Boston Software Systems

White Paper

EHR Migration Guide - Ensuring Patient Safety, Satisfaction and Clinical Adoption

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Introduction

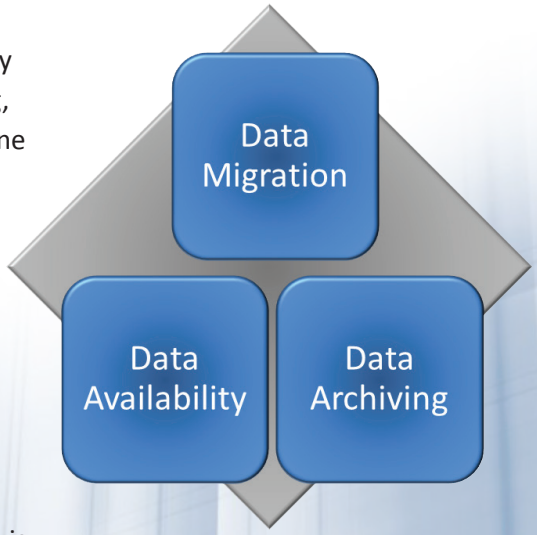
There are a variety of factors that drive healthcare organizations to either replace or upgrade existing applications. This white paper examines the basic considerations and challenges encountered in migrating and making data available in a new system. It offers solutions to ensure your migration works within your budget, provides you with the most complete record of your patient's history and ensures completion within your timeframe. The specific examples will be related to Electronic Health Record (EHR) replacement or major upgrade. For the purpose of this white paper, replacement or upgrade will be generically referred to as "migration." However, many of the challenges and solutions presented here are not unique to EHR migration. In fact, the basic problems are likely to exist when replacing or upgrading any application that stores complex data.

Data Matters

Healthcare data presents unique and significant challenges to migration and data availability. While the challenge of not having the data – particularly the right data – might appear to be just part of what happens when deploying a new system, in a hospital setting it is imperative to have a complete picture of the patient's history. Not having patient history available can create challenges ranging from patient care, safety, and satisfaction to disruption in billing and reduction of the number of patients seen. Ultimately, this can slow the adoption of a new EHR, putting its deployment and funding at risk.

It is beyond the scope of this white paper to detail all the data that needs to be made available in your new EHR as your hospital moves through the migration process. However, throughout the process there are highly specific availability requirements related to the data moved from the legacy systems and what data needs to be available. It is both the specific requirements combined with the intertwined dependencies of this data that make migration difficult. In general, the more complex the data the greater the likelihood that something about that data will make it difficult to import into the new system safely and efficiently. When data does not match the requirements of the new system and cannot be moved by an interface, human resources are required to perform massive amounts of data entry.

From a strategic standpoint, a typical migration involves three primary considerations. While each topic will require specific decision-making, these considerations are closely intertwined and decisions made in one area will influence those made in another.



I. Data Migration refers to moving the required data from the old to the new system

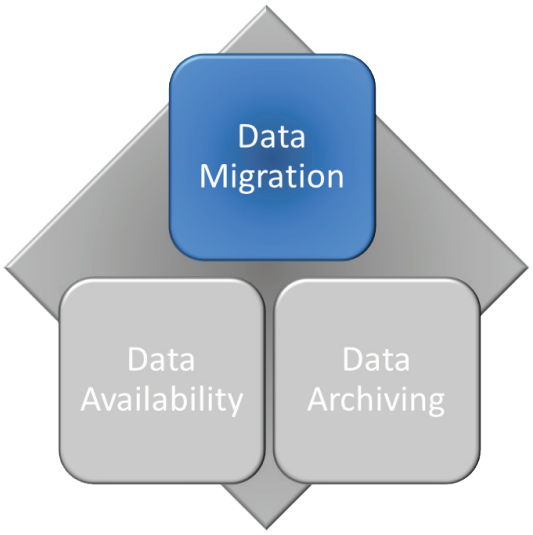
II. Data Availability refers to providing access to patient data during and after the migration

III. Data Archiving refers to supporting the process of shutting down the legacy systems

Each of these areas requires planning; an understanding of what data is needed to provide operational excellence, drive patient care, safety and satisfaction, meet the requirements for government funding and drive adoption of the new system.

I. Data Migration

In most cases, a migration is motivated by a number of factors and you have developed strategic objectives for the process. This may include completely eliminating old systems, thereby alleviating their cost and management burdens on the organization. Data needs to be completely extracted and moved into the new system to ensure the most accurate historical patient data is available to support patient care and adoption of the new system by the clinical staff.

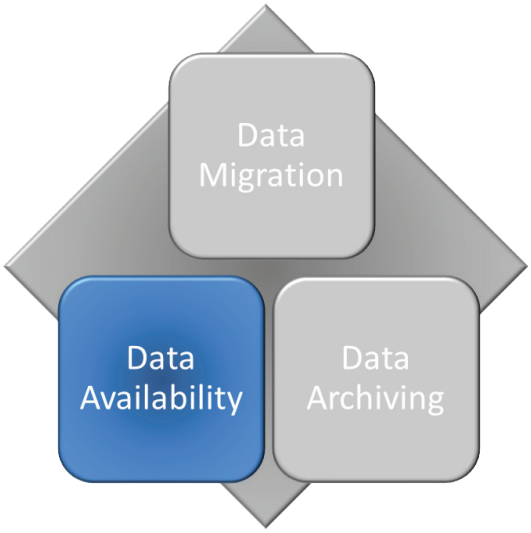


It is possible to build interfaces to move data from the legacy system that fit the format and requirements of the new system. However, you will encounter legacy data that is not a fit in the new system and will need to be extracted, crosswalked and migrated into the new EHR with or without an automated solution.

Typically, this is unstructured data. Unstructured data is not in a form that a target system can easily accept or, more importantly, it is difficult for a user of the new system to access. Examples of unstructured data include historic patient chart data that may contain free text fields that need to be translated into discrete data elements. This type of data will need to be validated and may need to be formatted, translated, compared against a crosswalk or evaluated for quality before importing it to the new system.

II. Data Availability

Having accurate patient data available to clinicians after a migration is critical to supporting adoption of the new system and ensuring clinical workflow is not disrupted. However, you may find that not all departments can use the new system right away since it is unusual to perform a universal deployment across all areas at one time. There is often a period of time when staff are looking at data in the legacy system, but documenting in the new EHR; or they can review the current patient record in the new system, but are still documenting in the old one. Additionally, there may be times when interfaces are not yet developed to pull data from the legacy system or from the new EHR into administrative systems for billing, registration or other departments.

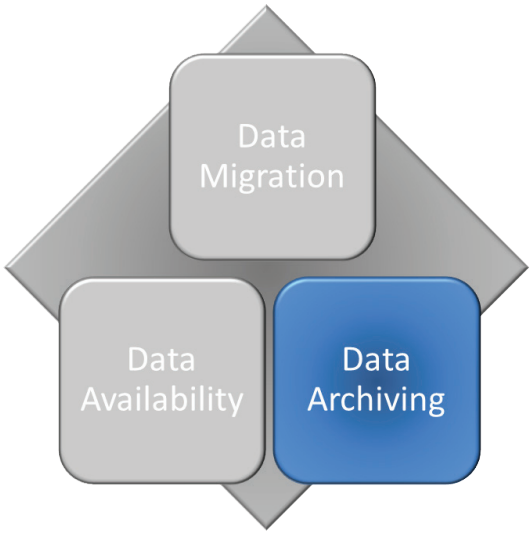


The adoption of a new system inevitably brings multiple changes to the day-to-day workflow. For the clinical staff, the need to sign in and search multiple systems is not only disruptive to the clinical workflow; it can reduce the number of patients seen and ultimately harm the adoption of the new system. There is considerable burden and risk in asking clinical staff to capture data at the point of admission or in trusting the patient to remember the specifics of his/her history.

While there are vendor solutions available to address the problems of access and context management, they are expensive and require significant time and resources to deploy. Having a second enterprise deployment for legacy systems that are on a path toward decommissioning is not a viable solution from either a resource or financial perspective. Most importantly, these solutions do not support the vision of having One System - One Record. Because you will find there are short periods of time following your go-live when you need to access legacy systems, you must be able to deploy a solution like this quickly and be able to move it easily from one location or region to another based on the needs of the clinical staff and timing of the legacy system's decommissioning.

III. Data Archiving

After go-live and once your staff has made it through the initital phases of using their new EHR, it is time to decide what systems will be decommissioned and what data will be archived. There are a variety of archiving solutions available to hospitals, but it is not the intention of this white paper to review each vendor's products. No matter which approach is taken, there will be a mix of records including those that need to be scanned into the archive solution and those that are added to the new EHR as the final step in creating the most complete EHR possible.



The approach here is similar to what was discussed in Data Migration. Once you have selected an archiving solution, you will need to move records into it. This will require a significant manual effort scanning documents or manually entering information into the EHR. The process of scanning documents can take months and requires a significant effort in both resources and cost.

In each step within the deployment process there are opportunities to automate and standardize the areas of Data Migration, Data Availability and Data Archiving. In the next few sections we will cover how the automation impacts each of these areas, the benefits of using automation and why it is important to consider automation as critical part of each step in the migration process.

How Automation Technology Works

Hospital systems across the country are using Boston WorkStation® to reliably automate thousands of tasks. Boston WorkStation does exactly what a person does, only significantly faster and with 100% accuracy. Making an automation platform a central component in a migration strategy offers a number of advantages.

The migration automation platform, Boston WorkStation:

- Standardizes the migration process for each location and region
- Drives adoption of the new system

- Supports patient care, safety and operational excellence
- Removes the risk of human error associated with manual data entry
- Eliminates the often extraordinary costs associated with increased staffing
- Keeps the project on time and under budget

Now, let's examine the ways an automation platform can positively impact each step of the migration process and lead to faster adoption of the new EHR.

> *"By implementing the automated migration platform from Boston Software Systems for our four hospital go-lives, we are positioned for success in our appointment conversions for radiology, cardiology, and OR. It allows us to save a ridiculous amount of FTE overtime and temp costs while increasing the accuracy far beyond human capability."*
>
> Doug Tabor
> Yale New Haven Hospital

Automating Data Migration Using Boston WorkStation

It is easy to see the benefit of using Boston WorkStation to solve data migration challenges. After all, the alternative solution is to use people. Any time using people is proposed to solve a data import problem, that problem can be solved with Boston WorkStation. The process is straightforward: Boston WorkStation is configured to perform the exact same work that a person would do. It does not matter what the target application is – if a person could type the data in, so can Boston WorkStation. In addition, Boston WorkStation will comply with the exact same data quality rules that a person would use and will never deviate by trying to force data into the system with wildcards as human users would.

Boston WorkStation makes complex data quality rules easier to implement than they would be when creating a bulk load, because the vendor did much of the work for you when the system screens were created. Since the end user needs to be prompted and guided when using the application, bad data will cause a popup or error message to appear on the screen, something that Boston WorkStation will react to accordingly, just like a trusted employee would do. Prior to being entered into the new system, any individual piece of information can be compared against a crosswalk (the legacy system calls it X, the new system calls it Y) or against defined business logic, or even against a lookup into another system. Boston WorkStation excels at taking unstructured data and translating it into discrete data for the new system. For instance, free text that indicated a patient was a smoker could easily be used to instruct the automation to complete fields in the new system that relate to smoking habits.

Handling Large Volumes

Boston WorkStation is routinely used to move anywhere from thousands of records to millions of records. Using virtual machines, Boston Software Systems manages the migration across hundreds of instances of Boston WorkStation working in concert. Obviously, each transaction is being entered into the screen individually. Boston WorkStation is not a push/play solution where all the data is stuffed into a system instantly.

Since Boston Software Systems designs and builds the workflow based on your unique requirements, you have complete control over how the data lays down in the new EHR. Using Boston Software System's process of Active Data Quality (ADQ), we build, validate, test and run the automations, monitor the results and tune the workflow as needed to provide the best results possible. Before the production run starts, we provide you with the reports and benchmarks you need to understand exactly what the percentage of success will be.

Overcoming Objections to Automation

Objections may arise to using an automation platform, but these objections are not based on technology. Experience shows that a painless migration combines vendor-provided imports and the use of Boston WorkStation. There should not be an adversarial relationship between EHR vendors and Boston WorkStation, quite the opposite; Boston WorkStation cannot harm or influence the new vendor's system; there is no risk of data corruption or impact on downstream systems, nor is its use detectable by the new system. Boston Software Systems is here to support the adoption of your new system. You decide what data gets moved, how many records you want keep outside the migration for training and what systems will be decommissioned. We simply support your requirements.

Conclusion

Mass movement of critical data is inevitable in every healthcare organization. As systems are updated and new systems are introduced, hospitals look for the least painful way to migrate data. The basic steps are consistent with any data migration. If performed manually these processes can compromise data quality, increase costs and jeopardize the project timeline.

Automation technology should play a key role in any migration plan. Boston Software Systems' automation platform, Boston WorkStation, is programmed to act just as a human would, but many times faster and with 100% accuracy. Boston WorkStation eliminates the concern over data quality, the expense of additional staffing and the burden and risk of having clinical staff searching in multiple systems or capturing data at the point of admission. Boston WorkStation gives you the ability to standardize the migration process and keeps the EHR migration on time, under budget, and can help in the adoption of the new system. Understanding the key aspects of migration and the role of automation will ensure timelines and budgets are met.

> *"Our EHR migration has been successful thanks in part to Boston WorkStation and the staff at Boston Software Systems. Their team was extremely dedicated in helping us get the new EHR system connected and running smoothly."*
>
> Joe Beahm
> Rockingham
> Memorial Hospital

Boston Software Systems revolutionizes how healthcare works by providing error-free automation for every application. Designed to meet the changing needs of the entire organization, Boston Software Systems offers the most sophisticated automation and migration platforms available and has the best reputation in the industry for, customer support and giving customers peace of mind that critical data is 100% error free. Over a thousand organizations respond to regulatory and business initiatives by using Boston Software Systems' technologies to automate and improve processes across the enterprise.

For more information about our products or services, please visit the company's website at www.bostonsoftwaresystems.com or call 866.653.5105.

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