

healthcare design

JUNE/JULY 2015
VOL. 15, NO. 5

HCDMAGAZINE.COM

joining
forces

UCSF Medical Center
at Mission Bay





COURTESY OF STANTEC

THREE IN



With 4.3 acres of green spaces and 16 gardens, every floor of the building has access to fresh air and the outdoors. Inside, outdoor air with no recirculation fills the hospital via a high-efficiency air filtration system, while high-powered fans prevent filtered air in hallways from entering patient rooms to protect against infection.

BORN OUT OF the need to expand its women's, children's, and cancer services previously spread across three miles and two campuses, the new UCSF Medical Center at Mission Bay in San Francisco is the nation's first integrated project of its size and scope—the 289-bed, six-story, 878,000-square-foot complex is home to three specialty hospitals.

More than 10 years in the making and delivered by the University of California at San Francisco, Stantec (San Francisco), and DPR Construction (Redwood City, Calif.), the \$1.5 billion project opened on Feb. 1. UCSF started developing the project back in 2004, and Stantec kicked off the design phase in 2007 after winning the project in a design competition. The campus includes the 183-bed Benioff Children's Hospital with urgent/emergency care, primary care, and specialty outpatient services; the Betty Irene Moore Women's Hospital offering cancer care, specialty surgery, and a 36-bed birth center; the 70-bed Bakar Cancer Hospital for adults; and the adjoining Ron Conway Family Gateway Medical Building.

The new space allows for enhancing those three key service lines—women's, children's, and cancer care—and to expand upon emergency and ambulatory surgical services offered at previous sites in Mount Zion and Parnassus, Calif. "Most of the square footage at Parnassus and Mount Zion was already maximized, and it had become very tight with all of the services there," says Stuart Eckblad, UCSF director of design and construction. "These are the three services we want to be recognized for."

ONE

The new UCSF Medical Center at Mission Bay centralizes the provider's core service lines with the construction of three distinct hospitals within a single building

By Margie Monin Dombrowski



Moving these offerings to the new site at Mission Bay was partly driven by California's new seismic standards deadlines, requiring hospitals with inpatient beds to be upgraded or replaced by 2015. The oncology and cancer center at the Mount Zion site was deemed not economically feasible to retrofit for inpatients, so moving to a new site that met these standards, while the existing facilities are retrofitted for outpatient services, became the plan.

Another factor: The children's hospital wanted a distinct and identifiable facility, along with room to grow, which wasn't possible at the Parnassus site. With the overlaps in caring for these special populations, which includes high-acuity infants, high-risk births, and patients with cancer (many of whom are on clinical trials), integrating these three closely related services at a single, new facility across the street from the research hub at Mission Bay was the answer to improving care at UCSF.

Separate identities, common goal

Space constraints on the 14.5-acre site inspired the integrated design of the three hospitals, but that decision also provided opportunities to enhance collaboration among staff and allowed the hospitals to share resources.

Flexibility for growth and giving each service its own identity were keys to the new facility's design. "They are integrated facilities, so it's in effect one hospital with different front doors and component parts that are dedicated to the different women's, cancer, and children's [hospitals], but with a shared spine behind it," says Laurel Harrison, principal and project director for Stantec.

This shared spine is a corridor that connects the hospitals and MOB, running from north to south on every floor from which shared services and individual hospital services are accessed. Sharing spaces such as ORs and imaging suites, complicated areas that are expensive to build and have utilization changes over time, offers flexibility and efficiency as needs grow and evolve.

The space was designed for programs to be reassigned to different areas of the building, as well. For example, standard acute care inpatient rooms across the three facilities have the same footprint, and only differ in color scheme, finishes, and accessories. If, over time, one population grows and requires expansion, major physical reconfiguration isn't needed for another service line to be minimized to allow for that growth within the same footprint.

A shared spine connects the hospitals and MOB, on every floor from which shared services and individual hospital services are accessed.

Creating distinct environments that also share resources was a challenge but ultimately led to a highly efficient and flexible scheme. The cancer hospital occupies the north tower, while the children's hospital is located in the south tower. The women's hospital occupies space in both the north and south towers, connecting to the birth center at the MOB. Part of the cancer and women's hospitals overlap to share clinical spaces. "The way the building is organized, there's a vertical stack that's children's, one that's women's and cancer, and a horizontal slice through it that's the women's birthing and intensive care nursery programs," Harrison says.

The new UCSF Medical Center at Mission Bay is strategically sited across the street from UCSF's biomedical research campus, putting UCSF physicians right beside researchers and clinicians working on innovative cures and therapies and allowing easy collaboration between the two groups.



With 20 ORs (eight adult, eight pediatric, and four shared) all located on the second floor together, they share a common core and connect to the children's and cancer hospitals. "The children's patients flow in and out at one end, and the adult cancer patients flow in and out at the other end," Harrison says. "There are ORs nominally dedicated to children or adults that are adjacent. As needs and volumes change, it's a simple matter of booking one room instead of another and shifting around workflows to accommodate that change without any major physical changes... . The line between two hospitals can be drawn on a day-to-day basis."

Above: Patients and families are greeted by a bright, 22-foot-tall sculpture in the lobby of the children's hospital, where bold colors and asymmetrical shapes abound. **Left:** The intraoperative imaging OR includes a full-size MRI, which allows for scanning to be done during a surgical procedure.



Unique identities between the three were created through approaches to the interiors. In the women's hospital, for example, natural materials and organic lines as well as soft color palettes and art installations inspired by nature evoke a sense of calm. Here, there are many intimate spaces for relaxation or contemplation, such as small one- or two-person meditation rooms, and lounges finished with family room-like details such as a fireplace.

Although there is some overlap in public spaces between the women's hospital and the cancer hospital, the cancer facility design is characterized by clean lines, cool colors, a sense of "clarity," and the visibility of technology—an intentional move to provide reassurance to its adult cancer patients.

Above: All patient rooms line the perimeter of the building and feature large windows that provide light and views of the garden, bay, city, or hillside. Sound-absorbing ceiling tiles and covered rubber flooring reduce noise. **Left:** Meditation rooms in the cancer and women's hospitals provide patients a calming environment with low light and soft music to relax and recharge.



In one portion of the building, where the children's patient tower meets the rest of the structure, the floor plan takes a spin, or rotates at about a 15-degree angle, creating an obvious transition to the pediatric space. The resulting angles create unique shapes that are used as small nooks for families and children to relax and play. On the exterior skin of the children's hospital, decorative glass casts bright colors into the building that are reflected onto the floor in patient rooms. Other touches, from windows in asymmetrical shapes to hallways with interactive exhibits to explore, add whimsy and fun to the hospital experience.

Above: At the children's hospital, kids have access to interactive wall murals, child-friendly imaging suites, art and music therapy programs, and playrooms. An accredited K-12 school is also located on-site to help patients stay on top of their studies. **Right:** Play spaces in the common areas help kids engage with the environment and their families.





Left: Inspirational artwork can be spotted throughout the new facility. Murals and poetry add a splash of color to the corridor that connects the hospitals to the MOB and one another. **Below:** Art that promotes healing is an integral part of the facility design. Here, a sculpture that symbolizes the interconnectedness of life adds color and character to a double-height lobby atrium in the outpatient building.

A healing environment

Early on, UCSF was clear in its intent to achieve LEED Gold certification. However, beyond sustainability, materials selected for flooring, walls, ceilings, paint, and trim are low-VOC and not associated with cancer, birth defects, endocrine interference, or reduced fertility—an effort to create a more healing environment for its specific patient populations.

Because the nature of the care delivered at all three hospitals often requires lengthy stays, the environment is designed throughout to be soothing, healing, and family-friendly. The space is accented with colorful and stress-relieving artwork, while natural light pours into the space through large windows in the corridors and patient rooms.

“One area that we wanted to improve on had to do with the ability for family members to remain with their loved ones when they’re hospitalized,” says Dr. Elena Gates, professor and vice chair of the Department of Obstetrics, Gynecology, and Reproductive Sciences at UCSF, who was one of many stakeholders from UCSF involved in the project planning. “So all of the rooms have space and furnishings that allow a family member to stay with them.”





All adult and pediatric inpatient units have single rooms with the exception of the intensive care nursery units, some of which are designed for two infants per room. This gives families with twins the opportunity to stay with both babies in the same room, or allows a nurse to keep close watch on two particularly ill infants in the same space.

With more than 4.3 acres of garden spaces, as well as interactive art exhibits, lounges, meditation spaces, activity rooms, an art studio, and playrooms, the facility offers many ways for patients and families to be together, or spend quiet time alone. Special consideration was given to the children's spaces, which include low counters at the nurses' stations, kid-height handrails, and playrooms in the bone marrow transplant unit separated by a window so that children can play with their siblings without risk of infection.

A new day

With its long-awaited medical center now open, UCSF has already received attention for its integrative model and project delivery, with design firms, hospitals, and organizations from all over the world visiting the site. "There's a lot of interest beyond our shores about how we were able to do this and how it can be adopted into other places," Eckblad says. "I think we've made a significant contribution in how people are thinking about their buildings ... and instead of thinking about the cost, thinking about the value."

The team was encouraged to put the patient experience first. "There was a deliberate structure put in place to have meetings to forget about money for a second and first think, 'What is the right thing to do?'" **HCD**

Margie Monin Dombrowski is a writer based in Southern California. She can be reached at margie@margiemd.com.

These fluorescent asterisk sculptures hang over the lobby of the UCSF Ron Conway Family Gateway Medical Building. Each is meant to represent a star in the constellation of Ophiuchus, an ancient Greek god of medicine and healing.