



Hospital Improves Patient Care and Boosts Nurse Productivity

University of Colorado Hospital uses Cisco Nurse Connect™ Solution to better address patient needs.

HIGHLIGHTS
<p>CUSTOMER PROFILE</p> <ul style="list-style-type: none"> • Region: North America • Industry: Healthcare • Facility: Academic hospital • Beds: 407 • Physicians: > 1,100 • Emergency room visits: > 55,000 • Inpatient admissions: > 19,000 • Business Issue: Improving patient care and enhancing nurse productivity
<p>EXECUTIVE SUMMARY</p> <p>Challenge</p> <ul style="list-style-type: none"> • Replace legacy wireless communications system to provide better patient care and improve nurse efficiency • Reduce risk of bed falls • Upgrade wireless communications system to improve patient care and increase productivity of nursing staff <p>Solution:</p> <ul style="list-style-type: none"> • Cisco® Nurse Connect™ Solution • Wireless technology facilitates communication between providers and patients <p>Results:</p> <ul style="list-style-type: none"> • Nurses respond to patient requests faster • Nurse fatigue reduced by limiting multiple visits to patients' beds • Reduced use of overhead paging created quieter, less stressful healthcare environment for patients

Challenge

Located in Aurora, Colorado, the University of Colorado hospital (UCH) is a 407-bed hospital with more than 40 affiliated medical clinics. One of the region's leading academic centers, UCH is the principal teaching hospital for the University of Colorado, Denver. Consistently ranked among the top hospitals in the country, UCH is known for its teams of highly respected medical specialists and overall clinical excellence. It has earned Magnet status three times from the American Nurses Credentialing Center, placing it among the top one percent in the nation for excellence in nursing, clinical care, and innovation. UCH employs more than 1,100 physicians and 1,300 nurses.

UCH has maintained its top ranking by continuously evaluating new ways to enhance patient care and clinical productivity. The hospital's recent investment in state-of-the-art nurse calling technology is a case in point. For years, UCH had relied on conventional systems for calling nurses to the patient's bedside, including audible alerts (horns) and overhead lights in patient rooms. In 2003, the hospital installed its first wireless nurse call system, but despite the upgrade, the solution

was hampered by shortcomings such as the phone's short battery life, the absence of a low-battery alert, a weak vibrating mode, and inconsistent sound quality. Nurses had to replace handset batteries up to four times during a 12-hour shift, sometimes missing calls because of dead batteries or poor reception. These technology shortcomings forced nurses to frequently call the IT help desk to fix the faulty handsets.

In 2009, UCH searched for a new wireless nurse call solution to solve these problems. UCH identified three possible solutions and asked two vendors, including Cisco, to submit proposals and participate in a pilot program to test the handsets on the hospital floor. The Cisco wireless handset emerged as the solution, with 22 out of 23 nurses selecting Cisco Nurse Connect as the workflow solution.

Challenges for Nurses Without a Wireless IP Phone System

- Long waits for patients seeking responses to nurse calls
- Noisy patient environment with an overhead pager system
- Greater potential for fatigue from having to respond to constant nurse calls by physically visiting each room, affecting productivity
- Lag in communications between nurses and physicians
- Inability to multitask while waiting for callbacks from physicians

Solution

UCH implemented the Cisco Nurse Connect solution in 2009, giving caregivers and patients a fast, reliable way to communicate with each other from any location in the hospital. A product of the Cisco collaboration with Rauland-Borg, a leading provider of nurse call systems, Cisco Nurse Connect provides an interface between the nurse call system and receiving devices, such as desktop and mobile IP phones. With Cisco Nurse Connect, nurses are able to respond faster and more intelligently to patient alerts and collaborate more effectively with medical staff.

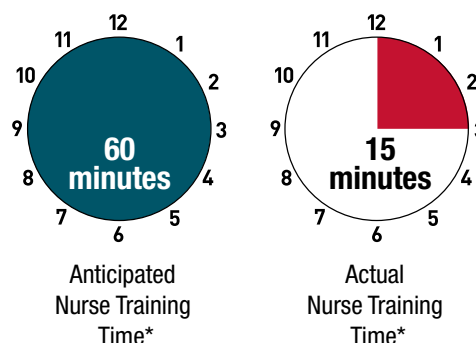
At UCH, alerts are sent from the patient’s room to the nursing station, the primary notification point, and simultaneously forwarded to nurses carrying Cisco wireless phones. UCH reported that the mobile system enabled nurses to address up to 80 percent of patient calls without going to the patient’s room, saving time and reducing physical fatigue. “The wireless phones have definitely improved communications between nurses and between nurses and their patients,” says Melissa Steinke, RN and charge nurse in UCH’s Women and Infants’ Services.

For urgent situations, the Cisco Nurse Connect system sends out group alerts to mobilize larger teams. For example, when a patient at risk of falling tries to leave his or her bed, a floorwide alert will enable the nearest available nurse to help out, increasing patient safety. Cisco Nurse Connect also allows nurses to route patient requests to other staff members.


The Cisco Nurse Connect system also reduces the need for audible alerts, leading to quieter floors, which lowers the stress level for patients and nurses alike. In addition, the phones’ robust vibrating function helps to further quiet the floors by allowing nurses to keep the ringer off much of the time.

More reliable compared to the previous phones, the Cisco handsets have a longer battery life, so nurses can go through an entire 12-hour shift without changing or charging the battery. The chargers themselves are sturdier as well, nurses reported.

**Figure 1. Ease of Use:
New Mobile Handsets Training Time**



*Information is based on staff training at UCH.

Benefits of Cisco Wireless Phone	
<ul style="list-style-type: none"> • Improved durability • Long-lasting battery life • Bluetooth 2.0 compatible for hands-free communication • Thin and lightweight with sure-grip rubber edge and no external antenna • Flat screen for easy viewing in all lighting conditions with minimal glare • Latex free 	

Cisco wireless phones work just like a cell phone and are easy to operate. “The Cisco phones take less than 15 minutes to learn,” says Erik MacDonald, hospital project manager in Information Services. “It was a very pleasant surprise.” Designed specifically for hospital environments, the Cisco phones are drop resistant and hermetically sealed to keep out dust and liquids. Nurses can safely wipe them clean with hospital disinfectant towelettes to protect against biohazards and spreading infections.

Benefits of Cisco Nurse Connect at a Glance
<ul style="list-style-type: none"> • Faster patient response to nurse calls • More efficient use of nursing staff • Quieter environment for patient comfort (reduced patient stress) • Improved communications with physicians • Rapid assembly of specialty teams when needed

Results

With Cisco Nurse Connect, UCH is seeing benefits in patient care, nurse productivity, and IT efficiency.

Enhanced Patient Care

Using Cisco Nurse Connect, UCH nurses are responding to patient calls faster and more efficiently. Now, when patients call for help, nurses answer immediately over the Cisco handset, which also displays the patient’s room number. By speaking to patients before going into a room, nurses can plan ahead (for example, by bringing a requested glass of water on the way to the room) and cut down on the number of trips they have to make. During a typical shift, therefore, such remote communications enable nurses to address a greater number of requests.

“Our patient response time has dramatically improved with the Cisco phones,” says Shelly Limon, nurse manager of UCH’s Patient Services Administration. “We can provide more efficient patient care more rapidly.”

Since UCH implemented Cisco Nurse Connect, audible alerts are becoming increasingly rare. Most calls go to a certified nursing assistant (CNA) first and then to an RN before the audible alert is triggered. And if calls are forwarded to the charge nurse, as many as three people can answer a call before an audible alert goes off on the floor. “I’ve definitely noticed a decrease in noise levels in the units,” says Jamie Solberg, oncology charge nurse at UCH. “The number of audible overhead pages is kept to a minimum, which helps reduce nurse fatigue and provides a less stressful patient care environment. Visiting nurses and patient families are surprised by how quiet the floors are and often wonder if there are patients in the rooms.”

Figure 2. Patient Press Ganey Scores for 5/6/2009—5/6/2010

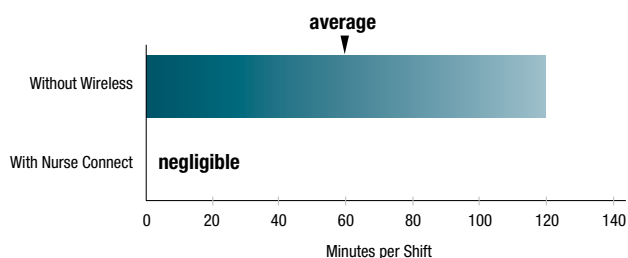
Press Ganey Scores for 5/6/2009–5/6/2010*			
Question:	Were you seen on time?	Were the people you dealt with friendly and helpful to you?	Did we answer your questions concerning your health issues?
	88%	99%	97%

*Data from patient surveys taken during this period at UCH.

Higher Nurse Productivity

With Cisco Nurse Connect, UCH nurses are managing their time and workload better and becoming more productive. Nurses can improve their work flow, timeliness, and quality of care, contributing to better patient satisfaction. For example, nurses no longer need to stand at the nurse's station, sometimes as long as 30 minutes, waiting for a doctor's call regarding a patient. Instead, they can take the call on their wireless phones anywhere on the floor while they perform other tasks. According to the UCH, this new flexibility is eliminating about an hour of unproductive wait time per shift, as shown in Figure 3.

Figure 3.
Time Spent by Nurses
per Shift Waiting for Callbacks*



*High-end figure approximated by 8 calls per day times 15 minutes of waiting per callback; average was the reported time per shift by nurses

Figure 4.
Sample Call Report
for a UCH Nursing Group*



Normal Patient Calls	Toilet Calls	Shower Calls	Staff Assists	Bed Exits
1,555	24	5	4	354

*Data collected March 2010.

Increased IT Efficiency

Since the adoption of the Cisco Nurse Connect solution and Cisco IP phones, UCH has reported that the phones are reliable, and provide increased uptime and network throughput. As a result, costs related to IT maintenance and support have decreased, while user satisfaction has increased. According to Joe Bajek, CTO, Director, Information Technology at UCH, the number of help desk calls related to wireless handsets has dropped by 50 percent, giving IT staff more time to focus on value-added technology services.



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