

Enhancing Radiology Workflow

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Jameson Health System provides care to citizens of New Castle in Western Pennsylvania.

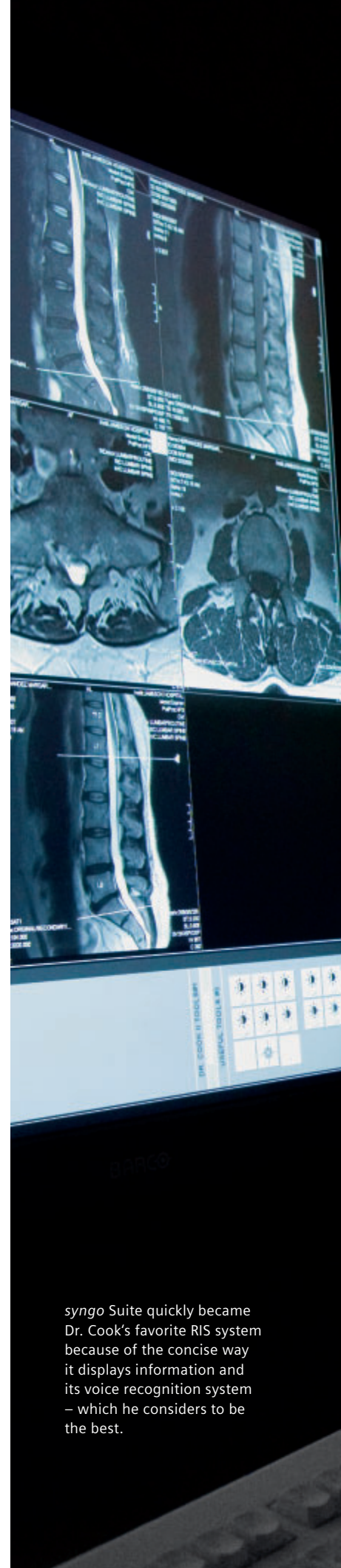
Enhancing Radiology Workflow

In 2004, Jameson Health System in New Castle was the first medical center in the USA to implement Siemens *syngo* Suite at its Department of Radiology. Jane Beight, Administrative Director of Medical Imaging, and Albert J. Cook II, MD, Medical Director of Radiology, worked closely with Siemens in the beta testing of this unique archiving and reporting tool.

By Robert L. Bard

In an effort to increase efficiency in its Radiology Department, Jameson Health System, Inc., chose to implement the *syngo*® Suite system. This solution includes *syngo* Workflow (Radiology Information System – RIS), *syngo* Imaging (Picture Archiving and Communication System – PACS) and *syngo* Portal Radiologist, which is the role-based interface that helps streamline radiologists' tasks in a simple, organized way. The comprehensive solution proved to be extremely beneficial in all aspects of radiology. Because the hospital performs more than 100,000 radiological examinations each year, implementation of *syngo* Suite

required detailed planning. Radiology Department Director Jane Beight knew that the first six months would be challenging, because she would be redefining the way the department operated. And she was right: The entire department redesigned its workflow, and Beight educated the staff members about their new roles. Despite the challenge of organizing work spaces, designing workflow, and installing new computers, Beight states that the largest hurdle was staff education and workflow changes – not technology. Jameson Health System is located in rural Western Pennsylvania, where, until recently, there were many physicians who



syngo Suite quickly became Dr. Cook's favorite RIS system because of the concise way it displays information and its voice recognition system – which he considers to be the best.

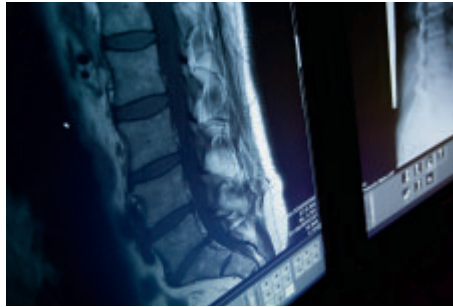


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had never used a PACS to view images. The majority of them still relied on film to evaluate each case, and paper to document their findings. Computer education and workflow design were required for all physicians. Within a week of being introduced to *syngo*, the radiologists became comfortable using the basic functions and were interested in learning its more advanced applications. The more familiar the physicians became with *syngo*, the more valuable the system became to their workflow. The instantaneous report generation motivated the physicians to learn more because they experienced a multitude of benefits to workflow and patient care. A small amount of training time and effort were required to learn the basic tasks associated with the integrated RIS/PACS system. "With a little education

companies, services, and packages available. Beight says that Jameson chose *syngo* Suite because the physicians and administrators saw the benefits of having an integrated system for all imaging and information. As Beight comments, "Siemens is a valuable collaborator in our information technology. They aggressively seek input from users in an attempt to satisfy their customers and to improve their products."

Dr. Cook has experience with four other RIS solutions, and he states that *syngo* Suite is his favorite because of how the information is presented with *syngo* Portal Radiologist. "Everything is very compact and very logical, and it's all on the screen at once, including prior reports. There is no need to open a bunch of windows on a screen and have to guess



From image acquisition to image display, diagnosis, and voice recognition for reporting, *syngo* Suite supports the radiologic process.

and familiarity, the new user can easily become comfortable using the system and becomes a strong supporter of it," Beight adds. "The benefits it brings – particularly the decreased turnaround time – have made believers of even skeptical clinicians."

Making the transition to the *syngo* Suite system has been made easier because of its familiar Siemens design. Many radiologists at Jameson have prior experience with a Siemens imaging modality and the user interface, and menu styles of the PACS and RIS are consistent across the Siemens product line.

A New Voice for Radiologists

When Jameson Health System identified a need for a PACS, it assembled a special leadership team to evaluate the different

which window you are working with. It is very user friendly for me. *syngo* also has the best voice recognition system." Dr. Cook has found that the voice recognition system cuts down on reporting time, especially when incorporating the 'normals' template.

The voice recognition system was initially a concern for some of the radiologists, but these concerns were quickly dispersed. The system easily adapts to individuals of different ethnicities and dialects. Dr. Cook believes the voice recognition system plays a big part in the ability to improve efficiency. With *syngo* Voice, Jameson has downsized its medical transcription needs, decreasing from five full-time employees to about three. The need for medical transcription has diminished considerably, because physicians self-edit the final reports from their own established tem-

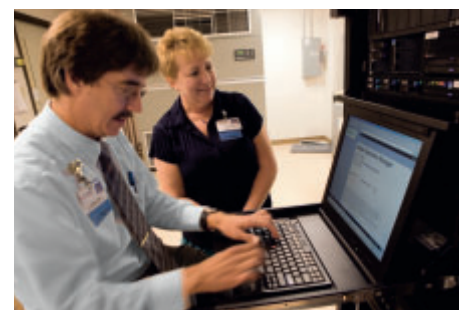
plates, which they have become very accustomed to using.

As a complement to all the electronic information necessary for the radiologists to read, Jameson has incorporated a digital scanner that enables them to have all information electronically. This complementary tool enables paper documents, such as prescriptions, to be scanned in as part of the electronic record. Jameson has found that scanning saves considerable amounts of time and effort while it decreases the likelihood of a typing error.

Turnaround Time Cut in Half

Both Beight and Cook applaud the benefits of a more efficient workplace with *syngo*. Turnaround time was about 24 hours before *syngo* Suite was implemented,

the risk of misplacing patient studies, which required extra effort to retrieve. With *syngo* Imaging, we find less studies being misplaced." With the results immediately available on a computer file or even via the Internet, staff members are not required to file and retrieve films at several different locations. The clinic staff no longer scrambles to search for missing test results or films; clinics run smoother and the staff concentrates on providing quality patient care. Jameson used to have file clerks whose primary responsibilities were to move films from one location to another. The PACS eliminated the need to move large, bulky films to many different places and the need for space to store these films. "Our film budget has been reduced by over 80 percent in our first year because we are no longer paying for hard



The server and IT backbone work in the background, unnoticed by the user.

starting from the time the patient completed a test to the time the radiologist signed off on the final report. Since *syngo* Suite has been implemented, the turnaround has been cut in half to approximately 12 to 14 hours. Cook adds: "*syngo* Suite has enabled the clinical process to be moved forward 12 hours, which has improved both clinical decision-making and patient satisfaction. We don't have to review and re-review cases anymore, so the medical staff gets the report they need from us much more quickly than before. We also don't have to dig through and try to find things now. Everything we need to interpret studies is available to us in a compact, logical format."

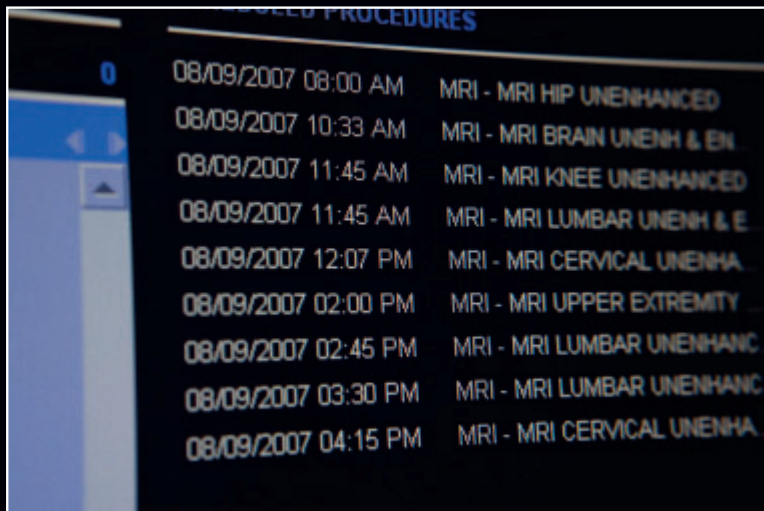
Such a timely report is even available with less effort from both the radiologist and support staff. As Beight notes, "Before *syngo* Suite was implemented, we incurred

copy pieces of film and the chemistries and maintenance for the developing process," says Beight. "These savings have helped offset the costs associated with implementing the PACS."

Jameson Health System has also reaped financial benefits that are difficult to quantify since implementing *syngo* Suite. Beight identifies the radiologist as the most expensive resource, and *syngo* has helped to make it easier to keep radiologists efficient because they are provided with an easily sorted task list, and their time and energy is spent interpreting images. Dr. Cook echoes Beight's sentiments. "I am spending more time reading images and less time manipulating the computer, and that is important to me," he says. "Siemens has helped to make it as easy as you can to provide more opportunities to read images and improve patient care."



Single sign-on across syngo Suite



syngo Portal Radiologist displays scheduled procedures each day.



Common syngo user interface

“Siemens is a valuable collaborator in our information technology.”

Jane Beight,
Administrative Director,
Medical Imaging,
Jameson Health System,
New Castle, PA, USA



Patient satisfaction is improved because of more efficient processes. Patients are no longer repeating studies that have been misplaced, and referring physicians are no longer making excuses as to why a study is missing or has yet to be interpreted. The electronic format has given the patient more control. Some centers give patients their own electronic copy of their tests on a compact disc (CD), and their referring physician can access the test results via the CD or the Internet. Some interested patients even access the files themselves, because the CDs include a free DICOM reader. Beight states that *syngo* Suite has improved patient care, “Because we are able to get the right information to the right people at the right time.”

Redefining Workflow

Getting the information to the right people has helped the clinic areas and other hospital departments at Jameson Health System operate more efficiently. Allowing images to be reviewed at multiple locations at once, significantly improves workflow efficiency.

Such organization has also improved how consultations are performed. With *syngo* Suite, the referring physicians can access the digital images directly from their practice. Groups of physicians do not have to arrange their schedules and meet at one particular location to discuss a case. With *syngo* Suite, an infinite number of reviewers can look at the case from any location

where a personal computer and Internet access is available. Many physicians like the system because the images are presented in the same manner at their home on the Internet that they are accustomed to at their office workstation.

The implementation of *syngo* Suite has truly redefined the entire workflow structure at Jameson Health System. After many discussions with RIS managers at different medical centers and personally researching different PACS and RIS systems, Beight concludes: “The first six months of implementation were very demanding, but since the system has been up and stable, we’ve been very satisfied.” Dr. Cook agrees with Beight and offers a ringing endorsement of *syngo* Suite by stating: “If I have to read a case, I would much rather read it on the *syngo* Suite system.”

Robert L. Bard is a freelance medical writer certified by the American Medical Writer’s Association who also conducts clinical research at the University of Michigan’s Division of Cardiovascular Medicine.

Summary

Challenge:

- Improve workflow and image management in the radiology department

Solution:

- Installation of *syngo* Suite, which includes *syngo* Workflow, *syngo* Portal Radiologist with *syngo* Voice and *syngo* Imaging
- Installation of document scanner to replace paper documents

Results:

- Reduced report turnaround time from 24 to 12 hours
- Reduced number of misplaced patient studies to nearly zero
- Reduced number of transcriptionists from five to three
- Reduced number of typing errors
- Reduced money spent on films by over 80 percent
- Physicians are able to spend more time reading patient images and delivering patient care
- Avoid repeated exams
- Increased patient and referrer satisfaction

Link

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