[AN ASCOM ON-SITE WIRELESS CASE STUDY]

CHILDREN'S NATIONAL MEDICAL CENTER
ASCOM WIRELESS COMMUNICATIONS SAVE TIME AND MONEY

Children's National Medical Center
283 beds including 44 level IV Newborn Intensive Care Unit (NICU) bassinets.
Level I pediatric trauma center serving Washington, DC, Maryland and Virginia.
Critical care transport program via ambulance or airlift.
8 Regional Outpatient Centers that provide specialty care around the Beltway.
A primary care program that includes health centers with mobile medical units within the District of Columbia and owned practices throughout the metropolitan area.
Children's National Health Network with 400 affiliated pediatricians.
Children's Research Institute one of the largest basic and clinical research programs for pediatric health.
Other subsidiaries that focus on school health services, community partnerships and safety campaigns.

The Ascom Solution: Deciding Factors
The only purpose built clinical grade handset
The Professional messaging that integrates seamlessly with hospital systems
The professionalism of the Ascom/CTSI team

Superior Pediatric Care in Washington DC

Children's National Medical Center (Children's) is the only exclusive provider of pediatric care in the metropolitan Washington, DC area and is the only freestanding children's hospital between Philadelphia and Atlanta. Serving the nation's children for more than 135 years, Children's is a proven leader in the development and application of innovative new treatments for childhood illness and injury.

Children's internationally recognized team of pediatric healthcare professionals care for more than 360,000 patients each year who come from throughout the region, nation and world. Serving as an advocate for all children, Children's is the largest non-governmental provider of pediatric care in the District of Columbia, providing more than $50 million in uncompensated care.

In addition, Children's serves as the regional referral center for pediatric emergency, trauma, cancer, cardiac and critical care as well as neonatology, orthopedic surgery, neurology and neurosurgery. Children's is ranked consistently among the best pediatric hospitals in America by *US News & World Report*.

Demand for Wireless Technology

Children's needed to increase capacity significantly as their inpatient admissions rose over the years. Children's decided to embark on a multimillion-dollar project to add a new patient tower at their existing facility to increase overall capacity. After years of planning, their new East Inpatient Tower opened in November, 2007.

The tower has three floors of 140 new private patient rooms with private bathrooms and Internet access in each room. The new addition was designed with input from families, patients and staff members. The wing is designed to enhance family-centered care. The expansion includes a renovated surgery area, new Pediatric Intensive Care, Cardiac Intensive Care and Heart, Lung, Kidney, Neurosciences, Bone Marrow and Hematology/Oncology inpatient units.

"We had overwhelming acceptance by all users."

— Linda B. Talley, Director of Nursing Systems, Children's

The addition of the new tower with its unique design was one of the driving factors for incorporating a wireless communication system. The hospital's leadership team established an overall vision of utilizing the best available technology to enhance patient safety. The new tower is very large with 3 floors each having a hall that was over 600 yards long, the equivalent of two football fields.

Children's realized that they needed a better way of communicating between caregivers and patients without walking back and forth to the patient's rooms every time a patient pressed the Nurse Call button. They also needed to increase efficiency in the communication between caregivers and doctors by not having to page people and waiting for a call back. It was determined that an on-site wireless voice and messaging communication system that provided coverage throughout the entire facility was needed to achieve their goals.

Interfacing to Existing Systems

Children's was already using a Nortel Meridian PBX and a Cisco Call Manager (CM) for all of the hospitals communication needs. It was very easy to connect the Ascom FreeNET VoWiFi wireless system to both Nortel and Cisco switches with the use of an Ascom T1 VoIP Gateway. This provided T1-PRI connections to both switches.

The hospital currently plans to migrate all of their hospitals communication away from the Nortel switch and put everything on the Cisco CallManager (CCM). Children's also plans to utilize the SIP connectivity in the Ascom i75 handset to connect directly to the CCM at some point in the future. This will allow them to manage all end points from a single interface in the CCM. In addition, Children's decided to utilize their existing Cisco network infrastructure throughout the hospital for coverage. The Ascom FreeNET VoWiFi system is IEEE 802.11 standards based and will work with most vendors' network infrastructure.

In fact, the Ascom i75 handsets are also Cisco Compatible Extensions (CCX) certified for interoperability on the Cisco Access Point and switching network infrastructure. The hospital has also standardized on the Rauland Borg Nurse Call system throughout the new tower. Ascom and Rauland Borg have had a partnership for years that includes integration and interoperability.

The Ascom FreeNET system provides call back functionality directly from the i75 handset to the patient room when the patient pushes his or her Nurse Call button. This allows the "Talk Before You Walk" functionality that the new design required. By having this functionality it allows the caregivers to provide quicker response to requests for assistance thereby increasing patient safety and satisfaction.

The hospital also utilizes the Philips Patient Monitoring system to monitor patient's respiratory and pulmonary functions. The Ascom FreeNET VoWiFi system also integrates well with any patient monitoring system and the Nurses are using their i75 handsets to receive clinical data on their assigned patients.

Everyone Benefits

The hospital has already deployed 400 Ascom i75 handsets and has plans to deploy another 300 in the next 18 months. "The system has been phenomenal," says Linda B. Talley, Director of Nursing Systems and Neonatal Services at Children's. "We had overwhelming acceptance by all users.

"The Ascom FreeNET VoWiFi system was an ideal choice for our hospital since it had seamless integration with all of our PBX and Clinical systems. We look forward to further integrations with the Ascom system and continue to make improvements to our work flow processes."

— Mike Lavorel, Director of IT, Children's

It has exceeded our expectations, and additional handsets are being requested by many other departments." Most of the handsets are being used by the nursing staff for communication to patients, doctors and family members. The phones have been assigned to each Unit and are shared among the nursing staff on a shift basis.

Each shift, the nurses assign themselves to a patient's room in the Rauland Borg Responder IV Nurse Call system to receive patient requests and code Blue calls and patient monitoring information for each patient for whom they are responsible. In addition to Nursing many other ancillary departments are now utilizing the Ascom i75 handsets.

Children's is using the handsets to communicate more effectively with other internal departments and outside referring physicians. Bio-med, Dietary, Pharmacy, Respiratory Therapy and Transporters are all using the i75 handset to communicate more effectively to provide safer and quicker response to requests for assistance.

Key Success Factors and Future Plans

"The key success factor in implementing the Ascom FreeNET system was the extensive amount of planning and education that was an integral part of the project," says Ms. Talley. The hospital set up monthly meetings which evolved to weekly meetings, involving all departments, as they approached their cutover date. The meetings focused on process flow where they mapped out each work flow process and what changes would occur as they deployed the new system.

Children's also analyzed risk and had back up plans for every change they were implementing. In addition, all users had extensive training on the use of the i75 handsets and each department set up "Super Users" who users could rely on after the training for additional questions that arose. The key was to get everyone involved and informed before the cutover date.

The hospital is now looking at ways to improve their work flow processes and take advantage of the Ascom FreeNET system. They have plans to integrate with their Siemens/Maquet Ventilators in 2008 and their Alaris Infusion pumps in 2009 when they upgrade to the new Smart Pumps. Each of these integrations will provide more information to the caregivers furthering the hospitals vision of using technology to enhance patient safety.

What Can Ascom Do For You?

How can an Ascom communication solution improve operations at your facility? To learn more, visit ascomwireless.com or call 877-71ASCOM.

Ascom (US) Inc.
877-71ASCOM
www.ascomwireless.com