HITECH Act Promises EMR Funding to Clinicians with "Meaningful Use"

By George Catuogno

Meaningful Use Begins with Practical Use

Under President Obama's American Reinvestment and Recovery Act (ARRA), the HITECH Act, which aims to develop a national electronic healthcare system, offers $44,000 incentives for clinicians who adopt an Electronic Medical Records (EMR) system. The qualifier is that clinicians must demonstrate "Meaningful Use" of their system. The definitions of Meaningful Use are presently being shaped by the Office of the National Coordinator of Health Information Technology (ONCHIT) and Department of Health and Human Services (HHS).

In a poll of leading EMR vendors[1] on what they feel will emerge in the Meaningful Use definitions, ePrescribing, interoperability and quality reporting are recurring themes. Evan Steele, CEO of SRSsoft notes, "We define Meaningful Use from the physicians' perspective. Meaningful Use of an EMR is achieved when that EMR successfully enables a physician to accomplish his/her goals for quality of care, cost-effectiveness, and outcomes measurement—and it is more likely to be achieved by technology that does not compromise productivity or practice style."

Steele asks, "How can physicians become meaningful users of systems that have been shown to reduce their productivity?" This is a key question that HHS/ONCHIT should be addressing in the Meaningful Use definitions. Without "practical use", there can be no Meaningful Use.

Just last year, a New England Journal of Medicine survey[2] indicated that only 4% of clinicians have a fully functional EMR (with order-entry and clinical-decision support capabilities) and only 13% have a basic system. A report published by The AC Group[3], a nationally-reputed Health IT consulting firm, indicates a 73% failure rate of EMRs due to usability frustrations, noting that when clinicians lose the ability to dictate narrative notes and are forced to directly key data into an EMR, it takes significantly longer to document patient encounters, the impact being either a diminishment in the number of patients seen or longer hours required to keep up with documentation.

How can physicians become meaningful users of systems that have been shown to reduce their productivity?

Narrative dictation has been the documentation method of choice by clinicians for decades because of its proven efficiency. It is the fastest, most accurate means by which to capture a patient's comprehensive health story. In 2007, Joint Commission reported a non-compliance factor at 26% among hospitals for standard IM.6.10: *The hospital has a complete and accurate medical record for patients assessed, cared for, treated or served.*[4] If we make clinicians' jobs more difficult to document medical records, which direction do we think this statistic will move?

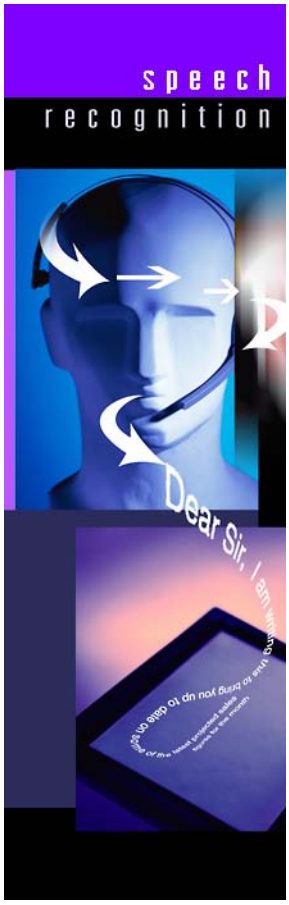
Where Medical Transcription Fits

Narrative dictation has a partner – the Medical Transcriptionist (MT). The MT constituency, supported by two associations – the Medical Transcription Industry Association (MTIA) and the Association for Healthcare Documentation Integrity (AHDI) – converged on Capitol Hill in early June to address members of Congress and the Senate about the state of the industry. Few people outside of healthcare even know that the medical transcription industry exists. Fewer people, even in healthcare, have a real understanding or appreciation for the role medical transcription plays in patient safety and risk management.

Against the backdrop of a national, interoperable Electronic Health Record (EHR) system, it's little surprise that health information technology (HIT) constituents would view medical transcription labor as an expendable cost of healthcare. In fact, it is the mantra of many EMR vendors: "Y*ou can replace your transcription with our technology".* Not only is this not true, it is not beneficial. With transcription:

- Clinicians benefit by being more efficient
- Patients benefit by having more complete and accurate patient records
- The more than 300,000 MT constituents benefit by maintaining the craft they call their livelihood
- HIT constituents benefit because transcription is an EHR/EMR adoption enabler

Speech Recognition



EMR technology is a valuable tool, but if one critical lesson has been learned through deployment of speech recognition technology (SRT), it's that technology is, in fact, just a tool – not a replacement for human intelligence.

For definition purposes: "Frontend" SRT is a realtime speech-to-text translation process whereby the clinician corrects the document while dictating; "Backend" SRT is a delayed speech-to-text translation process whereby the clinician dictates and the audio is subsequently translated for correction by an MT. The main difference between the two methods is whether the clinician interacts with the computer to generate documentation or just dictates, leaving the documentation to medical language specialists – MTs.

For decades SRT aimed to replace the transcription labor market with technology. Eventually SRT market leaders recognized the role and value of MTs in advancing SRT solutions: MTs support the efficient clinical practices of familiar narrative dictation; they bring human intelligence and expertise needed to correct medical errors, whether created by the clinician or by SRT. In the end, SRT benefitted by the work of MTs, increasing market adoption and advancing the role of MTs.

The lessons learned by SRT vendors are slowly being embraced by EMR vendors. If clinicians continue to reject technology that does not support improved efficiency and economic impact, the market will right itself through consumer pressure, and hybrid solutions involving MTs will emerge just as they have with SRT.

As HIT legislation is being written and HHS and ONCHIT define Meaningful Use, MTIA and AHDI are using these lessons learned about the importance of narrative dictation and the significant role transcription should play as an accelerator for EHR adoption[5] and member of the HIT community. Ultimately, Meaningful Use flows from practical use, and for the majority of clinicians, practical use flows from narrative dictation.

As noted by Steele in his interview, "Everyone wants the EMR incentives, but the realities of a fast-paced, busy medical practice will cause physicians to abandon the EMR systems just as they have been doing en masse without the incentives. The incentives will only accelerate the demise of traditional point-and-click EMR systems as physicians with less IT proficiency and a lower level of IT support attempt to use the very same systems that have failed among the deep-pocketed, more technically savvy early adopters."

Not Just Transcription – Discrete Reportable Transcription (DRT)

Since transcription involves the craft of memorializing the spoken word into the written word, it is often confused with clerical work and not perceived to be part of health information technology. Medical transcription in its most useful form actually involves a number of critical HIT components:

- **Discrete Data** encoded with XML and formatted for CDA or CCD standards to aid interoperability
- **Natural Language Processing (NLP)** to extract specific data elements that enable automation for Decision Support, E&M Coding, PQRI (Quality Measures) Reporting and any process that calls for data mining
- **Backend Speech Recognition** to improve productivity and help control costs

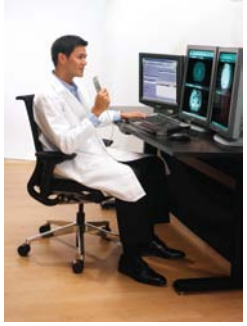
These are the technologies of the medical transcription industry, readily provided by Medical Transcription Service Organizations (MTSOs) directly or through third-party partners, and bearing significant value when coupled with the service of transcription knowledge workers (MTs). When delivered as DRT, medical transcription is, in fact, very much part of HIT and a key enabler of EHR adoption and "practical use".

Natural Language Processing (NLP) and Discrete Data

Natural Language Processing converts human language into representations that enable computer programs to interpret for data manipulation. Once free-form text is in this discrete form, it can be mined for valuable information that feeds virtually any and all healthcare process systems, including EMRs, enabling automation for coding, reporting and so forth.

Consider the logic of how information flows from the human mind to *meaningful* data in the most *natural* way:

1. Knowledge and information is originated by the human mind beginning with an idea or concept.
2. Since talking is the fastest, easiest and most comprehensive method of knowledge and information transfer from the human mind, narrative dictation most effectively expresses those ideas or concepts.
3. Transcription provides conversion of that analog information from audio to readable (essentially "digitized") text.
4. During the conversion, human intelligence is applied (by MTs) for interpretive integrity and contextual accuracy that technology alone cannot validate. (With the aid of speech recognition that conversion of voice to text can aid the transcription process with some efficiencies.)
5. Once memorialized (digitized), the information is subject to manipulation by software (such as NLP) that can break that information down into meaningful discrete data elements, encoded with data exchange language (such as XML) to make the information completely interoperable.



Information Originated with Clinician Dictation | **MT Conversion to Text with Quality Assurance** | **NLP to XML for Delivery into EMR**

Could it be any easier for clinicians to get from concepts to Meaningful Use? Discrete Reportable Transcription strikes the right balance between technology, human intelligence, practicality/usability, economic pressure and interoperability. Despite the EMR mantra to eliminate transcription, turns out transcription is one of the EMR's greatest assets to adoption.

Impact to Quality of Patient Care

When it comes to billing, improper coding may lead to penalties. Who would therefore trust coding to technology alone? Although NLP offers coding automation, no one would send out a bill without proper validation from a qualified coder. NLP can do for coders what SRT does for medical transcriptionists, but in the end, human intelligence is necessary to ensure integrity.

Coding occurs after medical services are provided. The worst thing that happens when coding and billing is wrong is a financial consequence. Documentation on the other hand happens both after *and* before patient care. The worst thing that happens when documentation is wrong is a human consequence. Someone could actually die. (Incidentally, documentation feeds coding, so it could also lead to billing errors.)

MTs must be skilled *knowledge workers* – technologically savvy medical language specialists – with vast medical vocabularies and interpretive skills to recognize and correct medical errors that mitigate risk and help protect patient safety.

Quality Case Studies

Numerous studies have been conducted linked to quality of data capture via direct data entry as well as via narrative dictation.

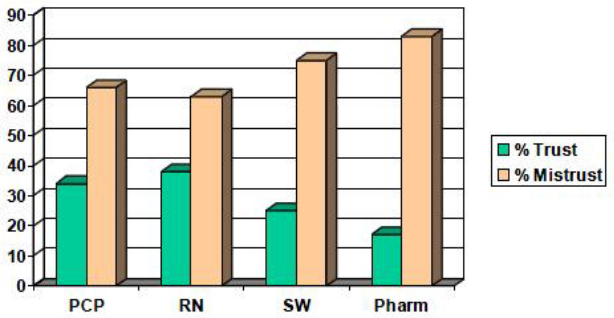
Case # 1: A study by the Department of Veteran Affairs on Direct Data Entry[6] revealed that the average number of significant errors per patient via direct data entry is 7.8. The study also reports direct data entry to be the "least favorite method" of health information data capture by clinicians, prone to a new class of errors not found through traditional methods of documentation, such as copying and pasting, forwarding old data without updating it, and indicating contradictory findings.

Case # 2: In a follow-up study by the V.A. in 2007 addressing "critical" issues in an electronic documentation system[7], the researchers note that "a*lthough all clinicians use copy and paste tools, they also complain that it is a dangerous practice"*. Other key findings:

- Lack of Confidence: The research indicates a significant trust problem, noting that many providers had become skeptics about the veracity of the electronic chart. Copied text would not properly reflect changes in patient status. Problem lists would be brought into the note as a whole object instead of discrete data and often not up to date and accurate. Medication lists were noted as the most severe and dangerous of problems, often not accurately representing what the patient was intended to be taking.

In response, the researchers urge EHR designers to develop software that highlights the presence of copy-and-paste text so users are more careful.

- Information Overload: Pharmacists particularly complained of the extensive amount of time required to determine why a patient was on a specific medication. Nursing notes often had extensive templating with up to 90% of the notes having empty or default values. Many physicians reported avoiding nursing notes in order to save time, assuming that if there was a problem, the allied health professional would call.



Ratings of trust/mistrust by primary care providers (PCP), nurses (RN), social workers (SW) and pharmacists (Pharm).

In response, the researchers recommend that "*use of templates should be minimized as much as possible as they take up a lot of space for very little true information.*" They encourage EHR designers to develop software for creating and inserting more fine-grained coded objects, so notes could still be created rapidly but be more like normal documenting.

- Decision-Making: Most providers reported on the difficulty of extracting meaningful data from a large number of notes and confusing text. Since many clinical conditions require tracking or trending, individual providers had to resort to paper lists that they would keep. In addition, because the objects being pulled into the notes were simply pasted in either chronological or alphabetical order without regard to their relevance to the problem at hand, readers had difficulty discerning the full thoughts and intent of other providers.

In response, the researchers recommend support of narrative dictation capture with DRT: "*The insertion of large amounts of data automatically into narratives circumvents some of the cognitive processing that providers would otherwise undertake when constructing a note. Automatically inserted data is left in raw format for several reasons including time costs to edit and verify the information. The inserting provider may not even read it. The task of the system designer is to ensure that insertable coded data is both part of workflow as well as supportive of cognitive processing."*

Case #3: In a study conducted by the Medical Transcription Industry Association regarding narrative dictation accuracy[8], it too revealed errors during creation – in this case while dictating – with an average of 0.3 errors per dictation. Critical errors accounted for 32% and major errors for 68% of all dictation errors. The most common *critical* errors were reporting on the wrong patient, providing a wrong drug name or dosage, and dictating contradictory information such as "left side/right side" or inconsistent medical findings. The most common *major* errors were use of made up words or acronyms, followed by gender or age mismatch. With the aid of a Speech Recognition translation engine, the error rate actually increased to 1.3 errors per dictation.

Three associations, AHIMA, AHDI (formerly AAMT) and MTIA, have established quality scoring metrics and standards with an expected documentation accuracy rating of 98% or above. Direct data entry, narrative dictation and speech recognition all significantly fail to meet that benchmark, averaging 85% accuracy overall. By contrast, MTs are held to a 98% accuracy standard.

As a patient, how important is accuracy to you?

Workforce Development, Credentialing and Offshoring

As the baby boomer population ages and patient visits increase, the need for qualified MTs is actually increasing. During the visit to Capitol Hill, medical transcription industry leaders discussed industry initiatives to develop labor for this important sector further as well as formalizing standards and certification as this job truly can be a matter of life and death.

AHDI and MTIA have worked with the U.S. Department of Defense (DOD) and Department of Labor (DOL) in creating an initiative called *Mission Medical Transcription: a Career that Moves with You*.[9] This career outreach program targets military spouses interested in a portable career within the expanding health IT arena. Since Mission Medical Transcription was launched in 2007, over 800 military spouses have enrolled in AHDI approved schools.

Offshoring transcription is another challenge that should require stiffer regulation, both because of privacy concerns and workforce qualifications. A significant percentage of transcription is done offshore because the industry has failed to develop a stronger U.S. workforce to keep up with demands, and because too many consumers of transcription place so much weight on cost-savings when considering healthcare documentation solutions. This is truly a slippery slope and needs to be better regulated to ensure patient safety comes first.

Economic Impact and Getting the Stimulus Money

Economically, does it make more sense for a clinician earning $200/hour to spend time generating documentation or an MT who earns a modest $20/hour; and which of those two professionals produces the best quality result?

As “Goliath” HIT vendors influence the definitions of Meaningful Use and legislation is written to drive the nation to a national, interoperable EHR, the little known MT sector will flex its “David” muscle with two principle objectives:

1. Influence HHS and ONCHIT to include “practical use” as a prerequisite to Meaningful Use and take the time to understand the impacting dynamics of documentation, both from a usability perspective as well as a patient safety perspective. Further, to understand that narrative dictation and transcription is not only a quality assurance necessity, it is very much a part of HIT and interoperability when understood in the context of DRT.

2. MTIA has forged an EMR Work Group to define interoperability standards between MTSOs and EMR vendors. Unlike EMR vendors who take aim at transcription as an unnecessary cost of documentation, MTSOs are not interested in competing with EMR vendors. The goal is to cooperate and complement – to drive a successful national Electronic Healthcare System initiative without pillaging the assets clinicians and others depend on to ensure integrity, safety, practical use and Meaningful Use. In the end EMR vendors that work with MTSOs will come out on top.

For additional information on DRT, view video at http://www.mtia.com/downloads/MarkAndersonVideo.wmv

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