System Replacement Impact on Legacy Data Retention

White Paper

harmony
HEALTHCARE IT

Introduction

We are pleased to present System Replacement Impact on Legacy Data Retention to share information and serve as a roadmap for healthcare providers engaged in determining and implementing best practices for managing legacy data.

Now, more than ever, healthcare providers of all sizes are faced with system replacements due to product dissatisfaction, system upgrades/migrations, application sunsets, or mergers and acquisitions. In addition, there are strict guidelines at the organization, state and federal level that require health data to be readily accessible, sometimes for decades after the date of service.

In this paper, we'll examine:

- Data retention exposures when a clinical or financial system is replaced
- Strategies for managing legacy data when a clinical, financial or administrative system is replaced
- The benefits of active archiving to satisfy retention requirements
- Our findings — how healthcare organizations handle legacy data management after system replacement
- A look ahead at the proliferation of health data volume with a focus on maintaining legacy data

This information is meant to provide a broad overview of general issues and considerations that we encounter in our daily work. It spans hundreds of healthcare providers over the last several years. Your feedback is important to us and we look forward to an opportunity to provide you with a specific consultation for your organization.

James E. Hammer, PMP
VP, Operations & Product Development
jhammer@harmonyhit.com
(800) 781-1044, ext. 145

Situation Analysis

Healthcare IT teams today are faced with a growing list of priorities — all of which compete for their limited time and attention. In addition to the routine support and maintenance of systems, these teams are now called upon to support emerging delivery care models, to ensure systems will meet the next set of requirements in the Affordable Care Act (ACA), and to streamline the overall operational technology mix. So, when the need arises to replace a clinical, financial or other system, it is often difficult to find the time and attention required to successfully pull off such a complex transition — especially when compounded by a need to make historical data from the legacy system readily accessible.

The focus of this paper is how to successfully incorporate an archive into the healthcare organization to help solve the traditional challenges around system replacement and legacy data management.

There are several events during the course of the healthcare business lifecycle that may call for system replacement, including:
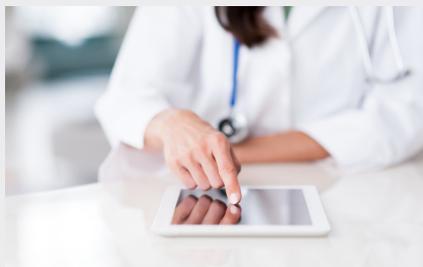
- Merger & acquisition
- Vendor consolidation
- Vendor or product dissatisfaction
- Product sunsets
- Facility closure/relocation
- Provider retirement/death

When a hospital or practice replaces an old system with new, it must consider how the data from the legacy system will be retained. According to state mandates, protected health information (PHI) must be retained for anywhere from 7 to 25 years depending on data and facility type. For large healthcare organizations, it is not uncommon to find 30-40 legacy systems that contain PHI and other data which must be retained to comply with regulatory or internal policy requirements.

Healthcare IT teams are often faced with the ongoing challenges of maintaining these legacy systems. Not only is supporting multiple legacy systems across a variety of platforms a time-consuming and difficult task, but, it also can be quite costly to keep software and hardware support and maintenance agreements current.

This leaves a challenge - what should be done with those old systems being kept around due to data retention policies?

The good news is there are alternatives to keeping the old systems alive and parked in a costly spot in the data center. The planning and prioritization for decommissioning and data migration can be proactively executed. Cost reduction and ROI analysis can drive the priority with which systems should be decommissioned and the data archived.

Data retention exposures and cost implications when a clinical or financial system is replaced

The first step in planning a data management strategy is to review the legal and regulatory mandates for legacy data from a national, state, facility type and accreditation perspective. This may include both patient and employee data. Compliance with HIPAA and numerous other regulations are must-have considerations that every healthcare organization is obligated to consider as they build their plans.

The next step is to determine what data is required, cost effective, or even possible to migrate to the go-forward solution. In clinical data terms, often the last 18-24 months of problems, allergies, medications and immunizations is migrated into the new system. Our clients face considerations like "should or shouldn't we bring forward patient progress notes, problem lists and medications? Will the new vendor allow it? How will it impact our go-live date?" First, prioritize what is needed. Then, determine what data elements <u>can and should</u> be migrated. Legacy vendors — knowing they are going to lose a client — are often less than cooperative and have been known to charge the equivalent of "ransom" fees to provide extracts of data. Information Blocking rules from the 21st Century Cures Act now prohibit that behavior, and, there are alternative resources available to extract and migrate that data.

Once migration is complete, the goal is to offer an easy to use archiving solution to provide quick access to all of the data from the legacy system when needed. This eliminates both the need to keep that old system up and the need to keep staff trained on how to use it. If legacy systems are not decommissioned, the maintenance costs continue to build and historical data would potentially remain segmented in disparate legacy systems.

"We've helped hundreds of healthcare providers - both acute and ambulatory - save their data in an easy to use archive and reduce costs in terms of maintenance, infrastructure and alleviating the additional personnel required to keep multiple legacy systems alive," says James E. Hammer, VP, Operations & Product Development at Harmony Healthcare IT.

Record Retention Strategies When Systems Get Replaced

	Pros	Cons
Convert All the Data	• All records stored together	• High cost and complexity • Timeframes • Data Mapping/Integrity
Maintain the Legacy System	• Short-term, easy access to data	• Technically, vulnerable over time • HIM ROI from multiple systems • User training as staff turns over • Legacy vendor maintenance cost
PDF the Records	• May entail less time/cost than discrete data conversion or archiving	• Buries data in multi-page files • User access tracking/audit is less reliable, if available • Query/analytics compromised
Archive the Data Discretely	• Consolidation of legacy data silos • Easy data access/sort/filter/query • Less system maintenance cost • Secure, compliant record storage	• Some up-front costs for legacy data extraction and migration

Convert All the Data

Sometimes, usually early in the planning process, healthcare organizations discuss the possibility of migrating all historical patient or facility operations data into the go-forward system. The higher cost of this approach, along with the time and potential risk to the integrity of the migrated data, usually rules it out as an option.

Maintain the Legacy System

Maintaining the current system in a legacy mode offers some benefits as the current system can be left "as is" however, moving forward, the risks include maintaining an outdated system for as much as 25 years. This could leave the application vulnerable over time for system failure. It can also be difficult to work in multiple systems and there likely will be staff turnover which will leave a gap in the knowledge base of how to operate multiple systems. Vendor costs for maintaining the legacy system over time must also be considered.

PDF the Records

Occasionally, providers consider converting legacy data into PDFs for long-term storage. However, this approach is generally not any less expensive than a discrete archive and it may leave information buried in pages and pages making it very difficult to locate required information. User access and audit history is often not available in this approach. Further, if data analysis is later desired, it will be inaccessible within the PDF documents.

Archive the Data Discretely

An electronic archive can be a positive solution on many fronts. Data from numerous source systems can be migrated into one active archive for easier search, accessibility and release of information workflows. Return on investment includes cost savings over time in terms of maintenance, infrastructure and alleviating the additional personnel required to keep multiple systems alive.

Benefits of Active Archiving

There are many benefits to building a long-term active archiving solution into a healthcare IT portfolio, including:

Cost Reduction
Streamlining the long-term storage of historical PHI now will save money in the long-run. Not only will it reduce costs paid for the support and technical maintenance of an antiquated system, but, it will save on training new staff on how to access information over the next 7-25 years.

Minimizing Risk
As servers and operating systems age they become more prone to data corruption/loss and cyber attack. The archival of patient data to a simplified and more stable storage solution ensures long-term access to the right information when it's needed for an audit or legal inquiry. Incorporating a data archive avoids the costly and cumbersome task of a full data conversion.

Compliance
Providers are required to retain data for nearly a decade or more past the date of service as mandated by state law. An active archive storing discrete data data elements allows for advanced search, sort and filter capabilities that speeds eDiscovery and enables rich release of information workflows.

Simplified Access To Data
By migrating, scanning and archiving medical documents, data and images, the information becomes immediately accessible to those who need it. Through Single Sign-On, clinicians can access historical records from within the go-forward EHR. HIM and research staff can also bulk print or migrate records or data sets.

Merging Data Silos
Decades worth of data from disparate legacy software applications is archived for immediate access via any browser-based workstation or device. Also, should paper charts still be lingering, they can be scanned, indexed and contextually searchable within the archive.

Easy Access is Critical

A key consideration to think about is the value of the data being retained. As planning and implementation takes place – surprisingly – the historical clinical, financial or administrative data is often an afterthought.

Patient Record Retrieval

Think about the patient who comes in for his or her annual physical and only the last six months of lab data is available. What about the test that was done one year ago to rule out a cardiac issue, but is now buried in a legacy system? Will a new test get ordered just because the old one cannot be readily located and viewed?

Reporting & Analytics

Any solution for data archival should be easily accessible from across the go-forward systems. This is not simply for immediate access to individual patient visit history, but for the wealth of value it provides for analytics across for analytics across patient populations as well — especially in situations like COVID-19. Reporting on historical data is a topic often raised after an "aha" moment when it's realized it can't be done because legacy data was archived in PDF format only.

Findings

The Harmony Healthcare IT team works with hundreds of healthcare organizations from small practices to major Integrated Delivery Networks (IDNs). We find that many of the challenges, solutions and benefits are similar across the healthcare IT landscape.

Challenges

These are the typical challenges our team encounters in its work across the country. Do you recognize similar challenges in your organization?

- High cost and complexity to conduct a full/partial data conversion from legacy systems
- Complexity and accuracy of data extraction and mapping
- Trying to migrate and merge data into an existing system where some records already exist
- Complying with ever-changing data retention requirements (7 year minimum up to 25+ years)
- The cost of maintaining legacy systems
- Risks associated with relying on aging hardware to keep legacy systems up and running
- Lack of legacy system expertise as time passes
- Strained relationship with legacy vendor(s)
- Excessive fees and individual vendor contracts containing lengthy timelines and various file formats when dealing with source system vendors to extract data

Solution

Utilizing a single, consolidated archive environment makes sense, because it is:

- HIPAA compliant
- A virtualized solution that is easily deployed into an existing infrastructure, or can be remotely hosted
- Open source architecture to keep recurring costs down
- Easy to access to view or print entire historical records
- A single source for accessing all historical source system data
- A repository for both discrete data elements and scanned documents
- A single vendor responsible for the extraction, migration and archival of required data

Benefits

The Harmony Healthcare IT team provides end-to-end project management and manages the data extraction from legacy systems. This alleviates the healthcare organization's team or legacy vendor from having to perform this part of the project. Our team keeps the entire process simple. The benefits healthcare organizations can expect from a data archive include:

- Required data is retained for long-term easy access
- Legacy system(s) decommissioned (saving costs)
- One application to access data from disparate legacy systems
- Lower software support costs
- Lower hardware costs
- Complete ROI averages about 18-24 months

Conclusion and Looking Ahead

The amount of health data is increasing exponentially, which also means the amount of historical data is skyrocketing as well.

By 2025, global estimates suggest 463 exabytes of data will be created each day. While it is difficult to picture the overall volume of data in the world, one visual is that with 44 zettabytes of data in the current digital universe, this represents 40 times more bytes than stars in the observable universe. While some of that new data doesn't need to be stored long term, experts predict that about 7.5 ZB (zettabytes = 1021 bytes) of data will need a long-term home in 2025, up from about 1.1 ZB in 2019. This is a 581% increase.

In healthcare, current estimates suggest a single patient generates close to 80 megabytes each year in imaging and electronic medical record (EMR) data. Bottom line: The amount of patient health data is increasing exponentially, which means the amount of legacy EHR data is skyrocketing as well.

Healthcare organizations are faced with managing this tremendous amount of data along with an increased demand for real-time access to complete patient records. This is in conjunction with streamlining their application portfolios to decommission legacy applications and keeping protected health data accessible for compliance, research and reporting. It's a tall order for healthcare IT teams and an active archive can be an intelligent decision as part of one's overall data management strategy.

Many healthcare organizations have implemented, or are in the process of working with private or public Health Information Exchange (HIE) solutions that enable numerous healthcare organizations to securely share medical data for their patients. Archived data can be made available to the HIE and further benefit patient care.

The federal government continues to [incentivize](#) and encourage providers to join HIEs, which could act as a healthcare data network for providers and as a resource for integrated data reporting, including test results and patient demographic information that could prove critical during widespread health crises like COVID-19.

As healthcare IT expectations continue to evolve with expanding programs like HIE's and other applications for patient and other data, it is even more important to have a strong legacy data solution in place.

Having a solid legacy data archive is a smart step forward in managing historical patient and operational data well into the future. This solution offers compliance with the numerous local, state and national regulations and a single, easy to use solution for historical information. As healthcare systems streamline their go-forward systems to integrated solutions, having a single archive provides an easy, one-stop-shop access to historical records.

Blueprint for Future Legacy System Acquisitions
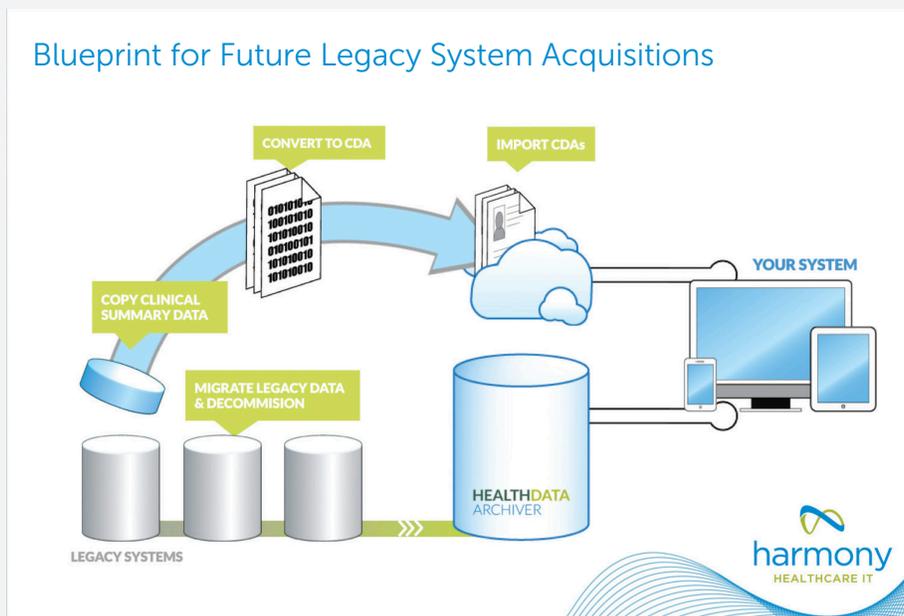
About Harmony Healthcare IT and HealthData Archiver®

Harmony Healthcare IT (HHIT) is a legacy data management firm in South Bend, IN that archives patient, employee and business records for healthcare organizations nationwide. To strengthen care delivery and improve lives, HHIT moves and preserves vital information in a way that keeps it secure, compliant, accessible and usable. Since 2006, the HHIT team of experts has extracted, migrated and retained billions of records and petabytes of data from over 500 different clinical, financial and administrative software brands. That information is secured on a cloud-based storage platform, HealthData Archiver®, which is live in production on Epic's App Orchard. Harmony Healthcare IT has been ranked #1 in the 2020 Best in KLAS Software & Services Report as a Category Leader in Data Archiving, and as the top data extraction and migration healthcare IT company according to Black Book™ Market Research in 2019 and 2020. HHIT was also selected by Modern Healthcare as one of the 2019 Best Places to Work in Healthcare.

Harmony Healthcare IT is a member of the Active Archive Alliance, a vendor-neutral, trusted source for providing end-users with technical expertise and guidance to design and implement modern active archive strategies that solve data growth challenges through intelligent data management. Active archives enable reliable, online and cost-effective access to data throughout its life and are compatible with flash, disk, tape, or cloud as well as file, block or object storage systems. They help move data to the appropriate storage tiers to minimize cost while maintaining ease of user accessibility.

FOR MORE INFORMATION, PLEASE CONTACT:

Shannon Larkin
VP, Marketing & Business Development
slarkin@harmonyhit.com
(800) 781-1044, ext. 109

James E. Hammer, PMP
VP, Operations & Product Development
jhammer@harmonyhit.com
(800) 781-1044, ext. 145