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Turning Fragmented Healthcare Data into a Trusted Member 360 using Databricks

Standardizing provider and practitioner data using Databricks and Brillio's ADAM to enable reliable, FHIR-aligned insights

For a Fortune 25 healthcare payer, data sat at the heart of everything, from provider engagement to care insights and operational decision-making. Yet the organization struggled to see a complete, reliable picture of its members. Provider and practitioner data arrived from multiple sources, in multiple formats, and rarely told a consistent story. Before analytics could begin, teams were forced into manual cleansing, reconciliation, and relationship mapping, slowing insights and eroding confidence in the data itself.

What the organization needed was not just another data platform, but a trusted, end-to-end Member 360 foundation, one that could standardize data at scale, preserve traceability, and accelerate insights without sacrificing governance.

Rebuilding the Data Foundation for Insight at Scale

Brillio partnered with the client to re-architect their data ecosystem using Databricks native components, anchored by Brillio ADAM. The objective was ambitious: ingest fragmented provider and practitioner data, transform it into standardized, FHIR-aligned models, and automate the processes that had historically required heavy manual intervention.

The solution began by rethinking ingestion. Data from health networks, provider systems, shared drives, and enrichment sources was automatically ingested into Databricks, eliminating manual uploads and inconsistent handling. From there, Brillio implemented a Medallion architecture built on Delta Live Tables, creating a structured progression from raw data to analytics-ready insights.

From Raw Inputs to FHIR-Ready Intelligence

In the Bronze layer, raw data was captured and validated for structure and schema consistency. As data flowed into the Silver layer, it was transformed into FHIR-compliant models, enriched, and standardized into reusable templates. This is where ADAM played a critical role, embedding intelligence directly into the pipeline.

Using ADAM's configurable Data Quality framework, Brillio implemented 43 business and quality validation rules to continuously assess data accuracy, completeness, and reliability. Issues were identified and flagged in real time, ensuring that only trusted data moved forward. Every transformation was traceable, creating a clear lineage across layers and enabling repeatability at scale.

ADAM is Brillio's composable and extensible agentic platform, designed to help enterprises adopt, scale, and govern AI with confidence. Tech- and tool-agnostic by design, ADAM combines a structured strategy toolkit with a robust platform foundation, accelerating the design, deployment, and scaling of agentic solutions across complex business environments.

Making Relationships Visible with Graph-Based Member 360

To truly enable a Member 360 view, the client needed more than clean data – they needed clarity around relationships. Brillio integrated a graph database (Neo4j) to model and visualize connections between members, providers, and practitioners. This allowed healthcare relationships to be explored dynamically, unlocking insights that traditional relational models struggled to surface.

Clean, enriched data from the Silver layer was aggregated into the Gold layer, where Delta tables and materialized views supported analytics, reporting, and downstream consumption. Streaming pipelines ensured data moved seamlessly across layers, reducing latency and enabling faster access to insights.

AI in Data Engineering – Architecture powered by Brillio ADAM
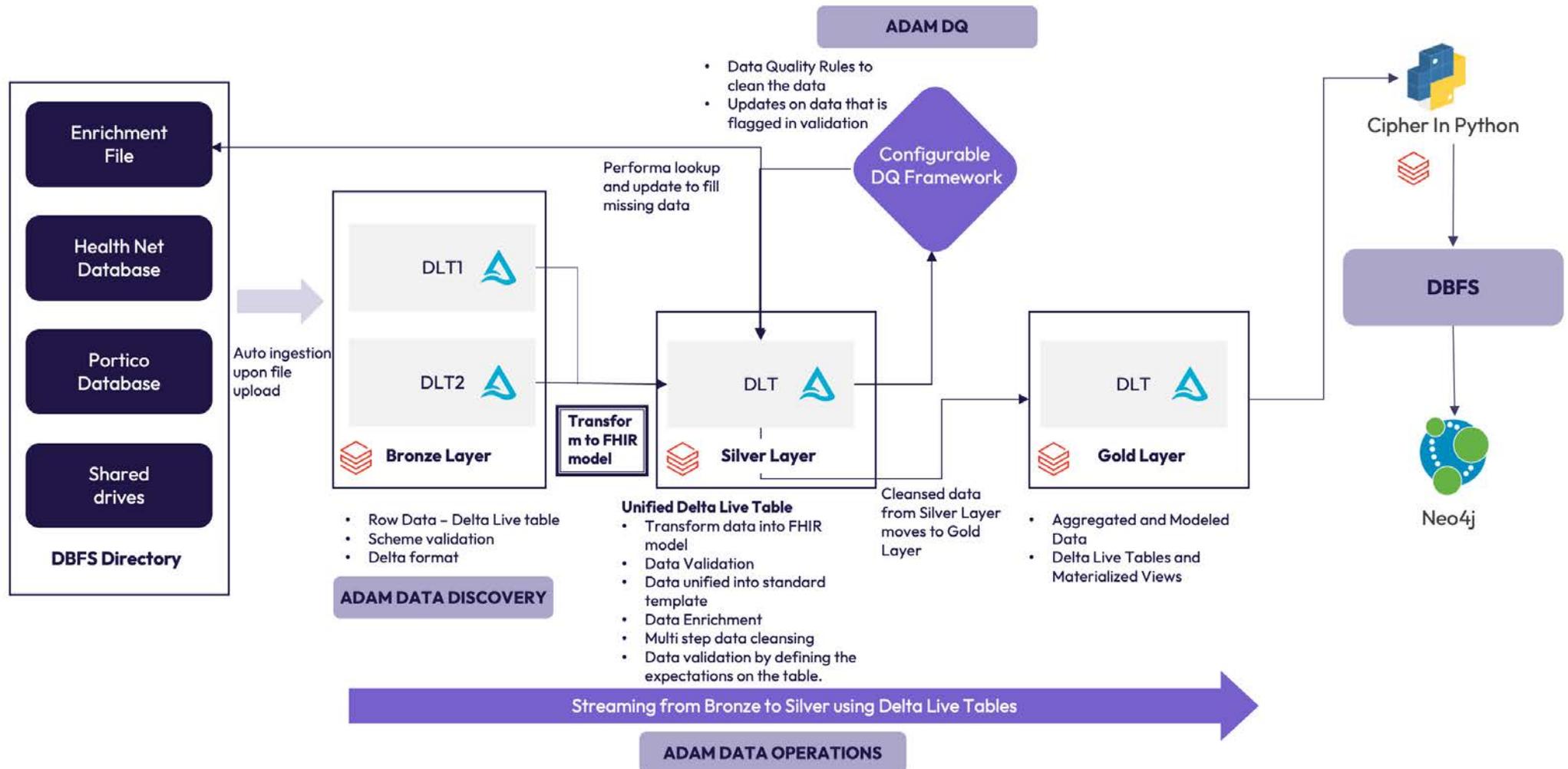
Governance Built In, Not Bolted On

Rather than treating governance and monitoring as afterthoughts, Brillio embedded them directly into the architecture. Monitoring dashboards provided end-to-end visibility into data flow, quality metrics, and audit trails, giving teams confidence not only in what the data showed, but in how it got there.

With ADAM supporting discovery, data quality, and operations, the platform became easier to manage, easier to scale, and significantly more resilient.

Outcomes That Changed the Pace of Decision-Making

By automating ingestion, standardizing transformation, and embedding quality controls throughout the pipeline, the client dramatically accelerated its data lifecycle:

- Manual data processing effort **dropped by 90%**

- Data ingestion and transformation became **3x faster**

- Provider data quality scores **improved by 80%**

- Time-to-insight for Member 360 analytics **accelerated by 50%**

What emerged was more than a technical platform - it was a trusted Member 360 foundation that enabled faster insights, stronger governance, and a scalable path forward for analytics across the enterprise.

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ABOUT BRILLIO

Brillio is a digital technology services company that drives AI-first engineering and design-led experiences for global enterprises. Born digital in 2014, its consulting-led services span Customer Experience, Data & AI, Product Engineering, and Digital Infrastructure. With an industry-leading NPS of 71, Brillio accelerates time to market through its proprietary BrillioOne.ai platform, powered by AI-ready talent with deep domain expertise.

Brillio is the official Digital Transformation Partner and the official Data and AI Services Provider of Atlassian Williams Racing. Brillio partners with leading technology providers including Microsoft, AWS, Google Cloud, Salesforce, Adobe, Databricks, and Snowflake and operates with 6,000+ "Brillians" across 15 global delivery centers. Consistently recognized as a Great Place to Work® since 2021, Brillio blends innovation, talent, and purpose to deliver measurable outcomes for clients and fulfilling careers for employees.

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