



CASE STUDY

Modivcare – Building a Cloud-native Data Analytics Platform on AWS

Mactores empowered integrated healthcare services with scalable, real-time data insights for Modivcare.

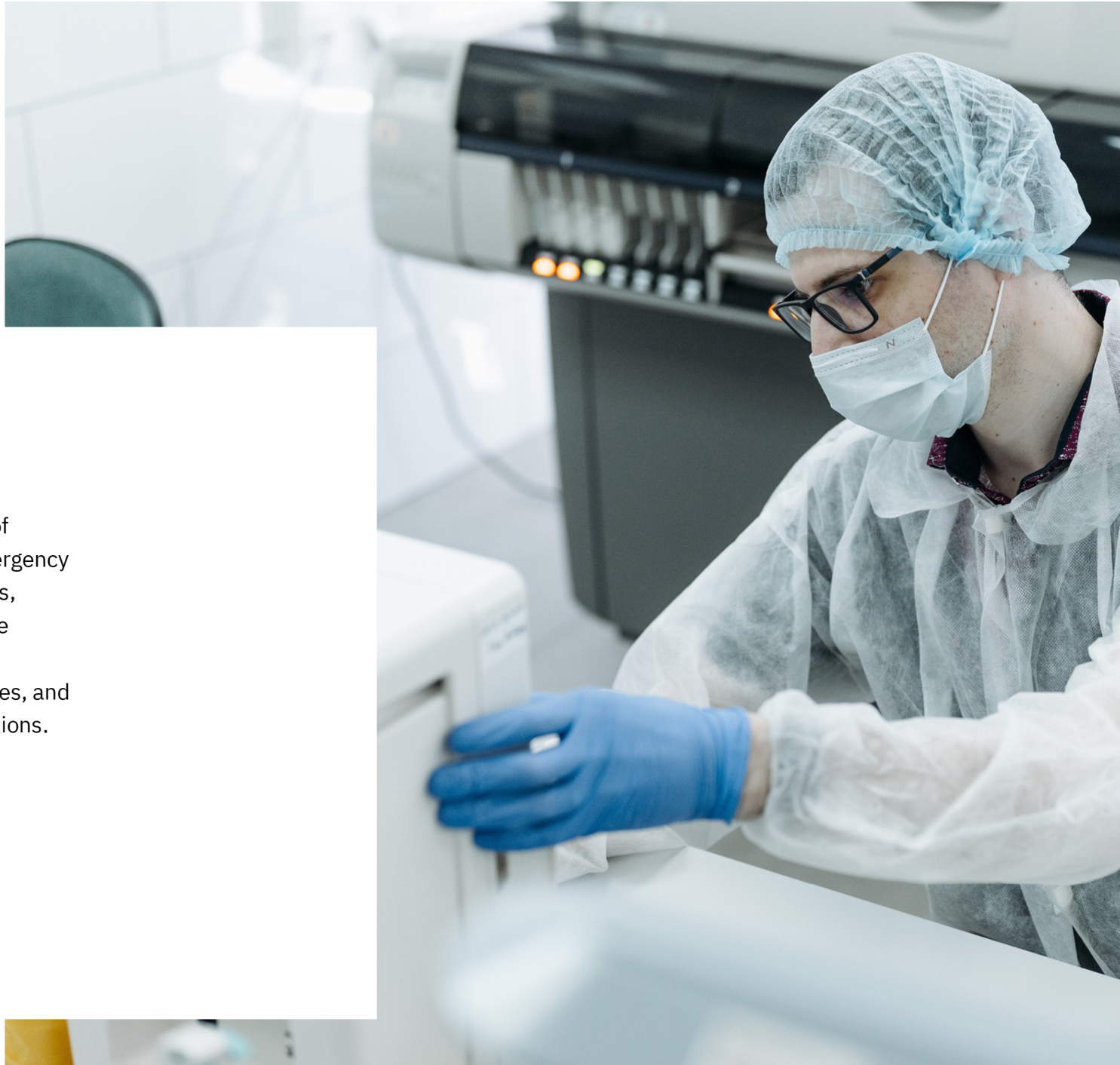
Case Study Summary

- Industry: Healthcare Services
- Location: Colorado, United States
- Use Case: Integrated Data Analytics, Social Determinants of Health (SDoH), Real-time Operational Insights
- Solution: Cloud-native Data Platform on AWS
- Key AWS Services: Amazon Redshift, AWS Glue, Amazon S3, Amazon QuickSight, AWS Lambda
- Outcomes:
 - Unified view across transportation, care services, and patient monitoring
 - Reduced time-to-insight from days to minutes
 - Improved regulatory compliance and auditability
 - Scalable infrastructure with elastic compute and storage

About The Customer



Modivcare is a leading US-based healthcare services provider focused on addressing social determinants of health (SDoH). With a portfolio that includes non-emergency medical transportation (NEMT), personal care services, remote monitoring, and nutritional support, Modivcare serves both public and private payors. Their solutions improve care accessibility, reduce system inefficiencies, and deliver better health outcomes for vulnerable populations.



Customer Situation

Fragmented Data Landscape: Business-critical data was siloed across legacy systems for each service line—transportation, care, and monitoring—resulting in operational inefficiencies.

Delayed Insights: Generating consolidated reports required significant manual effort, with data ingestion, transformation, and presentation cycles taking days.

Compliance Pressures: Regulatory frameworks mandated transparent, auditable data operations with detailed reporting, which were difficult to sustain with their legacy infrastructure.

Scaling Bottlenecks: Their existing on-premise and hybrid environments lacked the agility to support data growth or new analytical use cases like predictive modeling and near real-time decision support.



Our Approach

Modivcare partnered with AWS and Mactores to design and implement a Cloud-native Data Analytics Platform tailored to healthcare needs. The multi-phase approach included:

Data Strategy Workshop: Conducted stakeholder interviews to align business goals with data architecture, define KPIs, and prioritize use cases across NEMT and SDoH programs.

Data Ingestion & Processing: Legacy databases and flat files were ingested using AWS Glue Jobs, orchestrated with AWS Step Functions. Amazon S3 served as the central data lake, hosting both raw and curated datasets.

Transformation Layer: Built a semantic data model using Amazon Redshift and Redshift Spectrum for SQL-based exploration of structured and semi-structured data.

Implemented CDC (Change Data Capture) from source systems for near real-time updates.

Analytics & Visualization: Created self-service dashboards in Amazon QuickSight, enabling business users to monitor care coordination KPIs, patient adherence, and NEMT dispatch efficiency.

Security & Compliance: Fine-grained access control via AWS Lake Formation and IAM. Data lineage and audit logs integrated for HIPAA compliance.

Business Outcomes

Data Democratization: Enabled **300+** business users across care operations, logistics, and finance to access dashboards without IT dependency.

Faster Time-to-Insight: Reduced reporting timelines from **3 days** to under **30 minutes** with automated data pipelines.

Cost Optimization: Migrating ETL and storage to serverless and object-based platforms resulted in a **40%** reduction in infrastructure costs.

Improved Patient Outcomes: Real-time alerts and care coordination analytics empowered field teams to act faster and more accurately.

Technical Outcomes

Scalable Storage: Amazon S3 lake scaled from **2 TB** to **25+ TB** without performance degradation.

Elastic Compute: Amazon Redshift’s RA3 nodes optimized performance and cost via intelligent workload management.

Orchestration: Data workflows ran **5x faster** post-optimization with dependency-driven triggers using AWS Step Functions.

Monitoring: Integrated CloudWatch dashboards provided real-time pipeline health and SLA tracking.



Getting Started

Healthcare organizations like Modivcare looking to modernize their analytics infrastructure can begin by:

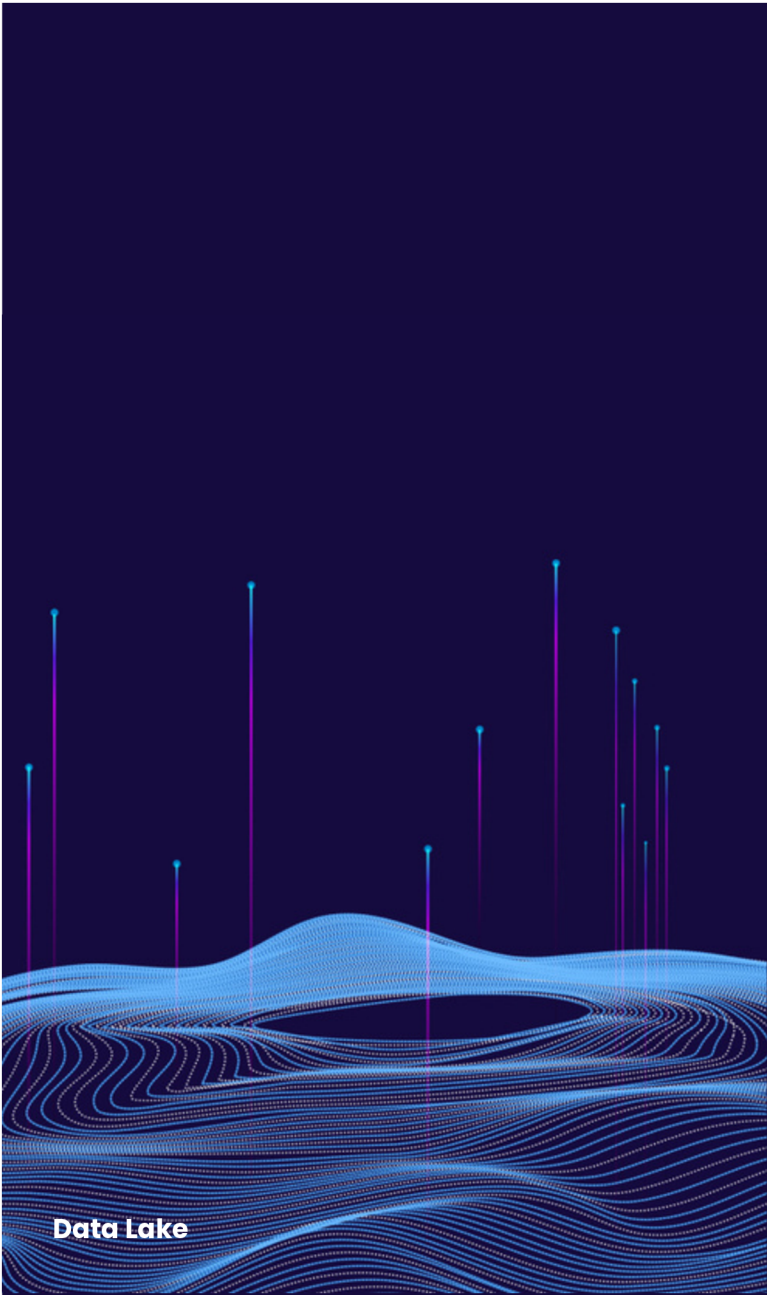
Identifying Critical Use Cases: Focus on where data impacts access, cost, and outcomes most directly.

Engaging a Cloud Partner: Leverage AWS and experienced partners like Mactores for domain-specific platform design.

Piloting High-Impact Dashboards: Use agile sprints to build, test, and iterate quickly on core dashboards.

Planning for Scale: Establish a roadmap for incorporating AI/ML, real-time decisioning, and broader data integration.

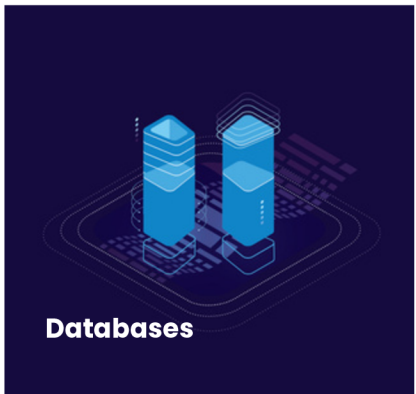
Our
Solutions



Data Lake



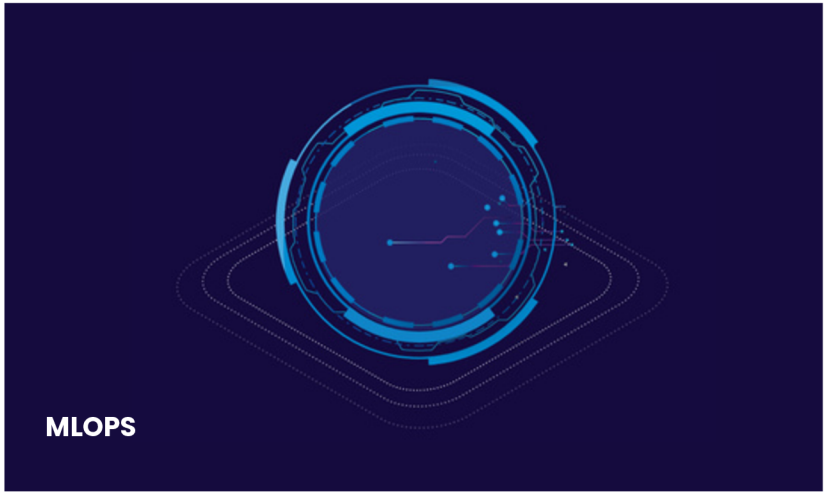
Data Lake



Databases



Data Ops



MLOPS

Our **Process**

Digital transformation via assessments, migration or modernization

We work alongside your tech team to assess and strategize what you need and how to implement the right data solutions on time, on budget and with c-suite buy in.



Assess

- Discovery Automation
- Future State Assessment
- GAP Analysis
- End State
- Road Map
- TCO



Migrate

- Strategy
- Execution
- Migrate
- Migration Acceleration



Modernize

- StrategyFuture State
- Design
- Build
- Automate

AWS Validated Competencies



AWS Validated Service Deliveries



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