



# RadWhere™

**Cook Children's Health Care System** recognizes improved turnaround times, greater user acceptance, more powerful reporting capabilities and superior accuracy by replacing an existing radiology speech recognition product with Nuance Healthcare's RadWhere™ speech recognition reporting solution.

**Cook Children's Health Care System, based in Forth Worth, TX, is one of the country's leading integrated pediatric health care delivery organizations. This 285-bed facility records more than one million patient encounters each year and has ranked in America's Best Children's Hospitals 2008 by U.S. News & World Reports, Leapfrog Top Hospitals 2007, and named one of the Best Children's Hospitals 2007 in Child's Magazine.**

This patient-centric clinical care facility has utilized speech recognition technology for documenting radiology interpretations for the better part of the last decade. While not completely dissatisfied with their legacy reporting application, some significant obstacles did exist including a suboptimal integration with the facilities PACS and lack of product development. The administrators and radiologists at Cook Children's knew that an opportunity for improvement existed and other systems on the market held a greater potential for improving productivity, further reducing costs, and improving other workflow processes.

Ultimately, the decision was made to implement RadWhere™ from Nuance Healthcare. This industry-leading speech system offers seamless integration with Cook Children's Fuji PACS and superior speech recognition accuracy. Furthermore, the option to add integrated business intelligence capabilities through Nuance's RadCube™ was an added benefit. Today, Cook Children's generates over 135,000 radiology reports annually with over 99% self-editing in comparison to only 46% achieved with their previous solution provider. As a result, the facility has realized an annual transcription services cost savings of nearly \$110,000. With this level of cost savings Cook Children's has recognized payback of their new system in just 4 months.

## IMPETUS FOR CHANGE

With over 8 years of experience utilizing speech recognition in their radiology department, the administrators and radiologists at Cook Children's were

## Highlights

- RadWhere™ successfully replaced the existing, underperforming speech recognition system
- Ten radiologists use RadWhere™ to dictate over 135,000 exams per year
- Achieved productivity gains not recognized with previous solution, anticipate even more gains after implementing structured reporting templates
- Seamless, bi-directional, integration with Fuji PACS
- Eliminated monthly transcription bill of \$9,000 (\$108,000/annually) as a result of significant improvement in recognition accuracy and end user acceptance
- Attained ROI in just 4 months
- Average report turnaround time decreased from 20-hours to consistently under 6-hours
- ER report turnaround time has been reduced to under 30 minutes

extremely knowledgeable and comfortable with the technology. Still, after almost a decade of use, Cook Children's continued to rely heavily on transcription services for more than half of the reports generated with their legacy speech reporting system. The reasons were well known: lack of core speech technology updates, limited product enhancements over the years, no integrated productivity tools, and antiquated reporting capabilities resulted in more reports being sent for correction.

Cook Children's knew there was an opportunity to increase efficiency and further reduce costs by implementing a newer reporting solution that could address many of the department's challenges. "We have always recognized many benefits as a result of using speech technology in the department, but we knew we were missing out on many productivity enhancements and workflow optimization with our previous product," says John Mowry, Digital Imaging Manager. "We were aware that a newer version [of our previous solution] was on the horizon, but Nuance offered a more focused product development roadmap, the latest speech engine technology, bi-directional workflow, advanced reporting capabilities, superior product support and tools to help us remain competitive in our marketplace."

## SELECTION PROCESS

Cook Children's was faced with the ominous task of evaluating all available speech recognition solution providers and the benefits that their technology provided. The focus was on selecting a solution provider and application that could assist the department manage imaging volume growth, further cut transcription costs, meet referring physician expectations, and improve departmental efficiencies.

Choosing a provider that offered more than just speech was an added benefit. Integrated productivity tools such as Veriphy™ for CTRM and RadCube™ for business intelligence from Nuance was appealing. "We were very interested in choosing a reporting solution provider that was able to offer 'more' than just a basic speech platform," said Mowry.

The evaluation criterion was clear:

- Rich product set and development roadmap.

- Minimal impact on existing systems.
- Integration expertise with radiology applications.
- Extensive support offering and proven instructional methods.
- Proven market experience.

After reviewing each vendor against the selection criteria, the decision was made to implement RadWhere from Nuance Healthcare.

## VALUE OF TRAINING AND SUPPORT

Having been through this before, Cook Children's recognized the value of careful planning and application training. Nuance Healthcare's Professional Services team provided an in-depth analysis of workflow and environment, customization of the design and worked hand-in-hand with the facility to develop an optimal strategy for deployment. "We had access to all of the right people at Nuance during implementation," explains Mowry. "Whenever we called in with a question, someone answered the phone right away and got to work on the issue. Nuance really excels in interfaces and support."

Nuance's training organization strives to provide customers with the industry's highest quality guidance and support. Nuance product specialists and documentation specialists collaborated with the facilities administration, implementation staff, technical support services and customer education center instructors to design, develop and deliver a training program that addressed Cook Children's unique needs.

According to Mowry, "one of the challenges with the prior reporting system was that Cook Children's did not receive an adequate level of training and support." The in-house support team worked hand-in-hand with the Nuance team to implement RadWhere within their existing IT infrastructure. "Both MEDITECH and Fuji Synapse have been integrated at other sites with RadWhere so our process was straightforward. Everyone we contacted was familiar with our existing systems and the process went very smoothly."

## INITIAL REACTIONS

According to John Mowry, "since implementing RadWhere, the number of studies that the department is able to complete with so

few radiologists is astonishing.” The initial reaction from other staff and administration at Cook Children’s echoes his comments.

“RadWhere is an extremely intuitive application,” explains Dr. Burton Putegnat, Medical Director. “Within the first hour of use it was clear exactly how much more this solution had to offer over the legacy system. It is a prime example of how intelligent software can streamline workflow and help ensure the highest level of patient care.”

According to Mowry, the department “never recognized self-edit adoption above 46% because the outdated speech technology [from the previous provider] could not provide a level of satisfactory accuracy.” With RadWhere, the accuracy rate that the radiologists achieve is substantially greater and “within just 60 days nearly 99% of reports were being self-edited.”

“Nuance’s exceptional training was a ‘big plus’ as it helped us achieve extremely high self-edit rates in only 2 months post-implementation,” said Mowry. As a result of this boost in accuracy and self-editing, the imaging department has experienced a 14-hour reduction in turnaround time; with the previous system in place the average TAT was 20-hours, now with RadWhere it is less than 6-hours.

“Each of the radiologists in our group do things in a somewhat different way. With our previous speech recognition system, some users choose to send reports to transcription. With RadWhere, all of our radiologists are using speech recognition and transcription is no longer involved,” says Dr. Putegnat. “The updated speech engine, enhanced vocabulary and robust macros are a definite plus.”

## TIME AND COST SAVINGS

The longstanding promise of speech recognition is realized with the dramatic cost savings associated with decreasing or eliminating Radiology’s dependency on transcription as well as productivity improvements for the end users. Greatly reducing reliance on transcription and providing time-saving tools for the radiologist directly hits the bottom line.

In short order this became a reality for Cook Children’s. After deploying their previous speech recognition solution

**Challenge:** Replace an existing radiology speech recognition reporting application that failed to satisfy the growing demands of the department. Improve upon workflow integration challenges experienced between legacy reporting application and PACS in addition to resolving productivity hurdles. Drive further cost savings, productivity gains and departmental efficiencies.

**Solution:** Build upon the “lessons learned” and experience using speech recognition and choose a technology platform that fulfills more than just basic reporting requirements like peer review, integrated clinical content, integrated critical communication and back-end business intelligence.

**Results:** After an extensive assessment of all available options, the strategic decision was made to implement RadWhere™ not only because the solution offered a seamless bi-directional integration with PACS, robust templating capabilities, integrated productivity tools and business intelligence, but also because of Nuance Healthcare’s dedication to the core technology and diagnostic imaging industry. The results: improved recognition accuracy and efficiency, which has led to a higher rate of self-editing; dramatic improvements in report turnaround time; improved quality of care; and annual transcription cost savings of nearly \$110,000.

the imaging department did experience cost savings. However, the implementation of RadWhere brought further savings and surpassed expectations. In fact, the department has saved an additional \$9,000 per month since implementing RadWhere, totaling about \$54,000 in less than six months. According to Mowry, the department “recognized a return on investment (ROI) in just four months.”

In addition to the financial and cost savings attributed to the implementation of RadWhere, the system has allowed the radiologists to be more productive. “We were in search of a more sophisticated system that offered advanced capabilities to match our institutional growth,” explains Dr. Putegnat. “The flexibility and workflow capabilities of RadWhere, specifically its advanced template capabilities and integrated QA tools have made it invaluable from a productivity and quality enhancement perspective. Most of my report templates populate automatically and the robust reporting tools make me more productive than I ever was with transcription.”

These productivity enhancements and the improved report turnaround leads to getting patients through the department faster and thus reduces the length of stay. This is an increasingly critical issue for hospitals nowadays, and RadWhere has helped address the issue.

## REFERRING PHYSICIAN SATISFACTION

Referring physician satisfaction is equally important as the other benefits of speech recognition. By generating highly accurate reports in a timelier manner, the referring physician can diagnose, treat and get patients on their way much faster.

Mowry explains, "the ER physicians know that in less than 30 minutes after a study is completed the report will be available. We were unable to reach that level of service with our previous solution and these physicians are extremely happy."

In addition to satisfaction from prompt report turnaround, the referring community also appreciates the quality of documentation and communication. RadWhere's advanced macros lead to well-documented results and aesthetically pleasing report formats. "The referring physicians like the fact that our reports are more thorough and accurately detail the patient encounter," says Dr. Putegnat. "RadWhere allows us to provide a more consistent report format and helps promote structure in our documentation."

## FUTURE PLANS

Cook Children's staff and administration have been extremely satisfied with the results of implementing RadWhere. In fact, over the coming months they plan to put into practice additional features of the software.

One of the key features planned for rollout includes department-wide standard reporting. Structured reporting is gaining attention in the industry not only because it ensures thoroughness of the report and reduces errors, but also because referring physicians appreciate the high quality documentation that it provides. End user satisfaction, error reduction and proper documentation for billing purposes are

instrumental in today's marketplace. "There is a trend toward standardization and standard elements for the same report type," Dr. Putegnat says. "Standardization is being stressed by various radiology societies as a practice all imaging providers should follow." RadWhere eases this process by offering structured templates, merge data, pick list options, procedure code mappings and report auto-structuring features.

Another focus on the future implementation roadmap is custom fields. These site-defined elements allow facilities like Cook Children's the opportunity to capture and track interesting cases, technologist QA, radiation exposure doses and procedural sedation. According to Mowry, "custom fields offer a phenomenal opportunity to capture those critical values that we must report on for patient safety and compliance reasons."

## CONCLUSION

For Cook Children's Health System, RadWhere provided significantly more benefits than the previous antiquated speech system. Mowry states, "what really sold us on RadWhere was that Nuance offered things that nobody else did."

The benefits of RadWhere are far reaching: minimal disruption for the radiologists, considerably less workload for transcription, faster report turnaround, significant annual cost savings of \$108,000, more satisfied referring clinicians and productivity gains across the board. Now, everyone from the radiologist to the referring physician can take advantage of the increased efficiencies that RadWhere provides.

Through their partnership with Nuance, Cook Children's will continue to uphold its commitment to be at the forefront of diagnostic imaging by growing its speech recognition initiative and maintaining their position as one of the country's leading integrated pediatric health care delivery organizations.

**For product information please visit Nuance Healthcare at [www.nuance.com/healthcare](http://www.nuance.com/healthcare) or call 866-350-4836.**

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