Better and Faster: New Systems Make Report Processing Easier

by Peter Krautwald, MBA, RHIA

Voice recognition, electronic signature, combined system interfaces-the future is now in many HIM departments. In this article, the author focuses on the use of advanced report processing technologies in HIM departments and how they are changing the way we work.

Technology and software vendors have made significant advances in HIM operations-related software and interfaces over the past several years. Report templates, speech recognition, interfaces, applications integration, electronic signatures, and fax servers are all being used today to assist HIM departments in daily operations. As HIM professionals continue to apply these technologies, comfort level with their use should increase, as should the ability to maximize the potential of these applications.

How are these technologies affecting the actual operations of the HIM department? This article explores some of the issues involved with using these advanced technologies as they pertain to report processing.

New Technologies for Report Generation

Typically, an HIM department, in coordination with the medical staff, is responsible for producing various transcribed reports such as discharge summaries, history and physicals, consultation reports, emergency room reports, and operative reports. In most cases, a report is dictated by a physician, transcribed by a medical transcriptionist, and then returned to the physician for authentication. While this model works successfully for most organizations, several technologies are enhancing-and even challenging-this model.

Report Templates

For routine medical events that have a high degree of standardization, an HIM department and the medical staff may wish to collaborate to create a report template. This is a familiar concept to many HIM professionals, but it is a consistently reliable solution. A report template is a preprepared report that has all of the routine elements of the medical care already defined but has spaces or options for variable elements.

For example, an ophthalmologist may perform dozens of cataract extraction surgeries in a month. This physician could create a template that contains the text of the routine elements of this procedure, as well as the usual procedure variables. Once this information is incorporated into the transcription system and associated with the creating physician, the next time the physician dictates a routine cataract extraction, she would no longer dictate the entire report, rather just the variables and nonroutine aspects of the procedure. Similarly, the transcriptionist would not need to transcribe the entire report, only fill in the variables to the template. When used correctly, report templates can significantly reduce physician dictation time as well as increase transcriptionist productivity.

Speech Recognition

More accurate speech recognition engines and the quest for lower operating costs are driving the penetration of some application-specific speech products into the marketplace. The use of speech recognition products is most prevalent in structured dictation settings such as the radiology department or emergency room. In a structured setting, the vocabulary is typically more limited, resulting in better performance by the speech recognition program. As more facilities begin to use

speech recognition, some of the following major lessons learned by early users can become valuable tips to those considering the implementation of this technology.

Allow adequate time for results. It typically takes users a minimum of one to two weeks of continuous system use to begin to achieve expected accuracy. Speech recognition applications rely on both the sound of the pronounced word and the context within which it is used. Most applications continuously "learn" from previous dictation. Over time, users will notice an improvement.

Users need to adapt to the technology, not vice versa. Frequently, there is an expectation that the technology will adapt to the user's style of dictation. While the technology has rapidly advanced, it has not come far enough to be quite this selective. Computers follow very precise rules and, unlike humans, are rigid in their interpretation. Consequently, users must be willing to modify their dictation habits to achieve optimal results.

Do not underestimate the importance of training. Perhaps the most important factor distinguishing a successful speech recognition application is the quality of the training received. Training should be viewed as an ongoing commitment to the success of the application. As the staff gains experience, additional questions arise. Also, follow-up training catches any bad habits that may result from experimentation or an incomplete knowledge of the system.

An exciting speech recognition model is being used by several hospitals. In this model, a traditional dictation is transcribed by a transcriptionist. At the same time, a speech recognition program runs against the voice file and processes its best guess as to the actual dictation. This speech recognition-generated report is then compared to the transcriptionist-generated report, and the speech recognition program notes and "learns" from the differences. This makes it easier to establish thresholds of accuracy for individual physicians.

For example, after running the speech recognition product in the background for one month at 95 percent consistency between the transcriptionist-generated report and the speech recognition-generated report, the facility may have the confidence to switch over to the speech-generated report as the primary source of transcription. Once this decision is made, the transcriptionist would change roles and become an editor. The power of this model is that the speech recognition system can improve in accuracy without necessarily being "live."

Hospital ADT-to-Transcription Interfaces

For those hospitals that do not have interfaces between the transcription system and the hospital admissions, discharge, and transfer (ADT) system, HIM practitioners know that more often than not at least one demographic item on the report header is either incorrect or missing. In these cases, 100 percent of the demographic information needs to be checked by HIM staff and corrections and reprints made as necessary. This time-consuming task can be a significant use of labor resources, especially in high-volume organizations.

An interface between the hospital ADT and the transcription system can reduce these demographic header errors, but usually not eliminate them entirely. Typically, a physician will key into a phone unit the medical record number of the patient for whom he or she is dictating. If this number is keyed in incorrectly, however, an interface editor will pick up this error and route the report to an "exception file." These exception reports then need to be manually investigated, but they generally represent a small percentage of total jobs and can often be reduced with physician contact and training. This kind of interface is valuable because it significantly increases the accuracy of the demographic header information and reduces the amount of staff time needed to check and correct this information.

New Technologies for Report Processing

Once the report is generated, the responsibility for the HIM department shifts to processing the report. This generally includes indicating a "to be reviewed/authenticated" status in a chart deficiency system and matching the report with the physical chart.

Transcription System-to-Chart Deficiency System Interface

In a manual setting, at the conclusion of a known physician dictation, an HIM professional may update a medical records software system to reflect a report as "dictation completed" (often "T" status). Later, when the report demographic information

is verified and the report is printed, the HIM clerk updates the medical records software system to "awaiting signature" (often "S" status).

Alternatively, a medical record chart deficiency system with an auto-update feature and an interface to the dictation system can take the place of these manual updates. Thus, when a report is dictated or completed by the transcriptionist, the status of a report is updated to the appropriate processing status, ensuring the integrity of the physician-incomplete records and saving a significant amount of processing labor on a daily basis.

Integration of Chart Location and Chart Deficiency Systems

The days following a discharge are the most administratively complex for a medical record in a paper-based system. A collection of papers needs to be located, assembled, coded, abstracted, analyzed for completeness, and made available not only to multiple physicians but often for a host of other reviewers as well. Meanwhile, reports with varying levels of completion are generated, often with a high degree of variation in timeliness, and will need to be matched up to the moving target of a physical chart. Matching a report in process to a physical chart in process is extremely difficult in a manual setting.

The integration of a chart location and a chart deficiency system makes the task more manageable. When these systems are integrated, the HIM department can be assured of the integrity of the report identification information. Furthermore, after a physician has just completed a chart deficiency, the HIM professional can update both the chart deficiency system and the chart location system in the same transaction.

Report Authentication and Distribution

After the transcriptionist completes a report, a physician is required to authenticate it. Traditionally, the report is reviewed by the physician and hand signed. Additionally, copies of this report are distributed to various entities such as referring physicians, attending physicians, surgeons, and resident physicians. The following two applications are currently being used by many hospitals to assist in these functions.

Electronic Signature

An electronic signature system requires a physician to review a report on a computer terminal and should allow the physician the following three options, at minimum:

- make changes to the report
- reassign the authentication to another physician
- approve the report if it is correct to the physician's satisfaction

One of the benefits of an electronic signature compared to the traditional hand-signed report includes the physician's ability to authenticate a report from multiple locations such as the physician's office or any other computer on the organizational network. Another benefit is that the physician is not limited to the constraints of the "incomplete file room" hours. For example, an obstetrician with some extra time might complete his reports at 3 a.m. on a terminal in the obstetrics ward.

While these benefits are significant for the physician, there are benefits to the HIM department as well. Each report completed electronically is a report that HIM professionals do not have to retrieve for a physician.

Fax Server for Report Distribution

One extremely labor-intensive activity in many HIM departments is the distribution of courtesy copies and "cc reports." Many HIM departments print out two copies of each report by default. An HIM professional then analyzes the report and determine if further reports need to be copied. Once all the copies are made, they are ready for distribution, which often involves a labor-intensive sorting and placement of reports in a physician's mailbox.

A fax distribution system offers great labor-saving opportunities. In this type of system, each physician has a profile that states his or her distribution preference for reports, usually to a fax number. Additionally, rules that automatically assign the physician elements of the report for particular report types to routine locations are established.

Once this type of system is set up, extra reports do not print for distribution. Rather, the courtesy and cc reports are sent to a fax server and then faxed to the appropriate location. Reports sent to a fax location that does not respond are then sent to a fax error file. These cases are then manually processed. Over time, this kind of system can prove to be very reliable.

Looking to the Future

As an HIM department evolves, many of the time-consuming, repetitive operational tasks typically associated with report processing can be reduced or eliminated with the help of well-designed and well-maintained systems like those discussed. In the future, continued use of these technologies by HIM professionals, coupled with ongoing vendor system improvements, should promote greater ease in the generation, processing, and distribution of reports. In striving to become more cost effective, health organizations can leverage these advanced technologies to significantly reduce the labor costs necessary to perform some of the classic HIM functions.

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