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BUILDING CARDIOLOGY CENTERS OF EXCELLENCE

Wake Forest University Baptist Medical Center

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Derek Woods
Manager - Cardiovascular and Diagnostic
Neurology Information Services
Wake Forest University Baptist Medical Center

CardioSchedule™ Electronic Scheduling Helps Wake Forest Baptist Maximize Resources, Minimize Chaos and Elevate Patient Care

Wake Forest Baptist Medical Center in Winston-Salem, North Carolina, features one of the busiest heart centers in the region. To facilitate communication among its high-volume clinical areas, the Cardiovascular Information Systems department has introduced automated, real-time scheduling.

Wake Forest University Baptist Medical Center Challenges and Highlights

Maintain High Quality Care with High Patient Volume.

The Heart Center at Wake Forest Baptist draws patients from all over North Carolina and western Virginia. On average, the Cardiac Catheterization Lab (Cath Lab) sees over 3000 patients a year; over 2200 Electrophysiology Laboratory (EP Lab) procedures are performed a year; and 85-100 Echocardiogram (Echo Lab) procedures are performed each day. Despite the high volumes, each patient receives top-quality care, earning the Heart Center national recognition.

Connect Users and Foster Communication.

The Cath, Echo and EP Labs' decentralized schedules are viewable throughout the hospital, facilitating crystal-clear communication. Staff and clinicians know where their patients are, when their patients are ready for a procedure and which other procedures the patient has scheduled—all in real time.

Maximize Resources.

Since scheduling is shared and accessible to clinicians, schedulers and other staff, labs are able to maximize the number of procedures they perform in a day. Staff and physicians spend less time running around playing catch-up and more time providing excellent care. Additionally, supervisors and managers can view resource-utilization reports for rooms, clinical devices and staff, enabling more effective utilization based on volume tracking.

Cultivate a Calm, Professional Environment.
The busiest departments in the Heart Center have transparent, real-time scheduling, and therefore overhead paging is minimal. This contributes to a remarkable level of focus at Wake Forest Baptist: on the procedure, on the diagnosis, on the patient.

A Top-Performing Heart Center Needs a Top-Notch Scheduling System

With nearly 1200 beds and consistently ranked among US News & World Report's "*America's Best Hospitals*," Wake Forest Baptist is renowned for the quality and innovation of its patient care. As a teaching institution, the hospital draws patients from all over the region. The Heart Center in particular is large and high-volume. With Cath, Echo and EP procedures numbering in the thousands, clear communication is required for optimum efficiency.

Derek Woods, Manager for Cardiovascular and Diagnostic Neurology Information Services, recalls the former scheduling system:

"We had a 30-foot table, used for scheduling in the Echo Lab. There was an appointment book and clipboard for every room on the table. Realize that we have 15 rooms. The nurse or tech would have to walk across the department to view their room's next appointment, pick up their patient and perform their procedure. Changes to the schedule were reported using overhead paging. People were walking up and down the department all day long to check the clipboards because the schedules were constantly changing. So there was a lot of running around, lots of paper, erasers, highlighters–and don't forget next year's appointment books."

Connecting Users and Fostering Communication with Customizable, Decentralized Scheduling

Such a cumbersome scheduling process didn't correspond to Wake Forest Baptist's—voted one of America's Most Wired Hospitals for the past five years[1]—mission to provide leading-edge medicine. The CVIS group at the hospital had been working on implementing an integrated cardiovascular information system for several years. In 2006, they chose LUMEDX's CardioSchedule, real-time patient and resource scheduling, to decentralize scheduling and improve communication between physicians, staff and patients.

Sally Wilson works on the Echo Lab scheduling.

WAKE FOREST BAPTIST CV CLINICAL AREAS USING CARDIOSCHEDULE

- Cath Lab, average over 3000 caths per year
- Cardiac Ultrasound, average 85-100 Echo studies per day
- EP, average 2200 EP procedures per year

"What we've been able to do with CardioSchedule is offer continuity around the task of scheduling within three very important areas of cardiology."

[1] *In the 2002-2007 Most Wired Surveys and Benchmarking Studies from Hospitals & Health Networks magazine.*

Wake Forest Baptist sought scheduling software that was easily customizable for multiple clinical areas, each with its own unique workflow. CardioSchedule's flexibility has enabled the hospital to customize the software in order to accommodate the different areas while providing necessary continuity across the cardiovascular service line.

"Canceled appointments are handled differently in Cath, EP and Echo. The Cath Lab prefers to set its schedule the day before procedures because they need to accommodate add-ons without disruption and it's similar to how they worked in the past; EP and Echo set their schedules as far in advance as possible," says Derek.

Staff and physicians appreciate the flexibility CardioSchedule provides. Moreover, CardioSchedule has allowed these busy clinical areas to decentralize their scheduling. "In the EP Lab in the past," Derek recalls. "There was one spreadsheet that no more than one person could have open for editing at a time. It might as well have been a piece of paper. The Cath Lab worked in a similar way. There was only one person who could work on the schedule at a time. By decentralizing our schedules, we've been able to broaden the scheduling task by allowing physicians and clinicians direct access to the Cath and EP Lab schedules."

Patients also benefit from CardioSchedule. Because CardioSchedule is a multi-departmental application, it alerts schedulers if a patient has conflicting appointments from other departments. And patients can have multiple appointments scheduled for them the same day in different departments. This is especially helpful for Wake Forest Baptist's regional patient population, who sometimes travel long distances to the medical center.

"What we've been able to do with CardioSchedule is offer continuity around the task of scheduling within three very important areas of cardiology," Derek notes.

Optimizing Efficiency and Maximizing Resources

As a result of improved communication and continuity, CardioSchedule has reduced delays and increased efficiency. "In the Cath Lab we have a 42-inch flat screen in the scrub area between the labs. Once a team is finished with a Cath Lab patient, the clinicians begin scrubbing for the next case and can look overhead, see the room of the next appointment, the type of procedure, the status of the patient, along with notes pertaining to the patient. It saves everyone a lot of time," says Derek.

Michael Kutcher, M.D., and Kate Ritsche, R.N., check CardioSchedule in the Cath Lab scrub room.

WHAT CARDIOSCHEDULE PROVIDES WAKE FOREST BAPTIST

Accessibility. Users can view schedules from different locations from both within and without the hospital, including ICU/CCU, Cath Lab, Cath Lab scrub room, Echo, EP, Bed Management, physicians' offices, physicians' homes, other remote locations. Multiple users can work on the schedules at once, speeding up the scheduling process.

Real-time operability. Scheduling changes and adjustments show up immediately and are available from any connected location.

Flexibility. Different clinical areas can operate scheduling software in the way most appropriate to their unique workflows.

A focused work environment. Without the rushing to-and-fro and overhead paging that manual scheduling produced, Cardiovascular clinicians and staff can focus on tasks at hand, particularly patient care, rather than playing catch-up with the schedule.

"We've also been able to make the sonographers much more efficient," Derek explains. "We have Windows thin client terminals between each set of rooms. The sonographer comes out after a procedure, lets the patient go and then looks at CardioSchedule on the terminal to see when and where the next appointment is. We use the status field to let the sonographer know what the status of the next patient is—for example whether or not their patient has arrived and their current location, the holding area or waiting room."

Additionally, the team of three dedicated CV-patient transporters is now on CardioSchedule, thus ensuring smooth and seamless patient transport. The hospital has been able to shift personnel who previously worked only on scheduling to other important tasks.

Ashley Martin checks patients in the Echo Lab.

Minimizing Chaos and Promoting a Calm, Focused Environment

Employing CardioSchedule to run their workflow has resulted in some unexpected benefits at Wake Forest Baptist. The level of noise in CV, for example, has decreased substantially.

"We used to have constant overhead paging. 'So-and-So, we need you in the lab. So-and-So, your patient has arrived.' Constant announcements like that, all the time. It was a very chaotic environment, people running to-and-fro, and all the noise from the overhead paging. We've been able to get rid of almost all of that," says Derek. As a result, staff and clinicians have a better sense of what they're doing and when. They're better informed of the daily and hourly workings of their department. In turn, they can fully focus on providing best-quality care to patients.

LUMEDX SOLUTIONS AT WAKE FOREST BAPTIST

- Apollo Advance™ Clinical Data Repository
- CardioSchedule™ Real-Time Patient & Resource Scheduling
- CardioGate™ Interface Manager
- ACC Registry Module
- STS Congenital and Adult Surgery
- EP Lab Implantables Module
- Cardiac MR Module
- Transplant Module
- Cath and EP Lab Inventory Modules
- HL7 ADT Interface

An Enterprise-wide Solution

CardioSchedule has worked so seamlessly in cardiovascular departments that Bed Management is now using it to determine the number of beds required for patients post procedure. The CVIS department is also hoping to introduce CardioSchedule to Neurology in the near future. Derek thinks CardioSchedule flat screens can be placed in more areas of the hospital, potentially including family waiting rooms by taking advantage of CardioSchedule's whiteboard feature.

These future plans and current successes correspond to Wake Forest Baptist's mission to provide the highest-quality medical care to its community. At Wake Forest Baptist, the Cardiovascular service line is leading the way. "We currently have a hospital-wide initiative for clinical scheduling," Derek says. "We're thinking, 'Hey, we've already solved that problem in our Cardiovascular service line.'"