



# Convergence CT Clinical Data Warehouse

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## Enabling Electronic Research

The integration of medical information from various sources is becoming critical as hospitals and medical groups attempt to gain new insights into existing patient data. While the legal mandate to protect patients' privacy remains a vexing challenge for those creating systems designed to share this information.

### **Providers are data rich but information poor!**

Of the many challenges facing healthcare executives, none is more troublesome than the widespread lack of high quality, highly integrated longitudinal patient information to enable medical decision support. The problem is that data is located in across the organization in different incarnations: Data (structured and unstructured) is dispersed far and wide, and in different formats within healthcare provider organizations. It can be found in desktop databases, data marts, legacy systems practice management and ERM applications, and many of these sources are not HIPAA-compliant.

### **Convergence CT has the Solution**

Convergence CT has developed a healthcare-aware Clinical Data Warehouse solution for medium to very large systems that, along with its clinical data model, provides the technological and organizational framework

to create and maintain a longitudinal patient record view that is HIPAA-compliant.


The Convergence CT Clinical Data Warehouse includes components to be installed onsite at hospital or medical group to load data from a wide variety of systems such as billing, lab, pharmacy and electronic medical record systems, to remove patient identifiers (patients may be re-identified when authorized), and to securely manage users and data within a centralized data repository. The solution also includes components to standardize and integrate the data from multiple facilities, and provides clinicians and analysts access to this data through a secure, web-based management system. Security features ensure the protection of identities of both patients and physicians, while tracking all activity into and out of the patient record.

### **The Architecture**

The architecture of the Convergence CT Clinical Data Warehouse is built upon three fundamental, harmonized components: Systems, Software, and Process. Scalable systems utilize the building block components of IBM's Balanced Warehouse server platform configured to support the needs of each provider's site, while enabling a seamless strategy for growth.



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The software component is the Convergence CT Clinical Data Warehouse itself which facilitates detailed patient and operational data collection, validation, consolidation, HIPAA level security, and data mining capabilities. Additionally, the data can be further consolidated into regional or national data warehouses that will share a common information framework and catalog.

The third component is a data flow architecture and process which manages the flow of data from source to target system and data model while providing crucial data verifications, characterizations, and transformations that are needed to ensure data high quality for each longitudinal patient record. Transformation of data into a standardized, analyzable format is managed by a set of 'healthcare-aware' tools such as our automated data mapping tools for loading detailed laboratory order and results data (LOINC) and medication data (NDC, brand and generic names) data.

## **FEATURES AND BENEFITS**

### **KEY FEATURES**

- Integrated application solutions with IBM Balanced Warehouse Server
- Healthcare-aware application implemented in as little as 10 weeks
- Proven technology and clinical data model
- Built-in data mining tools

- HIPAA-compliant for medical research
- Defined data types for clinical analysis
- Fully compatible with leading analytics tools and applications
- Exceeds the performance of existing data warehouse solutions
- Supports iterative, clinical analytics

### **KEY BENEFITS**

- Exceeds the performance of existing data warehouse solutions
- Supports iterative, clinical analytics
- Enables ad hoc queries and complex analytics with terabytes of detailed clinical data
- Affordability through low acquisition and ongoing usage costs
- Manageability and ease of use
- Solution scalability
- Flexibility to support new analytical requirements

# Healthcare Intelligence Dashboard



As part of Convergence CT's Clinical Data Warehouse, a *Healthcare Intelligence Dashboard* is provided that offers both Administration and Medical staff an *at-a-glance* report of the most critical data needed to provide the best care possible with associated operational efficiencies. Drill downs are available to provide immediate detail on reported measures, allowing rapid identification of significant events.

An out-of-the-box solution, the *Healthcare Intelligence Dashboard* is built upon Convergence CT's Clinical Data Warehouse and IBM Corporation's *Infosphere Warehouse Edition* servers.



The *Healthcare Intelligence Dashboard* is organized as a series of interactive charts and tables that highlight actionable measures and conditions, and offers graphical representations and breakdowns of your patient populations.

## IMAGINE THE POSSIBILITIES

**Real improvements in patient care, financial performance and efficiency will stem from the use of evidence-based medicine:**

- 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
- Disease/Condition Management - Use predictive modeling techniques to identify high-risk patients and to proactively intervene and optimize care across populations
- Benchmarking/Quality Reporting - Perform necessary data management and analysis to support internal and external comparisons and reporting requirements (JCAHO, NCQA, HEDIS, etc.)
- Patient Safety/Error Reduction - Utilize data mining approaches to uncover trends and patterns in clinical errors; identify and investigate key drivers of variation across care settings

## Convergence CT

Our mission is to develop advanced healthcare technology and analytics in support of evidence-based clinical intelligence and medical research for the improvement of patient care.

Emphasizing the “convergence” of rich clinical data with advanced healthcare-aware data warehousing, Convergence CT is able to offer a fresh, innovative, and cost effective approach to accelerating medical research, clinical decision support, patient care and operational efficiencies.



*Convergence CT is a Strategic  
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