

**Data silos cause inconsistent results. Payers need a solid data backbone that combines master data management, high-performance datastores, and analytics — along with industry standards — to use enterprise data for competitive advantage.**

# Foundational Data Platforms Improve Payer Interoperability

November 2019

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## Introduction

For years, internal payer demand for technology was driven from the bottom up; local. A line-of-business or staff function would have a localized need, request vendor candidates, pick software, enable the desired function, and satisfy the local constituency — all with little regard for leveraging the technology or data collected across the enterprise.

This is changing. "Data platform" architecture is a focal point for payers. Why? There are a few reasons, such as the following:

- » The rise of the enterprise and data architecture functions
- » The need for a secure, reliable, scalable set of enterprise data
- » The strong desire for consumers and providers to be consistently, accurately, and flexibly assisted by a 360-degree view of the patient

As discussed at the AHIP Institute and HIMSS conferences, the regulatory requirement for payers is now interoperability with providers and external entities. It has been said that "connectivity without stability is like building something fragile inside something empty"; data platforms provide the gravitas required for modern payer architecture.

## AT A GLANCE

### WHAT'S IMPORTANT

Data silos must be destroyed using a data platform that addresses operational and analytic needs while combining clinical and administrative data in an open, canonical way.

### KEY TAKEAWAYS

- » Think long term, data centric.
- » Approach upgrades not as "rip and replace" but as a bimodal transformation.
- » Incorporate data standards, which have increasing importance.
- » Find a pressing demand and evolve the data platform incrementally.

## What Is a Data Platform?

A data platform is a top-down approach to physical data architecture. It centers on a "canonical data model" based on standards such as HL7 FHIR and the ONC's U.S. Core Data for Interoperability (USCDI). The platform creates a superset of data and a translator layer to and from systems where services can exchange data with other services. The data intake model is complex, involving multiple sources of data and multiple layers of landing and curation zones. In each zone, data is presented, integrated, identified, standardized, and related to other data. Once integrated, the data can be restructured to enable analytics, applications, and/or access.

After the data is staged, services layers or applications can point to the data in its various forms of aggregation and content. Common services or applications may focus on the following:

- » Patients/members
- » Providers
- » Provider cohorts
- » Care episodes
- » Provider performance
- » Back-office functions or any other payer operational concern

Concurrently, services are enabled for analytic workbenches, models, reports, dashboards, and machine learning opportunities.

Further, the constellation of legacy and new applications is pointed — either directly or via mapping — to the data platform. This ensures consistency across care management, consumer engagement, point-of-care support, and partner applications.

This "data factory" approach departs from a process/function methodology and embraces a data management life-cycle model. In other words, data is created, lives, is read, is updated, and dies in a stewarded fashion. It is loaded, curated, stored, accessed, aggregated, and archived. Applications and analytics are quickly spun up and down once the data, workflow, and services are in place.

The data platform is not only the structure of the data but also the workflow around the following:

- » **Ingestion:** The utilities, workflow, and scheduling for fast, predictable, repeatable data landing
- » **Mapping:** The utilities, tables, and translation rules that connect source files to enterprise meaning
- » **Cleansing:** The utilities, tables, lookups, and verification sources to identify "truth" using standards such as RXNORM, SNOMED, and HL7
- » **Identification:** The utilities, maps, and stochastic and deterministic rules that assign data to a person (member/provider) or other enterprise entity
- » **Data quality management:** The ongoing management and monitoring of ingestion, curation, and mapping to identify and resolve outliers

Payers need enhancements that are embedded into the workflow and "activated" by the platform, such as:

- » **Applications:** The connections and maps to allow the workflows and user interfaces of applications to effectively use the data platform and generate reports
- » **Analytics:** The various data presentations and rules that enable analysts, data scientists, modelers, statisticians, and inquirers to conduct effective analysis
- » **Access:** The ability for all enterprise personnel to predictably and reliably secure and audit the needed data using standard protocols and published interfaces
- » **Managed services:** The ability to package reusable functions for use by applications, analytics, or partners
- » **Artificial intelligence (AI):** The ability to enable a "test bed" from which machine learning can extrapolate other information
- » **Real-time orchestration:** The ability to have all these ecosystems work as one, in harmony

## Key Benefits

Benefits of a data platform mindset can be viewed through both internal and external lenses.

**Internally, to destroy silos, payer data architecture is being driven from the top down.** Data architecture functions have evolved to meet the pressing need for a secure, reliable, scalable set of enterprise data. Consumers and providers both want consistent, accurate, and flexible 360-degree views of their vital information. The "data platform" is now the go-to approach to integration. From an IT point of view, the payer's pressing need to reduce the cost of development drives the appeal of a data platform — specifically its ability to spin up new applications, analytics, and services quickly.

**Externally, the rapid change of the payer business model demands an open data architecture.** The architecture must be flexible enough to accommodate mergers/acquisitions, spin-offs, joint ventures, disintermediation, and cooperation with providers, along with innovation and consolidation. Table 1 outlines payer information needs and the benefits of an open, foundational data platform.

TABLE 1: ***Payer Information Needs and Benefits of a Foundational Data Platform***

Payer Stakeholder	Information Needs	Benefits of a Foundational Data Platform
<b>Members</b>	<ul style="list-style-type: none"> <li>• Individualized services</li> <li>• Flexible care management plans</li> <li>• Transparent benefits and pricing</li> <li>• Efficient and accurate claims</li> <li>• Enhanced enrollment/shopping experience</li> </ul>	The need for merged clinical and administrative data, identified with a lifetime member-identifier, is table stakes. That said, a real-time, member 360-degree view is a competitive differentiator.

Source: IDC, 2019

**From a consumer/member point of view**, the need for merged clinical and administrative data, identified with a lifetime member-identifier, is table stakes. That said, a real-time, member 360-degree view is a competitive differentiator. This differentiation is in response to consumer demand for individualized services, flexible care management plans, transparent benefits and pricing, efficient and accurate claims, and an easy enrollment experience.

**From a provider point of view**, the need for clinical, contractual, and administrative cooperation — as well as interoperability — drives the data platform paradigm. Consider the following use cases:

- » Clinical data integration
- » Workflow handoffs across the health ecosystem as members navigate from medical event to hospital to rehab to home
- » Accurate directories
- » Speedy pre-authorizations
- » Effective referral networks
- » Ability to cooperate with other providers in a health information exchange

**From an employer point of view**, the payer needs to open its architecture. Batch "employer group reporting" is now only the tip of the iceberg as employers work to retain employees in a demographically challenging employment market. The payer that delights the employer wins three ways:

- » Retains the employer and a client
- » Makes the employee/member happy
- » Optimizes costs and quality for all

## Considerations

Top-down, multiyear projects and constituent initiatives such as data platforms require significant organizational commitment, usually from the C-suite. Most payers will find it a cultural stretch. They are accustomed to point solutions demanded by well-intentioned but myopic lines of business. Instead, they'll need to drive initiative selection and scoping by needs that are also defined by enterprise and data architects.

Some vendors propose a hybrid approach. An enterprise may identify an opportunity to use a data platform that solves a short-term challenge in a line of business, while the implementation of the platform satisfies the long-term goals of enterprise architects. There are urgent point-solution demands such as Care Management 3.0, Wellness 3.0, EMR 2.0, HEDIS 3.0, and the introduction of social determinants of health into a member's profile. All these demands are justifications for laying the foundation of a data platform that can then be further leveraged for a follow-up application or analytic need. That, in turn, enables a third application or analytic need with even less work, and so on.

Of course, this data-centric approach requires mature data management principles of governance, measurement, organization, policy, and process to supplement this comprehensive technology. Vendors that emphasize a

"center of excellence" approach to data management will be the most helpful to payers evolving from silos and fragments to a unified, top-down, and data-centric order.

The payback for data platforms is data leverage. Data that is standard (using HL7, X12, FHIR, etc.), secure, reliable, and scalable, with optimized and quality-controlled ingestion and curation, provides a foundation to enable the application and analytic flexibility desired in payer organizations.

## Key Trends and Conclusion

IDC sees that horizontal data engines traditionally sold for their fast/flexible ingestion utilities, abstracted data models, and/or super-fast high-performance databases are verticalizing into healthcare and combining with similarly flexible analytic engines. Payers now have a significant desire to develop, maintain, and work off common and comprehensive member and provider data repositories for both clinical and administrative needs (operationally and analytically).

The combination of available technology and emerging consensus in favor of a data-centric approach to application and analytic portfolios has inspired the introduction of a comprehensive healthcare data platform strategy. The goal is to meet most of the needs inside, outside, and across the payer enterprise.

Complementing this are interoperability specifications for FHIR, microservices, X12, HL7, and APIs that are standardizing data. The standard specifications enable multicloud or hybrid cloud solutions to further open the data of enterprises whose walls were once opaque. The line between payers and providers is blurring, and the IT infrastructure of most payers is multivendor, multipartner, and multibusiness.

This healthcare data platform, if maximized, optimized, and open, will be a real-time, cloud-based orchestration engine that is crucial for competitive advantage. IDC believes the healthcare data platform market will continue to grow, and to the extent that vendors such as IBM Watson Health can address the challenges described in this paper, they have a significant opportunity to deliver value to customers.

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## About the Analyst



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Jeff Rivkin is Research Director of Payer IT Strategies for IDC Health Insights. In that role, he is responsible for research coverage on payer business and technology priorities; constituent and consumer engagement strategies; technology and business implications for consumer engagement; front-, middle-, and back office functions; value-based reimbursement; risk; and quality-based payment and incentive programs, among other trends and technologies important to the payer community.

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