

Quickening the Pulse at Kansas Heart

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From increased workflow efficiency to patient reports embedded with images, *syngo* Dynamics is a key contributing factor in helping one of America's leading heart hospitals stay on top.

By Amy K. Erickson



The Kansas Heart Hospital is an award-winning facility with a reputation for cutting-edge cardiology services and extraordinary patient care. The hospital's cardiologists and staff are supported by *syngo*[®] Dynamics, a multimodality image review and archiving system from Siemens Medical Solutions. The holistic nature of *syngo* Dynamics allows Kansas Heart to streamline its workflow by making patient charts more comprehensive and readily available. The result? Physicians can now spend more time with patients and less time dealing with paperwork.

Located in northeast Wichita, the Kansas Heart Hospital is a 54-bed subspecialty hospital with 225 employees, including 36 physicians and anesthesiologists. Kansas Heart opened its doors in 1999 and completed an expansion in 2001. It is the first hospital in Kansas specifically designed to provide specialized, comprehensive cardiac healthcare. The facility performs about 2,500 heart catheterizations per year, which averages out to about 12 to 14 patients per day who pass

through the hospital's two cath labs. In addition to a wide range of cardiac procedures, the hospital performs more open-heart surgeries than any other cardiology program in Kansas.

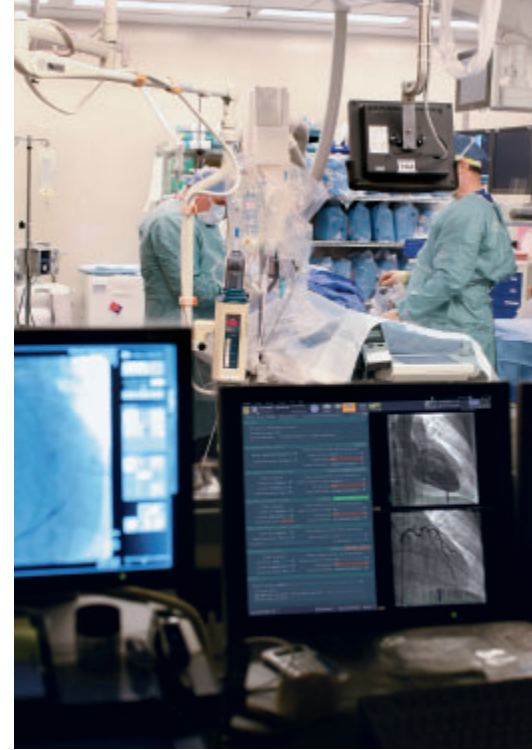
The *syngo* Solution

At Kansas Heart, the filmless and paperless environment created by the *syngo* Dynamics' network product seamlessly integrates patient information and streamlines the patient treatment process from beginning to end. It is a key element in keeping this hospital up to speed in order to accommodate as many patients as possible. "We are a small facility with a large volume of patients," says Steve Smith, the hospital's Chief Financial Officer (CFO). "Integrated equipment and computer systems from Siemens increase our

operational efficiency. This increased efficiency allows our physicians to see more cases because of the quick turnaround time between patients." Furthermore, notes Smith, the simplicity of the *syngo* system allows physicians of all computer literacy levels to use the technology with ease.

syngo is the common, comprehensive software platform for all Siemens medical systems. *syngo* Dynamics is a scalable solution for imaging clinics and hospitals such as Kansas Heart. The latter platform incorporates digital images with patient data into a comprehensive report. "The Siemens equipment and technology funnel the patient's information and facts into one place," says Smith. "The results are online and available for immediate review by physicians, surgeons, and cardiologists."





The cath lab's atmosphere is intense, fast-paced, and high-tech. *syngo* Dynamics enables a quicker turnaround through seamless data integration.

The High-tech World of Cath Labs

Quite literally, the cardiac catheterization labs are the 'heart' of this facility. Immediate access to patient information is vital in order to promote high-quality patient care. Kansas Heart's cath labs are where cardiologists perform a wide range of diagnostic and therapeutic procedures. "The catheterization laboratories at Kansas Heart are set up to capture images and

Key Benefits of *syngo* Dynamics

syngo Dynamics provides a model for generating advanced evidence-based reports for cardiology, radiology, and obstetrics. Efficient and intelligent reporting capabilities include:

- Full-interface access between the AXIOM Sensis database and *syngo* Dynamics reporting
- Customized physicians reports, procedural reporting, and family letters
- Third-party software application launcher
- Integrated cardiology, vascular ultrasound, general imaging, and OB/GYN solutions
- Integration into hospital information systems, including study transfer and report upload

pictures of the coronary arteries and the ventricles of the heart," explains Deanna Boso, Manager of the cath labs. "We are able to measure pressures within the different chambers of the heart and evaluate pulmonary hypertension, congestive heart failure, and many other heart conditions."

The cath lab's atmosphere is intense, fast-paced, and high-tech. The staff relies on several software applications from Siemens to generate reports and house patient data. "When a patient arrives in the lab, one staff member enters the patient demographics into Siemens AXIOM® Sensis recording system. This system automatically registers the patients and synchronizes the AXIOM Artis imaging system," says Boso. AXIOM Sensis is interfaced with *syngo* Dynamics. Images and hemodynamic information will be transferred to *syngo* Dynamics, so that information has to be entered only once in this all-encompassing Siemens cath lab solution. The result is a comprehensive report available within minutes of finishing a cath lab procedure. Thanks to wireless technology, the entire case including static images and dynamic clips can be reviewed by cardiologists and surgeons on dual monitors at diagnostic workstations located anywhere in the hospital. The reports can also be directly faxed to a patient's referring physician. This is a key benefit because Kansas Heart serves a large number of patients whose family physicians are located in neighboring

counties, sometimes as far away as northern Oklahoma.

"Instant access to imaging and computerized pictures permits physicians immediate access and turnaround. Physicians also have access overnight and offsite," says cardiologist Gregory Duick, MD, Chairman and Chief Executive of Kansas Heart Hospital.

Quick Assessment Allows Quick Treatment

The fact that finalized reports are available so soon after procedures are completed proves to be a significant advantage. "*syngo* Dynamics allows physicians a quicker turnaround on dictation since it is basically done in ten minutes post-cath. This allows patients to receive immediate reports from their doctors. I know that when I get news immediately following a procedure, I am always more grateful," says Boso. This intelligent report creation and faster turnaround time is not only a godsend for patients; the paperless workflow gives physicians the ability to read images and sign off on reports allows for a secure and quick determination of the best course of treatment. An immediate assessment of a patient's heart condition could literally mean the difference between life and death. "A physician could be talking to a surgeon minutes after a cath procedure," said Lynn Jeane, Chief Operational Officer (COO) of the Kansas Heart Hospital. "With

the instantaneous transfer of data, they have the information within minutes, not days or weeks. This advances our ability to increase the efficiency of our physicians and improves workflow."

In addition to facilitating a smoother workflow, *syngo* Dynamics, as a component of Siemens Soarian® Cardiovascular Enterprise, can be used to optimize revenue and cost management. Currently, billing for Kansas Heart's cath lab procedures is done via an AXIOM Sensis report, which is then manually checked by the billing system. Once Soarian is fully implemented at Kansas Heart, the information will be automatically sent to the billing system, thereby saving the hospital money by more efficiently utilizing staff and physician time. Additionally, a more automated billing system enables physicians to spend more time with patients and their families.

The Upgrade

A clear testament to the successful collaboration between Siemens and Kansas Heart is the implementation of Siemens latest software platform. With the upgrade to the new *syngo* Dynamics v6.0 now in place, the Kansas Heart Hospital is even better positioned to give patients the best care available. Version 6.0 is designed to further improve clinical reporting and provides one site for patient data for diagnostic and interventional procedures, images, and other relevant patient information. The upgraded system offers better functionality and speeds workflow because of an elaborated interface between the AXIOM Sensis and *syngo* Dynamics databases. "With the new v6.0 upgrade, we have even less double entry and more

efficiency. The integration between systems also means a cost savings for us because of the reduced time it takes for the staff to enter information," says Smith. Moreover, v6.0 allows users to embed images and snapshots from AXIOM Sensis into the patient's report. The latest v6.0 has the capability to generate multiple reports (for physicians, cardiologists, surgeons, etc.) that can be viewed and edited at remote workstations. Each report can be routed to different destinations. For example, a report can be faxed right away to the referring physician. Prior to this feature, referring physicians received cath reports anywhere from seven to ten days after the procedure via snail mail. Furthermore, the new v6.0 has added pediatric hemodynamics, electrophysiology, and advanced adult cath reporting to *syngo* Dynamics. A range of features support this, including the ability to trigger diagnoses that drive multiple observations, support the different AXIOM Sensis data contexts, and create observations that are organized in hierarchical ways. Additionally, tables in worksheets and reports will be enhanced to display a context in the row or column dimension, which is a feature not previously available in *syngo* Dynamics.

The Siemens Advantage

Kansas Heart Hospital is truly a leader in cardiac care. In 2005, the hospital was awarded five-star ratings for clinical excellence in coronary bypass surgery, cardiac interventional procedures, and the treatment of heart failure by HealthGrades, the leading independent healthcare ratings organization in the United States. In 2006, the same organization

ranked the Kansas Heart Hospital as number one in Kansas and among the top ten percent of hospitals in the United States for overall cardiac services.

Kansas Heart's mission to provide a specialized, comprehensive, cardiovascular healthcare system in a patient-centered environment is supported by its collaboration with Siemens. "Our partnership with Siemens and the training their people have given our staff and physicians have been tremendous," says Smith. "The transition from being a nonuser to a user has been easy, which is a remarkable advantage. As a small facility, we can't afford to be down. Siemens is very supportive and assists with problem-solving."

The COO of Kansas Heart agrees. "It's important to note that it's not only the technology, but the human support that makes such a difference," says Jeane. "During the upgrade process, Siemens loaded the new *syngo* Dynamics v6.0 software during the night and we started the next day with upgraded software." Better technology translates into better patient care. "Kansas Heart is physician-owned and physician-directed," says Jeane. "In order to accommodate our physicians, we need to have cutting-edge technology such as *syngo* Dynamics, good technicians, and good staff. Thanks to support and technology from Siemens, our outcomes are better, and this is further validation of our dedication to giving our patients the best care possible."

Amy K. Erickson is a medical writer based in Phoenix, AZ, USA. She has worked in the publishing industry for nearly a decade. Media outlets featuring her work include the Washington Post, Nature Medicine, Audubon magazine, and CNN.



"The results are online and available for immediate review by physicians, surgeons and cardiologists," says Steve Smith (far left), CFO at the Kansas Heart, as he explains the benefits of *syngo* Dynamics. I. Lynn Jeane (left), COO, Cath Lab Manager Deanna Boso (right), and Chairman and Chief Executive Dr. Gregory Duick (far right) agree with him.

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