

Alegent Lakeside Hospital

A High-Tech Hospital Doesn't Have to Be Unwelcoming

By Jason Huntsman

Alegent Health's Lakeside Hospital in Omaha, Neb., is one of the most technologically advanced hospitals in the nation. While this may conjure up images of stark white hallways, cold stainless steel surfaces, and futuristic medical equipment, patients at Alegent Lakeside Hospital have experienced a very different environment. The hospital is a warm and welcoming place, one that belies the multiple layers of state-of-the-art technology operating just behind the scenes.

Since the 208,000-square-foot, 77-bed hospital opened in August 2004, it has quickly become known for its quality of care and patient satisfaction. While patients are immediately aware of the homelike atmosphere, they probably are not aware of how the hospital's advanced technological features contribute to their satisfaction.

Harnessing the Power of Technology

Alegent Health asked the architects at LEO A DALY's Omaha office to design a facility that combined the latest technological innovations with a patient-centered model of care. Designers worked closely with Alegent leadership and staff to transform those abstract goals into a real-world building.

A 10-year partnering agreement with Siemens Corporation ensures that Lakeside Hospital continues to provide some of the world's most advanced medical and information technologies. Siemens considers the hospital to be the nation's



LAKESIDE HOSPITAL

most technologically advanced state-of-the-art hospital, in large part because of its integrated system of digital technology, which includes the following:

- Point-of-care charting by nurses
- Online results viewing by physicians using tablet computers
- A document imaging system with real-time and remote access to diagnostic results and images and fetal monitoring data by physicians
- An electronic medical record

In addition, the facility operates in a filmless environment and is moving toward operating in a nearly paperless setting. Lakeside is also the first in the nation to feature Siemens's integrated building controls and fire, safety, and security systems on the same IT network, rather than on individual settings.

According to Ken Lawonn, Alegent Health's chief information officer, "There are different levels of

benefits to having the security, fire, and building controls on one network. One immediate benefit is that it allows the people who are maintaining the building to have better and easier access to information. And by placing all of the systems on one network, it simplifies the management of that network. The biomedical staff and facilities staff don't have to try to maintain separate networks independently, which makes for a more efficient use of staff time. Also, with everything on a single network, information is accessible from any Alegent facility."

In the long term, Lawonn foresees other potential benefits from having patient and building data available simultaneously. "You could begin to look at lighting and environmental settings of individual patient rooms depending on their specific needs and conditions. For example, if we know that a patient procedure is scheduled at a certain time, then we might make sure that the heat is up and the lights are on beforehand, so the patient is assisted in waking up. If we integrate the ambient music therapy system that we are currently installing, then we could also help wake them with music."

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"There's no doubt that the hospital has gained a reputation as a cutting-edge technological facility—not as much from consumers but from the providers of care, the physicians—they like the capabilities," said Lakeside Vice President and Chief Operating Officer Cindy Alloway. "The consumers' perceptions are more centered on how they are treated and the care they receive at Lakeside. But the technology allows for many services for our patients—quicker diagnoses, faster starts on treatment, a better ability to communicate with their doctors, things such as these, which are all going on behind the scenes."

By establishing the technological needs early in the design, architects were able to develop a



THE EMERGENCY DEPARTMENT AT LAKESIDE HOSPITAL

plan that would facilitate integration. "It is not necessarily difficult to incorporate technological components from an architectural perspective. It can be simply a matter of ensuring that basic needs such as conduit, power supplies, and telecommunications space are provided for," said LEO A DALY project manager John Andrews. "However, knowing that there is a demand for such early on allowed us to create a very efficient and effective design."

Lawonn pointed out that it's not just about technology for technology's sake; it's about improving quality of care. "We view the technology as important, but it is something that should remain in the background," he noted.

Patient-Centered Design Concept

The hospital's design was influenced by the Planetree concept of patient-centered care, which focuses on a total healing experience. According to Andrews, "Planetree was used as a guiding principle that was integrated into the design. It was a very useful tool that helped to define the hospital's goals and Alegent's expectations."

Upon entering the Prairie Style brick and stone building, patients and visitors encounter a soaring two-story lobby flooded with natural daylight. Wood, brick, natural stone, and live plants combine to create a welcoming environment that is evocative more of a hotel lobby than a typical hospital. A fireplace and cozy



LAKESIDE HOSPITAL'S HEALING GARDEN



THE MRI SUITE AT LAKESIDE HOSPITAL



LAKESIDE HOSPITAL'S SOARING ATRIUM CREATES A LIGHT-FILLED LOBBY

seating area immediately communicate that Lakeside is not a run-of-the-mill facility. And rather than being confronted by a confusing

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array of signs and arrows, patients are personally greeted in the lobby and guided to nearby receiving areas.

Subtle design elements throughout add to the homelike atmosphere as well. Lakeside's patient rooms and public spaces are awash in calming earth tones. Small stained glass panels are inset into the welcome desk, and each patient room contains a small but striking red-tinted window. A fireplace on each patient room floor serves as a gathering place.

"The hospitality appeal of Lakeside sets it apart from other facilities," Andrews noted. "The finishes in the patient rooms, which are private and quite large, cannot be found in most hospitals." Other amenities include pullout sofas for overnight guests, computer data ports, televisions with movies on demand, room service dining, and lockable storage closets.



LAKESIDE HOSPITAL'S OPERATING ROOM



PATIENT HALL AT LAKESIDE HOSPITAL

Natural daylight was a key element in Lakeside's design. Expansive windows can be found not only in patient rooms but also in a number of operating rooms. This nontraditional element has been beneficial for patients as well as physicians.

"There are windows in the MRI suite, operating rooms, and even the diagnostic labs," observed Andrews. This is quite a unique feature that you do not encounter in many existing facilities, but I do think you will start to see it as more of a trend."

Architects also incorporated a healing garden into the plan. The wheelchair-accessible, meditative space is sunken and open to the lower level at the entrance to the facility. A waterfall adds soothing sounds to the tranquil setting of plantings, natural rocks, and seating areas. Patients, visitors, family members, and employees all make ample use of the healing garden.

The patient-centered philosophy manifested in the building's design is also evident in less tangible ways.

"It's not only the beauty of the architecture and the design of the hospital that are drawing our patients and their families here; it's also our staff that is such a big draw," Alloway said. "The high levels of satisfaction come from the culture of service excellence in which we treat everyone with dignity and respect starting with each other as employees and extending that to our patients.

The hospital's popularity also stems from our involving families more than had been done before, having a strong respect for privacy with our private patient rooms and hallways, and making the hospital a much more patient- and family-friendly environment with features like our fireplaces and healing garden."

Lessons Learned

According to Andrews, "The design process is a lot about understanding the client's needs and expectations and determining how they are going to be met. There was a great deal of listening and giving feedback in the very early stages of the Lakeside project that helped set the tone for the resulting building. With this facility, there is a valuable lesson about how important it is for the design team to integrate with a contractor, owner, and in this case a technology partner, to create a truly successful project. While this was perhaps an atypical approach, it is probably the way more hospital projects should be done since there is such a large movement to incorporate technology into designs."

The proof of patient satisfaction has been well documented over the course of the hospital's first year of operation. Alegent Lakeside Hospital has been ranked number one out of 250 other hospitals in the U.S. for overall quality of care, according to results from patient satisfaction surveys conducted by Professional Research Consultants (PRC). PRC conducted more than

ALEGENT LAKESIDE HOSPITAL



PATIENT COMFORT IS A TOP PRIORITY AT LAKESIDE HOSPITAL



THE SECOND FLOOR AT LAKESIDE HOSPITAL



VISITORS ARE GREETED AT LAKESIDE HOSPITAL'S WELCOME DESK

22,000 telephone surveys of Alegent Health patients in 2004.

The hospital has been a welcome addition to the Omaha region. Its popularity has resulted in a number of changes during its first year of operation. Unoccupied space on the fourth floor of the facility was fast-tracked to be made operational in July 2005, and now includes 32 additional private medical/surgical rooms. The hospital also added two more labor-delivery-recovery rooms, expanded several postpartum rooms, and added four intensive care unit rooms on the third floor.

By incorporating a global design approach that took into consideration the needs of patients, families, and staff, designers were able to create a hospital whose reputation for comfort is matched only by its technological sophistication.



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