

3Pillar Harnesses Data to Help Community Healthcare Organizations Drive a New Standard of Care

AT A GLANCE:

Industry: Healthcare

Challenge: Improve interoperability of disparate patient data from different EHR systems to create one cohesive dataset that informs Medicare and Medicaid population health solutions

Offering: Application Modernization | Data Engineering

Highlights:

- Developed first-ever comprehensive solution for oncology practices participating in the CMS Oncology Care Model (OCM) payment program
- Created cloud native web application to help hospitals and health care organizations move to value-based care model vs. fee-for-service

A leading provider of value-based, precision medicine has developed one of the industry's largest datasets around cancer care and neurology. They work closely with government agencies like the Center for Medicare and Medicaid Services (CMS) to collect patient data that helps inform how healthcare organizations can deliver better care to their patients,

make smarter spending decisions on their healthcare needs, and create a healthier population overall.

More than 5,000 oncology practices nationwide are supported by this provider, who has generated more than \$260 million in value-based care revenue and more than \$100 million in shared savings for participating practices.

CHALLENGE:

Traditional Healthcare Data Isn't Aligned to New Approaches Like Value-Based Care and Population Health

The healthcare industry as a whole has shifted to new ways of providing care to patients in the last several decades. Moving toward a value-based care and population health approach has ushered in new ways of thinking about how the medical community can deliver coordinated care. It has also led to a new era of public-private partnerships, where federal agencies like CMS partner with private healthcare providers. Agencies like CMS subsidize healthcare costs in exchange for HIPAA-compliant data on the efficacy of treatments.

In many healthcare practices and hospital systems,

the challenge is that legacy solutions are oriented around traditional Electronic Health Records (EHRs), which aren't set up to succeed in this model. Legacy solutions are built for the fee-for-service model, so they don't capture all the information required for value-based care and population health models. What's more, data collection varies from practice to practice, hampering any attempt at interoperability and leading to fragmentation of care. When dealing with legacy EHRs, it's not uncommon for a patient to visit two different providers without those providers having the ability to know the patient has been treated at the other facility.

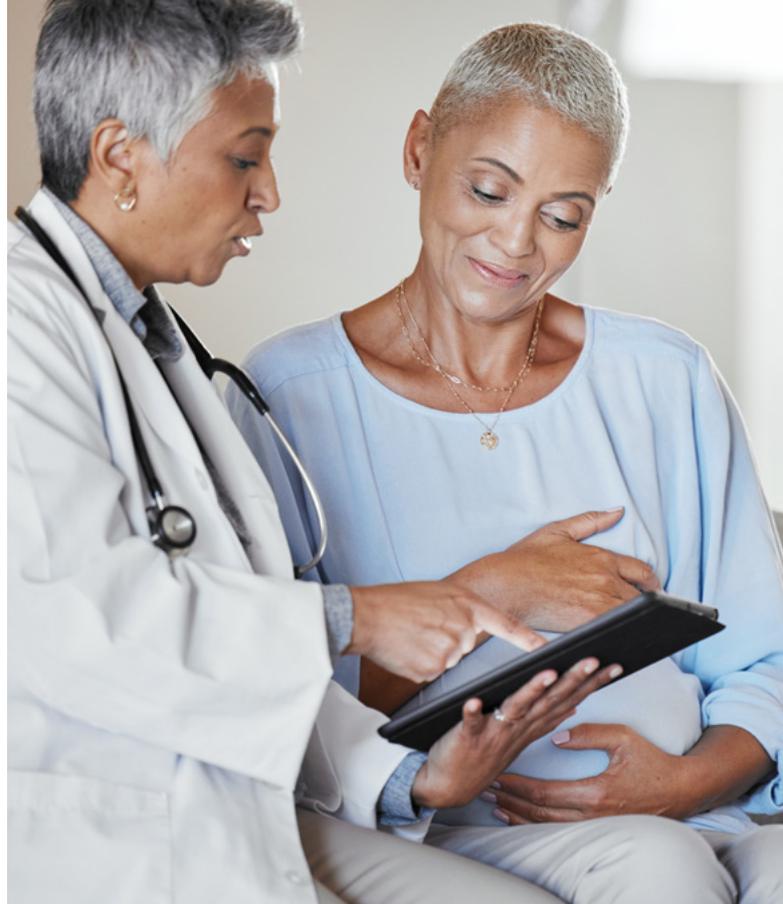
SOLUTION:

3Pillar Developed a Data Exchange Hub and Master Data Management Solution to Meet the Needs of Medicare and Medicaid

The healthcare company saw the opportunity to deliver an end-to-end solution for value-based care that would break down these barriers to interoperability. They wanted to help practices focus on quality of care by making data more readily available and accessible not just to agencies like CMS, but also to the leaders of practices themselves. This kind of access to patient data would help practice leaders improve the quality of care they provided to patients while also lowering the practice's overall costs.

We helped the provider develop a cloud-based data exchange hub with automated ETL processes to onboard new hospitals and providers faster, while ensuring high standards of security for patient data to meet HIPAA compliance. There were two parts to this solution:

- ETLs to ingest clinical and financial data from a variety of disparate sources
- Development of a new, provider-facing web



application with easy to understand, self-service data analytics

Our technical team designed a solution that would consume clinical, claims, and financial data from various EMRs that were received in a variety of formats, from raw CSV to structured formats like C-CDA, 837s and 835s. Specific converters were developed for different formats to optimize reuse. Consumed data was processed for master data management (MDM) and Master Patient Index logic for reconciling patient data from various EMRs.

AWS technologies, including EC2, Elastic Load Balancer, S3, RDS, and Lambda functions, were used to create a highly efficient and scalable data hub to ingest data into data lakes for use in downstream processing.

Using an ETL process on the data, we developed data marts as the source to generate custom interactive dashboards. The dashboards have drill-down capabilities to view individual patient data to enable detailed analysis on practice utilization, performance, and patient risk. We also developed data cubes to provide self-service reporting capabilities for

practices to generate quality benchmarking and regulatory reports to ensure they are meeting CMS' reporting guidelines.

Once the data went through the ETL process, we developed outbound files that enabled practices to send their data to CMS using industry standard formats like ZeOmega, a top technology provider for population health services, and CECity. CECity is a healthcare analytics provider that offers software that helps physician practices with performance management and pay-for-value reporting.

OUTCOME:

An Advanced, Value-Based Care and Population Health Solution That Solved The Interoperability Equation

Among the many outcomes of our work together was the creation of the first-ever comprehensive solution for oncology practices participating in the CMS Oncology Care Model (OCM) payment program. We helped the provider launch a platform that prizes interoperability and unifies disparate sources of clinical and financial data. The platform provides a holistic patient view across all settings of care, enabling practices to provide value-based care.

Another key component of the solution centered on reporting and was called Monthly Enhanced Oncology Services (MEOS). MEOS helped the healthcare company's end customers – hospitals and other providers – report OCM metrics to CMS in a timely manner so they could avoid penalties and

generate savings. It also helped drive revenue by making it easier for providers to receive payments for beneficiaries.

Last but not least, the platform can also be implemented at new facilities quickly thanks to our work together. New hospitals and providers can be up and running on the platform within a week, with complete data access, appropriate user roles, and secure patient data. This achievement is lightning fast in the traditionally slow-moving healthcare space.



3Pillar Global is here to help you build strategy, shift your cultural mindset, and build modern data products for an evolving market.

Contact us today to speak with a 3Pillar expert.
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