Our current migration to electronic health information has given me a surreal sense of déjà vu. Originally a practicing registered Radiology Technologist, and subsequently working for Kodak Health Imaging, I witnessed firsthand the technology migration from radiology film and laser film printers to diagnostic DICOM digital devices and Picture Archiving and Communications Systems (PACS).

Although the technology transition had a revolutionary impact on patient care, efficiencies and diagnoses, it was not without its growing pains. Challenges were numerous, including a steep learning curve, the need to build network and IT infrastructure along with external communication capabilities, ensuring interoperability, and facilitating the efficient exchange of images for viewing and interpretation.

As with the migration to electronic health information exchange, initial adoption negatively impacted clinical productivity – causing resistance, frustration, and financial challenges. Doctors wanted to focus on patient care rather than evolving imaging technology and dealing with hybrid environments of medical films and digital images.

Leveraging the lessons: Today, most radiologists could not fathom interacting with anything but digital systems – and having results and information at their fingertips. With Electronic Health Record (EHR) adoption and the continued transition from paper to electronic health information, other healthcare providers will be able to provide optimal patient care because information is available immediately for reference and exchange.

EHR adoption, in fact, is only one part of the digital health information voyage. Integrating other system capabilities and processes will enhance patient care and functionality (e.g., e-prescribing, test result access, patient health records communication), and will eventually evolve to extended online electronic access.

As Canada’s healthcare system continues its migration toward electronic health communication and interoperability, the opportunity is to encourage accelerated physician-wide adoption of electronic healthcare processes. This will help facilitate immediate access to information and reduce the instances of lost information.

Examples of technology-enabled process improvements include:

- Unilateral electronic health records use, physician entries, and information exchange between doctors, practices, facilities and patients.
- Closed loop e-prescriptions, to improve patient medication adherence.
- Proactive patient engagement for wellness management and better patient outcomes.

Digital medical imaging was ahead of its time. Radiologists and clinicians understood the need and importance, but pushed back for various reasons, which made for a slow, painful adoption. Today’s healthcare environment does not face as many issues, but still struggles with cost, adoption, and shifting technology challenges. We can take advantage of lessons learned from the film-to-digital evolution and relate these lessons to the transition from paper-to-electronic health information exchange. Some are already common practice today:

Proactive change management – plan and prepare

- Utilize upfront planning to help you choose systems that meet your needs and ensure a successful transition.
- Manage user introduction through new system and process implementations,
since initial and ongoing perception can make or break a project.

Identify and accept the gaps and realities upfront, so you will be prepared.

**Manual to electronic processes**

- The familiarity and comfort with current medical manual practices creates anxiety with the thought of change to new electronic processes. Even with today’s culture, where nearly everyone uses digital communications in their everyday lives, there is still the dread of change, cost, and implementation challenges. But with most medical providers knowing that electronic information is a must, taking on the challenge should be embraced and implemented as quickly as possible.

**Paper-to-electronic data transition**

- A valuable lesson learned from moving away from film is to identify a methodical migration plan up front. A conversion plan for back file paper documents and charts is critical. Options include outsourcing the complete conversion project, converting paper files and charts prior to the next patient visit, or to adopt a hybrid approach of scanning prior to visit along with converting back file charts when on-site availability permits.
- Determine a day forward process of converting paper documents that may present themselves from patient orders to test results received. Planning out whether the information would be stored as part of the EHR or in another system is critical to know where and how to access pertinent information.
- Determine whether to store and manage documents as part of an EHR system, taking into account whether a dedicated, integrated and accessible document management solution is more appropriate for handling all document types – not just patient health information. Always check ease of use and compatibility.

**Gaps in information exchange and communication**

- Build strategies to address gaps in communication with various care providers, thereby assuring that cross communication is accomplished in mandated protocols with secure and encrypted send capabilities engaged.
- Move away from traditional fax exchange of information to avoid Health Insurance Portability and Accountability Act (HIPAA – U.S.) and Personal Information Protection & Electronic Document Act (PIPE-DA-Canada) breaches of information. Alternatives to faxing are expected to become more pervasive over time.

**Realize hybrid environments**

- Research and compare current and new technology compatibility gaps; and identify best practices that include effective ways to work in hybrid environments. Healthcare hopes for the single “fix” to process issues, similar to the way patients pursue a cure for an illness. EHRs were perceived to be that single “fix.” Healthcare has recognized the reality that between providers, facilities, patients, and associated businesses, there will always be:
  - some information in paper form
  - data in various formats (structured and unstructured)
  - technology integration and compatibility issues
  - information security concerns
  - communication and exchange challenges
  - care providers that will not implement electronic systems or electronic communication methods
  - user adoption struggles

**Looking forward:** Once electronic information is interoperable and accessible, applied clinical and business intelligence and analytics will become important tools, enabling another level of transformation in healthcare. This added dimension of “intelligent” information will provide the ability to receive immediate clinical feedback and trigger treatment suggestions, resulting in better outcomes. This will aid in readmission reduction while optimizing patient care and satisfaction, with expectations of assisting in population health management (PHM).

We will also see greater operational efficiencies related to staffing and resource allocation, coding and billing guidance, and information process enhancements, all leading to increased productivity and reduced cost. Ultimately, if we learned well from previous technology migrations, there will be enormous opportunities for IT leaders and providers to make an impact on the healthcare industry. After all, we’ve been down this road before.

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