

Medium-sized hospitals help patients find their way, relax, and [perhaps even] sustain hope

mid-size on the rise

By Scott A. Larkin



AERIAL: DENNIS MECHAM PHOTOGRAPHY; MAGIC: ARCHITECTURAL NEXUS, INC.

For years, hospitals have emphasized function over form. Cost considerations and staff work flow influenced design more than patients' needs did, so going to the hospital became a stressful experience, rather than a healing one. Contemporary design, however, has gotten creative. Facilities like the Huntsman Cancer Hospital in Utah, and the St. Luke's Magic Valley Regional Medical Center in Idaho use the existing landscape to cut costs, improve patient wayfinding, and perhaps most importantly, provides patients with a sense of hope.



Steadfastness and hope in an architectural pattern

The Huntsman Cancer Hospital on the campus of the University of Utah in Salt Lake City is physically attached to the Wasatch Mountain Range, which defines the western edge of the Rocky Mountains.

The first three floors of the six-floor hospital connect to the rock face of the Wasatch Mountains. Each extends further back into the rock. This sturdy architectural connection to the mountain mirrors the building's pattern, which was created to serve patients' needs — even if doctors, nurses, and staff must cover more ground in the course of their duties.

The hospital's principal benefactor, the John Huntsman family, directed the architects to create an entrance that would communicate hope to arriving patients and their families. The message is, this is a place dedicated to giving cancer victims a shot — a chance to survive.

So, when patients enter the hospital — from the side of the building opposite the mountains — they encounter a soaring, three-story, 50-foot-tall atrium made entirely of glass. This surrounds the building's front and is also set into its ceiling. It is something like walking into a cathedral, where height urges people



Above: The Huntsman Cancer Research Hospital, on the campus of the University of Utah in Salt Lake City, is a medium-sized hospital — 50- to 120-bed with 150,000 to 350,000 square feet of space rising four to six stories. Left: The 184-bed Magic Valley hospital's two-story atrium identifies the main entrance to arriving patients and visitors and provides a line-of-sight connection to each of the hospital's outpatient waiting and registration areas.



A peek inside a hotel built into a mountain

The first floor of Huntsman Cancer Hospital in Utah connects to the second floor by way of a flight of stairs and elevators. The designers placed what they call 'continuum of care clinics' on the second floor. Patients start on one end for diagnosis and work their way along the floor as they move through treatment regimens, effectively creating a 'least to most' ill-patient flow. The infusion area and pharmacy are on the second floor as well, providing patients with easy access to often-repeated infusion treatments, as well as a convenient way to fill prescriptions given during examinations.

The third floor contains surgery and radiology. Normally radiology belongs on the first floor because, as with shielding, it is less expensive to place heavy and vibration-sensitive radiology equipment — particularly the MRI, which can weigh up to 35,000 pounds or more, where it can utilize the ground for support. In a cancer hospital, however, it made more sense to place the radiology department beside surgery, because surgical procedures more and more use a variety of imaging technologies, including interoperative radiation therapy and MRI. Once again, the building's secure connection to mountain rock, through 'stepping,' enabled it to house heavy imaging equipment on the third floor.

While the first three floors of the building step into the mountain, the fourth, fifth and six floors are built in a tower that does not touch the mountain. Because of this and the wide third-floor step into the mountainside, the design accommodates a large outdoor plaza which faces the mountain. Patients go onto the plaza to enjoy nature without distraction from the sights and sounds of the busy Salt Lake Valley on the building's other side.

A two-story glass atrium creates another line-of-sight connection between the fourth and fifth floors, which are accessible by stairs and elevators. These two inpatient floors offer views that sweep across the entire valley: Salt Lake City on one side of the structure, and spectacular views of the mountain and nature on the other side.

The Huntsman Cancer Hospital is designed to accommodate a full range of cancer patients at all different stages of treatment. Cancer patients may visit the hospital for treatment multiple times per week for up to five months. Others come to stay for several days, perhaps in need of treatment for chemotherapy-caused conditions. Still others enter inpatient units because they are too ill to live at home. The design and floor plan accommodates each group.

From top: The wide third floor step into the mountainside also accommodates a large outdoor plaza that faces the mountain so patients can enjoy nature without distraction.

The Huntsman Cancer Research Hospital greets patients and visitors with six-story windows, an inviting and spacious lobby receptionist area near the front entrance, and elevators directly across from the entrance, providing clear sightlines to all waiting/registration areas and destination points.

to look skyward in a gesture that you could say symbolizes — or perhaps even encourages — hope.

Wayfinding outside the facility

As a 256,000-square-foot inpatient/outpatient cancer treatment facility, Huntsman is just the right size to use architecture and innovative floor planning to greet patients and families with a clear, positive, helpful first impression. Of course, architecture can aim to create a similar impression in small and large

hospitals, but those sizes make the task more difficult.

In large hospitals, the campus may span multiple buildings and rise to a higher number of floors than a lobby can connect. The University of Utah Hospitals and clinics, for example, include more than five hospital buildings. Likewise, the Salt Lake City-based Intermountain Healthcare's Intermountain Medical Center is comprised of four distinct buildings. Wayfinding in facilities of this size involves getting different patients



Magic Valley's first floor houses a concierge information desk, registration desk, and a variety of key high-traffic diagnostic services: blood testing, X-ray, MRI, and computer tomography scanning. The second floor handles both outpatient and inpatient surgery. Inpatient rooms are on the second through fourth floors in a vertically integrated tower.

to different entrances of different buildings. Therefore, having only one clear entrance is not possible for fear of drawing patients that should go to another entrance.

In small hospitals, on the other hand, wayfinding should be so simplified that one or two desks cover all departments. Here, the facility's scale and budget seldom allow a nice large entrance. It is more likely to rely on a single canopy to direct patients where to go; this is not as grand as in a medium-size hospital.

The 'happy medium' between the two includes mid-size, 50- to 120-bed hospitals, with 150,000 to 350,000 square feet of space rising four to six stories. Features characteristic of these kinds of patient-centered facilities start with a tall glass atrium inside the main entrance. The atrium's height gives arriving patients and visitors a visible signal as to the entrance's location. Within easy walking distance of the main entrance, a well-marked parking lot or structure is generally located.

This is possible in small hospitals, but seldom possible for more than a small number of visitors in large hospitals.

Wayfinding within the facility

Inside the main entrance, line-of-sight connections for key departments — and their registration and waiting areas — make it easier for patients and visitors to find their way through the facility. This is a key element because in almost every medium-large hospital built before the 1990s, services are buried deep in the facility. Blood draw and specimen collection, for example, are usually placed near the lab because the two functions share the same staff. Yet the front door area doesn't have enough room for the whole lab, so the blood draw and specimen collection areas get pushed down into the basement, far from the front door.

Radiology is often desired near the emergency department and thus may not be located near the front door. A radiology room and CT area located near or in the emergency department, however, means the rest of radiology can be placed next to the front door to serve outpatients. The best arrangement of all — locate radiology near the front door, and the ED next to that.

So unlike conventional hospitals where many outpatient services are buried deep in the facility, contempo-

rary patient-oriented hospital designs offer a variety of services convenient from the lobby. These include blood draw and other specimen collection for lab tests, along with common diagnostic procedures such as X-ray, MRI, stress testing, and respiratory testing. Surgery departments generally appear on the second, third or fourth floors, but not higher. Top floors are reserved for inpatient rooms.

Layout logic

At the Huntsman Cancer Hospital, while cancer patients need access to all the above services, more critical is access to radiation therapy, clinics and infusion. These services were thus given first and second floor preference.

To the right of the first floor is radiation therapy for cancer patients. While it is clearly marked, the waiting area is closed off to provide privacy for patients who have often lost weight and hair. Views of the Salt Lake Valley and an incomplete puzzle on the table offer distractions to those who are waiting.

The amount of concrete shielding required for linear accelerator vaults often involves concrete walls three to five feet thick. The weight of these is so great that putting them anywhere but on existing ground would be very cost prohibitive. That is why most facilities place them in the basement. Patients who are coming as often as a few times a week to receive radiation treatment must therefore travel down into a dark and windowless basement for waiting, simulation, and treatment. It also means staff members who work in radiation therapy seldom see the outdoors during an entire work day.

By 'stepping' the building's floors into the hillside, however, designers were able to anchor Huntsman's concrete vaults firmly to the mountainside at the rear of the department. Therefore the waiting, reception, clinic, simulation and staff offices were placed where they are afforded valley and city views.

A patient-centered community hospital

The layout of the St. Luke's Magic Valley Regional Medical Center in Twin Falls, Idaho, mirrors the Huntsman Cancer Hospital. It incorporates a few changes based on the various needs of patients and visitors that are more common to an entire community rather than specialty focused, as with a cancer treatment hospital.

Magic Valley patients include outpatients following their doctors' orders to undergo diagnostic tests such as blood draws and MRI imaging. Outpatients who need ambulatory surgery must undergo a routine that requires visiting the hospital the day before the scheduled surgery for tests, then returning the next day

for the procedure. Magic Valley also accommodates inpatients recovering from accidents or suffering from long-term heart, lung and other ailments.

Despite the different kinds of patients, the four-story, 184-bed Magic Valley hospital bears a striking resemblance to Huntsman from a patient point of view. A two-story atrium identifies the main entrance to arriving patients and visitors, and provides a line-of-sight connection to each of the hospital's outpatient waiting and registration areas. One exception: cancer patients are given their own entrance on another side of the building.

Similar to Huntsman, Magic Valley's first floor houses a concierge information desk, registration desk, and a variety of key high-traffic diagnostic

services: blood testing, X-ray, MRI, and CT scanning. The second floor handles both outpatient and inpatient surgery. Inpatient rooms are on the second through fourth floors, in a vertically integrated tower.

Both Huntsman and Magic Valley have followed a design philosophy which alters conventional hospital design to serve the patients' needs more completely. These facilities put patients first and allow for simple, straightforward wayfinding, which minimizes stress and creates meaningful spaces to emphasize a sense of hope for people who already have more than enough to deal with. ■

Scott A. Larkin, AIA, ACHA, principal, Architectural Nexus, Inc., can be reached at 801-924-5000 or slarkin@archnexus.com.

Moisture Vapor & Alkalinity is the #1 Cause of Floor Covering Failure !

CRETESEAL

- Pro-Active solution / Day of the pour application
- Cost Effective pennies per square foot installed
- Full system 15-Year Warranty on all Floor Covering
- On site Technical Support
- LEED Compliant



creteseal.com

(800) 278-4273

Healthcare Symposium & Expo Booth #410

CHECK READER SERVICE NO. 24 AT WWW.MCDMAG.COM/E-RESPONSE OR CIRCLE ON READER SERVICE CARD