Managing Source System Content in the EHR

by Sandra Nunn, MA, RHIA, CHP

Many of today's healthcare entities have hybrid medical records, and policies abound describing what parts of the record are still accessed in paper and what components are now fully electronic. Wherever healthcare organizations are in the race to create fully accessible and secure electronic health records (EHRs), there has not yet been much thought about how the functions that ensured the quality and consistency of the paper record are to be carried out electronically.

Historically HIM professionals had chart road maps that spelled out the content and completion requirements of each type of record (e.g., acute, skilled nursing, physician practice, radiation oncology, etc.). The old functions of assembly and analysis ensured that each record type was compiled in a predefined order and was flagged for any missing content or signatures.

The source systems that produced all that content—radiology, pathology, dictation and transcription, pharmacy, lab, order entry systems—did not concern HIM departments, because the printed output from those systems became the legal health record once completed.

That completed paper record was an easily contained entity to which parameters of access, record retrieval and production, and retention could easily be applied. Gone are those straightforward days.

Today's HIM professional must know what components of the record will enter an electronic state via an electronic document management system (EDMS) and what source systems will generate the remainder of the electronic record. The number of source systems for the EHR may be legion depending on the complexity of the organization, particularly if the enterprise in question is an integrated delivery system seeking to offer all levels of diagnostic and therapeutic services.

Documenting Source Record Content

So where should HIM professionals begin?

Many HIM professionals have already taken their old chart content grids and have begun to document the components that are "online." Almost certainly, laboratory test results, transcribed reports, patient demographics, and nursing assessments and plans are now electronic.

Those parts of the record more resistant to structure—things like progress notes and consents—are scanned into an EDMS, often administered by HIM staff. Looking at the EHR and determining what content is likely to be structured and what components will fall into the unstructured category is one way to begin considering how to document source systems.

Learning the new language of information content is part of every HIM professional's future. A health IT student studying coding will learn that "structured information is typically information stored in fields in databases and accessed by keys" and that unstructured information includes information with loose or no structure, such as e-mail messages, word-processed documents, presentations, and images.

Structured EHR content is data that can be extracted and aggregated for other purposes, such as lab values, pharmacy dosages, ICD-9 codes, patient and provider identifiers, abstracted values, and vital signs. Unstructured content may come from content management systems, messaging management systems, and systems that capture other types of documentation, such as scanned documents, e-mail exchanges between provider and patient, anatomical drawings, and radiology images.

Transcribed reports rest in the world between structured and unstructured information. As standards become more common for formats and fields in transcribed reports, this type of source system will begin to produce structured information that can be searched and aggregated.

EHR Source Systems Sample

Working with IT, HIM managers must establish databases listing all EHR source systems, such as this sample.

Record Component	Information Application	Business Owner	IT Application Support Analyst	Vendor
Patient demographics	Patient registration system	Admitting	John Doe	InfoMagic
Transcribed reports	Transcription system	HIM	Jane Doe	KeyMaster
Radiology images	Picture archiving and communication system	Radiology	Jack Spratt	GlimmerPort

Hard Work, Good Value

Already challenged by the necessity of living between the paper and electronic environments, HIM managers may cringe at the thought of having to document the source of every piece of content in their new electronic records.

Nonetheless, this is part of the responsibility to the patient undertaken by every HIM professional when pledging to protect the integrity of the patient's information and to safeguard access to the patient's information for the length of time guaranteed by state and federal retention guidelines. It also provides a good opportunity for HIM managers to become more closely associated with those in IT tasked with supporting and securing every patient's electronic health information.

With the new Federal Rules of Civil Procedure, the old board game of release of information has been turned on its head. It was relatively easy to accommodate a request to release information in a paper world. Given an appropriately executed release form or subpoena, the records manager could hand over a paper copy of the record and never have to worry about where the source information for those paper reports resided.

Now requesting parties may have the right to know the source system for every part of the electronic record, the metadata surrounding the source content, the business owner of the source system (e.g., radiology), the IT support for that source system, the policies and procedures governing that source system, and, if applicable, any pertinent record information existing on legacy systems or archived onto other media.

EHR source information may not even be within organizational boundaries. For example, a healthcare enterprise may choose to use an application service provider to store some of the content that will make up the EHR.

HIM professionals have historically been their organizations' most knowledgeable staff on the sources of all the chart content. They are often the only people in the enterprise who see all of the information, including financial information, coming together in one place. Replicating that task with electronic records will be far more difficult, but highly valuable.

For example, knowing the source systems and archival location of all transcribed reports over a period of years allows the records manager to work with IT to ensure that reports can be retrieved a decade from now intact and compliant with legal requirements. In addition, the records manager can ensure correct migration of those reports if new transcription software or storage media is on the horizon.

If unstructured health record content has historically been scanned into multiple, diverse document management systems, HIM professionals must ensure that all of that patient information is captured in a comprehensive EHR. IT departments are often divided into groups of clinical application support staff devoted to nursing documentation applications, computerized patient order entry systems, transcription and coding systems, radiology support systems, pharmacy support systems, and so on.

Teaching and Learning

The rather daunting task for HIM will be to communicate thoroughly to IT the data integrity, record retention and retrieval, and legal and compliance implications of each source system. Working closely with legal and compliance representatives, HIM and IT will document the standards employed in each source system, develop policies and procedures for ensuring data integrity (e.g., management of the patient identifier), establish databases listing all EHR source systems (see "EHR Source Systems Sample," above), and build retention schedules to ensure retention of the records in each source system feeding the EHR.

HIM professionals will actively participate in the decommissioning of old EHR source systems, the migration of EHR feeder information to new systems or archival media, and the activation of new systems capable of automating new input into the EHR as it grows.

Working through IT, HIM must understand how each source system generates its information, what metadata are tied to each document or piece of information migrated to the electronic chart, and why applications must be upgraded. It can explain the procedures used to ensure the integrity and security of patient information and how information is backed up and eventually archived for long-term storage.

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