

CUSTOMER CASE

Lee Memorial Health System

Improves Cardiovascular Reporting

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Cardiovascular Information
Services Coordinator

A leading provider of health care in southwest Florida, Lee Memorial Health System (LMHS) has served the citizens of Lee County and surrounding communities since 1916. With 948 licensed beds, the community-owned healthcare system includes Lee Memorial Hospital and HealthPark Medical Center in Fort Meyers, Cape Coral Hospital in Cape Coral, and a number of associated outpatient clinics and medical facilities.

LMHS offers a variety of inpatient and outpatient cardiovascular services at all three of its medical centers. The healthcare system’s diagnostic catheterization lab is located at Cape Coral; three interventional cath labs and an electrophysiology lab are located at HealthPark. Echocardiography labs are located at all three sites. Cardiovascular specialists at LMHS perform approximately 25,000 cath, echo, and vascular procedures each year.

Digital Image and Information Management Seamlessly Connects Multiple Locations

LMHS manages its cardiovascular imaging and information with the Heartlab cardiovascular suite. Prior to implementing the Heartlab system in 2002, cardiovascular images and data were stored on film and VHS cassettes, and reports were produced using a traditional transcription service.

The decision to switch to digital data management was in response to the growth in the cardiovascular department, according to Matt Weigelt, cardiovascular information services coordinator at LMHS. “Our biggest challenge was that our echo and cath labs were scattered throughout all three of our hospitals and our outpatient clinics,” said Weigelt. “Our physicians are now able to access all patient data from any location.”

Since the switch from film to digital, physicians and staff at LMHS’s cardiology department have experienced tremendous quality and productivity improvements, Weigelt added. LMHS has a central Heartlab database, and each location has at least one processing server with network-attached storage (NAS) for short-term storage. Long-term storage is on storage area networks (SANs) located at Cape Coral and HealthPark. “Since all digital studies are kept online, we can access a three-year-old study at the same speed as an exam taken

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yesterday—regardless of location," Weigelt said. "There's no time lag, even if you're in Cape Coral, which is across the river from Fort Meyers."

Digital Reports Improve Department Workflow

Another benefit of the Heartlab system is better departmental workflow due to more streamlined reporting procedures. Digital echo and vascular reporting are currently up and running and cath reporting will be operational in mid-2006. Weigelt said that digital report generation and distribution is a drastic improvement over transcription-based reporting, which can take between one and two days. "We can now generate reports in just minutes and the physician can discuss the results with the patient right after an exam," he said.

"For example, in the case of a patient who was referred for a carotid exam," he continued. "If the physician asked the patient to stop by his office after the exam was complete, the report would literally beat them back to the office."

Although LMHS decided not to require physicians to use Heartlab's digital reports, it has experienced a very high voluntary rate of use—nearly 80 percent for echo reports and more than 90 percent for vascular. "Vascular reports are typically more time-intensive than echo and there are fewer vascular specialists," Weigelt explained. "So they eagerly embrace anything that helps them save time."

"Certainly it's faster to use the Heartlab reporting instead of relying on the transcription service," Weigelt said. "It's changed the whole workflow of the practice, not just the individual physicians. Now a physician can go in and see all of the unread cases for his or her practice. It's not just about reading single cases and creating reports, because you can very easily look at multiple cases."

Because the Heartlab system is connected to the health system's distribution software, electronic copies of the report are faxed to the referring physician and sent instantly to the electronic medical record, along with a direct link to the images themselves. For an inpatient case, a copy is automatically printed at the nurses' station on the patient's floor. Weigelt said that the immediate availability of the reports enhance cooperation among physicians and hospital staff.

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“For example, doctors from some practices will team up in pairs. While one doctor is rounding on the inpatient floors, another is in the lab reading studies and feeding the reports upstairs,” he explained. “This saves them from constantly moving between patient rooms and the cardiology department, and they can accomplish more.”

Customized Reports Accelerate Physician Acceptance

Other physicians have told Weigelt that the digital report creation process improves the detail of their reports. “When you transcribe a report over the phone, you can’t visualize the result,” he explained. “But when you’re actually looking at it on the screen, you can refine it as you go along. You can get it exactly the way you want before you sign off on it, and our doctors really like that.”

The Heartlab-produced reports are much more readable because they’re better organized. The ability to customize reports allowed LMHS staff to work with physicians in advance to develop formats that best suited their needs. “Before, our reports were very text-based and it was harder to find the information,” said Weigelt. “Now, the data is separated into sections, and features such as bold headers, charts, and tables make it much easier to find specific information.”

In fact, Weigelt attributes the high acceptance rate of digital reporting to the visual quality of the reports. “Physicians get really interested when they see a side-by-side comparison of a customized Heartlab report with one that’s been verbally dictated and transcribed,” he explained.

Consistency in Reporting Improves Data Benchmarking

LMHS is using its expanded reporting capabilities to participate in data benchmarking comparisons such as the Intersocietal Commission for the Accreditation of Vascular Laboratories (ICAVL), which collects noninvasive vascular diagnostic testing data for laboratory accreditation. “The Heartlab reports allow us to achieve consistency in reporting, which is critical for accreditation,” said Weigelt.

As digital cath reporting is enabled in mid-2006, LMHS plans to participate in benchmarking studies with the American College of Cardiology’s National Cardiovascular Data Registry (ACC-NCDR), the national repository for cardiac catheterization data.

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Conclusion

"Because our diagnostic and interventional cath labs are at different locations, the Heartlab system closely ties together the efforts of all the campuses," Weigelt said. "We are able to provide our patients with advice and results much faster, and our physicians can accomplish more in less time."

In particular, Heartlab's digital reporting has provided LMHS with dramatic improvements when compared to traditional dictated and transcribed reports. Benefits include better workflow, increased report readability, and the ability to more easily participate in data benchmarking studies.

Weigelt said that after working with the Heartlab system at LMHS, at least one large local cardiology practice has purchased the Heartlab system for its own use. "I've had doctors tell me that the improvements created by the Heartlab system are the best thing that the health system has ever done for them," Weigelt said. "It's unbelievable how thankful some of them are."

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