

# Databricks Unity Catalog Implementation for a Secure Enterprise Data Warehouse

## Challenge

A leading healthcare organization needed a modern enterprise data warehouse (EDW) capable of managing the increasing volume and complexity of data across patient records, insurance claims, and other mission-critical systems. Their existing setup relied on siloed systems and lacked centralized governance.

Although Databricks was already in use for ETL workflows, there was no unified way to manage access, track data lineage, or enforce security. Multiple data sources such as Access databases and Pentaho jobs fed into the environment, creating inefficiencies and compliance risks.

To address these challenges, the organization partnered with INSPYR Solutions to implement Databricks Unity Catalog as the foundation for secure, governed, and scalable data management.

## Solution

INSPYR Solutions' Data & Analytics team, featuring data architecture expertise with a specialization in healthcare settings, designed and executed a phased roadmap aligned with the Medallion architecture (bronze, raw data; silver, cleaned; and gold, ready-for-insights).

Key Steps Included:

- **Assessment of Current Environment**
  - Reviewed Databricks notebooks, pipelines, and Pentaho jobs for migration.
  - Mapped Access database ingestions for Unity Catalog integration.
  - Identified quick wins such as parameterization of claims data workflows.

The clinical and administrative teams now have faster, more reliable access to critical information.

- **Environment Preparation & Governance Foundations**

- Configured Azure resource groups with IAM permissions for Databricks workspaces.
- Standardized deployments to streamline dev-to-prod transitions.
- Defined catalogs, schemas, and tags within Unity Catalog to protect PHI data.

- **Cost Optimization**

- Built a monitoring dashboard to track Databricks cluster usage and Unity storage.
- Detected over-provisioned resources early, reducing development costs by approximately 20%.
- Leveraged fine-grained governance to eliminate wasteful query scans.

- **Implementation & Knowledge Transfer**

- Converted Pentaho jobs to Databricks notebooks under Unity Catalog governance.
- Ingested healthcare data into the Azure Data Lake for analytics readiness.
- Delivered Power BI dashboards with real-time insights, staged via SQL pools.

## Outcome

INSPIR Solutions delivered a robust, secure, and properly governed EDW that now enables the healthcare organization to generate real-time insights at scale. Unity Catalog now serves as the centralized governance hub, managing access controls, tracking data lineage, and ensuring secure data sharing across the enterprise. In addition, the clinical and administrative teams have faster, more reliable access to critical information, empowering them to make better decisions and enhance patient care.

## Client Profile

A physician-led healthcare organization that partners with hospitals, health systems, and other types of facilities to deliver specialized clinical services. Patients, hospitals, and providers rely on the organization's trusted expertise to deliver exceptional care every day.

## Technologies Supported

Azure Data Factory, Azure Data Lake, Databricks (with Unity Catalog), Power BI

## About INSPIR Solutions

Technology is our focus and quality is our commitment. As a leading expert in delivering flexible technology and talent solutions, we strategically align industry and technical expertise with our clients' business objectives and cultural needs. Our tailored offerings include a wide variety of professional services, project solutions, managed services, and talent resources, all bolstered by our strategic partnerships with cutting-edge technology services. By always striving for excellence and focusing on the human aspect of our business, we work seamlessly with our talent and clients to match the right solutions to the right opportunities. Learn more about us at [www.inspyrsolutions.com](http://www.inspyrsolutions.com).