Power Down: Best Practices for Managing and Decommissioning Legacy Systems

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A successful decommissioning project depends upon collaboration, leadership, and retention practices based on an enterprise approach to information governance and management. For organizations that have not established retention policies, best practices may emerge along with lessons learned during the conversion to new systems. Proactive planning, however, is best. This article chronicles the journey of Denver Health and the complexities the organization faced when decommissioning legacy systems, and offers best practices for others to follow.

When Denver Health began the process of decommissioning legacy systems following the implementation of a new electronic health record (EHR) system in April 2016, what seemed like a straightforward process soon became a complicated and challenging project. Initially, the goal was to ensure a way to turn off legacy applications quickly, shut down services, and save as much money as possible. As the process evolved, complex issues around data retention and compliance had to be unraveled and resolved.

To further complicate matters, Denver Health is an integrated delivery network (IDN) involved with stakeholders at various levels such as city/county/state government, behavioral health, and public health clinics. The organization had used a single document management system for many years to serve multiple purposes—legal medical record, human resources, business office, and more. Given the complexities, turning off the old system required ensuring "a home for every piece" in the new system. In addition, extensive training for all users was needed to establish a high comfort level and ensure the ability to find documents as needed.

Seven Best Practices for Decommissioning a Legacy System

Below are seven recommended best practices gleaned from Denver Health's decommissioning project.

Build a multidisciplinary team. Include representatives from all departments to develop retention policies and procedures—HIM, IT, clinical, compliance, legal, financial, privacy, and security—with support from senior leadership to ensure accountability.

Make information governance a top priority. Once the team is assembled, define data and information management responsibilities including proper conversion, access, retrieval, storage, and disposition. Complete DRATs for all systems. Determine what data you have, where it resides, how it will be used, and what will be converted. Do a detailed inventory of each system/application inventory—name, implementation date, description, where data flows, and what data comes in and goes out. Ensure understanding of laws that govern data retention and associated timelines. HIM plays a critical role in conveying the interrelationships of all data.

Determine specific requirements for different types of records. In addition to the patient health record, consider other types of data and information such as business office, legal health record, human resources, government entities, behavioral health, and public health.

Understand your contracts. Communicate with vendors up front and early in the process to ensure a thorough understanding of contractual obligations and time frames. Document implementation dates and any requirements for prior notice of shutdown.

Implement dashboard and tracking tools. Use data analysis to track activities, monitor progress, and keep stakeholders informed. It is important to provide status reports on a routine basis to sustain a productive process and hold everyone accountable.

Conduct training and education. Train users at all levels to promote understanding of retention policies and procedures. Address and alleviate their concerns regarding retention, access, and reporting. As part of the DRAT process, communicate clearly to prepare users for legacy system shutdown.

Partner with experienced professionals. Consider engaging outside professionals who bring valuable experience and expertise to help manage your project. These experts can devote focused time and attention, working collaboratively with your team to understand concerns, address challenges, and seek the best solutions.

A Collaborative Approach Builds Consensus

Pressed with critical decisions—what to keep, what to destroy, how to retain or archive information—the health system sought outside experience and expertise to guide the decommissioning project. With professional help in place by November 2016, the next step was to assign a Denver Health project manager and complete a Data Retention Analysis Table (DRAT) for each system. The DRAT was designed to identify each vendor and application, all stakeholders, where data feeds, data retention requirements, application description, and functionality—including what each system actually does, first data date, outputs, future use of data such as audit logs and clinical data requirements, etc. Based on this information, key questions were raised: Do we need data in two places? What are the terms of contractual agreements? What exactly are we paying for? How can we retain required data in a cost-effective manner?

The Denver Health project manager, Patrice Chevalier, first focused on compliance and potential legal ramifications. Weekly meetings included representatives from compliance, legal, IT, financial, security, clinical, health information management (HIM), and data storage to complete DRATs according to a comprehensive plan. The business manager assisted with contracts and budgets. The data storage manager served as data architect to determine how to manage data and report information in a meaningful way. Others offered input from various perspectives on retention, legal, regulatory, and reporting requirements. The goal of this collaborative effort was to create a retention process based on consensus. As experts on data retention, HIM held a key seat at the table.

HIM played an integral role, engaging end users and serving as a conduit to reach consensus on retention decisions. Their perspective provided "big picture" guidance on understanding how data is used and how it flows, from what is collected up front to what is needed on the back end. HIM's participation was essential to DRAT development through their understanding of the designated record set, audit logs, compliance, legal requirements, privacy, and all other elements of data governance.

Examples of Challenges and Lessons Learned

Dealing with difficult challenges is an integral and enlightening aspect of system implementation and process improvement. At Denver Health, learning from the challenges eventually led to successful outcomes—including the following examples:

Challenge #1: Building consensus among various stakeholders was no easy task. There was disagreement regarding who should be the defining authority for retention decisions. Should it be compliance, operations, business owners? Who was most familiar with legal considerations, compliance regulations? From different perspectives came a collective concern—losing applications, not knowing how to find and access data. Even though the data was available in the new system, many users were more comfortable with old applications. Finally, the project team members took a harder stand, saying: "You will lose this application. The data will be available in the new system. This is the date it will happen."

Lesson learned: As part of the DRAT process, communicate clearly to prepare users for legacy system shutdown. For example: "Your system will be shut off in six months. How would you like your data? Do you need to keep that data? Here's your line in the sand. We're here to help and make sure you have the data you need once you've crossed that line."

Challenge #2: Facing the unknown, a new frontier, proved more complex than anticipated. Case studies on this type of project were not available. In looking at other hospitals, there were no best practices to follow. Some had chosen to store old

applications and servers in a data center, hoping to generate reports if needed at a later date. Most were no longer paying support, resulting in additional costs if access to data was necessary, and no guarantee of producing the required data.

Lesson learned: Create a proactive strategy up front to manage legacy system data and plan for the shutdown of old systems. Organize and implement a team approach involving all stakeholders to establish retention policies and procedures for all types and formats of information. Ensure effective project management, collaboration, training, and implementation.

Challenge #3: Up front understanding of contracts should have been a top priority to avoid obligations to pay vendors beyond shutdown. In some cases, the project team was not aware of a prior notice clause. For example, once Denver Health was ready to shut down, the project team found there was a 60-day notice that had to be given at the beginning of the month. So Denver Health ended up paying longer than it should have. In another scenario, the date set for shutting down the billing system was not accurate due to pending Medicaid payments. As a result, it became necessary to ask the vendor to keep the system running to ensure proper capture and reimbursement.

Lesson learned: Comb contracts to determine obligations and time frames. Document when each system was implemented —complete a DRAT to capture information for each system. While some contracts are ironclad, others offer flexibility. Talk to vendors up front. Contracts sometimes must be extended to accommodate the schedule for shutting down. Make sure internal schedules for shutting down systems is consistent with the date agreed upon with one's vendor. Understanding contracts is critical to operational efficiency and proper reimbursement. Organizations must track their budget and monitor it closely on a monthly basis. How much are you actually paying for legacy systems? Is it accurate? Are timelines reasonable?

Challenge #4: Moving from an archival system to an interactive system that people use every day was a much more complicated process than anticipated. It's easy to assume a simplistic approach: Shut legacy systems down, do a final data dump in a data warehouse, and be done with it. Sounds easy, but it doesn't work that way. Pieces of the process were missed, which required backtracking. There were many more questions than answers. What kinds of documents should be converted? What is the cost of converting to the new system? How do you search and access them? How do you help staff make the transition from old, familiar systems? What data is in each system? Where is data going? Data was flowing in so many different areas. Most organizations know information governance is important, but with so many overwhelming priorities, the effort is often postponed. Three months into the project, that was the case at Denver Health before bringing in outside expertise to promote understanding of data flows and governance.

Lesson learned: Comprehensive understanding of all systems is critical to determining what data will be converted to the new system. Failure to convert the data you need forces people to continue using old systems to access data and generate reports. Denver Health has changed its perspective on project implementation to embrace a lifecycle approach to governance —one that supports data integrity and informed decision-making.

Sample Dashboard

Information Governance Retention Policy Paramount

Monitoring progress and sharing the status of each application with all stakeholders is important throughout the decommissioning process. Even so, pushback can be expected. In talking with end users when completing DRATs, the typical

response early on was: "We have to keep everything." It is important to explore legitimate needs with users and offer support to alleviate concerns. For example, an organization may have a legal case that requires keeping an application live until the case is resolved. However, a "keep everything" approach is not a practical long-term plan.

As healthcare organizations struggle to manage vast amounts of electronic data from various sources, record retention is an increasingly vital aspect of information governance. Like many health systems, Denver Health had not established an enterprise information governance program—a lifecycle management approach—to guide retention activities. Developing the DRATs provided an opportunity to identify pain points and gain insights among stakeholders—a starting point to initiate information governance aligned with overall organizational goals.

Creating a proactive retention policy that documents what data an organization needs to keep, where it will reside, how it will be used, and how long it should be retained is crucial prior to conversion to a new system. As healthcare moves toward value-based care, organizations must take measures to mitigate liability risk, reduce costs, decrease inefficiencies, and ensure data integrity. Achieving these goals requires wise investments in people, processes, and technology to provide trustworthy information—an organization's most valuable asset.

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