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Turning Complexity into Clarity
Data Innovation to Power Confident
Decisions in Federal Healthcare

WHITE PAPER

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EXECUTIVE SUMMARY

In the complex and high-stakes landscape of federal healthcare, data integrity is non-negotiable. The Center for Consumer Information and Insurance Oversight (CCIIO), under the Centers for Medicare & Medicaid Services (CMS), oversees health insurance programs that serve over 12 million Americans, with financial implications reaching \$150 billion annually. Reliable, timely, and actionable data is essential for making sound policy and operational decisions. Yet, managing the sheer volume, fragmentation, and evolving regulatory landscape of enrollment data under the Patient Protection and Affordable Care Act (PPACA) presents a persistent challenge.

To meet this need, A Square Group (ASG), the prime contractor for CMS's Operational Analytics (OA) program, partnered with the agency to design and implement a modern, cloud-based analytics solution. This white paper outlines how ASG has transformed CMS's data infrastructure—converting a fragmented, manual process into a scalable, automated, and strategic platform that powers confident decision-making across federal healthcare.

THE CHALLENGE: DATA CHAOS AT SCALE

CMS manages health insurance enrollment data from a web of over **400 sources**, including state exchanges, insurance providers, and third-party administrators. Before modernization, reconciling this data each month was a manual, error-prone effort, reliant on legacy tools and siloed systems. Delays and inconsistencies created compliance risks, slowed reporting, and left leadership without a reliable, unified view of marketplace activity.

This fragmentation limited CMS's ability to:

- Maintain accurate payment and reconciliation systems
- Respond quickly to policy and regulatory changes
- Forecast and adapt to consumer behavior
- Preserve public trust in PPACA operations

A better approach was needed—one that turned complexity into clarity.

THE SOLUTION: A UNIFIED, CLOUD-NATIVE PLATFORM

ASG built and now operates a robust analytics platform hosted in Amazon Web Services (AWS). This platform consolidates more than 400 disparate data sources into a single source of truth, producing consistent monthly enrollment data that fuels hundreds of analytical reports and policy decisions.

The platform supports a broad range of mission-critical services:

- Enrollment reconciliation
- EDGE server analytics
- Risk adjustment and payment validation
- Policy and regulatory compliance tracking
- Cloud optimization and performance engineering
- Secure data exchange with issuers and states

By integrating advanced technologies such as Jenkins, AWS Lambda, Ansible, and JIRA, ASG has created a scalable, secure, and adaptable architecture that evolves in step with CMS's needs. The use of SAFe (Scaled Agile Framework) ensures rapid iteration, while environments like PRODV and the Issuer Test Zone provide safe spaces for testing and large-scale changes.

THE IMPACT: DATA-DRIVEN DECISIONS AT SCALE

Today, CMS's Operational Analytics platform plays a foundational role in ensuring program integrity and supporting public trust in the Health Insurance Marketplace. It enables:

- Faster reporting cycles, delivering timely insights to federal leadership
- Predictive analytics, helping CMS plan for events like Special Enrollment Periods
- Improved compliance, reducing manual errors and audit risks
- Cost savings, through cloud optimization and reduced duplication

ASG's approach prioritizes data accuracy, scalability, and strategic agility, enabling CCIIO to manage program complexity while focusing on mission outcomes. The insights generated by this platform support everything from payment validation to policy refinement, directly affecting the lives of over 12 million Americans—including 10 million users of HealthCare.gov who would otherwise be uninsured.

LESSONS FOR FEDERAL LEADERS

This case study offers a repeatable blueprint for modernizing federal data systems:

- **Start with clarity.** A single, authoritative view of data is the foundation for transformation.
- **Automate intelligently.** Eliminate manual tasks to reduce risk and increase focus on insights.
- **Design for adaptability.** Use Agile methods and flexible architecture to evolve with policy.
- **Secure by design.** Privacy and integrity must be embedded in every layer of the system.
- **Empower mission owners.** Data should serve the people making policy and operational decisions.

CONCLUSION: INNOVATION THAT DRIVES CONFIDENCE

ASG's work on the CMS Operational Analytics program demonstrates how **purpose-built data solutions** can transform even the most complex environments into platforms for confident, informed action. By turning data into a trusted asset, agencies like CMS can move faster, anticipate needs, and better serve the American public.



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