IBM InfoSphere Clinical Analytics:

Enabling an information-rich, healthcare-aware analytic environment
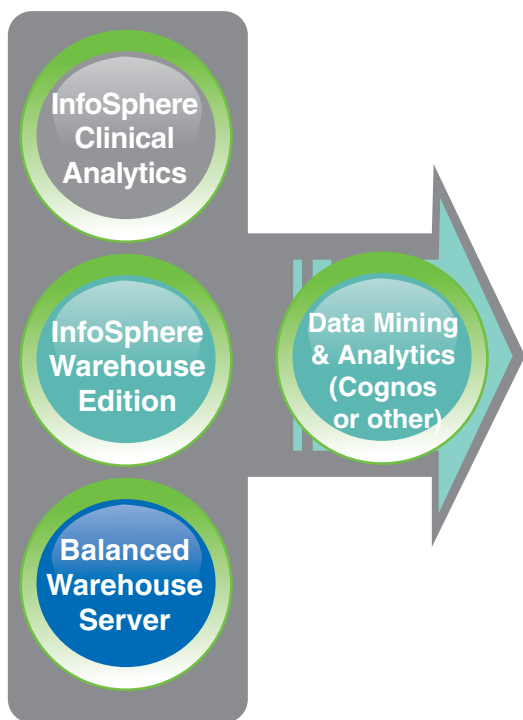
Today's healthcare enterprises have a daunting mission: providing personalized patient care and ensuring quality operations while improving the bottom line. Hospital systems and other healthcare organizations are under constant pressure to find better ways to leverage patient data to support chronic disease management, conduct post-treatment analysis and implement quality initiatives. Imperatives such as pay for performance, compliance with the Joint Commission standards, and core measures reporting are just a few of the issues that hospitals strive to address on an ongoing basis.

But without an effective patient data warehouse solution, it's difficult to meet the changing information requirements of a dynamic healthcare organization.

Today's healthcare information technology systems are designed for speed and performance in support of individual care providers and processes. These systems are not designed to integrate and aggregate data for query, reporting and analysis. Different systems are required to provide the transformed information in order to gain clinical and business insights that can lead to improved quality and operations. These systems require a

common medical nomenclature built on a patient-centric data model, a common patient identifier and the ability to ensure HIPAA compliance for all data including data for research. Healthcare organizations that lack these systems and capabilities will be at risk for increasing costs and for an inability to respond to a changing competitive healthcare market.

Trusted Medical Information

With a deep understanding of these patient data issues and how they can affect hospital care delivery quality and profitability, IBM provides a groundbreaking solution that meets the needs of today's healthcare systems, helping organizations gain new insights into their patients, physicians and operations.

By combining a clinical data model with custom medical informatics dashboards, a data warehouse platform, and a business intelligence front end, such as Cognos®, IBM InfoSphere™ Clinical Analytics culls information from many different sources within an enterprise to create a single-source repository of trusted medical information.

The InfoSphere Clinical Analytics

The InfoSphere Clinical Analytics solution enables an information-rich, healthcare-aware analytics environment, integrating and aggregating clinical information from multiple sources. Supporting both inpatient and outpatient data, it provides the technological and organizational framework to create and support a highly secure, longitudinal patient record, giving clinicians and researchers a 360-degree view of a patient's clinical treatment patterns and outcomes. InfoSphere Clinical Analytics enables the consolidation of clinical data, providing a view across multiple perspectives—from local to national—to support clinical research analysis and quality initiatives.

InfoSphere Clinical Analytics can also extract, validate and load data from a variety of clinical, operational and financial systems, including billing, lab, pharmacy and electronic medical record systems. A proven healthcare-aware data model and patent-pending components and methods are used to standardize,

normalize and integrate the data, providing a common medical nomenclature and a common patient identifier. Clinical data can also be mapped to national standards such as LOINC, CPT, CPT-9, CPT-10 and RxNorm.

System users and patient data are securely managed within a centralized data repository behind the organization's IT firewall. Clinicians and analysts can access the data through a secure, Web-based management application. Users can view patient data in two forms: fully identifiable for TPO analysis, or de-identified for research. If used for research, patient records can be re-identified with the proper approvals. Additional security features help organizations ensure HIPAA compliance, protecting the identities of the patients and physicians while tracking all activity relevant to the patient record.

Turning rich data into rich information

The InfoSphere Clinical Analytics enables health analytics for a wide range of clinical and organizational purposes:

- *Provider profiling—Analyze physician practice patterns and conduct comparative analysis to identify performance best practices*
- *Clinical decision support—Measure and view clinical performance across multiple perspectives to optimize resource utilization, cost effectiveness, pathway development and evidence-based decision making*
- *Chronic disease management—Use predictive modeling techniques to identify high-risk patients and to proactively intervene and optimize care across populations*
- *Benchmarking/quality reporting—Perform data management and analysis to support internal and external comparisons and reporting requirements*
- *Clinical research analysis—Support clinical research and outcomes analysis to generate new knowledge and optimize clinical care*
- *Patient safety initiatives—Use data mining approaches to reveal trends and patterns in clinical errors and to identify and investigate key drivers of variation across care settings*

- *Operational improvement—Apply insights from data analytics to further optimize clinical and business processes and to determine the financial impact of providing quality care*

An integrated solution

The InfoSphere Clinical Analytics is a comprehensive solution, integrating systems, software and processes in a configuration designed to meet your long-term goals. IBM will assist you in designing a solution that is tailored to your requirements and that leverages your existing assets to accelerate time to value.

Our phased approach to implementation enables an optimal configuration and helps ensure internal data quality. The integrated solution, built on IBM Balanced Warehouse™ and powered by IBM DB2® software, reflects a thorough knowledge of proven best-practice approaches, policies and technologies in healthcare-aware enterprise data solutions.

Ready to install

With InfoSphere Clinical Analytics, IBM offers a robust clinical data warehousing solution that can be deployed in a matter of months and at a fraction of the cost of customized solutions. Though it enables complex analytics involving terabytes of detailed clinical data, its manageability and ease of use far exceed those of existing data warehouse solutions. Its scalability and flexibility easily accommodates future growth and supports new analytical requirements.

For more information

To learn how the IBM InfoSphere portfolio of products accelerate the delivery of trusted information for business optimization, please visit:

ibm.com/software/data/infosphere