CitiusTech

Success Story

Seamless Health Plan Onboarding for National Home Health Services Organization

Implementing our healthcare data integration and management platform enabled a national home health service provider to offer their payer clients centralized, efficient, and scalable data onboarding along with enhanced and broader advanced analytics

- Data Quality Management
- Healthcare Big Data Processing

The Business Challenge

Our client is a leading risk-bearing entity (RBE) and home health service provider extending in-home primary care services to more than 100k members with chronic conditions across 15 states in a value-based model with 20+ health plans. The client struggled to manage multiple streams of inconsistent data sources and onboarding new health plan clients efficiently. They wanted to establish repeatable, standardized data management processes that would improve efficiency and accuracy, enhance downstream data collaboration, and support high-value business decisions.

Key challenges faced:

- Every new health plan onboarding was reinvented as a new project with ground-up development and no economies of scale by repurposing of existing code

- Downstream data-sharing was complex, requiring significant custom development

- Low-data reliability was driving erroneous business decisions like incorrect client billing

- Staff had to invest considerable time and energy to resolve data anomalies and the negative impact on health plan clients

The Solution: PERFORM+ DataScale Data Mgmt. Platform

After a detailed discovery phase, CitiusTech implemented its data quality management platform, PERFORM+ DataScale, including necessary customizations to address the customer's business priorities.

Several solution capabilities transformed their stakeholder experience:

- Creating standard file specifications and repeatable processes for onboarding new health plan clients

- Establishing methods for managing a variety of file formats for payer administrative, regulatory, and clinical data formats, including claims, membership, provider, gaps, risks, CMS MMR, MOR, RAPS, etc.

- Developing a comprehensive set of pre-built data quality rules across various file formats for enhanced data reliability, as well as rule configuration management UI and triggers to indicate the need for custom data rules

- Designing dashboard utilities for monitoring data quality in real-time, and managing data run schedules and operations

- Standardizing data access and analytics for downstream business teams

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PERFORM+ Datascale Benefits:

Address the challenges of managing multiple streams of inconsistent data sources and enhance health plan client onboarding

Establish standardized data management processes

Improve overall efficiency while increasing downstream data collaboration, enabling high-value business decisions

Business Value Delivered

Faster Customer Onboarding	▪ Eliminated need for custom coding for new health plan onboarding ▪ Saved ~2 days of development effort/ time through creating a centralized, standardized, and repeatable onboarding model ▪ Automated scheduling requires near-zero monitoring for DAGS for payer files
Improved Data Quality	▪ Data issues were prevented through comprehensive data quality validation ▪ Easy detection of data anomalies in near real-time with dashboards and alerts ▪ Significant improvement to data quality submitted to the billing application
Accurate HEDIS Measure Processing	▪ Ability to ingest large volumes and higher-quality data due to upstream PERFORM+ DataScale processing ▪ Historical data retention capability leading to easy access to patient history data for review ▪ Improved representation of data sets for HEDIS, quality measures, and risk scores
Accurate Business Reporting	▪ Accurate data for specialized care of elderly patients with chronic conditions ▪ Easy tracking and traceability of claims data ▪ Consistent case names, plan changes, and adjustments, etc.
Standardized Business Process	▪ Uniform and standardized data achieved across entities using crosswalk file ▪ Significant reduction in ad-hoc requests from business to operations team due to standardized output format ▪ Near-zero data latency with same-day updates from file ingestion to EDW storage

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15+
Health Plans Onboarded

10K
Annual support staff hours saved

95%
Decrease in data issue tickets

20+
File formats standardized

10 to **3**
Gender codes reduced

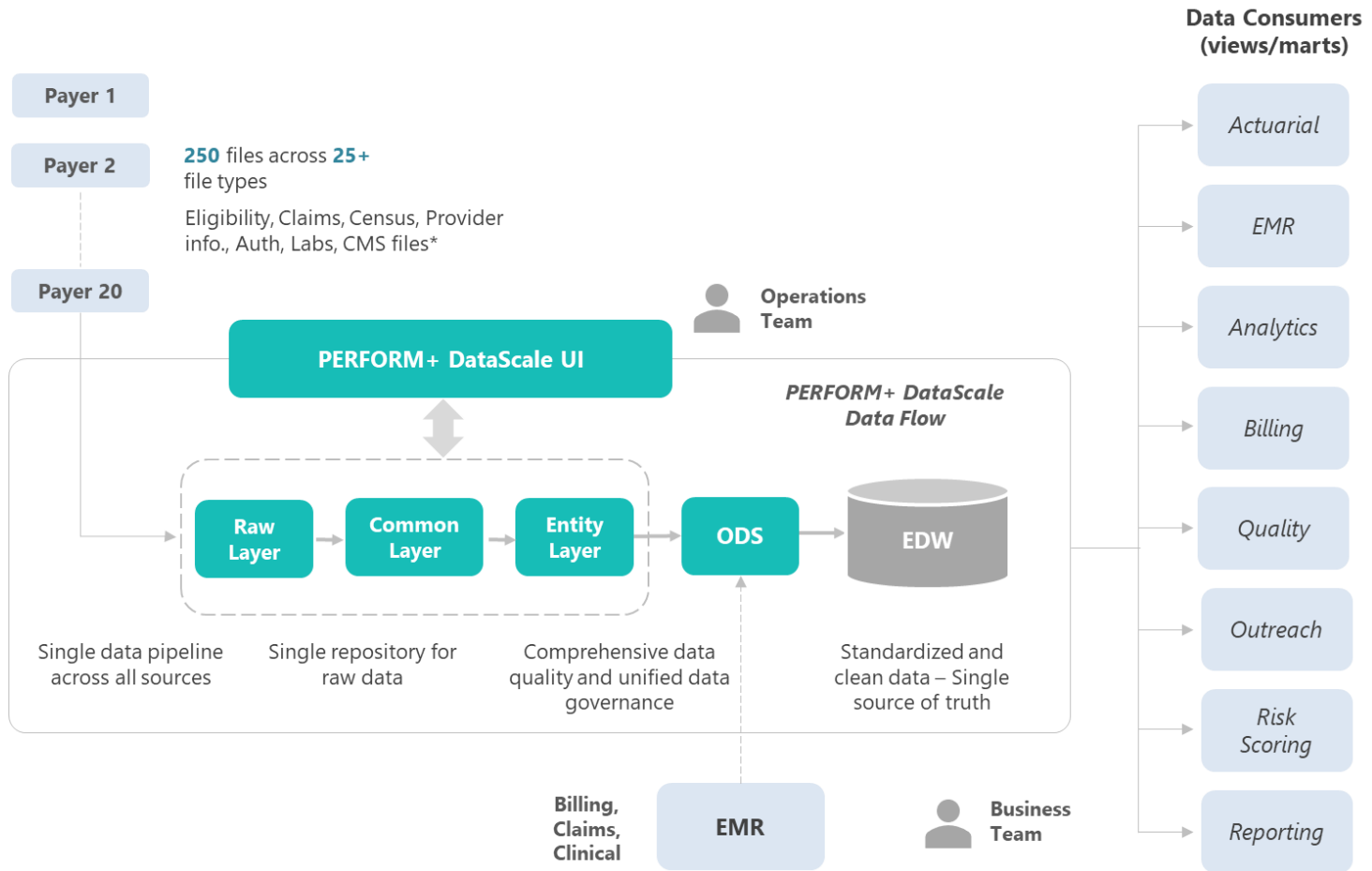**26** to **2**
Claim payment status codes reduced

11k to **465**
Specialty codes reduced

Technical Overview

- Historically, the client used RDBMS architecture to enroll new health plans by engineering ETL scripts and SSIS packages as part of onboarding

- PERFORM+ DataScale platform transitioned client from RDBMS to a Big Data technology stack on Hadoop, enabling considerable future data scalability and rapid processing

- Simplified onboarding of various data sources into the platform with a standardized DataScale source template and playbook. DataScale solution implementation allowed customer to consolidate multiple payer pipelines into a singular pipeline, driving significant maintenance savings

- Implemented Apache Airflow-based utility for monitoring and alerting new source file arrivals

- Created efficient management of data ingestion pipelines from multiple sources along with transparency into data operations transparency through audit reports

- Apache NiFi-based utility was implemented for Extract, Transform and Load (ETL) from source to DataScale data platform with simplified UI-based data mapping and efficient source-target data routing

- Apache Spark's large-scale data processing was leveraged for data ingestion from source through multiple layers of DataScale to the customer's ODS

- DataScale implementation unified downstream data collaboration through a centralized ODS. This contributed for significant overhead savings, eliminating 160+ stored procedures for collaborating outputs prior to DataScale implementation

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Technical Architecture

Data Consumers (views/marts)

Payer 1

Payer 2

250 files across **25+** file types

Eligibility, Claims, Census, Provider info., Auth, Labs, CMS files*

Payer 20

Operations Team

PERFORM+ DataScale UI

PERFORM+ DataScale Data Flow

Raw Layer → **Common Layer** → **Entity Layer** → **ODS** → **EDW**

Single data pipeline across all sources

Single repository for raw data

Comprehensive data quality and unified data governance

Standardized and clean data – Single source of truth

Billing, Claims, Clinical

EMR

Business Team

Actuarial

EMR

Analytics

Billing

Quality

Outreach

Risk Scoring

Reporting

About CitiusTech

With 7,000+ healthcare technology professionals worldwide, we are the partner of choice to the world's largest healthcare and life sciences organizations, accelerating digital innovation, driving business transformation and enabling industry-wide convergence. We provide strategic consulting, digital engineering, as well as data-, analytics- and AI-specialized platforms and end-to-end solutions . With over 130 clients across the payer, provider, medtech and life sciences industries, our key focus areas include healthcare interoperability data management, quality performance analytics, value-based care, omnichannel member experience, connected health, virtual care delivery, real-world data solutions, clinical development, personalized medicine, and population health management.

CitiusTech has two subsidiaries, FluidEdge Consulting (www.fluidedgeconsulting.com) and SDLC Partners (www.sdlcpartners.com) - both with deep expertise in healthcare consulting and payer technologies, respectively. CitiusTech's cutting-edge technology experience, deep healthcare domain knowledge, and a strong focus on digital transformation enable healthcare organizations to reinvent themselves to deliver better outcomes, accelerate growth, drive efficiencies, and ultimately make a meaningful impact on patients.
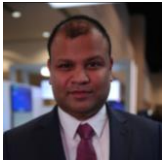
7,000+
healthcare IT professionals

$340 Mn+
worldwide revenue

130+
healthcare clients

70+
**NPS - highest in the industry!**

CitiusTech Key Contacts

Shyam Manoj
Sr. Vice President
& Head of Health
Plans

Shyam has 22 years' experience across payers, providers, pharma, life sciences, and HCIT companies.

For 10+ years, he has held multiple leadership roles at CitiusTech across sales, delivery, partnership and strategy. A U.S. healthcare industry veteran, he has significant expertise across healthcare interoperability, clinical data management, quality management, value-based care, and Medicare Advantage products.

He holds a bachelor's degree in biomedical engineering.

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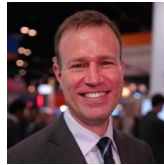
Jeffrey Springer
Sr. Vice President
Product Management

Jeff has 20+ years of healthcare industry experience, having worked with leading healthcare technology vendors.

Prior to CitiusTech, Jeff served in leadership roles at Siemens and MEDecision. Previously, he developed new products working with payers and providers at McKesson. He also founded the U.S.' first payer-provider contract management company.

Jeff holds an MBA and engineering degree from the Wharton School at the University of Pennsylvania where he graduated as a Palmer Scholar.

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Swanand Prabhutendolkar
Sr. Vice President
Data Management

Swanand has 20+ years of experience in Information technology across companies like EPIC, Polaris and 3i Infotech. Heleads CitiusTech's data management proficiency. He has also been a key architect of CitiusTech BI-clinical platform.

He has strong experience in regulatory reporting requirements like Meaningful Use, as well as healthcare standards and frameworks like HL7.

He holds a Master's Degree in Information Technology from IIT Mumbai.

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