



## Baptist Healthcare Builds Mobile Clinical Productivity with In-Building Cellular

Baptist Healthcare System, Inc. (BHSI) is one of the largest not-for-profit healthcare systems in Kentucky. Founded in 1924, BHSI has been bringing advanced medical technology, modern facilities, and many of the region's most prominent physicians and medical professionals to the cities and communities of Kentucky. BHSI owns five acute-care hospitals with more than 1,500 licensed beds in Louisville, Lexington, Paducah, Corbin and La Grange, and manages a 300-bed acute-care hospital in Elizabethtown.

After a successful deployment of an ADC InterReach® Fusion in-building wireless system to improve cellular voice services at Baptist Healthcare East (Baptist East) in Louisville in 2006, BHSI decided to deploy InterReach Fusion throughout its facilities. The ADC system has been expanded at Baptist East to cover additional areas in the facility and is now providing wireless coverage to all of the other BHSI hospitals in Kentucky.

CASE STUDY



## A Good First Experience

The initial driver for in-building wireless at BHSI was to provide strong and consistent voice service for physicians at the 6-story Baptist East in Louisville. Although the doctors carried pagers, there was always a delay of a few minutes between sending the page and having the doctor respond by phone. Most doctors and staff had cellular phones from one of Louisville's three major carriers (AT&T, Sprint, and Verizon), but coverage was poor inside the building.

"A lot of the doctors had Nextel push-to-talk phones, but they only worked in the surgical areas of the hospital," says Jim Laval, manager of corporate IT at BHSI. "They wanted something that worked everywhere."

After a multi-vendor evaluation process, BHSI selected ADC's InterReach Fusion multi-carrier in-building cellular system for Baptist East. The InterReach Fusion system was unique in that it supported multiple service providers with one set of electronics, and it relied on fiber and thin CATV cabling as a transport rather than thick, heavy coaxial cabling. The transport cable made it much easier to deploy the system minimizing disruption in the dense hospital environment that features many small rooms with thick walls.

In addition, InterReach Fusion solutions use an active, hub-and-spoke architecture that guarantees strong, uniform signals from every remote antenna, so the quality of service is consistent throughout the facility. In contrast, so-called passive systems that use heavy coaxial cabling deliver varying signal strength, depending on the distance of the antenna from the radio source.

ADC completed the initial Baptist East deployment in the summer of 2006, adding InterReach Fusion hubs in the hospital's data center, with expansion hubs in wiring closets and remote units mounted in the ceilings. The result was clear and consistent coverage in all hospital areas.

"The doctors loved it," says Laval. "It gave them much better communications with their offices, patients, and with each other."

## Infrastructure for Mobile Applications

Based on this initial success, Laval and his team immediately began planning to expand in-building wireless usage throughout BHSI facilities in Kentucky. The idea was to not only provide voice service, but to enable a new clinical application that would further boost physicians' productivity.

The application, called Mobilecare Rounding, allows doctors to view patient records on wireless PDAs and smartphones. "It makes it easier for doctors to check on lab results or other information while they're on their way from one place to another, or even when they're not in the hospital," says Laval.



To support this new application, BHSI launched a facility-wide in-building deployment program to support AT&T and Verizon services. ADC completed the last of the hospitals in the summer of 2008. The facilities include the following:

- A new, 360,000 square-foot expansion of Baptist East, which is covered by two InterReach Fusion systems that feature one main hub, three expansion hubs, and 20 RAUs;
- An InterReach Fusion system at Baptist Regional Hospital in Corbin, which uses one main hub, four expansion hubs, and 27 RAUs to cover approximately 247,000 sq. ft., including a basement and three above-ground levels;
- An InterReach Fusion system at Western Baptist Hospital in Paducah, which uses two main hubs, eight expansion hubs, and 50 RAUs to cover approximately 600,000 square feet over six floors;
- An InterReach Fusion system at Baptist Northeast Hospital in LaGrange, which uses one main hub, three expansion hubs, and 18 RAUs.

Although the rollout of the Mobilecare Rounding application is still underway, Laval reports excellent results so far. "The doctors are really excited about the new system because it saves trips to the nursing stations to look at printed charts," he says, "so they can spend more time with patients and have better, more up-to-date information while in the patient's room."

## Future Applications and Facilities

Based on the rapid and trouble-free deployment of in-building coverage throughout its facilities, BHSI is planning ahead for new, interactive wireless clinical applications. In the future, physicians may be able to use PDAs and smartphones to make charting notes or order prescriptions. Before that, however, Laval's team is looking forward to the deployment of another ADC InterReach Fusion system at the Baptist East Outpatient Surgical Center, a 250,000 square foot facility that is also in Louisville.

"Having a solid wireless infrastructure gives us a lot of potential for new applications that enhance staff productivity and improve the quality of our care," says Laval. "ADC has been a big part of our success."

At BHSI as at many other major healthcare facilities around the world, ADC has delivered a solid, cost-effective infrastructure for mobile productivity, improving patient care and the effectiveness of caregivers.

## Challenges

- Multiple healthcare facilities with cellular coverage gaps
- Enable support for two or more major cellular carriers
- Minimize deployment costs, time, and disruption

## Solution

- High-performance in-building wireless system delivers consistent coverage throughout
- One system supports voice and data services for carriers
- Lowest cost and easiest deployment of all systems proposed

CASE STUDY



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