By Lauralee Ortiz

It started with a dinner conversation between clinical and administrative experts, then some notes scribbled on a paper napkin. By the time they were finished, they had the outline for a state-of-the-art heart hospital that would integrate top-quality care with the latest technology.

"It had to be different from the traditional hospital model,'' says John Stewart, who was at that table nearly four years ago. "The question we asked ourselves was: 'If you build it from scratch, can you build something unique and more efficient?''' Among the considerations: A layout that improved workflow, the latest clinical testing tools on the market and an information technology system that could connect everything and everyone together.

Eighteen months and $60 million later, The Heart Center of Indiana opened just outside Indianapolis with five surgery suites, five cath/EP labs, a cardiovascular evaluation unit and a 120-bed capacity. The four-story, 160,000 square foot building was the area's first freestanding, totally digital cardiovascular disease facility. Partners include St. Vincent Health and the Care Group, a network of 130 physicians, supported by CorVasc with its team of 33 surgeons. Siemens Medical Solutions earned a unique role as its single source provider of both medical and IT technology.

"Siemens continues to drive these innovations in cardiac care,'' says Robert Dewey, director of cardiology, Global Solutions, Siemens Medical Solutions, noting that in addition to its world class medical technology, Siemens shows its dedication to entire process with information systems that aid in everything from patient care and physicians needs to operations and financial processes.

THCI opened as a completely electronic and filmless facility in December 2002, not totally paperless, but close with Siemens support, says Stewart, formerly a consultant and now CEO.

After its first two years in operation, the for-profit hospital received a five-star rating from HealthGrades – an independent healthcare quality company – ranking in the top 15 percent of the nation's hospitals for treatment of coronary interventional procedures and heart attacks. Bragging rights also include shorter length of stays and improved medical outcomes.

With a daily capacity at 100 percent or more, "They're doing something right,'' Dewey says. That *something*, administrators, doctors and IT experts agree, is, in part, the relationship between THCI and Siemens that never wavers from the main focus – the patient.

"They didn't start this venture saying, 'How are we going to compete with other hospitals?' or 'How are we going to make money?' " Dewey says. "What they wanted can be summed up in one word – quality. 'How do we provide the best quality of care to the patient?''

THCI's world-renowned physicians, top-notch nurses are at the crux of it. But, they concur, the advancements in everything from interventional and treatment equipment and IT tools make their jobs much easier.

So far, Siemens technology has proven its value by helping THCI achieve some impressive scores from medical watchdogs. Compared to the Society of Thoracic Surgeons benchmarks for coronary bypasses, THCI has cut the length of the average patient stay to 6.5 days from 8.8 days and lowered the mortality rate to 0.9 percent from 2.4 percent.

"From a Siemens perspective, the relationship went beyond the medical technology,'' Dewey says, noting that besides providing THCI with the latest diagnostic and treatment tools, Siemens handles all of the hospital's IT issues and revenue cycle systems. "It didn't make sense for them to build up the IT side,'' he says. "To get the level of competency necessary, they would have to have a pretty large staff.''

Alec Williams, THCI CIO and one of three Siemens onsite executives, adds, "By outsourcing these functions, the hospital gets access to the best training and the best resources to help maintain it,'' By using a single provider, THCI has assurances that all systems are cohesive. "The advantage is that we can integrate and not interface,'' Dewey explains. "If the equipment is developed to transfer from one subsystem to another, it's much more seamless than having multiple vendors trying to piece things together.''

Cardiologist and echocardiography specialist Douglas Segar, M.D, said he is pleased with the digital technology in echocardiology equipment that allows doctors to get images immediately. More conventional methods relied on videotapes and VCRs that used to take up to a week to access. "Previously, patients had the examination and went home, only to get a call to come back two to seven days later,'' relates Segar. "Now, the turnaround time from exam to results is mere minutes.''

Siemens' Electronic Health Record is another technological tool that puts pertinent historical and medical information at the fingertips of doctors and nurses. "Sitting in my office or at any computer workstation in the hospital, I can instantly review X-rays, MRIs and cardiac caths,'' Segar says. "I can get lab results, vital signs and clinical tests anytime from any PC.'' It does need some "fine tuning,'' he adds, "so we don't have to click in and out of separate systems.''

Siemens Infinity Explorer monitors are at every bedside to give nurses instant access to a particular patient's medical information. "No longer do I have a lot of small pieces of paper in my pockets with numbers scribbled on them,'' says Kris Fuller, an RN and clinical informatics specialist. "I can do the documentation I need right at the patient's bedside.'' Fuller says the system is very interactive, allowing her check 32 vital sign traces of any patient in her care from a single monitor. "It's a great time-saver.''

Physicians offer similar praises about such Siemens devices as the cardiac MRI and the Somatom Sensation Cardiac 64-slice CT scanner. The latter, says Dr. Segar, is the "Holy Grail'' of imaging for looking at arteries without going to invasive catheterization. Designed specifically for cardiac, thoracic and vascular imaging, Somatom captures 64 slices of high-resolution data in one-third of a second.

THCI also launched the Siemens Medication Administration Check (MAK) system, which utilizes barcode technology to administer some 40,000 to 50,000 doses of drugs each month. Brian Peters, pharmacy process leader, says MAK reduces medication administration errors by matching "dose to route to time to drug to patient.'' Siemens aided THCI through the daunting task of creating an in-house barcode system. With no industry standard, Peters explains, some products have no barcodes while others have barcodes that are not compatible with MAK.

Siemens handles all of THCI's business office revenue cycle management via the INVISION patient accounting system, which operates as an ASP (Application Services Provider) model. The information is stored in Siemens Medical's data center in Malvern, Pa., where staff conducts all of the back office patient accounting functions. "If you ask the majority of the physicians at THCI, they won't even realize that the information isn't coming from inside the hospital,'' Dewey says. "The system is completely transparent to them.'' Dewey says the Pennsylvania facility is "Built to withstand a direct military attack. It's like a bunker, with a room full of services and archive devices.'' THCI is one of the many Siemens partners that conduct one million transactions daily.