historical data, allowing for improved patient care. By streamlining data storage and retrieval, the data lake will facilitate better decision-making, more efficient operations, and a higher standard of healthcare services while realizing better business outcomes.

Challenge

The hospital sought to replace its outdated healthcare infrastructure while preserving and improving access to historical data. A professional services assessment identified that implementing a modern data lake in AWS would offer both archival storage and efficient access to data from various sources. By adopting this advanced cloud-enabled solution, the hospital planned to streamline its data management processes, reduce costs associated with maintaining legacy systems, and enhance data retrieval speed and accuracy.

The transition to an AWS cloud-based data lake would also enable the hospital to integrate data from multiple departments, facilitating better decision-making, improving patient care, and ensuring compliance with regulatory requirements. Additionally, the scalable nature of the AWS Data Lake would allow the hospital to accommodate future data growth and adapt to evolving technological advancements, ensuring long-term sustainability and operational efficiency.

CBTS solution

CBTS implemented the AWS data lake environment through a structured four-phase approach. Initially, CBTS engineers and architects set up a secure Landing Zone to ensure a solid foundation. Next, the data lake infrastructure was developed, followed by creating data pipelines and modeling the data. Thirdly, the data model and automated data ingestion processes were established. Finally, they developed the analytics environment using AWS Redshift and Tableau, enabling an intuitive user interface for data analysis for ease of client use.

Results

This AWS Data Lake solution through CBTS significantly enhanced the client's ability to access and utilize historical data, allowing for improved patient care. By streamlining data storage and retrieval, the data lake will facilitate better decision-making, more efficient operations, and a higher standard of healthcare services. This advancement will enable healthcare professionals to analyze comprehensive patient histories quickly, identify trends, and make informed decisions that enhance treatment outcomes and overall patient well-being.