

# Value-based healthcare

## Platform considerations for integrated delivery networks



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## Introduction

Leaders in almost every industry have one thing in common: effective collaboration through big data. Big data is described as high in volume, velocity, and variety – data that would take too much time and money to load into traditional IT systems and data warehouses for analysis. Whether in retail, banking, or transportation, organizations like Walmart, Amazon, Goldman-Sachs, and FedEx tend to competitively thrive and sustain successful partnerships because they are able to effectively process billions of data points, share appropriate information, and turn it into precise valued action. Healthcare has the same opportunity.

In the contemporary healthcare landscape, big data is the by-product of interactions between caregivers and patients, as well as those between suppliers, health plans, and employers. The present and future generations of healthcare professionals need to effectively manage the flood of data that accompanies the populations they serve. Those that lead the markets they serve with holistic solutions tend to not only survive but thrive; delivering even better clinical outcomes and positive financial results.

The healthcare IT market is awash with software vendors and their point solutions that address disjointed parts of the puzzle. The fact is, however, that effective use of big data requires a holistic approach across the various delivery points of care. It takes more than a set of point solutions to make this happen; instead it requires an effective platform!

An effective healthcare platform enables providers to bridge the data gap that exists between the populations they serve. It requires protected data collection, curation, and governance necessary for operating in complex collaborations. It requires an advanced attribution engine to align providers to patient panels and performance metrics. And, a big data platform must also unify best of breed solutions in the marketplace to deliver powerful insight into an operation's at-risk populations and provider performance.

## Integration of systems and data

Coordinating and optimizing patient care across the complex landscape of shared members/patients, disparate systems, and independent providers is one of the keys to effective clinical integration. Clinical integration done well helps enable collaborative care partnerships to utilize consistent and accurate data, as well as coordinate action among providers, care coordinators, and patients. Integrated healthcare systems must approach this requirement in a holistic manner, utilizing an integrated rules-governed platform for collecting, aggregating, safeguarding, classifying, and curating data from disparate systems.

### Broad spectrum clinical integration

The typical patient visits many care settings, including ambulatory, acute, long term care, rehabilitation, home, and specialty care. Healthcare systems must apply a broad approach to data collection within these venues while supporting a wide range of data sources.

An effective clinical integration approach combines enterprise security standards with extensive data collection and encryption of medical records. Major data sources must be integrated including electronic medical record systems, practice management systems, and billing, lab, scheduling, and claims sources.

In addition, employed and affiliate providers alike must have access to a unified online provider portal that displays all the data collected for an individual patient across the continuum of care and variety of source systems. Providers must be allowed to enter and attest to measures and processes that cannot be obtained electronically. This context-driven approach to addressing data collection and verification provides a streamlined and efficient model for providers to maintain up-to-date patient information, measures, and care coordination.

### Data curation

Despite government and industry efforts to apply standard coding conventions to healthcare data, wide diversity remains. This presents challenges for organizations that must uniformly measure, report, and act upon disparate data that spans the continuum of care. Data standardization is critical to the success of population or performance management programs, particularly when operating in these diverse environments. This includes clinical, operational, and financial data elements across multiple venues of care to include mapping of clinical data into common standards and units of measure such as ICD, SNOMED, LOINC, and RxNorm. Effective data curation also requires that data be unified from billing and claims systems in order to provide a unified view of the care continuum.

### Universal master patient index

Accurately matching patients to their health records is absolutely critical for effective population management, reporting, and analytics. When achieved with high levels of accuracy, patient matching facilitates the ability to aggregate data across multiple systems and sources. An effective platform must support a Master Patient Index that matches patients from disparate systems. This enables patients' data to be consolidated and processed holistically to provide accurate measurement and intelligent care outreach.

### Patient to provider attribution

The business rules for matching providers to patients, measures, and outcomes can vary depending on programs and value-based care agreements in place. An effective platform must support standards such as PCP or CMS 4-Cut method attribution, customizable patient-to-provider, care team, or care coordinator attribution criteria including specialty, provider type, department, visit frequency, or visit order.

### Affiliate integration program

Delivering consistent quality of care across a widely diverse group of employed and affiliate providers is key to effective clinical integration and successful accountable care organization models. This "last mile" of integration requires a carefully orchestrated rollout, communication, and ongoing support to be successful. In addition, extending the integrated delivery network into the community requires a unified approach to data, messaging, and clinical protocols across the entire network.

Integrated delivery networks must implement an inclusive and easy-to-apply integration program for affiliate practices to share their data and participate in coordinated care models.

## Population management

Effectively managing patient populations and care teams is core to quality improvement and cost reductions. The rising costs of healthcare and the demand for better outcomes drives an expectation among payers and patients for providers to leverage their data more effectively to improve quality, delivery, patient outcomes and patient satisfaction.

Integrated delivery networks must be able to easily identify opportunities, measure performance toward objectives, and engage providers, care coordinators, and patients where necessary. For rapid adoption, solutions must employ standard web browsers and utilize industry standard user interfaces and security mechanisms within a healthcare compliant framework, supporting a self-service environment.

Care quality program designers must be able to search and browse populations including diagnoses, treatments, outcomes, costs, and demographics in real-time. This includes the ability to analyze relationships, correlations, temporal events, and historical trends. Access to this level of data about a population enables accelerated identification of patients, and inefficient variations in treatment. It should illuminate over-utilization of unnecessary care and expensive venues, procedures, or medications that contribute to higher costs and lost revenue. Authorized users must also be able to download datasets for further analysis, predictive modeling, or ingestion into third-party reporting, analytics, or business intelligence tools.

An effective platform should enable holistic population measurement of quality and adherence to care guidelines across providers and patients who are attributed to them. It should enable the comparison and identification of outliers among providers and their patients, as well as variations in care that drive expenses such as the over-utilization of certain services or high readmission and length of stay rates.

An effective value-based care program should also embrace and support nationally recognized measurement standards such as NQF, NCQA, and CMS, and be easily customizable and configurable to meet the specific needs of an organization and its programs.

## Engagement and outreach

Putting discovery and measurement into action is one of the keys to the success of pay-for-performance or accountable care models. Effectively engaging shared patients/members at the right time and priority, as well as through the right channel, is also very important. For instance, a provider or care coordinator should communicate to a patient based upon a consolidated and prioritized view of the various care improvement opportunities, including overdue screenings or indicators of risk such as rapid weight gain for a heart failure patient. When they do so, they also need to be able to select the most appropriate channel for reaching that patient given the circumstance or patient preference. This may be a telephone call, outbound letter, email, or patient portal. In each case, the communication must be consistent with the organization's policies and guidelines related to mode and frequency.

To meet these requirements, integrated delivery networks should employ integrated registries for managing patient populations. These registries should support listing patients according to flexible provider attribution models and filters. It must support the complex rules necessary for processing aggregated patient data from disparate EMR, billing, and claims systems to confirm appropriate engagement with patients.

An effective engagement and outreach platform must also support rules-based workflow for outreach to patients, providers, or care coordinators. This should include the ability for users to “tag” and send individual patients or groups of patients into “work queues” that can be annotated or processed by providers or care coordinators. The solution must be able to support template-based messages or letters via email into PDF format for printing and mailing, or directly into an integrated EMR or patient portal via HL7 for distribution.

## Data governance among partners in the delivery continuum

While premise-based data warehouses and point solutions have provided some value to tightly integrated care delivery systems in the past, the future of healthcare is going to require rule-based data sharing and engagement among independent providers, payers, and care venues. An effective patient population management strategy must consider and support the management of overlapping patients, members, providers, and payers within accountable care programs, as well as the regulatory HIPAA, HITECH, AKS, Stark, and antitrust law requirements that are critical to the success of these partnerships.

An effective, integrated data governance approach can negate the need for providers and payers to manually curate, obfuscate, and send sensitive data to each other. A solution must support the ability for patient data to be combined and made available in appropriate ways consistent with agreed upon business rules and regulatory policies. It must also support the rapid formation and changes of relationships between payers, providers, and plans as models grow and evolve.

## Advanced analytics, predictive modeling, and plan design

A platform must provide open solutions for data management and purpose-driven data marts to support development of models and analytics through the use of third-party reporting, business intelligence (BI), and analytics tools. This enables the integrated delivery network to rapidly take advantage of their data today, leveraging the skills and technology assets they have developed over the years.

There are a host of analytics and predictive models in the marketplace that either operate on claims data alone or small sets of combined clinical and claims data. While some organizations have found value in these models, the majority look forward to the next generation that is based upon larger and more representative datasets. Leadership must recognize that the whole data picture (claims + clinical + financial + operational + demographic + longitudinal depth) is key to the success of a value-based care model.

An effective platform must support advanced analytics and predictive models, as well as risk adjustment benchmarking and advanced episode grouping / bundling. These models must be built upon the “holistic” view of data and address high value areas, beyond the obvious that can drive down costs, while simultaneously improving outcomes within at-risk populations.

## Conclusion

Rather than focusing on just one part of the solution, integrated delivery networks that pursue sustainable value-based care initiatives need to approach these challenges from the foundation up. This requires a platform to support the myriad of functions that will expand and change along with healthcare models over the next decade.

## About IBM Watson Health

In April 2015, IBM launched IBM Watson Health and the Watson Health Cloud platform. The new unit will work with doctors, researchers and insurers to help them innovate by surfacing insights from the massive amount of personal health data being created and shared daily. The Watson Health Cloud can mask patient identities and allow for information to be shared and combined with a dynamic and constantly growing aggregated view of clinical, research and social health data.

For more information on IBM Watson Health, visit: [ibm.com/watsonhealth](http://ibm.com/watsonhealth).

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