Assessment of Quality Management in Medical Transcription

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Abstract

In this paper we examine the timeliness of the transcription process, as measured by Turn-Around Time (TAT). We investigate and provide some answers to the following issues and questions. Are there any TAT standards? If so, what are the standards? Are these standards, if any, being met? Why or why not? If not, what are providers doing to improve TAT. We also explore the impact of new technologies such as Speech Recognition Technology (SRT) and other technology on the medical transcription industry.

Key Words: *Quality Management, Performance Measurement, Medical Transcription, Global Outsourcing Medical Transcription, Timeliness of Medical Information, Medical Records Accuracy*

INTRODUCTION

Two aspects of quality are critical in health care information, namely the accuracy of information and the timeliness of information. The accuracy of medical records including information about the patient, the diagnoses, the treatments, and procedures is obviously critical. Timeliness is also crucial. Medical records need to be available on a timely basis and must be on hand with the medical practitioner so that the health professional can make accurate analyses and diagnoses and provide appropriate health care. Thus the recording and transcription of medical records are critical functions in the health industry.

This paper examines quality management and performance measurement in the medical transcription industry. Quality management and performance measurement are critical functions in the medical transcription industry because of the nature of the transcription work which can have serious medical implications. Medical transcription generally involves the conversion of recorded voice data that are made by physicians and other health care professionals into medical reports, correspondence, and other administrative record in the form of hard documents (paper) or in digital form.

Two aspects of quality management and performance measurement are crucial in health medical records. One is the accuracy of the records and the other is the timeliness of the record. The accuracy of medical records including information about the patient, the diagnoses, the treatments, and procedures is obviously critical in the transcription process. The other crucial aspect is the timeliness of the transcription process. Medical records need to be available on a timely basis and must be on hand with the medical practitioner so that the practitioner can make accurate analysis and diagnoses and provide appropriate health care. This is particularly true in emergency cases or when medical issues require immediate treatment or when the need for procedures is time-critical. In this paper we examine the timeliness of the transcription process. Specifically, we explore the Turn-Around Time (TAT) for medical transcription - the elapsed time between the completion of dictation to the delivery of the transcribed document. The transcribed document/output is generally in the form of a paper document or stored in digital form. We investigate and provide some answers to the following issues and questions.

Are there any TAT standards? If so, what are the standards? Who makes the standards? Are these standards, if any being met? Why or why not? If not, what are providers doing to improve TAT. We also explore the impact of new technologies such as Speech Recognition Technology (SRT) and other electronic data capture technology on TAT and on the future of the medical transcription industry. Finally, we note the implications of the trend towards the move towards the widespread adoption of electronic health records (EHR) and the recent law providing for incentives and disincentives to adoption of EHR as provided by the 2009 American Recovery and Reinvestment Act (ARRA).

METHODOLOGY AND DATA SOURCES

This paper analyzed the results of the work of the Joint Task Force on Standards Development (JTFSD) which was created by the American Health Information Association (AHIMA) and the Medical Transcription Industry Association (MTIA). In particular we analyzed the results of a survey conducted by JTFSD which were reported in a white paper in 2007. We further supplemented the analysis of this paper and attempted to validate and cross check the results obtained by the Task Force by conducting secondary research on available performance measurements and the current environment of the medical transcription industry.

The JTFSD survey consisted of two parts. One part was sent to Health Information Management (HIM) managers and the second was sent to Medical Transcription Service Operators (MTSO) and Medical Transcriptionists (MTs). Most of the respondents consisted mainly of Medical Records Director/Manager/Supervisor (52%) and Medical Transcription Director/Manager/Supervisor (30%). Other respondents had the following titles: Transcription Professionals (6%), Health Information Services Director/Manager (5%), Other Director (5%), and Product Specialist (1%). The survey covered several major transcribed document categories or types, namely: history and physical examinations; operative reports; inpatient progress notes, consultation reports, radiology reports, and discharge summaries.

ANALYSIS OF RESULTS

Are there any TAT Standards?

There are currently no standards or benchmarks regarding the timeliness of the delivery of transcription documents. The marketplace and contractual arrangements between clients and providers determine the turnaround time for transcription services. While there are no specific industry standards regarding TAT, there are organizations that evaluate health care providers that provide indirect standards on the timeliness of medical records. These accrediting organizations provide standards for accreditation that include the quality and timeliness of medical records documentation. The oldest and largest accrediting body in health care is The Joint Commission which evaluates and accredits more than 17,000 health care organizations and programs in the United States.

For example, as part of its standards for accreditation and certification, The Joint Commission sets forth in section IM.6.30 regarding operative or high-risk procedures that "An operative progress note is entered in the medical record immediately after the procedure…The completed operative report is authenticated by the licensed independent practitioner and made available in the medical record as soon as possible after the procedure [underscoring provided]." While the standard does not set a specific timeline regarding the availability of medical records, it does convey the urgency of having medical records as soon as possible. The Joint Commission also specifies as one of its patient safety goals to "measure and assess, and if appropriate, take action to improve the timeliness of reporting, and the timeliness of receipt by the responsible caregiver, of critical test results and values [underscoring provided]." Two other industry organizations that are concerned with transcription TAT standards are the AHIMA and the MTIA. In fact, a major rationale for the JTFSD survey which was conducted as a joint effort by these two organizations was to provide a baseline study which can be used to "establish standard TATs."

Turn-Around Time

Figure 1 shows the Turn-Around Time (TAT) contracted or expected by HIM managers for different reports, including consultation records, progress notes, operative notes, history and physical reports, discharge summaries, and radiology reports. Contracted or expected TAT applies both to in-house HIM employees and to outsourced jobs (to MTs or MTSOs). With the exception of discharge summaries, the TAT that are contracted or expected by HIM managers is typically within twenty four (24) hours. For discharge summaries, the TAT is 48 hours. The corresponding TAT contracted hours reported by MT/MTSOs is also shown in Figure 1. MT/MTSO providers indicate contracted time of 21 hours for most records, 3 hours lower than those reported by HIM managers.

MT/MTSOs also report lower TAT hours for discharge summaries (40 hours) relative to those reported by HIM managers (48 hours). The fastest TAT was reported by MT/MTSOs for the transcription of radiology records which are expected to be transcribed within 12 hours. To summarize, the TAT for transcribing reports varied from 12 hours (radiology reports) to 48 hours at the longest (discharge summaries), but most records are expected/contracted to be completed within 24 hours.

A comparison of the data reveals that the contracted/expected hours reported by HIM managers and MT/MTSOs are very similar.[1] The lower TAT hours reported by MT/MTSOs suggests that MTSOs try to maintain a competitive advantage relative to in-house transcribers by providing faster TAT. Alternatively, the data suggests that MT/MTSOs are <u>expected</u> to provide a faster turnaround time relative to in-house HIM transcribers. The information in Figure 1 was based on a general survey of HIM and MTs/MTSOs managers. Additional information from four large MTSOs was also obtained by AHIMA and is shown in Figure 2. The information obtained from large MTSOs indicates that large MTSOs are generally expected or contracted to provide faster TAT.

In the case of radiology reports, for example, large MTSOs are expected to transmit the transcribed reports within 4 hours (reported mode) as opposed to 12 hours for the industry as a whole. Similarly, operative reports, history and physical reports are expected to be transcribed within 12 hours and 10 hours respectively, about 12 hours faster than the average TAT of 21-24 hours. The faster TAT of large MTSOs suggests that large MTSOS are more efficient relative to smaller providers. Alternatively, this can mean that the large MTSOs deal with large HIM clients who have substantial market power in dictating faster TAT.[2]

How do the results of the survey compare with the perception in the marketplace? There appears to be a substantial gap between the survey results and market perceptions. For example, a Congressional Budget Office study on Health Information Technology (March 2008) describes the process of handwriting, dictation and transcribing notes into a chart as taking "typically at least a week." This gap in TAT survey results and market perceptions can perhaps be explained partially by the significant proportion of non-compliance with TAT as found in the survey and discussed below.

TAT Compliance

Figures 3 and 4 show the extent of compliance with contracted or expected TAT from the point of view of HIM managers and from MT/MTSOs respectively. Figure 3 shows that majority of HIM managers (52%) report that transcription providers or employees (for in-house transcribers) comply with the expected or contracted TAT. However, a significant proportion (46%) reports that providers or employees do not meet the expected TAT. On the other hand, 41% of MTs and MTSOs report that they are within the compliance of contracted TAT at least 95% of the time while 72% report compliance with TAT at least 90% of the time.

Comparing the responses of the two groups (HIMs and transcription providers), the data suggests that compliance with TAT of at least 95% of the time is a fully acceptable standard for full compliance with TAT. The lower compliance level of "at least 90% of the time" is acceptable to some HIM and not acceptable to other HIMs. Finally, a compliance level "lower than 90% of the time" is not acceptable at all.

Reasons for Non-Compliance

Various reasons are provided for non-compliance with TAT. Figures 5 and 6 show the reasons for non-compliance as reported by HIM managers and MTs and MTSOs respectively. The reasons for non-compliance include work volume changes, staffing needs, transcription anomalies, new technology implementation, and TAT expectation changes. The results show that the reasons for non-compliance are very similar for both groups (HIM and MTSO's). For HIMs, 84% report that staffing needs, work volume change, and transcription anomalies are the most common reasons for non-compliance. Staffing needs, work volume changes, and transcription anomalies are the same reasons cited by 80% of MT/MTSOs for non-compliance. They were reported by MT/MTSOs in similar proportions as those reported by HIM managers.

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[1] The similarity of the TAT hours reported should not be surprising. In fact, the numbers should be expected to be identical if all transcription is outsourced to MTs and MTSOs.

[2] The survey also found a very wide range of TAT for large MTSOs. For most reports, the contracted TAT indicated by these large MTSOs range from 4 hours to 48 hours, rather than industry average of 21-24 hours. The large variability of transcription contracts for large MTSOs suggests that large MTSOs are able to define their contractual terms more precisely.

Action Steps to Improve TAT performance

To address non-compliance with TAT, HIM managers reported several action steps undertaken to improve performance. These steps include adding transcription and support staff, implementing new technology, re-engineering workflow, and outsourcing. Figure 7 shows that the most common way of dealing with non-compliance is by outsourcing (29%), followed by adding transcription and support staff (21%).Technology implementation and improvement in electronic technology, administrative technology, process or workflow comprise the rest. Specifically, to improve compliance, HIM managers are taking steps to implement speech recognition technology (SRT) and administrative technology including recording and transmission technology (35%). HIM managers also report action steps to redesign and improve process and workflow (30%). MTs and MTSOs report that the most common way of dealing with non-compliance is by adding the number of transcription staff and editors (60%).

Usage of Speech Recognition Technology (SRT)

One of the action steps reported by HIMs in improving TAT performance is implementing or improving SRT. Figure 8 shows that majority of HIMs and MTSOs do not use SRT. Fifty six percent (56%) of HIM and 64% of MTSOs reported not using SRT. The percentage of HIMs and MTSOs who reported using an SRT system were 44% and 36 % respectively.What type of SRT is employed? SRT consist of two types, namely, front-end SRT (FESR) and back-end SRT (BESR). Users of front-end SRT dictate into a microphone-computer and the spoken words are recorded, and then converted to text in a word processing application in real time. This effectively eliminates the need for a transcriptionist. Back-end SRT separates voice capture (recording) from SRT processing. Information is initially recorded or dictated. At a later time, the recording is processed by an SRT software which produces a text document. A speech recognition editor must then listen to the voice file and proofread the text output. SRT is used primarily at the back-end. Among HIMs and MTSOs, 23% and 24% report using BESR, respectively. FESR usage is less with HIMs reporting 21% and MTSOs 12%.

Where is SRT deployed?

Figure 9 shows that SRT is used in various areas or functions including, HIM, Radiology, and ER. SRTs are used mainly in these first two areas, which together comprise of 85% and 100% of the use of SRT. The use of SRT has the potential to improve TAT. In the case of back-end SRT, transcription is facilitated by the availability of a draft output document produced by the SRT software. The process of transcription proceeds to the editing stage rather than producing a new document.[3]

With respect to front-end SRT, the transcription process is totally eliminated. However, SRT technology has not advanced far enough to simulate the complexities and nuances of human voice and speech patterns. This is common to both types. Also, according to Association of Healthcare Data Integrity (AHIDA), one limitation of front-end SRT is that it takes considerably longer time to effectively use front-end SRT than it does to simply dictate.

Trends and Prospects on Emerging Technology on Transcription process and TAT

Developments in the medical health record management show a trend towards an increase in the adoption of electronic health record systems. As of 2006, it is estimated that about 12 % of physicians and 11% of hospitals have some form of EHR or health IT (CBO, May 2008). Adoption of EHR technology is being hastened by the increase in the certification of EHR products and the recognition by the U.S. government of the need to digitize medical records and the importance of certification of EHR products. To achieve the goal of digitizing medical records, the U.S. Department of Health and Human Services (HHS) awarded in 2005 the Certification Commission for Health Information Technology (CCHIT) a contract to develop, create prototypes for, and evaluate the certification criteria and inspection process for EHRs. In February 2009, the Congress approved the American Recovery and Reinvestment Act (ARRA) aimed at stimulating the nation's economy which included a multi-year series of incentive payments to providers and hospitals that use certified EHR technology. The total amount of payments has been projected at $34 billion.

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[3] The Association of Healthcare Data Integrity (AHIDA) points out however, that using SRT-draft document "often makes it more challenging to identify errors…. It is more common in SRT editing for the brain to be "tricked" into thinking that the eye has seen what the ear has heard"

As of 2009, more than 200 systems/products have been certified by CCHIT in ambulatory care alone representing more than 75% of the total market for EHR products. By 2019, the CBO estimates that as a result of the ARRA provisions, 90% of physicians and 70% of hospitals will have adopted EMR (CBO, March 2009).

What is the implication of this increased adoption of EHR or electronic medical records (EMR) on the medical transcription (MT) industry? The MT industry appears quite optimistic about the prospects of MT even in the presence of such increasing adoption of EMR. One leading MT company sees that "growth in transcription is outstripping the ability of U.S. based professionals to meet the demand. Volumes continue to climb despite new speech, voice and automated systems" (McGill, SPI, 2007). Likewise, the Joint Task Force finds that "the use of dictation and transcription technologies… continues to be prevalent, if not expanding, as a significant source in the electronic environment. The Joint Task Force also concludes that "Medical transcription…is currently the dominant and preferred method of creating narrative documentation in the U.S. healthcare system and is likely to remain a critical practice for at least 10 years."

There is limited reliable statistical information on the prospects of MT but the scant evidence suggests that the increased adoption of EMR poses a serious threat to the viability of the MT industry. Anecdotal evidence and a few rigorous studies indicate that implementation of EMR can drastically reduce transcription costs or in some cases fully eliminate the need for medical transcription. For example, a publication by the American Medical Association (AMA), Amednews, (Dolan, 2008) reports that a large gastroenterologists practice that sees about 180 patients a day eliminated its transcription on day one of implementation of EMR for their surgery center. Similarly, a study by Lagrew and others (2008) found that the implementation of EMR in a hospital with about 268 monthly discharges reduced transcription rates dramatically by a magnitude of 57% to 88%. Specifically, the hospital reduced history and physical transcription rates by 62%, consultations by 76%, operative notes by 57%, and discharge summaries by 88%. Figure 10 shows the decline on transcription rates after three quarters EMR implementation. The figure shows that discharge summaries declined from 28 percent to 3 percent, operative notes from 48% to 21%, history and physicals from 52% to 20% and consultation notes from 5% to 1%. [4] Another study of five ambulatory offices within the University of Rochester Medical Center (Grieger et al 2007) found that EMR implementation reduced transcription rates from 37% to 100%.

SUMMARY AND CONCLUSIONS

In this paper we examined the timeliness of the transcription process. Timeliness is a critical dimension of quality management in health care. Accurate medical records need to be available on a timely basis with the medical professional so that the practitioner can make accurate analysis and diagnoses and thus provide appropriate health care. This is particularly salient in emergency cases or when medical issues require immediate treatment or when procedures are time-critical.

In this paper, we explored the timeliness of the transcription process as measured by TAT. Specifically, we investigated the following issues and questions concerning TAT in medical transcription. Are there any TAT standards? If so, what are the standards? Who makes the standards? Are these standards, if any being met? Why or why not? If not, what are providers doing to improve TAT. We also explored the impact of new technologies such as Speech Recognition Technology (SRT) and other electronic data capture technology on the future of the medical transcription industry. The results of our paper are summarized below:

- TAT is determined by the market as a contractual arrangement between health care providers and organizations and professional transcribers. While there are no explicit standards for TAT, there are accrediting organizations that provide standards on the quality and timelines of medical records documentation.
- TAT varies, depending on the type of report and depending on the size of the organization. It ranges from 4 hours to 48 hours. However, most reports are expected to be transcribed within 21-24 hours. For large MTSO organizations, the contracted or expected TAT is about 12 hours shorter. There appears to be a gap between the survey results and marketplace perceptions which view TAT as much longer, at least a week, according to the CBO.

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[4] Some of the transcription costs have already been reduced by previous legacy EMR systems. For instance, consultation notes were already reduced to 5 per 100 discharges by the prior EMR system. It is virtually eliminated by the new more extensive EMR implementation.

- Fifty two percent (52%) of HIMs report full compliance with TAT while 41% of MTs/MTSOs report compliance 95% of the time. This data indicates substantial room for compliance with TAT. Staffing needs, work volume change, and transcription anomalies are the most common reasons for non-compliance (84%). These are the same reasons cited by 80% of MT/MTSOs for non-compliance.
- The most common way of dealing with non-compliance by HIMs is by outsourcing (29%), followed by adding transcription and support staff (29%). Technology implementation and improvement in electronic technology, administrative technology, process or workflow are also important. MTs and MTSOs report that the most common way of dealing with non-compliance is by adding the number of transcription staff and editors (60%).
- The use of SRT has the potential to improve TAT but the technology has not advanced far enough to fully simulate the complexities of human speech patterns. The most common type of SRT used by the industry is back-end SRT (BESR).

The environment of MT involves the increasing use of EHR. This prospect is partly a result of government initiatives providing for incentives and disincentives to EHR use and improved certification process of EHR technology. This increasing use of EHR poses a very serious threat to the viability of the MT industry. Anecdotal evidence and a few rigorous studies indicate that implementation of EMR can drastically reduce transcription costs or in some cases fully eliminate the need for medical transcription. In the long run, the transcription process as it is now being practiced may become obsolete as more medical records become directly digitized by clinicians and other professional health providers. Transcription will remain important in those areas requiring complex narratives and those medical processes that may not allow effective direct input by clinicians (such as in operative procedures). But the role of transcription may be relegated to narrower and more limited scope.
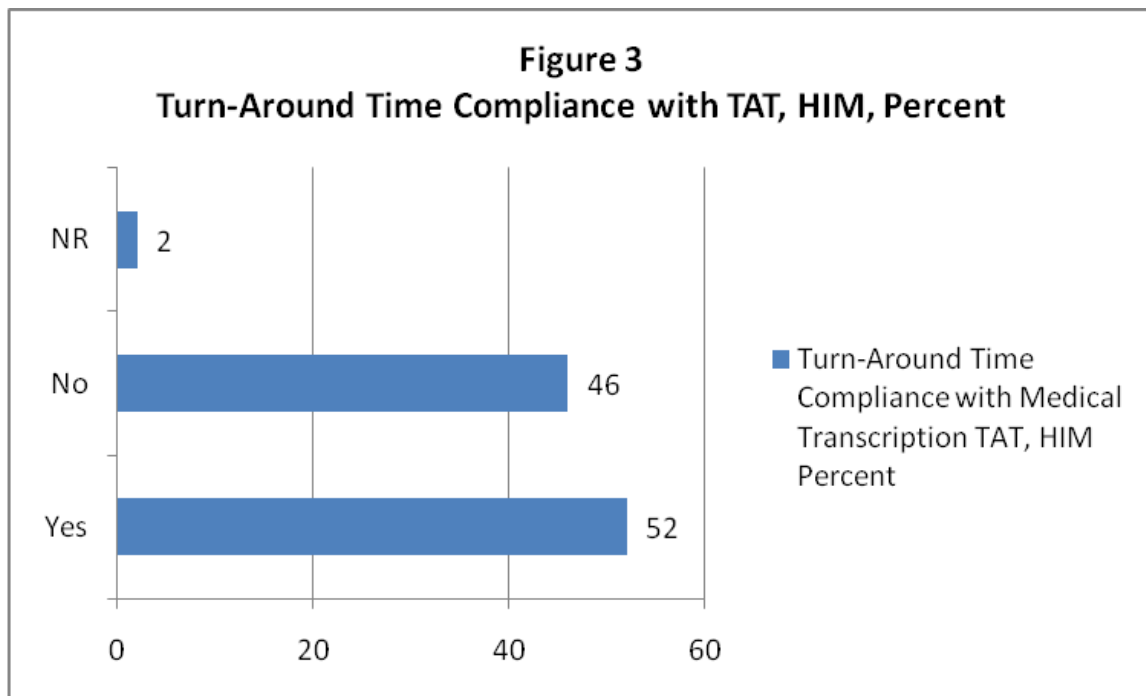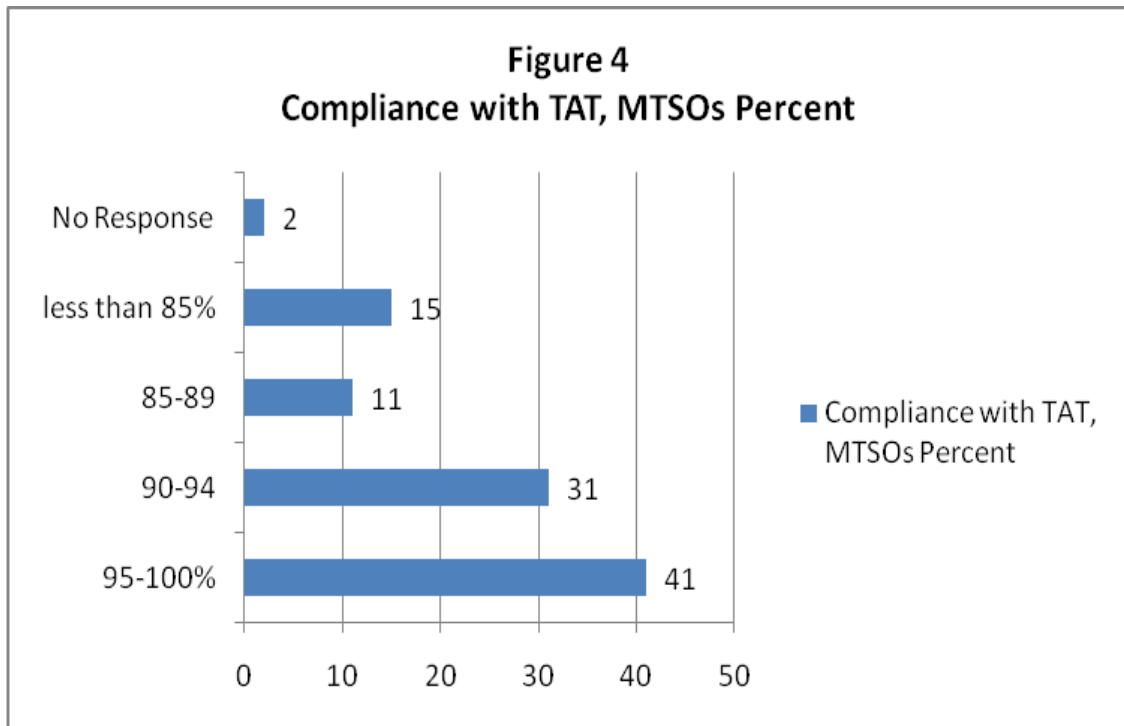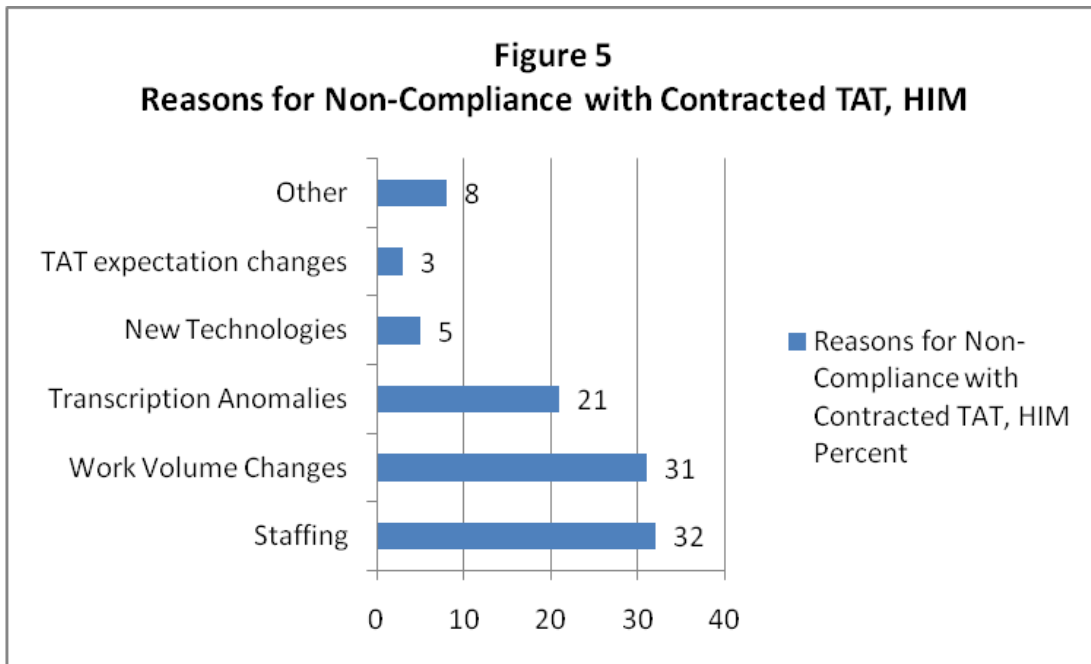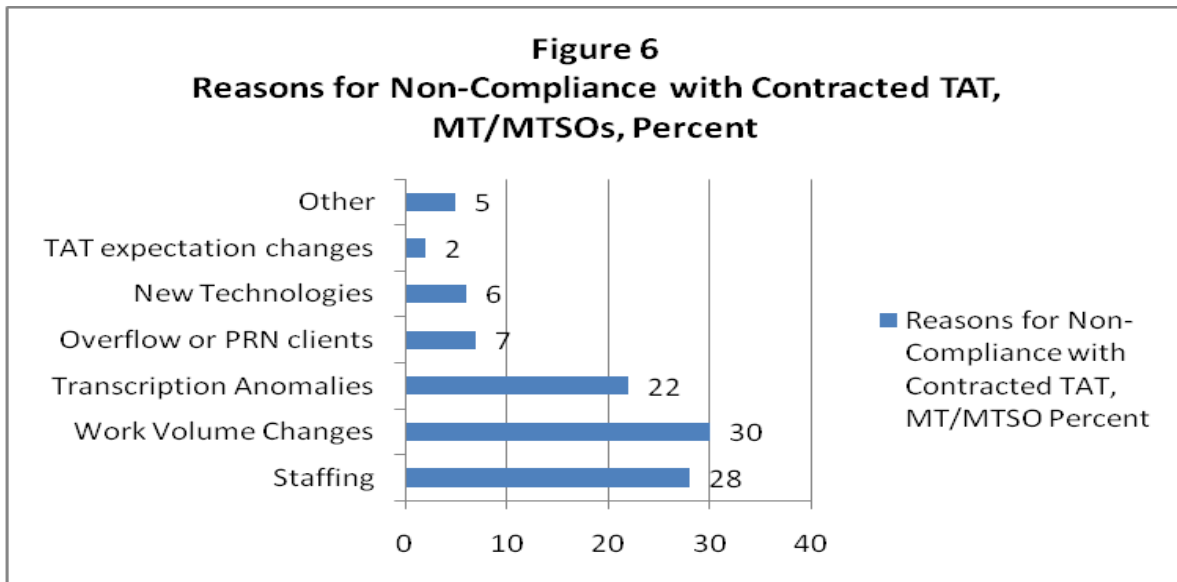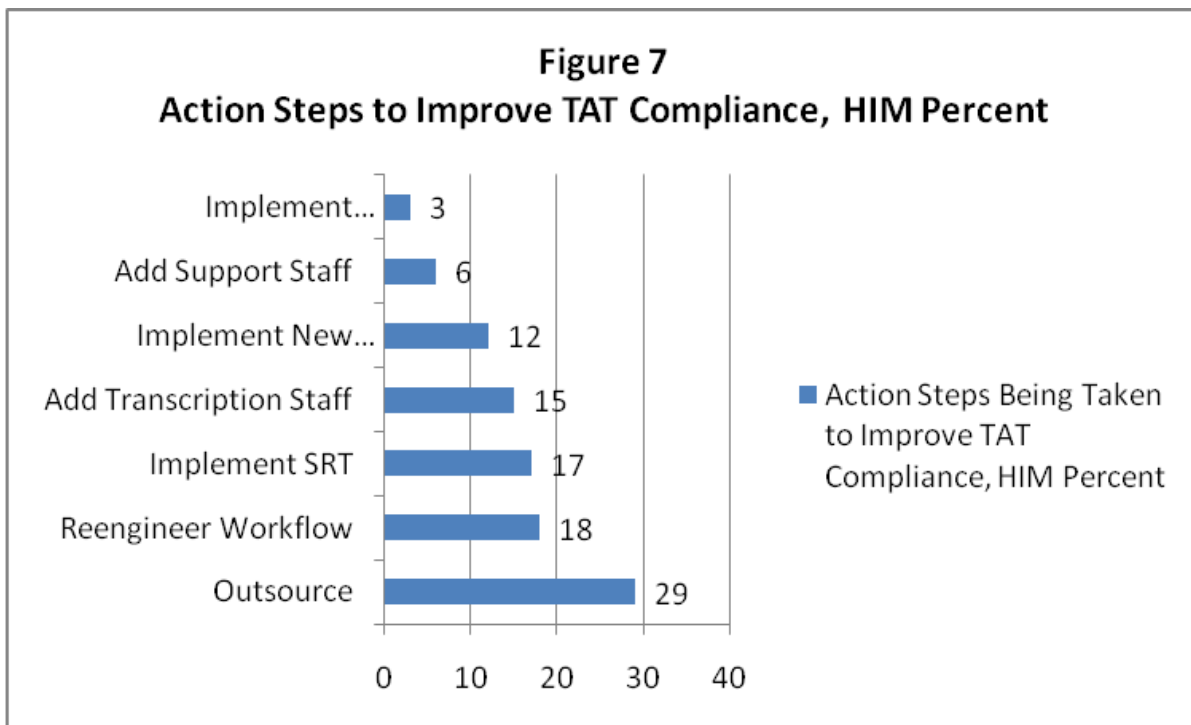
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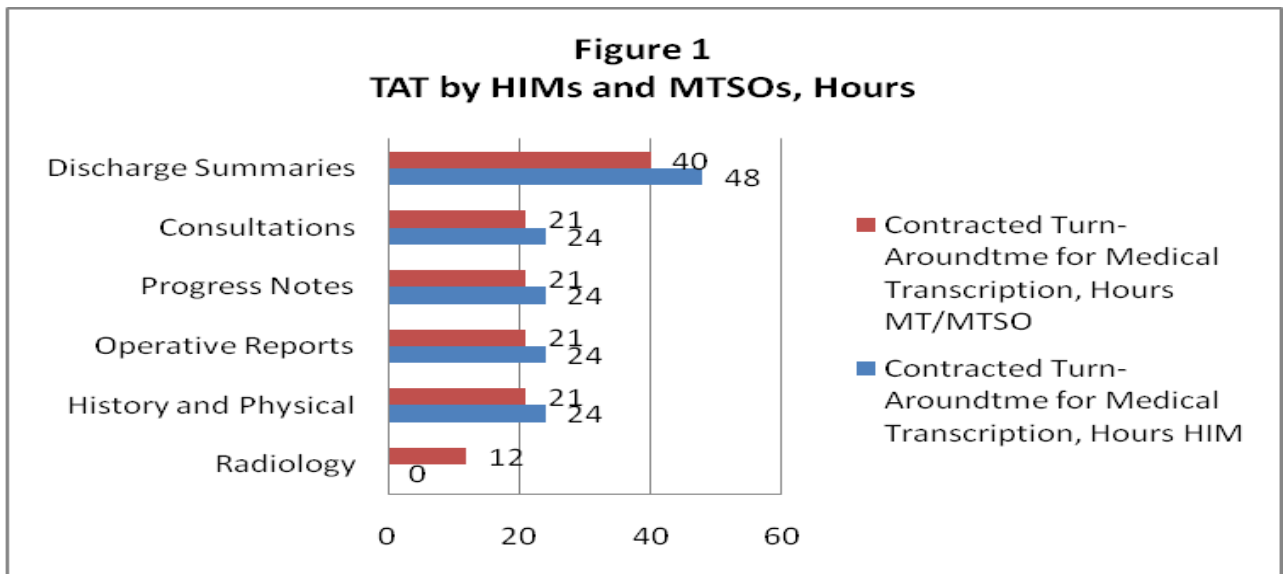
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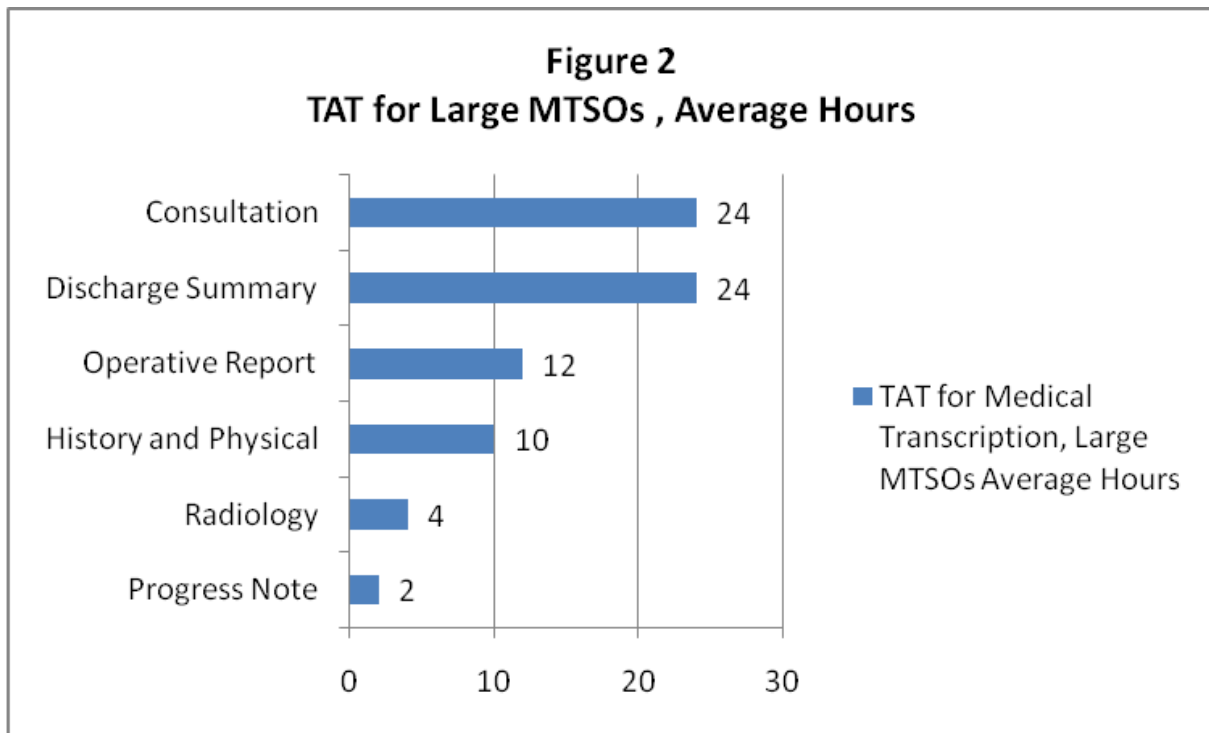
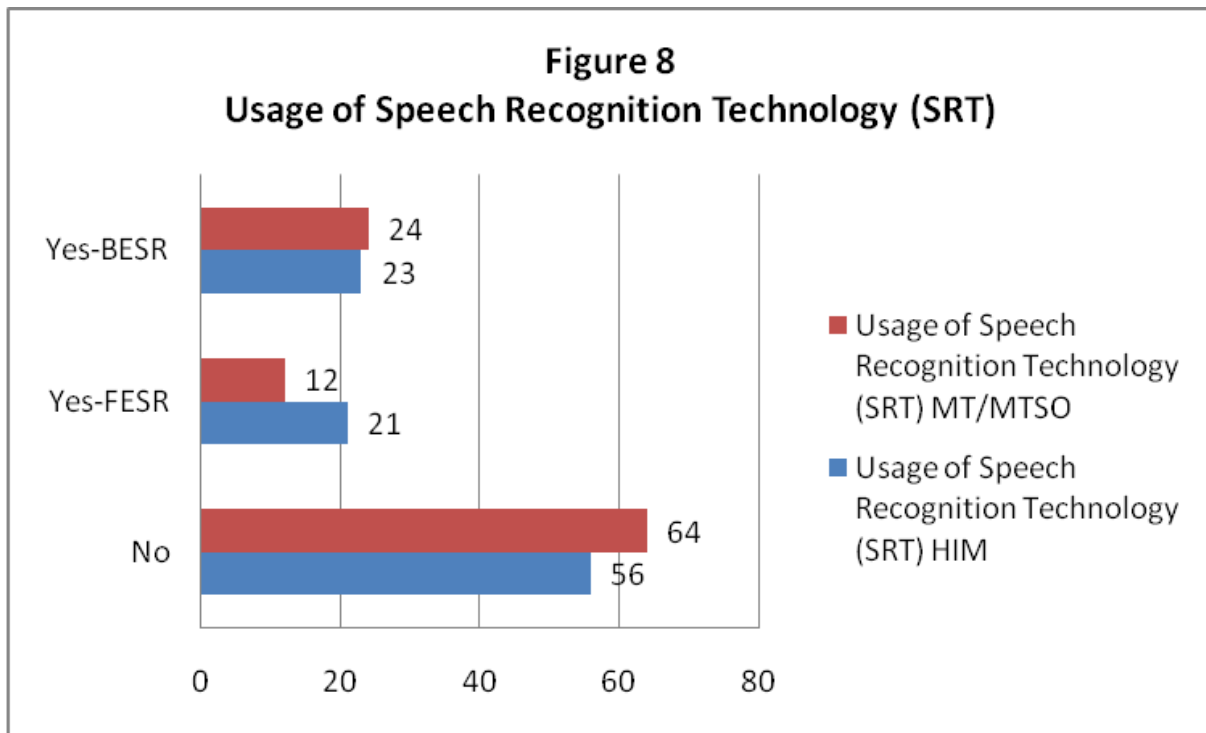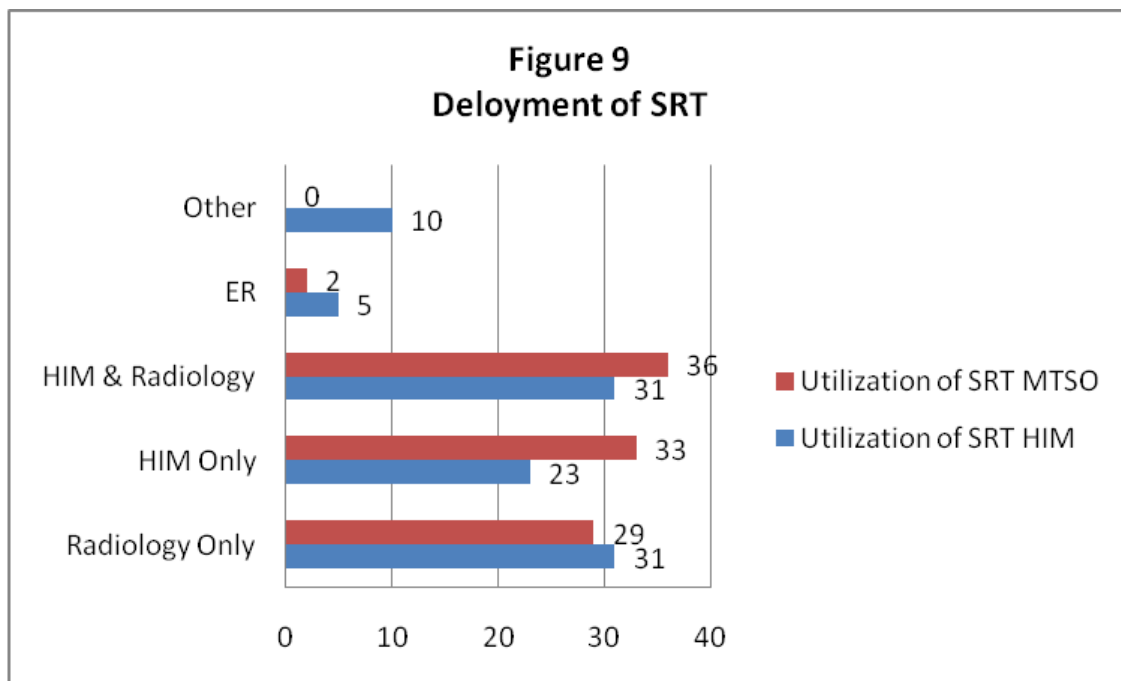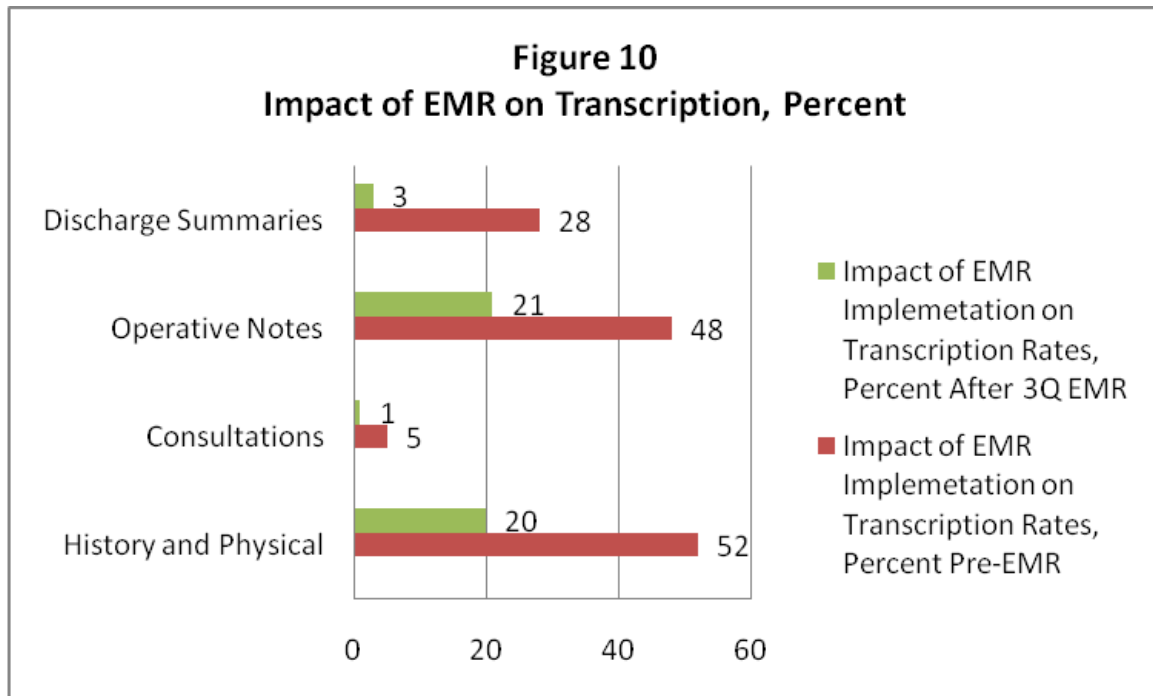**Data Source: JTFSD, 2008**

Data Source: JTFSD, 2008

Data Source: JTFSD, 2008

Data Source: JTFSD, 2008

**Figure 6
Reasons for Non-Compliance with Contracted TAT,
MT/MTSOs, Percent**

Data Source: JTFSD, 2008

**Figure 7
Action Steps to Improve TAT Compliance, HIM Percent**

Data Source: JTFSD, 2008

Figure 8
Usage of Speech Recognition Technology (SRT)

Data Source: JTFSD, 2008

Figure 9
Deloyment of SRT

Data Source: JTFSD, 2008

Data Source: Adapted from Lagrew Jr. Stutman HR, & Sicaeros L. (2008)

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