



## PowerScribe®

**Memorial Hermann Healthcare System** Implements PowerScribe® Across Multiple Facilities in an Effort to Remain “The Best of the Best”

**Memorial Hermann Healthcare System, Houston, TX, a massive system with numerous inpatient and specialty outpatient facilities, now utilizes PowerScribe® from Nuance Healthcare at nine acute care hospitals and seven outpatient imaging centers — all managed on one central system. More than 150 radiologists currently self-edit 77,000 reports each month, representing 98% of total radiology report volume. Average radiology report turnaround time has decreased from more than 24 hours to consistently less than seven. An annual transcription cost savings of nearly \$1.5 million has already been attained with PowerScribe, and management at Memorial Hermann expects this figure to continue to grow. In addition to substantial turnaround time improvements and cost savings, the quality of patient care at Memorial Hermann has significantly improved.**

### **Outdated, Cumbersome Reporting Systems Needed to Be Replaced**

Radiology departments and imaging centers within the Memorial Hermann Healthcare System were plagued by outdated reporting systems and cumbersome report generation processes. These processes, which involved phone-based technology, and reliance on outside transcription firms, were extremely labor intensive. Each facility had their own unique manner of generating reports, therefore Memorial Hermann’s information technology team faced the challenge of managing different products, servers, interfaces, vendors, and transcription companies for 16 sites. “Several facilities were on outdated legacy software and servers which posed a huge risk of ‘going down’ — a risk which needed to be mitigated,” said Lauren Masraff, Director, Hospital Information Systems.

### **Highlights**

- PowerScribe, managed on one central system, is utilized at 16 facilities by 150 radiologists
- 77,000 reports self-edited monthly, representing 98% of total radiology report volume
- Average radiology report turnaround time has decreased from more than 24 hours to consistently less than seven
- Reduction in average length of stay and emergency waiting room times
- Quality of patient care significantly enhanced



**Robert Weeks, Director, Information Technology**

The inherent issues that resulted from outdated systems and cumbersome processes mainly encompassed lagging report turnaround times, high transcription costs, and sub-par quality of patient care. Average radiology report turnaround time at Memorial Hermann facilities exceeded 24 hours and annual transcription costs were nearly \$1.5 million. Referring physicians would often have to wait much longer than they would like to make patient care decisions because radiology results took an unacceptably long time to process.

### **Enterprise-wide Speech Recognition Strategy**

“We needed to replace an unstable and labor intensive, old way of business with a cutting-edge breakthrough technology,” mentioned Robert Weeks, Director, Information Technology. It soon became clear to Weeks that this “breakthrough technology” was PowerScribe. PowerScribe far exceeded the competition when comprehensively examined by Weeks and his colleagues.

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Weeks determined that Memorial Hermann needed an enterprise-wide solution that all facilities could standardize on. This standardization would catalyze the reality of a true electronic patient record. Since patients within the Memorial Hermann Healthcare System often visit multiple campuses for care, it is imperative that their record flow with them so the best treatment decisions and care can be delivered. “We implemented a design whereby we could use one database for all of the facilities and a shared workflow throughout the facilities so that those patient records could be viewable, transcribable, and obtainable online from anywhere, any time,” stated Weeks. Management at Memorial Hermann Healthcare System agreed that a centralized radiology reporting design could enable them to meet various objectives including cost savings.

### **Preparing for Speech Recognition**

The IT department, along with Nuance Healthcare Professional Services, generated integrations between PowerScribe and primary information systems including Memorial Hermann’s GE PACS and Cerner PowerChart EHR. These integrations were established to enable proper flow of patient information, and optimize radiologists’ efficiency — a radiologist can seamlessly view images on the same screen while dictating and validating a report. Once a report is signed off by a radiologist, the final report is uploaded into the EHR system and is viewable by all clinicians real-time.

After the integration work was complete, a roll-out approach was formulated. A phased, yet aggressive implementation was decided on. One hospital was targeted at a time, and the entire roll-out to 9 hospitals and 7 imaging centers took less than 6 months. Management at Memorial Hermann ensured that administrators, radiologists and referring physicians all knew what to expect with the ensuing implementation.

*“The training experience with Nuance was excellent.”*

### **Learning the Ins and Outs of PowerScribe®**

Nuance Application Training Specialists (ATs) efficiently trained administrators, radiologists, and the IT team on PowerScribe. Each facility was assigned an onsite administrator to aid the radiologists in seamlessly adopting PowerScribe. Administrators were educated by Nuance ATs regarding how to guide radiologists through the adoption process as well as how to train radiologists from scratch who join the Memorial Hermann community in the future. Nuance ATs also taught the IT team how to support interfaces and servers. “The training experience with Nuance was excellent,” mentioned Masraff.



**Dr. Tholany, Radiologist, Memorial Hermann Southeast**

### **Radiologists Ramp Up**

As with all implementations of new technology, physician “buy in” is essential. Memorial Hermann faced some of the same skepticism from radiologists that many other health-care organizations deal with upon implementation. “In the

beginning, I wasn’t optimistic; I had always used human transcriptionists in my training...Five or six years ago I heard horror stories from radiologists who used speech recognition and had extremely poor recognition accuracy...That’s what I was expecting,” explained Dr. Justin Tholany, Radiologist, Memorial Hermann Southeast.

*“I’d never go back to the old system.”*

Despite initial jitters, the radiologists adopted PowerScribe with ease. “Our radiologists learned the system very fast, adapted to it very efficiently, and have taken off with it,” said Kyle Price, Director, Imaging, Memorial Hermann Southeast. At Memorial Hermann Southeast, one of 9 acute care hospitals, a five-day planned training became a three-day training because all radiologists were up to speed within three days. When asked about how he likes PowerScribe, Dr. Tholany responded, “I’d never go back to the old system.”

### **Radiologists’ Efficiency Enhanced**

Before PowerScribe, radiologists’ efficiency was far from optimal. After dictation, reports would often become “stuck” in transcription before they were available for sign-off. This lag in report turnaround time proved to cause two primary problems: first, radiologists had to refresh their memories by reviewing exams (again) before signing off on reports; second, radiologists were continually fielding calls from referring physicians (for STAT and non-STAT reports alike) to verbally communicate results that were not yet transcribed. Since the PowerScribe implementation, reports are generated so rapidly that the phone calls to referring physicians inquiring about results have nearly ceased. “Prior to PowerScribe we received 50 to 60 calls per day from referring physicians asking for their reports...Now we probably receive less than three calls per

week, and those are usually for unique cases,” said Lonnie Cozad, PowerScribe/PACS Administrator, Memorial Hermann Southeast.

Radiologists at Memorial Hermann are thoroughly impressed by their newfound efficiency. “It’s night and day compared to what we had before...Now I dictate a report, sign it off and it’s out there — within a matter of less than a minute there’s an official finalized report out there for the clinician to see,” stated Dr. Tholany. Dr. Tholany, along with more than 150 other radiologists, currently self-edit 77,000 reports each month, representing 98% of total radiology report volume.

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In addition to a smooth workflow with limited interruptions, PowerScribe also allows radiologists to substantially cut down the time they are dictating, by offering such features as “Power Normals”. Power Normals are templates with previously created text that contain bracketed fill-in fields. “I have Power Normals where I can turn a completely normal report into a completely abnormal report...You can quickly tab with the PowerMic™ II to the next bracket; your whole report may be simply dictating five or six numbers,” mentioned Dr. David Lawrence, Radiologist, Memorial Hermann Southeast.

### **Substantial Reduction in Report Turnaround Time and Length of Stay**

With the elimination of the transcription leg of report generation, and the newfound productivity features radiologists are able to use via PowerScribe, average radiology report turnaround time throughout the Memorial Hermann Healthcare System has decreased from more than 24 hours to consistently less than seven. This turnaround time figure far exceeds the original turnaround time goal of less than 10 hours. With faster report turnaround times, clinicians are able to care for patients faster which, in turn, has led to a reduction in average Length of Stay (LOS) across the healthcare system. In addition, since patients are treated and moved from the Emergency Department faster, ER waiting room times, previously reaching more than 10 hours in some instances, have significantly decreased.

### **Referring Physician Satisfaction**

A critical factor that was successfully addressed with PowerScribe was referring physician satisfaction. “For the referring physicians, naturally, the sooner they can get a report and a diagnosis, the sooner they can administer treatment to the patient,” said James Polfreman, Memorial Hermann System Executive, Imaging. Substantially faster report turnaround times have led to a sentiment of strong satisfaction throughout the Memorial Hermann referring physician community. Radiologists are constantly being complimented regarding their ability to consistently deliver timely reports to referring physicians.

### **Lost Reports No Longer an Issue**

Prior to implementing PowerScribe, report tracking was a challenge at Memorial Hermann. Dawanda Nelson, Director, Imaging, Memorial Hermann The Woodlands, mentioned that she was not able to recognize that reports were missing until a full 24 hours after they should have been dictated.

**Challenge:** Replace an unstable, antiquated radiology reporting systems with a “cutting edge, breakthrough technology”.

**Strategy:** Roll out PowerScribe to 16 facilities on one central system to ensure instantaneous patient record flow across multiple facilities.

**Results:** High volume of reports self-edited to achieve remarkable gains regarding report turnaround time, cost savings, and quality of patient care.

*“At Memorial Hermann Southeast, our monthly transcription bill went from \$13,000 to \$1.26.”*

“Before PowerScribe we had to rely on the RIS system to look for errors or incomplete reports, and it wasn’t the most optimal system – there were reports that fell through the cracks,” stated Cozad. Cozad mentioned that with PowerScribe, all reports are easily visible, and it’s easy to make sure that reports do not “fall through the cracks”.

### **Staying Ahead of the Competition**

One of the main drivers of the PowerScribe initiative at Memorial Hermann was to remain a top imaging provider in an increasingly competitive market. The “product” of radiology, in fact, is the report, and high quality reports produced in a timely manner are of paramount importance. “We’re running a state-of-the-art facility with the newest technology. We have one of two 3-tessellate magnets in the Houston area, and we want to remain competitive by releasing quality images and timely reports and we’re doing that now with PowerScribe,” said Nelson. Price points to PowerScribe as a means to gain market share and regain trust of referring physicians within the Memorial Hermann community.

### **Cost Savings to Boot**

Remarkably, PowerScribe has allowed Memorial Hermann to gain an edge on competition while reducing transcription costs. The return on investment of PowerScribe was attained in under one year at Memorial Hermann, with an annual transcription cost savings of nearly \$1.5 million. All hospitals and imaging centers are reaping the benefits from this phenomenal cost savings: “At Memorial Hermann Southeast, our monthly transcription bill went from \$13,000 to \$1.26,” said Price.

*“Our strategy is to be the best of the best, and with PowerScribe, we’re achieving that now.”*

### **Future Plans with Speech Recognition**

The tremendous successes achieved at Memorial Hermann have contributed to a desire to expand speech recognition to other specialties within the healthcare system. “We have a number of other areas within our acute care hospitals, including pathology and cardiology, that would benefit significantly from Nuance’s speech recognition and it seems like a logical sequence to go ahead and roll that out to further areas of our medical departments,” Polfreman stated. It is clear that speech recognition has made its mark at Memorial Hermann. “Our strategy is to be the best of the best, and with PowerScribe, we’re achieving that now,” said Polfreman.

**For product information please visit Nuance Healthcare at [www.nuance.com/healthcare](http://www.nuance.com/healthcare) or call 800-350-4836.**

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