A Smarter Way to Create the Longitudinal Patient Record

Higher complexity of data and the need to document the patient care pathway put healthcare facilities to the test. The challenge is not only a matter of volume, but also a lack of connectivity. Healthcare IT applications do not share information across the enterprise. To provide the best quality in patient care, providers must maximize the use of clinical data and enable sharing anytime, anywhere. Regulatory mandates, operational risks and the transition to a value-based care model require an end-to-end solution.

Hitachi Clinical Repository (HCR) is a new paradigm in sharing, managing and connecting all data across the healthcare enterprise. A complement to any electronic health record or electronic medical record (EHR/EMR), it securely unifies disparate information silos. It allows stakeholders to see and interact with clinical data, regardless of origin, data format or location. This patient-centric, longitudinal view empowers insightful enterprise-wide analytics while ensuring the right information is available to the right people, at the right time, every time.

Healthcare facilities can optimize patient care through a unified view of all relevant data records, regardless of where or in what format the data is generated or stored. Traditional healthcare IT platforms with separate storage applications limit data access and mobility. These platforms fail to use data to its full potential. Today, more than ever, data can come to life and add value to healthcare operations and the patient experience. Clinical analytics opens the way to the future, transforming patient data into diagnostic and operational insight.

Real-time access to relevant patient data empowers healthcare professionals to make more informed decisions that translate into better care. Providers need the confidence of a data management platform that is robust, scalable and able to bring together multiple data sources.

New information exchange models have revealed the lack of compatibility of IT healthcare applications. This lack of connection accounts for record levels of relevant data per patient. To add to the problem, the proprietary nature of these applications restricts sharing and integration with other applications. The result: limited access to the entire patient care pathway, data mobility challenges and higher costs of administration. Isn’t time for a change? We think so.
A New Paradigm to Connect the Enterprise

Healthcare organizations worldwide use Hitachi Clinical Repository as a fully integrated clinical data management platform. With its advanced vendor-neutral archive (VNA) workflow features built on an enterprise-strength infrastructure, HCR takes you into the future. It supports long-term clinical innovation and gives you the edge over your competitors.

The award-winning Hitachi hardware, software and workflow solution securely ingests and normalizes all clinical content and metadata, readying it for clinical and business uses. HCR brings the strength of the Hitachi know-how in scalability, security and analytics. By far, it gives you the best return on investment in the industry today.

Hitachi Clinical Repository

HCR is a single data management platform with advanced search and retrieval of all clinical data generated by the enterprise. It unifies existing IT applications by ingesting and storing data in its native format, regardless of where it originated. Most importantly, it allows access to data when and where you need it. In doing so, it empowers healthcare professionals to make faster and more informed decisions.

“Painless” Integration

HCR is uniquely compatible and does not interfere with existing applications. As a result, it slides “painless” into your current infrastructure. Data from all applications becomes accessible anytime, anywhere. Because it unifies existing applications, HCR can be deployed quickly, lowering the total cost of ownership.

Index Rich Metadata for Quick Search

HCR ingests and then indexes objects and their associated metadata. Users can customize metadata parameters through up to 1,024 additional fields. This rich metadata repository can upload and index over 450 MIME types. Healthcare professionals can view the entire patient care pathway from any interface or application that generates patient data: clinical, administrative or financial. The organized metadata capacity results in quick and efficient searching and fast retrieval.

HCR adds intelligent data life-cycle management to automate procedures and optimize storage based on clinical usage patterns. This feature goes a long way in supporting day-to-day operations. It results in better administration and productivity and gives healthcare professionals the knowledge to make detailed clinical decisions.

Access Without Complexity

HCR provides single-source access to patient data, regardless of format or data collection application. As a consequence, it reduces the need for expensive and cumbersome database integrations. As a repository of Extensible Markup Language (XML) data, HCR enables advanced search capabilities across the XML metadata index. It uses a variety of standard-based services such as REST Web services or S3 integrated queries. The user can further refine searches with both system-generated as well as customized criteria.

More Than a Vendor-Neutral Archive

HCR augments an EHR/EMR with unstructured data not captured by existing applications. It collects and integrates all digital medical images, electronic medical records and the associated metadata related to patient care. It unites picture archiving and communication systems (PACS), hospital information systems (HIS), radiology information systems (RIS) and other clinical IT applications, allowing easy information access. It allows healthcare professionals to make informed decisions.

Figure 1. Hitachi Clinical Repository functions as more than a vendor-neutral archive or VNA.
healthcare data-generating systems. It then stores the data as standard-based objects not restricted by proprietary formats. HCR goes beyond the vendor neutral archive or VNA through a number of valuable features:

- **Scalability.** HCR possesses scalable infrastructure capable of sustaining the largest of deployments. It aggregates clinical data from multiple applications, multiple vendors and even multiple facilities for single-source access.

- **Ingestion.** HCR unifies siloed, unstructured data through its unique ingestion engine. It normalizes the content to facilitate access to all the data, including previously untapped data. HCR captures any DICOM/HL7 message and participates in an XDS affinity domain such as the XDS Repository, PI Manager and XDS Consumer.

- **Security.** HCR meets U.S. Department of Defense security standards. It encrypts data at rest to prevent tampering, self-healing, automated policy enforcement, failover and integrity checks. In this manner, patient data remains secure and robust.

- **Data Life-Cycle Management.** HCR manages the data life-cycle through efficient automation, retention and deletion policies.

- **Costs.** HCR allows administrators to allocate storage to namespaces through tenant administration. Users can then monitor individual department production and assign a designated cost per unit.

- **Flexibility.** HCR can be deployed in a traditional capital expenditure (capex) model or the growing operating expenditure (opex) “cloud” model, either hosted privately or in a hybrid model.

- **Medical Device.** Hitachi Data Systems (HDS) is a registered medical device manufacturer and HCR is listed as a medical device data storage application.

- **Mobility.** HCR lets healthcare professionals view the entire patient-care pathway from a single source, anytime, anywhere and from any device.

- **Clinical Analytics.** HCR enriches your data so you have all the information you need to continue being the best at what you do.

- **Population Health Management.** HCR supports innovative solutions that drive down costs without compromising quality. Identify trends, maximize access and improve patient outcomes by leveraging your biggest asset: your data.

**Fulfill Meaningful Use Requirements With Interactive EHRs/EMRs**

HCR provides an enterprise-wide clinical data management platform that is vendor neutral. Our market-tested solution adheres to policy-based integration. It supports meaningful use (MU) tracking and reporting by unifying multiple distributed or centralized repositories.

HCR can collect any type of data, including nonstructured data, to be securely stored and intelligently indexed within one source. It makes complying with MU requirements easy and efficient through its extended access to the enriched data registry. The HCR solution can fulfill all your operational and storage needs so you can focus on maximizing quality of care.

**The Hitachi Storage Solution**

Integrated within industry-leading Hitachi storage technology, HCR addresses a breadth of healthcare challenges relating to collecting, consolidating, archiving, protecting and searching of sensitive clinical information:

- **Hitachi Content Platform** is an intelligent multipurpose archive that enables healthcare organizations to store, protect, preserve and retrieve clinical and nonclinical data in a single platform.

- **Hitachi Unified Storage** is an evolution in universally managing block, file and object data without compromising performance, scalability or cost efficiency. A highly functional unified architecture allows organizations to satisfy growth requirements and meet business goals. It simultaneously simplifies operations, reducing total cost and quickly adapting to changing storage environments.

**Hitachi Data Systems Global Services Solutions (GSS) incorporates the best people, solutions, tools and business methodologies to help you accelerate the realization of your IT investment. Throughout the delivery, GSS gives you top knowledge transfer on the configuration parameters, unique competitive features and a widely recognized standard of customer satisfaction characteristic of the Hitachi brand.**

**Summary**

Clinical data consolidation and management are key challenges for healthcare providers. To make the transition to a value-based care model, you need a comprehensive solution. HCR unifies data from different applications, integrates content and provides real-time access to support clinical decisions.

Our solution ensures your current infrastructure is organized, streamlined and ready to take this leap.

With today’s healthcare IT solutions, providers can view the entire patient-care pathway and make informed decisions that improve patient care. Information lies at the core of best practices in healthcare. At HDS, we focus on helping you move into the future in a cost-effective manner. This translates into lowering the cost of delivering healthcare and improving patient health.

HDS proudly offers superior solutions that combine the technologies of leading independent software vendors (ISVs) and innovative partners. In doing so, we fulfill our founding philosophy: contributing to the enrichment of people and society through technical innovation.

For further information on healthcare business solutions, please visit: www.hds.com/healthcare.

**HCR VENDOR-NEUTRALITY BENEFITS**

- **Vendor neutrality protects the independence of clinical data and maintains it in its native format. This allows you to take the first steps toward data mobility across the enterprise.**

- **Ingesting and storing data as standard-based objects prioritizes integrity and long-term asset preservation.**

- **Patient data can be made available to other applications, regardless of location or vendor. This delivers real-time information to the hands of healthcare professionals, when and where they need it.**

- **Vendor neutrality reduces or eliminates migration costs, unifying your data for single-source access.**