
Preparing Your Data for the Rise of Value-Based Care



Value-based care (VBC) is becoming increasingly essential in healthcare, focusing on measuring and managing care quality, outcomes and costs. Unlike traditional fee-for-service models that reward volume, VBC aims to tie reimbursement to quality metrics and patient outcomes. This shift requires healthcare providers to embrace a data-driven approach. To succeed in VBC, healthcare leaders must ensure that their data infrastructure is prepared to meet the strict demands of data reporting and analysis. However, many health systems face challenges integrating and digitising their data, impeding efforts to achieve VBC goals. Here are some ways emerging technologies can help prepare data for this new care paradigm.

The Rise of Value-Based Care

Healthcare systems are rapidly adopting VBC models due to their potential to improve patient outcomes while controlling costs. With reimbursement models such as capitated, bundled and pay-for-performance arrangements, organisations are moving away from traditional fee-for-service structures. Major stakeholders like the Centres for Medicare and Medicaid Services (CMS) now heavily emphasise quantitative reporting of care quality, outcomes and costs. For organisations to demonstrate they are meeting clinical and financial goals, data must be fluidly shared across the enterprise and easily interpreted through dashboards and other analytical tools.

Consulting firms like McKinsey forecast a doubling of the number of patients treated under VBC models in the next five years, with an estimated growth rate of 15% per year. Bain & Company also reports a strong commitment among VBC stakeholders, attributing it to rising healthcare costs expected to surpass GDP growth. Health systems that can achieve superior clinical and financial performance in VBC will not only improve patient care but also secure financial sustainability.

Overcoming Data Siloes through Digital Transformation

Achieving VBC's goals depends on the ability to access and interpret comprehensive patient data. However, many healthcare organisations struggle due to fragmented, unstructured and non-standardised data. Data is often scattered across multiple systems, making it difficult to obtain a holistic view of patient health. According to industry estimates, as much as 80% of healthcare data remains unstructured, consisting of images, audio, clinical notes and freeform text. This creates challenges in leveraging these diverse data sets to yield actionable insights.

The lack of standardised data formats further complicates efforts to share and interpret information across the organisation. Even when standards like HL7, FHIR and x12 EDI exist, their implementation varies widely, creating barriers to integration. External data sources such as those from social determinants of health (SDoH) and community organisations are often excluded, which is a missed opportunity. These data sources provide valuable context to a patient's care journey, helping to proactively address factors impacting health outcomes.

Disparate and unstructured data siloes hinder healthcare organisations from creating longitudinal health records and real-time payment information, which are crucial for effective point-of-care decisions. This leads to inefficiencies in patient care and delays in revenue cycles, preventing organisations from realising the full potential of VBC.

Leveraging Emerging Technologies for Data Integration

Fortunately, emerging technologies like artificial intelligence (AI), machine learning (ML) and natural language processing (NLP) are transforming healthcare data management. AI tools help digitise unstructured data and integrate disparate sources, allowing providers to gain actionable insights and improve VBC performance. NLP can convert freeform clinical notes into structured data, while computer vision aids in extracting data from images. ML algorithms also play a critical role in enhancing billing accuracy by detecting errors, thereby minimising claims denials. This automation reduces the administrative burden on providers and allows them to focus more on delivering quality care.

Not only do AI and ML facilitate the digitisation of data, but they also enable predictive analytics. By processing large datasets, these technologies can help healthcare providers forecast risks and plan interventions accordingly. A well-integrated data infrastructure supported by AI

and ML creates a unified patient record, allowing for a comprehensive understanding of each patient's care journey and enabling informed decision-making.

Additionally, adopting APIs, Data as a Service (DaaS) and Platform as a Service (PaaS) can further rationalise data integration efforts. These technologies help synthesise different data sources, identify errors and seamlessly incorporate new data types into existing workflows.

With the ongoing development of VBC models, the readiness of an organisation's data infrastructure becomes a critical factor in its success. Healthcare providers must embrace digital transformation to unify and standardise their data, overcoming siloes that obstruct a 360-degree view of patient care. Emerging technologies such as AI and NLP offer a way forward, enabling healthcare systems to automatically process and analyse large datasets effectively. By evolving to a robust data management strategy, health systems can shift their focus from data compliance to delivering high-quality, cost-effective care that benefits both patients and providers. Embracing this data-driven approach is crucial for healthcare organisations to thrive in a value-based care environment.

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