For doctors in the United Arab Emirates (UAE), what had been a cumbersome process involving secretarial transcription and attendant corrections and multiple iterations of the same report is being transformed by the use of Dragon Medical. The initiative is part of the Wareed project – a healthcare improvement drive spearheaded by the Ministry of Health aimed at revolutionizing the quality, safety and efficiency of public healthcare delivery through a fully integrated digital healthcare system. Nuance, working with local partner Emerging Technologies, is the chosen partner for the delivery of the programme’s speech recognition component.

So far, seven of the Emirates’ busiest hospitals have gone live with Dragon Medical, introduced to help selected teams of doctors, radiologists, surgeons and some pathologists. Eventually, no less than 15 hospitals as well as 68 other medical facilities will be equipped with the system, which for the Ministry “has definitely met and exceeded our expectations”.

**CHALLENGE:**
- Meeting the core goal of UAE’s ‘Wareed’ programme to use information technology to improve medical care
- Eliminate transcription errors
- Compress time spent by support staff analyzing handwriting
- Generally speed up what could be a lengthy process (doctors were having to spend personal time meeting their report targets)

**RESULTS:**
- Doctors report dramatic improvement in productivity, with accurate reports now being produced in minutes, not days
- Reports are now more detailed as less time is spent on proofing, allowing clinicians more time to add detail and concentrate on patient interaction
- Users are very enthusiastic about system accuracy, seeing clear potential with SR for other applications beyond reporting in their workflow

**SOLUTION:**
- As part of the UAE’s on-going national healthcare IT Wareed programme, speech recognition (SR) was identified as a way to cut time and effort in medical reporting and to improve processes
- Dragon Medical 11 was implemented by local delivery partner, Emerging Technologies

**SUMMARY**
For doctors in the United Arab Emirates (UAE), what had been a cumbersome process involving secretarial transcription and attendant corrections and multiple iterations of the same report is being transformed by the use of Dragon Medical. The initiative is part of the Wareed project – a healthcare improvement drive spearheaded by the Ministry of Health aimed at revolutionizing the quality, safety and efficiency of public healthcare delivery through a fully integrated digital healthcare system. Nuance, working with local partner Emerging Technologies, is the chosen partner for the delivery of the programme’s speech recognition component.

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**HEALTHCARE**
“Prior to using the Nuance system, my reports were about a page long. Now, they are more like three on average, as I can get so much more information in there – and quickly. This is much more useful to both colleagues – and, of course, patients, as I can be that much more in-depth.”

Dr. Hatem Abu Abbass, Head of Medical Diagnostic Imaging, Al Qassimi Hospital, Sharjah, The United Arab Emirates (UAE)

“I now use voice as much as I can. It shortens time and makes my report production process much more fluent.”

Dr. Adel Zaki Al Taweel, General Surgical Consultant at Umm al Quwain Hospital

**IMPLEMENTATION: A STRAIGHTFORWARD PROCESS**

Nuance was rolled out to the first users (some 360 practitioners) in July 2012, with the project sponsors, the Ministry, expressing satisfaction at how smoothly the deployment went. As Wareed Project Manager of the UAE Ministry of Health, Mohamed Nabeel AlDoy, points out, “Doctors are very busy people, so it can often be a challenge to schedule any kind of technology training. In this case, that wasn’t a problem, as the training time was so short; everyone was able to get trained, which was very welcome, and no one had any problems.”

Users report accuracy rates up to 99%, a large increase in their productivity – and the ability to start spending time previously wasted on administration of reports on patients. The system is now so accepted that, in the words of Dr. Hatem Abu Abbass, Head of Medical Diagnostic Imaging at Al Qassimi Hospital in Sharjah, “We all hated it when the system had a scheduled outage for three days – we all tried to do as much in advance as we could to avoid going back to typing!”

**THE “END OF THE PEN”?**

“Before Speech Recognition, medical reporting had been a very difficult process,” recalls Dr. Somaya Abdullatif Al Zaraooni, Head of Pediatrics at one of the first hospitals to take on Dragon Medical, Al Qassimi Hospital. “Our secretaries had so much trouble transcribing our notes and there was a lot of time wasted on correcting mistakes, especially with spelling – and of course, we doctors can make mistakes too!” By contrast, she says, “The new technology means that we can dictate our notes immediately, the information in the reports has improved, the whole issue of correcting spelling mistakes has been removed – and speed has dramatically increased.”

Another early user of speech recognition as part of the Wareed rollout, Dr. Adel Zaki Al Taweel, a General Surgical Consultant at Umm al Quwain Hospital, recalls, “It was exhausting, having to write in longhand and then correcting mistakes, the whole to and fro; I sometimes tried to type up reports myself, but this also ate up a lot of time. Now, I no longer need or use a pen when doing either the full reports or when taking notes on my rounds.”

He adds, “I now use voice as much as I can. It shortens time and makes my report production process much more fluent; I say what I want to say, in a natural way, and the
“We also like the fact that our users of the ‘Arabic English’ accent – non-native English speakers using a technical vocabulary, in other words – have reported no problems using this system.”

Mr. Mohamed Nabeel AlDoy, Wareed Project Manager, UAE Ministry of Health

system captures the information needed much more quickly. It also helps me to record things much more carefully, which improves overall accuracy, too.”

“You can see directly on screen what your report says, you have no spelling mistakes to correct and can send it on at once when it is finished,” enthuses Dr. Hatem Abu Abbass, Head of Medical Diagnostic Imaging at Al Qassimi Hospital.

“And it’s very secure – no one else can use your system – I have tried to break in to test it, and I just couldn’t! I am also now starting to use it for other purposes, e.g. for my important letters and for general use in Microsoft Word.”

“So many benefits”

Such rapid acceptance of the first phase of speech utilization in the UAE healthcare system has been welcomed as a key deliverable of the entire Wareed framework. “We see speech recognition as having so many benefits for both staff and patients - primarily by allowing doctors to be able to pay more attention directly to patients as they can spend less time and effort on typing up their diagnoses or producing reports,” notes Mohamed Nabeel AlDoy, Wareed Project Manager. “We also like the fact that our users of the ‘Arabic English’ accent – non-native English speakers using a technical vocabulary, in other words - have reported no problems using this system.”

“Wareed is about deploying state of the art systems and offering the best technologies to our patients,” he concludes. “Dragon Medical integrates very well with other key Wareed systems, such as the Cerner electronic patient management platform. It’s been very easy to install and train doctors in it. So by making the speech recognition component work so well, we have been very impressed by the work and commitment by both Nuance and Emerging Technologies. “We’d certainly like to thank them.”

Delivering on the promise of ‘Wareed’
The ‘Wareed’ Programme is a 270m UAE Dirham ($74m) health information initiative. Launched in 2009, its base is a Health Information System (HIS) designed to link 14 hospitals and 68 clinics in all the UAE’s northern Emirates. The network has been designed to provide instantaneous electronic access to patient medical records and deliver clinicians their complete history, based on the Cerner Millennium platform. Complementing the network is a set of state of the art hospital information systems and supporting applications for healthcare delivery, including speech recognition from Nuance Healthcare. The project is making strong progress; in January 2012, for instance, the Ministry was able to confirm the completion of the full transfer of 70,000 records to full electronic status in key Wareed hospitals.

“Wareed is about deploying state of the art systems and offering the best technologies to our patients.”

Mr. Mohamed Nabeel AlDoy, Wareed Project Manager, UAE Ministry of Health
About Nuance Healthcare

Nuance Healthcare, a division of Nuance Communications, gives doctors access to voice recognition technology anywhere, any time, on any device. Nuance Healthcare empowers healthcare provider organizations and individual doctors to accurately capture and transform the patient story into meaningful, actionable information in 22 languages. Today, over 10,000 care giver organizations and 450,000 users worldwide trust Nuance voice recognition technology to deliver higher quality care, improve financial performance and enhance compliance efforts. Discover how Nuance Healthcare’s wide range of voice recognition solutions and services can increase clinician satisfaction and HIT adoption at www.nuance.co.uk/healthcare

About Emerging Technologies

Emerging Technologies is a regional company serving the Gulf and Middle East markets for the past decade with Multi-accents, Multi-dialect voices and speech recognition solutions. www.em-t.com

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NEXT STEP: WIDEN THE SR USER COMMUNITY

Use of speech has reduced the number of ‘clicks’ needed for clinicians to navigate around the emerging unified electronic patient system being created, for example, and issues with faulty diagnosis or prescriptions due to “pen error” have been eradicated.

Both the Wareed project leadership and the first wave of Nuance medical professional users see even more scope for the system going forward. At some point in the future, it may be possible to start involving patients in using speech recognition and natural language as part of their medical journey, since the aim of Wareed is to give patients the best tools possible can to make life easier and better for everyone in the UAE medical context.

But a much more immediate goal is to start deploying Nuance’s technology to a wider group of practitioners than the initial target: to quote Mohamed Nabeel AlDoy, “whoever needs to use a keyboard heavily”!

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