Internet of Everything

Case Study

Hospital Advances Care by Envisioning Internet of Everything

Customer Name: Miami Children's Hospital

Industry: Healthcare

Location: 289-bed hospital in Miami-Dade County, 9 outpatient centers in Miami-Dade, Broward and Palm Beach counties

Employees: 650 medical staff, 3,400 employees

Challenge

· Support clinicians with real-time fingertip access to electronic medical records
· Create supportive, engaging, and comforting environment for patients and families

Solution

· Cisco Wi-Fi and mobility solutions expand information access

Results

· Enhanced patient care by giving medical staff immediate access to patient information and by tracking patients
· Enriched patient and family experience through novel mobile Fit4KidsCare navigation, hospitality, and education apps
· Differentiating hospital and transforming medical treatment may be delivered by integrating unprecedented transparency into all aspects of patient care

Miami Children's Hospital connects people, process, data, and things to transform hospital caregiver - patient experience.

We are entering the next big phase of the Internet, the Internet of Everything, in which people, process, data, and things are connecting at unprecedented scope and scale, making network connections more relevant than ever before. Miami Children's Hospital is leading the way in taking advantage of innovative connectivity to create value for its medical staff, patients, and their families.

Challenge

Miami Children's Hospital is among the top children's hospitals in the nation, and is ranked in all 10 pediatric subspecialty categories assessed by *U.S. News & World Report* in its 2013-14 "Best Children's Hospitals" publication. The hospital offers more than 40 pediatric specialties and subspecialties and is home to the largest pediatric teaching program in the southestern United States.

MCH recently embarked on two connectivity projects. Ed Martinez, senior vice president and chief information officer at Miami Children's Hospital, says, "Our critical short-term goal was to support bring-your-own-device (BYOD) initiatives for our clinicians by expanding access to patient electronic medical records (EMRs) from the moment they walk through the front door. The longer-term goal was to continue in our efforts to engage patients and guests by adding navigation, hospitality, and education components into our innovative iPhone Fit4KidsCare app."

MCH originally launched Fit4KidsCare to relay ER and urgent care wait times, give driving directions to the main hospital and nine clinic locations, and display online physician directories. It was a big hit with patient families, and Martinez was eager to expand its scope.

Solution

Martinez realized that with the right process and intelligent connections, he can increase the value-add throughout the continuum of care by getting the right information to the right person in a timely manner. He uses the connectedness and intelligence of his Cisco® unified wired and wireless network to support location-based mobile applications that have the potential to transform the patient and visitor experience and improve patient safety. Cisco products and expertise have been there to assist him every step of the way.

Cisco mobility software in the data center calculates iPhone user locations in real time from hundreds of Wi-Fi access points throughout the hospital complex. Built-in location analytics also monitor traffic patterns so Martinez and his staff can better understand ways to improve productivity and convenience for both employees and guests.

To provide the highest quality mobile reception, Cisco wireless network components are embedded with Cisco CleanAir® technology, which has the unique ability to locate radio wave interference and automatically find the best transmission paths. "With our small IT staff, the intelligence to self-heal and optimize wireless coverage was critical," Martinez says. Gold-Certified Partner Presidio provided all the needed Cisco wireless and mobility networking equipment.

"We want to engage our patients and their families on a whole new level and make them feel more in control of what is going on around them."

— **Ed Martinez**, Senior Vice President and Chief Information Officer at Miami Children's Hospital
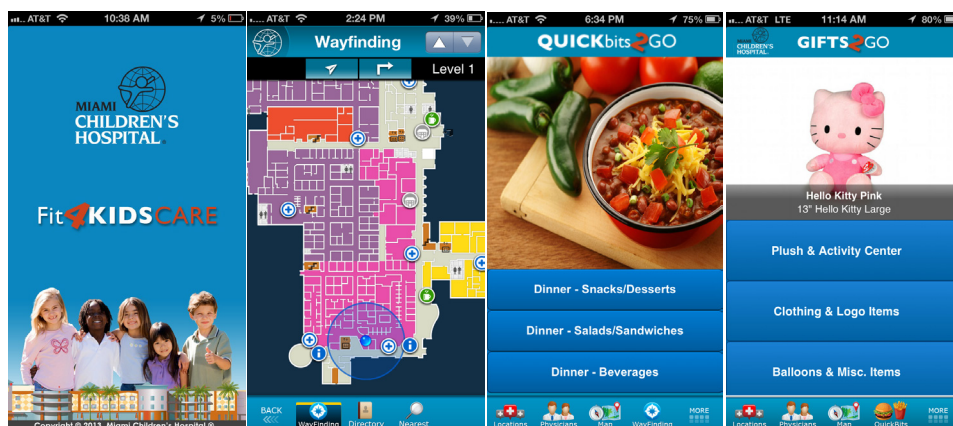
Results

Today staff, patients, and their families are reaping the benefits of MCH's ability to connect people, processes, data, and things:

· **Enhanced patient and visitor experience**. The way-finding capability in the Fit4Kids app helps patients and visitors find their way around the large MCH complex, order "take-out" food from hospital cafes, buy items from the gift shop, and download interactive games.

· **Unlocked intelligence to increase efficiency with the potential to improve patient safety.** The navigation app helps ensure that medical staff members are actually in the right place when dispensing medication or taking samples and allows nursing stations to track patients as they travel through the hospital for radiology, physical therapy, and other appointments and make sure that things are moving along as expected.

· **Differentiated services and heightened brand awareness**. "We work hard to be known as being advanced and innovative in the way we provide care to patients, and Cisco plays a big role in our efforts," says Martinez. MCH's dedication to taking patient care to the next level, using the latest technologies, has earned the hospital brand recognition in an increasingly internationally competitive industry.

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Next Steps

MCH's ability to capitalize on connectivity continues to fuel innovation: The IT staff is developing a series of unique patient empowerment apps that will break new ground by integrating unprecedented transparency and information into all aspects of patient care. Future tools will include interactive components layered into the Fit4KidsCare way-finding app, which will explain the functions of hospital and clinical departments on its interactive map. Patients and their families will also be able to use their mobile devices to scan and learn the purpose of medications and download tailored step-by-step physical therapy videos.

Martinez says, "We want to engage our patients and their families on a whole new level and make them feel more in control of what is going on around them." MCH is well on its way to making its visionary plans a reality.

PRODUCTS AND SERVICES LIST

Products
- Cisco Aironet 3600 Series and 3500 Series 802.11n APs with Cisco CleanAir technology
- Cisco Mobility Services Engine and Connected Mobile Experiences software
- Cisco Wireless Services Module 2 (WiSM2) controller on Catalyst 6500 Series switches
- Cisco Prime Infrastructure wireless management software
- Cisco ASA 5500 Series firewalls