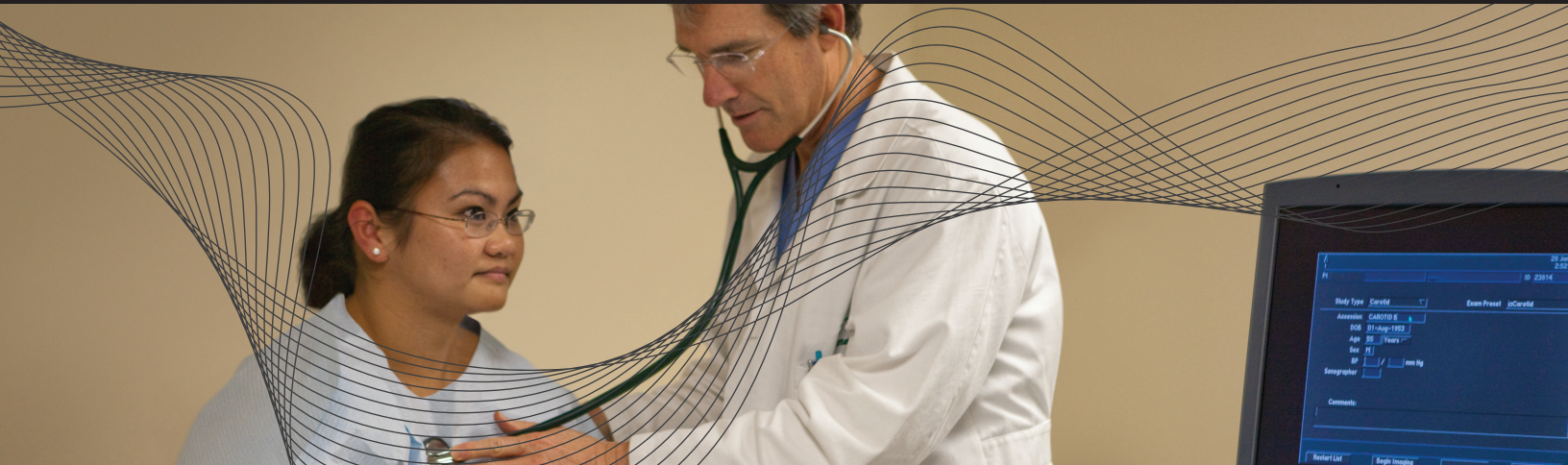


## The Storage Economics behind Hitachi Clinical Repository




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### Enable the Information Infrastructure for Longitudinal Access

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Healthcare providers face difficult choices when making decisions on IT investments. Where other industries rely on return on investment (ROI) formulas and IT value, hospitals are more likely to focus on clinical benefits. Specifically, they may look for higher patient satisfaction and improved patient safety at a lower cost of delivery. As a result, they will quickly recognize IT as an enabler, a way to make more data available to more users and therefore enhance the investment's value for patient diagnosis and treatment.

At the highest level, a healthcare organization shares many of the same data management challenges (technical, operational, economics) as other industries, including:

- Significant data growth
- Inefficient data access and administration
- Compliance and regulatory management
- Strict or reduced budgets
- Risk due to outage

But underneath the surface lays the unique challenge of using IT solutions to help deliver measurable impact on patient care while demonstrating investment value. Hitachi Clinical Repository (HCR) is one solution to this challenge.

### Realize Clinical, Patient and Investment Value

Hitachi Clinical Repository offers a unique approach to healthcare data storage via a common virtualized platform for all data and content types. HCR enables healthcare organizations to:

- Consolidate disparate silos of data for a single, accessible enterprise archiving strategy.

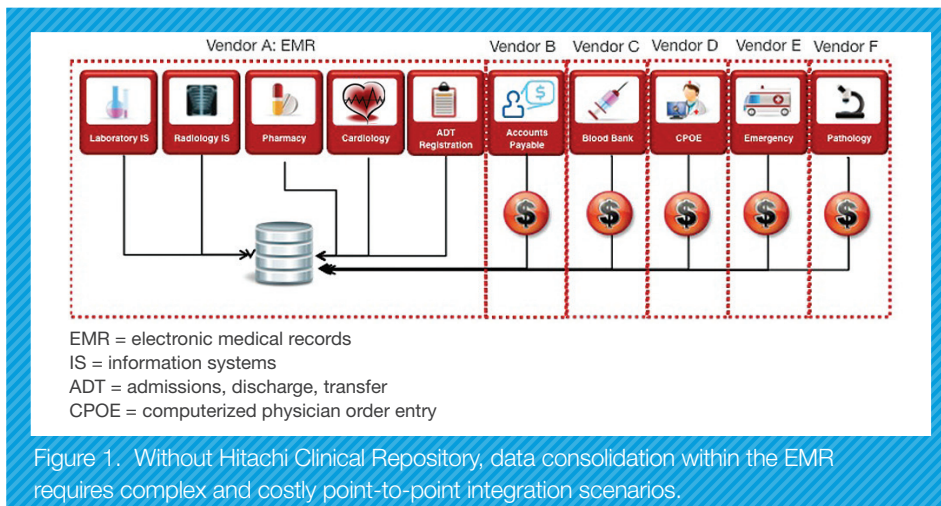


Figure 1. Without Hitachi Clinical Repository, data consolidation within the EMR requires complex and costly point-to-point integration scenarios.

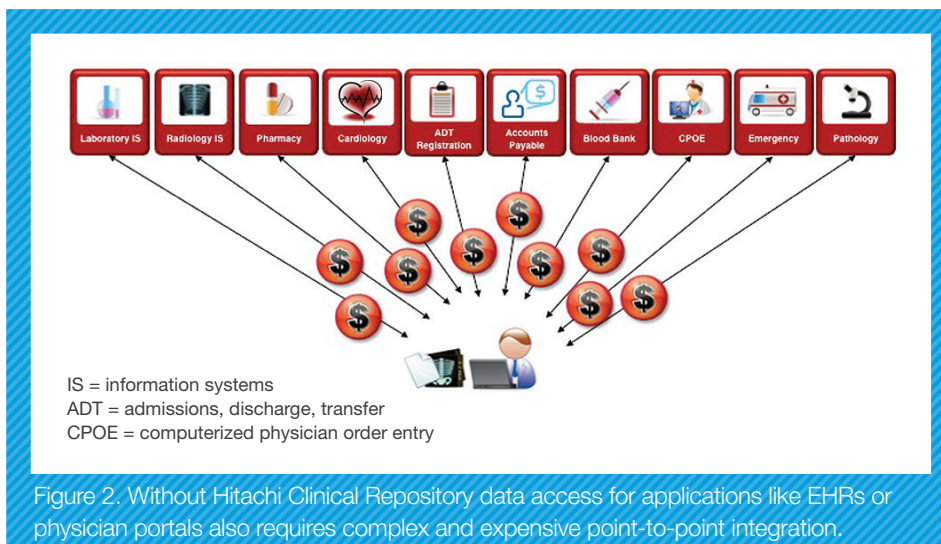


Figure 2. Without Hitachi Clinical Repository data access for applications like EHRs or physician portals also requires complex and expensive point-to-point integration.

- Establish an enterprise-wide central repository of intelligent data and seamlessly deliver a consolidated view of all relevant clinical data into a single longitudinal patient record.
- Gain access to the data needed to make patient care decisions, independent of the source applications.
- Choose infrastructure to implement healthcare-transforming technologies.

Through consolidation of different storage systems into a single, searchable, consolidated view that is independent of the source applications, healthcare providers can avoid real world challenges and realize productivity boosting and cost-saving opportunities. Some of the challenges that can be converted to cost saving opportunities include:

### Silo Consolidation Requires Costly and Complex Data Integration

Data integration involves the consolidation of data from disparate systems and sources: across departments (radiology, ambulatory, labs), across domains (clinical, business, operational) and across data types (text, video, images). It is the “brass ring” of healthcare information technology adoption. In reality, however, many provider organizations are struggling with how to reduce or eliminate complex and costly integration scenarios that traditionally have required an expensive and time-consuming, point-to-point integration effort. This can be a frustrating scenario since the original IT adoption strategy would have been built on the promise of savings and improved efficiency.

Hitachi Clinical Repository delivers relief from point-to-point integration efforts with its one-system-one-time ingestion of all data types and its capacity to enable a single, searchable, consolidated view that is independent of source applications. With its ability to capture more than 400 different data MIME types, as well as parse and index data, HCR can reduce integration efforts to a single step. This means a hospital's IT adoption plans are realized faster and at less cost. And for hospitals with long-term data integration plans, HCR provides the optimal foundation for current and future data integration projects.

### Data Access Means More Costly Integration Challenges

For providers who still face the challenge of maintaining silos of data, ensuring the ability to provide accurate, timely information to authorized health providers creates a whole new set of integration challenges. For many, applications that enable access, such as electronic health record (EHR), electronic medical record (EMR) or physician portal solutions, seem to be the answer. However, the successful adoption of these solutions is highly dependant on the data that feeds them. Interfacing with multiple systems is now seen as a prerequisite to achieve successful adoption with healthcare providers. For these hospitals, data access strategies go beyond purchasing the viewer; they require complex and expensive point-to-point integration in order to provide complete access.

At the same time, how many hospitals are lowering their expectations when faced with the challenge of integrating their EHR or portal solution across departments and domains? Integrating to disparate databases is costly and time consuming. It can quickly overshadow the savings and efficiencies that were expected with the solution, itself.

In addition to its ability to ingest disparate data, Hitachi Clinical Repository simplifies access to data via EHR, EMR or portal-like solutions by eliminating the need for point-to-point integration (see Figures 1 and 2). No longer will there be a need to individually integrate viewers to the individual departmental or domain databases. Instead, administrators can integrate once, directly

to HCR, and enable EHR, EMR or portal access to all of the data that resides in the clinical repository.

## Imaging Archives Only Solve Half the Problem

Driven in large part by a desire to simplify their enterprise storage strategy, hospitals are increasingly looking to implement vendor-neutral archive (VNA) solutions that will enable centralized access to DICOM-based imaging data. VNA vendors speak to the standardization of medical images and elimination of data migration in the future. However, the reality is that digital images only account for 20% of a patient's record (they represent 60% of the storage requirements) with the remaining 80% of the patient's medical record coming from sources other than medical imaging.

Being able to consolidate information from all departments is critical to developing a longitudinal view of a patient's medical record. This is why providers need to ensure that when they are making infrastructure decisions they consider all aspects of the hospital, not just the medical imaging component (see Figure 3).

Hitachi Clinical Repository is an enterprise solution with capabilities to accept multiple formats of data (both image and non-image), create intelligent data through metadata indexing, and then enable interoperability of this data between external applications (e.g.: facilitating clinician access to patient data from portals or EHR applications). Hospitals that today seek only to integrate their imaging data silos can benefit from the efficiency of integrating with HCR while simultaneously laying a scalable foundation for future integration of data types. The ability to leverage HCR beyond the medical imaging component provides additional benefits and, in the U.S., gets providers closer to the American Recovery and Reinvestment Act (ARRA) funding they seek.

## Retire the Application, Not the Data

For the provider organization, the adoption of IT is widely accepted as a means of improving patient care and reducing costs. As providers modernize to meet their clinical and administrative demands they face the question of how to handle legacy

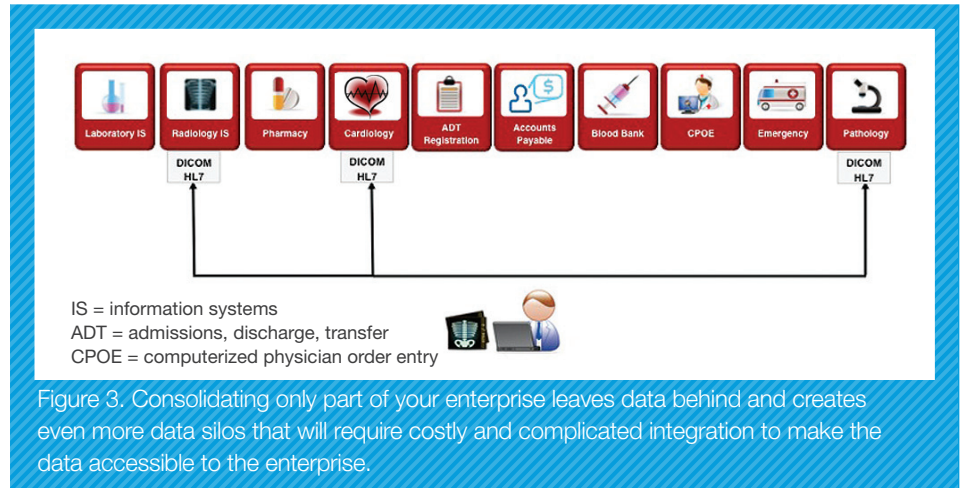


Figure 3. Consolidating only part of your enterprise leaves data behind and creates even more data silos that will require costly and complicated integration to make the data accessible to the enterprise.

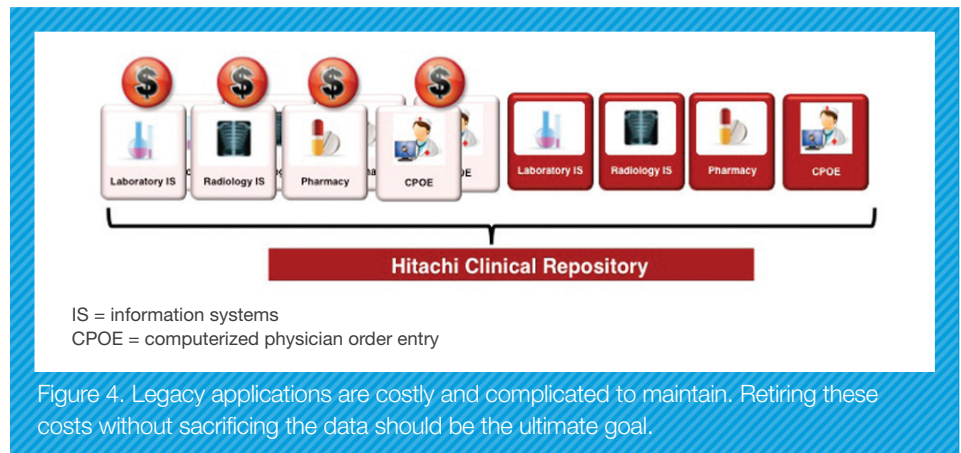


Figure 4. Legacy applications are costly and complicated to maintain. Retiring these costs without sacrificing the data should be the ultimate goal.

applications. These applications are typically no longer of high value, but they take up a significant part of IT budgets to maintain. Application retirement can represent considerable cost savings, but these legacy applications often remain in place because the data needs to be retained for reporting, regulatory compliance and clinical need. This is a very expensive proposition for most provider organizations, which must now choose between innovation and access (see Figure 4).

Hitachi Clinical Repository delivers a better choice to healthcare providers: it provides full and complete access to historical data while still enabling adoption of the IT solutions that work best for them. HCR captures more than 400 different data types. It parses and indexes the data and its associated metadata, and it creates XML files that maintain the original data without

being chained to the original application. Legacy data is consolidated into a single, searchable view and available for secure access. The need to maintain legacy systems disappears as HCR maintains the index of data and the key information that was previously only accessible through the originating application.

Healthcare providers are more aware than ever of the important role information technology can play in delivering and supporting better patient care. In many ways they face the same issues as private sector enterprises when it comes to keeping their customers satisfied, reducing costs and improving productivity and efficiencies in every area.

As the disjointed method of delivering healthcare becomes a thing of the past, so too does its disparate, disconnected,

## HITACHI CLINICAL REPOSITORY: TCO ELEMENTS

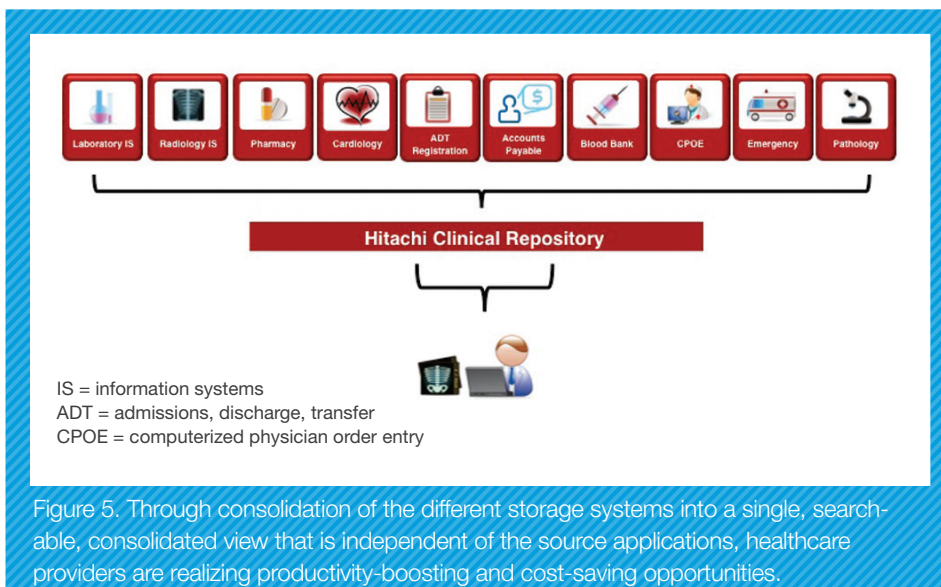
- Simplified data ingestion with little to no integration required in order to consolidate the patient's longitudinal record
- Indexing and standardizing of the metadata, which improves interoperability of patient data without expensive point-to-point integrations
- Access to the metadata repository and the patient longitudinal record through a single point of integration, without the need for costly point-to-point proprietary database schema integrations
- Simplified data management, which reduces hardware and software costs while enabling redeployment of important resources
- Leverage of legacy assets for the life of the data

departmental approach to measuring total cost of ownership (TCO). To truly understand the costs and benefits of an enterprise storage strategy, healthcare organizations must also examine the productivity improvements and patient care benefits that solutions like Hitachi Clinical Repository bring to clinicians at the point of care (see Figure 5).

### Summary

In combination or individually, cost savings are evident in just 4 Hitachi Clinical Repository implementation scenarios: consolidation of data, access to data, optimization of medical imaging data and ensuring future access to data. HCR significantly lowers the complexity and therefore the TCO of your IT infrastructure while delivering measurable clinical efficiencies. Ultimately, this creates a benefit with direct patient impact as it enables a reduced cost of healthcare service delivery and an improvement in patient care decisions.

For further information regarding healthcare-based solutions, please visit: [www.hds.com/healthcare](http://www.hds.com/healthcare).



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