Focus: Dictation, Transcription and Speech Recognition 2004

Healthcare dictation, transcription and speech recognition (DTSR) systems are a group of products geared to facilitate the recording and transcription of human speech so that dictated contents become part of a medical record. This extract, from the 2004 Dictation, Transcription and Speech Recognition Report, is the first such study from KLAS regarding this class of products and systems. The report is intended to provide a snapshot of current automation in regards to "text reporting," through the eyes of both users and vendors in the provider setting.

Since the majority of today's medical record is still paper-based, the end product of these systems is generally a hard-copy report. There is evidence, however, that providers are seeking more efficient ways to accomplish this task and that this "efficiency" is taking on a variety of forms based on individual needs and the technology behind it. Complicating this environment is the automation of the medical record and its need to "contain" the result of this text report so as to encourage its own use as the sole source of patient information.

Today, a hospital provider is likely to have multiple dictation and/or transcription systems in order to satisfy the text-reporting needs of medical records, radiology, pathology, cardiology and other clinical areas. And with today's declining healthcare dollars in concert with the promise of relevant technology, renewed efficiencies are being sought for this historically labour-intensive area. A quote from one vendor experience exemplifies the promise: "We received a letter from one of our clients, a physician, who indicated that before a patient was able to get home from the hospital, they had the results dictated, accepted and signed off for the patient's record."

PUTTING CLIENT COMMENTS INTO PERSPECTIVE
Figure 1: Survey Participants by Size. Overall, KLAS interviewed 296 survey participants, 23% of which have under 200 beds, 35% 200-500 beds, 11% 501-1,000 beds, 1% more than 1,000 beds, 20% IDNs and 10% clinics – a substantial survey pool.
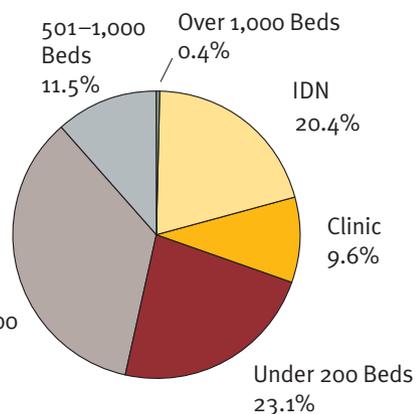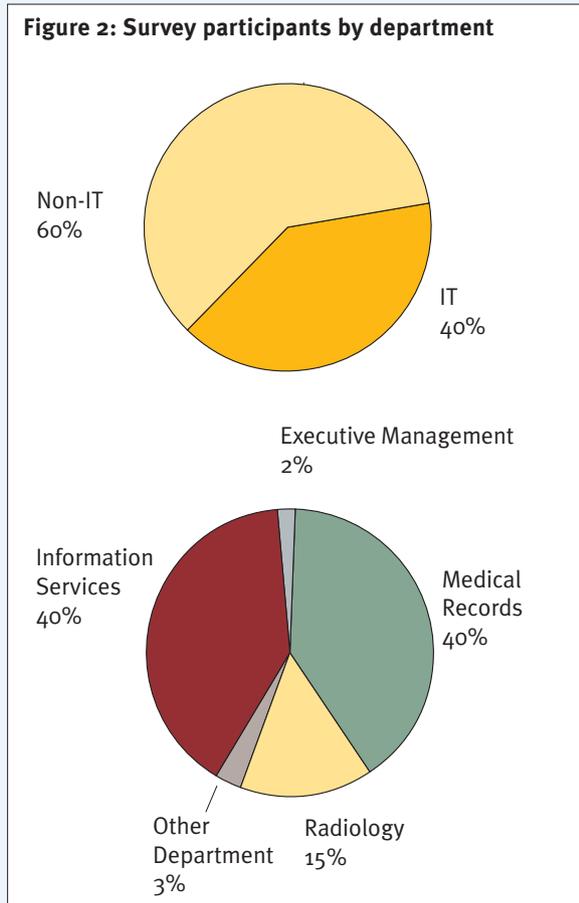

Figure 1: Survey participants by size

Figure 2: Survey Participants by Department. KLAS interviewed participants from medical records (40%), radiology (15%), information services (40%), executive management (2%) and other departments (3%), producing a healthy split between IT (40%) and non-IT (60%).

Summary. The 2004 report features five vendors (Agfa, Dictaphone, eScription, MedQuist/Lanier and SoftMed) and nine products across the dictation, tran-

Figure 2: Survey participants by department

Non-IT
60%

IT
40%

Executive Management
2%

Information
Services
40%

Medical
Records
40%

Other
Department
3%

Radiology
15%

limits to the efficiency gains depending on the solution you choose. Efficiency gains with the more traditional dictation/transcription model, while they exist, appear the most limited in effect; back-end speech recognition, while showing great promise, is not there yet for radiology terminology; and front-end speech recognition, while showing the fastest turnaround possible, is generally limited to radiology transcription and is challenged with adoption by radiologists. Electronic signature augments all models, while front-end radiology speech recognition provides the most promise with integration to RIS and PACS systems, and back-end speech recognition appears to provide the most promise with adoption, as it minimizes workflow changes of the clinician dictating.

Today, each vendor's product generally supports one method better than the others. However, each vendor speaks to long-term goals in providing a "user choice" product portfolio that offers Web-enabled, cost-saving products that improve report turnaround utilizing some combination of front-end speech recognition, back-end speech recognition in concert with digital dictation and correctionist features commensurate with the technology.

Performance Measurements. (Figure 3) Looking at these systems collectively, as enterprise reporting systems, eScription clearly leads and sets the scoring stage in vendor performance. As separate industry segments, dictation and speech recognition vendors are collectively performing below the KLAS HIT norm, while transcription performs above the KLAS HIT norm. Drilling down into each industry segment:

- Dictation – The two MedQuist products score at or slightly above the KLAS HIT norm, with MedQuist/ Lanier DVI VoiceWave edging out MedQuist/Lanier Cquence Dictate/VoiceWriter by a point.
- Transcription – eScription leads and, along with SoftMed ChartScript, scores above the KLAS HIT norm.

scription and speech recognition landscape. Vendor ratings are compared to one another as well as to the KLAS Healthcare Information Technology norm (the average for all vendors and all products in the KLAS database = KLAS HIT norm). Vendors not qualifying for the full body report, but reported in the addendum, include Cerner MTM, Dolbey & Company STAT M2, ProVox TalkNotes, SoftMed VoiceScript and Vianeta.

While today's systems are still, for the most part, categorized as dictation, transcription or speech recognition systems, there is evidence that the lines between these systems are blurring and that the overall purpose of "enterprise reporting" is the desired goal. For those in support of the more traditional dictation/transcription model, the ability to support remote transcriptionists is a "big win." For those venturing into back-end speech recognition, improved automation in medical records is the "big win," while for those venturing into front-end speech recognition, radiology report turnaround is the "big win."

Today, each of these solutions brings its own challenges, as there appear to be

Figure 3: Dictation, transcription, speech recognition – overall vendor rankings
Based upon 40 Performance Indicators

Ranking	Vendor/Product	Total Score (out of 100)
Dictation Vendors/Products		
1	MedQuist/Lanier DVI VoiceWave	75.5
2	MedQuist/Lanier Cquence Dictate/VoiceWriter	74.8
3	Dictaphone Enterprise Express VoiceSystem	72.7
Transcription Vendors/Products		
1	eScription IntelliScript	91.7
2	SoftMed ChartScript	80.1
3	MedQuist/Lanier Cquence MT	73.3
4	Dictaphone Enterprise Express TextSystem	72.8
Speech Recognition Vendors/Products		
1	Dictaphone PowerScribe	77.9
2	Agfa Talk Technology TalkStation	68.4

Figure 4: Vendor performance highs and lows (scale of 1–9, where 1=poor and 9=excellent).

VENDOR/PRODUCT	LOWEST	HIGHEST
Dictation Vendors/Products		
Dictaphone Enterprise Express VoiceSystem	6.0 Vendor Is Improving	7.3 Implementation Within Budget/Cost
		7.3 Quality of Telephone/Web Support
MedQuist/Lanier DVI VoiceWave	5.9 Good Job Selling	7.8 Implementation Within Budget/Cost
		7.8 Technology Easy to Implement & Support
MedQuist/Lanier Cquence Dictate/ VoiceWriter	6.2 Vendor Is Improving	7.1 Money's Worth
		7.1 Worth the Effort
		7.1 Implementation Within Budget/Cost
		7.1 Technology Easy to Implement & Support
Transcription Vendors/Products		
Dictaphone Enterprise Express TextSystem	4.9 Proactive Service	7.5 Quality of Implementation Staff
eScription IntelliScript	7.5 Quality of Releases & Updates	8.8 Vendor Executives Interested in You
MedQuist/Lanier Cquence MT	5.9 Proactive Service	7.1 Implementation Within Budget/Cost
	5.9 Product Works as Promoted	
	5.9 System Response Times	
	5.9 3rd-Party Product Works w/ Vendor Product	7.1 Interfaces Met Deadlines
SoftMed ChartScript	6.5 Proactive Service	7.8 Implementation within Budget/Cost
Speech Recognition Vendors/Products		
Agfa Talk Technology TalkStation	5.1 Proactive Service	7.7 Implementation within Budget/Cost
Dictaphone PowerScribe	5.9 Proactive Service	8.0 Implementation within Budget/Cost

• Speech Recognition – Dictaphone PowerScribe leads and is the only one to score above the KLAS HIT norm.

It appears that the use of these products is in transition, in that expectations are ahead of delivery. However, based on the commentary provided by survey participants and vendors, the desired outcome should soon be within reach.

Figure 4: Vendor Performance Highs and Lows (scale 1-9, where 1=poor and 9=excellent). Another way to obtain additional insight into both the vendor and industry delivery capabilities is to drill down into the low and high scores of each vendor, across all indicators. For example, implementation within budget/cost is a common strength, whereas proactive service appears to be a common challenge. The variability in the lowest scores combined with a direct comparison of the positive commentary quickly identifies strengths and challenges among the vendors.

Figure 5: Dictation, Transcription, and Speech Recognition: Percent Positive Commentary. Comparing the positive commentary across industry segments provides additional insight into customer success and challenges. The yellow line represents the KLAS HIT

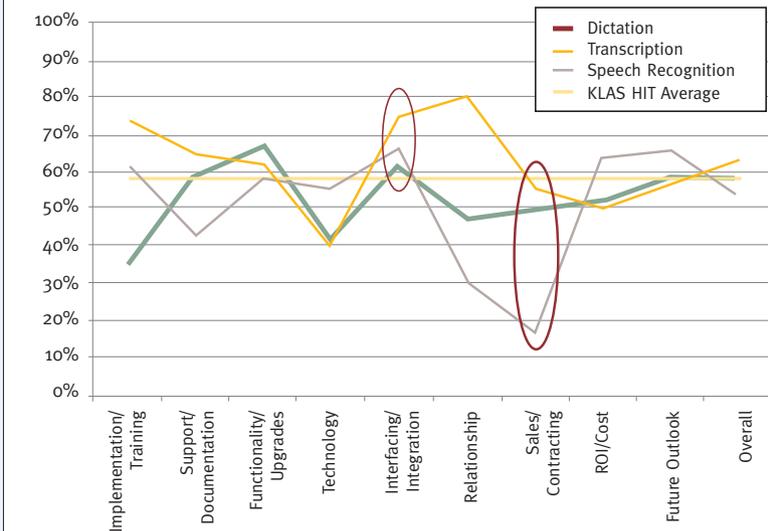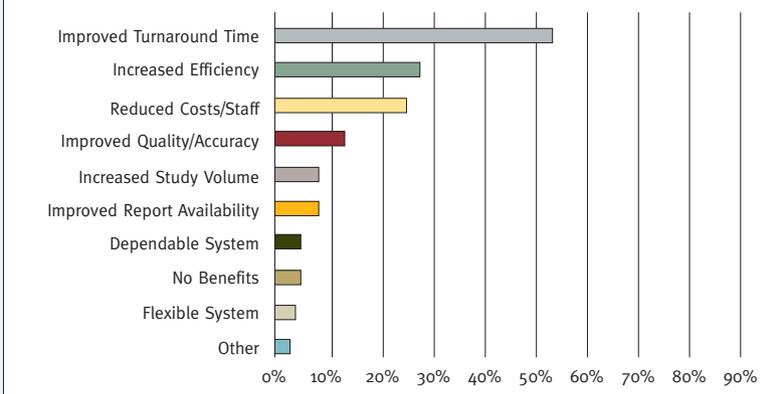**Figure 5: Dictation, transcription, and speech recognition – Percent positive commentary**

Figure 6: Quantifiable benefits

average positive commentary for ALL commentary categories. Collectively, they are strong in interfacing/integration as they all average above the KLAS HIT average, as opposed to technology and sales/contracting, where they all average below the KLAS HIT average.

Figure 6: Quantifiable Benefits. Quantifiable benefits deserve further discussion. While improved turnaround time was the overall top benefit achieved, the number two and three benefits were reversed for dictation versus transcription and speech recognition. Transcription and speech-recognition survey participants saw "reduced costs/staff" as the number two benefit, versus dictation users, who recognized "increased efficiency" as the number two benefit.

Offer to Canadian Healthcare Facilities. Many Canadian healthcare facilities and organizations use vendors who supply solutions unique to Canada. KLAS – the organization rating IT vendors in this and subsequent issues of Hospital Quarterly – is willing to gather confidential and candid data from Canadian healthcare executives and provide access to the results to all data contributors. The vehicle that will be used is the Web-based KLAS vendor evaluation form found at www.healthcomputing.com under "rate your vendor" button. If you have comments, suggestions or questions about this vendor-rating feature, please send an e-mail to editors@longwoods.com.

About KLAS

About KLAS. Founded in 1996, KLAS is the only research and consulting firm specializing in monitoring and reporting the performance of healthcare information technology (HIT) vendors and products. Our senior management staff and advisory board average 25 years of HIT experience.

How We Serve the Healthcare Industry. KLAS, in concert with thousands of healthcare executives, CIOs, directors, managers and clinicians, has created a dynamic database of information about the performance of HIT vendors. The KLAS database represents the opinions of healthcare executives, managers and clinicians from more than 4,500 healthcare facilities and 500+ different products. The information is continually refreshed with new performance evaluations and interviews daily. The KLAS database is dynamically and effectively used by:
- Healthcare organizations – to align expectations with a vendor's actual performance, to assist in strategic planning and contract negotiations, and to validate decision processes.
- Vendors – to monitor performance in comparison with competitors.
- Consultants – for performance information on a specific company or product.
- Healthcare investment firms – to evaluate publicly traded HIT company performance and trends or the competition for a new entrant.