CASE STUDY

Building Wireless Solutions™

>> Children's Hospital Boston

Children's Hospital Boston Has Gone Wireless

Children's Hospital Boston records approximately 17,000 inpatient admissions each year and their 160+ outpatient programs and pediatric emergency services care for more than 450,000 patients annually. Additionally, the hospital performs 22,000 surgical procedures and 170,000 radiological examinations every year. To continue to meet the needs of its growing number of patients, the hospital needed reliable communication throughout the facility to deliver the most comprehensive patient care. CSI was hired to provide a turnkey in-building wireless solution and bring wireless technology into their expansive and busy facility.

Staying Connected - One Phase at a Time

CSI was originally hired by Children's Hospital Boston back in 1999 to install an off-air coax solution. Since then, the RF source has been changed to a BTS. The system has been upgraded to a hybrid solution utilizing both fiber and coaxial cable. "The RF environment in the city of Boston is extremely challenging," remarked Kelley Carr, President of the Custom Solutions Group at CSI. "CSI worked very closely with local engineers from the Wireless Service Providers to ensure that the system installed met all requirements." Additionally, CSI was able to utilize the existing coaxial cable to keep costs down.

The original project relied on macro coverage for the upper floors and only covered the lower levels of the hospital with the Distributed Antenna System (DAS). In May 2007, Children's opted for a back-up system in case the macro went down. CSI implemented a comprehensive wireless strategy for delivering wireless coverage to the rest of the hospital including the remaining 15 floors, equaling 1.8 million square feet of space. The DAS utilizes 87 antennas and supports technologies including 800 MHz and PCS 1900 MHz bands. CSI continues to provide cost-effective and scalable solutions in a phased approach to meet the hospitals budget and time-line.

A Clean Working Environment

Because dust and noise mitigation are a major priority, CSI provides special contamination control measures and follows specialized procedures during each installation. The CSI project management team and the hospital staff stay in constant communication and establish a schedule that allows for installation and operations to work together cooperatively. CSI maintains a clean and safe site while maintaining Infectious Disease Control standards.

Expansion Plans

In the next 10 years, Children's Hospital Boston plans to expand its clinical capacity by adding two new floors to the existing building and by constructing a new building at the current location of the Enders building. The new plan will result in a more efficient and modern campus, with patient care on one side of the street and research efforts located conveniently on the other side.

Company

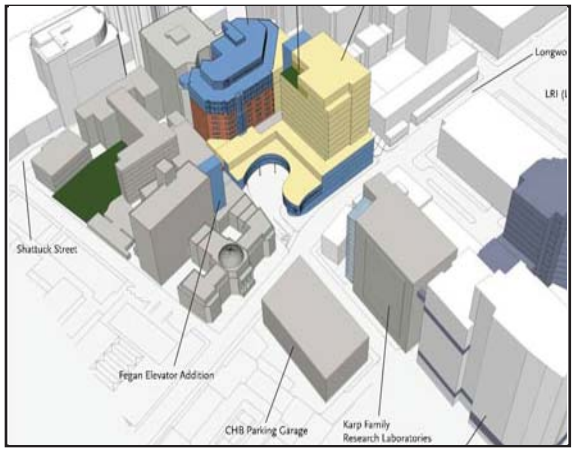
397-bed comprehensive center for pediatric health care. As one of the largest pediatric medical centers in the United States, Children's offers a complete range of health care services for children from birth through 21 years of age.

Challenges

- Support future wireless services and technologies on the same system without causing disruption
- Strict RF requirements within the city of Boston
- The hospital must remain open and follow Infectious Disease Control standards during the installation

Solutions

- Scalable and cost-effective architecture to support future technologies & expansion
- Reliable communication expedites response time in urgent situations
- Wireless-friendly facility without compromising critical medical device



The plan includes adding two stories to the existing Main building (shown in blue), rebuilding Enders (yellow), and construction of a new research building (purple).

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