NOW EARN CEUs AT HOME AT WWW.ASIDUNI.ORG

JUNE 2010 • VOL. 10, NO. 6

HEALTHCARE DESIGN

SHOWCASE
LIFECONNECTIONS HEALTH CENTER
SAN JOSE, CALIFORNIA
PHOTOGRAPHY: STEVE McCLELLAND

When Healthcare Gets Too 'Clinical'

Kaiser Permanente Rejuve(n)ates the Dining Area

IN CONJUNCTION WITH
VENDOME GROUP
THE CENTER FOR HEALTH DESIGN

Introducing the

electronic future

LifeConnections Health Center
San Jose, California

By Richard L. Peck, Contributing Editor

Project Summary

Client: Cisco Systems
Clinic planning/interior architecture: Jain Malkin Inc. (Jain Malkin, CID, AAHID, EDAC; Joost Bende, AIA; Christie Fournier; Kelly Kreuzinger, LEED AP)
Executive architect: IA Interior Architects
Project management: CBRE
Lighting design: Jain Malkin Inc.
LEED design consultant: Brightworks
Contractor: Devcon Construction
Photography: Steve McClelland
Project size: 24,000 square feet
Project cost: $16 million
Cost per square foot: $666.66

When information technology giant Cisco Systems creates an employee health clinic, chances are you're glimpsing part of the future of healthcare delivery. The year-old LifeConnections Health Center, located at Cisco's corporate headquarters in San Jose, California, features some of the company's latest technology, with a facility designed to maximize its effectiveness. While the center offers traditional (and then some) ambulatory healthcare services—primary care, pediatric care, acupuncture, travel medicine, mental health, nutrition counseling, chiropractic, physical therapy, pharmacy, laboratory and radiology—its delivery methods are not traditional: automated check-in/check-out, wireless communications, living room-like care suites, flat-screen technology, teleconferencing and telehealth. Recently interior designer/planner Jain Malkin, CID, AAHID, EDAC, who accepted the design challenge this posed, and Cisco officials Sharon Gibson, Director of the Healthcare Practice in the Internet Business Solutions Group, and Pamela Hymel, MD, Corporate Medical Director, elaborated on the project for *HEALTHCARE DESIGN* Contributing Editor Richard L. Peck.

Sharon Gibson: Our goal in the project was to create a care environment that would attract our Cisco employees and their families and support them in living healthy lives. To do that we felt we needed to combine a unique physical environment and a broad continuum of integrated care, with both in-person and online access. By engaging employees, we believe that Cisco will benefit over time with more productive employees and lower benefit costs.

Pamela Hymel, MD: We are building on Cisco technologies that can help augment a preventive approach to primary care.

Jain Malkin, CID, AAHID, EDAC: At the start of the planning process, the Cisco planning team did process mapping exploring the patient experience in detail. The wall behind the reception desk features the overall theme, displaying the slogan: "Nurturing Health Through the Human Connection." Everything is done to engage patients in this way, including a custom-designed acrylic sculpture wall giving the reception area a unique piece of art to focus upon rather than a small garden or traditional art piece; a designer on our staff actually did the exacting shop drawings herself. Continuing with the "human connection" theme, the patients, after conveniently arranging and arriving at the appointment using IT scheduling and various campus transportation options, check into the center using a wireless tablet. After a wait of only a couple minutes, they are directed to a care suite.

En route to a care suite the patient may pass through one or more of four rotundas, or inspiration nodes, displaying sayings relevant to heart, mind, body, or spirit. The rotundas, 12 feet in diameter and each with a skylight, are constructed of glass with a prism between the layers that refracts light in different color patterns as the daylighting angle changes throughout the day.

Gibson: In the care suite, clinicians sit next to patients in adjoining lounge chairs and use wireless tablets to call up and display medical records on a 42-inch flat screen. The clinician

EXIT
THE BODY
The body is a marvel of engineering: nearly 100 trillion cells working independently and in unison with exquisite precision to regulate the most complex organism — a human being.
Physical Therapy
Chiropractic
Suites
EXIT

shares and reviews the information in real time with the patient, giving the patient a sense of involvement in the process. Each care suite has its own examining room and bathroom for complete patient privacy.

Malkin: The layout of the care suite is most unusual, with most of the physician-patient encounter taking place in a living room setting, with the three lounge chairs arranged around the 42-inch wall monitor. The nurse uses diagnostic instruments tucked away in a custom-designed cart to record vital signs right in the room. These are then automatically recorded and displayed on the screen. Patients needing further examination proceed to the examining room, all of which have right-handed orientation, by the way, in keeping with clinicians' training to examine patients from the right side.

Gibson: Security and privacy were also key concerns when it came to information technology. We use a converged wireless infrastructure that leverages Cisco's corporate network to enable a seamless patient experience while maintaining a secure and compliant medical grade network for the health center. Patients can use their laptops and stay connected to their work while they're at the center. At the same time the wireless medical devices (staff laptops, eClipboards, EKG cart, and Cisco's handheld phones) have segregated controls on the network to maintain appropriate security and privacy.

We spent a lot of time discussing our vision of the patient experience with Jain. We created a persona for each of various patients we expected to visit the center, whether employees or family members, and mapped out the kinds of

experience they might expect—for example, what would a pediatric patient go through on a typical visit? Working with Jain, we developed a floor plan that would accommodate what we learned—and I give great credit to Jain for the idea of "backstage" staff corridors, which are exclusive to staff and enable them to collaborate out of earshot of the care suites even though they are situated close to them.

Malkin: On the floor plan you can see the dedicated staff corridors along the bottom of

the plan and up the right-hand side. The rooms numbered 11 are the nursing stations and numbered 5 are physician charting areas; the patients in their care suites never see these.

Gibson: There are also very clear divisions between the public areas and the patient care areas, which allows for optimal patient privacy and a quiet caregiving environment.

Malkin: In general, the flow of patients moving through the center is based on Lean principles originated by Toyota. Although it is counterintuitive, it turns out that doing everything for one patient before moving on to the next increases throughput or volume. Contrast this with the physician who runs back and forth between three exam rooms, leaving you wondering when he will return. The physician's encounter at the center is not rushed—the center is set up for unique focus on the patient. Everything is done for the patient—lab tests, physician consultation, billing, referrals—within or near the care suite.

Hymel: This acknowledges that, with an employee population averaging 40 or 41 years of age, we have to focus on helping them understand their health and have easy access to healthcare. Annual physicals and other routine preventive measures can easily be neglected if they aren't made very convenient for busy people. The Lean processes and our technology are dedicated to keeping waiting times to a minimum—about 2.5 minutes.

Malkin: This project achieved LEED Gold certification. A factor in this was lighting that exceeds California's very strict Title 24 energy regulations. These restrictions are onerous in a healthcare facility where a high level of functional light is required. Nevertheless, by continually refining and reworking the fixture selections, a designer on our staff was able to go 25% below California standards to achieve two LEED points. This design used a new version of the recessed square light fixture in the corridor walls that, due to a special reflector, provides the same perceived light level at lower wattage. It was something of a miracle, as both the function and the aesthetics of the lighting are ideal.

An unusual feature that grew out of concerns expressed by Cisco's director of facilities related to his fear of feeling closed in by room that, by definition, required privacy. Cisco is all about sharing, and part of that means employees are able to go anywhere, anytime, and work collaboratively by simply plugging in where they happen to be. Cisco had never done a clinic before and the idea of all those rooms with full-height walls and doors was so different from their open-plan work spaces. To allay this concern, we used mirror glass along the top 18 inches of corridor walls reflecting the attractive wood-slatted

CISCO LIFECONNECTIONS HEALTH CENTER

LEGEND

0 10 20

1	LOBBY	11	NURSE STATION	21	DENTAL LAB
2	CLINICAL LAB	12	STAFF LOUNGE	22	WORK ROOM
3	INSPIRATION NODE	13	BUSINESS OFFICE	23	SOILED UTILITY
4	PHARMACY	14	TELEPRESENCE	24	X-RAY
5	OFFICE	15	TELEPHONE/DATA	25	PROCEDURE
6	PHYSICAL THERAPY	16	ELECTRICAL CLOSET	26	STERILIZATION
7	DENTAL OPERATORY	17	ECG	27	JANITOR
8	CONFERENCE ROOM	18	ENT	28	STORAGE
9	PATIENT CONSULT	19	COUNSELING		
10	EXAM	20	BLOOD DRAW		

JAIN MALKIN INC.

CISCO LIFECONNECTIONS HEALTH CENTER

hung ceiling. The perspective looks as though it goes on forever—an optical illusion. HVAC diffusers were installed above the wood grid so that nothing disturbs it visually. The maple wood used in doors, wood trim, and base, as well as the fine-finish millwork, contribute greatly to the aesthetics of the environment.

Gibson: The LifeConnections Health Center serves the 17,000 San Jose employees and their families with an in-person care experience, and is extending its reach beyond San Jose to other Cisco campuses through its own telehealth technology solution called HealthPresence.

Hymel: Using HealthPresence, for example, a nurse and patients at our Raleigh-Durham, North Carolina Research Triangle Park campus clinic can communicate directly with a clinician in San Jose in real time. We can conduct preventive-oriented patient visits, as well as urgent care-type consultations for such matters as upper respiratory infections, ear infections, and sore throats. We can remotely monitor blood pressure, glucose control and cholesterol levels, and conduct direct consultations using our San Jose-based nutritionist on issues involving cardiac disease, diabetes, and so forth. We are looking to adding more "virtual clinics" at other sites throughout the United States.

Malkin: Cisco's TelePresence conferencing system

enables Cisco colleagues sitting at a conference table to interact with others at similar conference tables throughout the world. The specially designed table and the people shown on the monitor appear "life-sized," giving the illusion that everyone is seated at a common conference table. The center leverages video in a variety of ways using a large number of monitors that display an ever-changing array of information about events and tips on healthy living.

Gibson: We use TelePresence—our state-of-the-art video conferencing solution—daily, and people comment on how real it feels.

Along with patient care, we wanted to use the space as a center for sharing and joint innovation with our partners and key customers. Over the past year, we've toured some 180 executive teams from various healthcare organizations and Fortune 500 companies. We share our aspirations for the future of healthcare delivery, enabled by technology, and look for opportunities to collaborate and learn together. We plan to publish what we learn about not only patients' satisfaction with their experience at the center, but also the impact the experience has had on their health status and behavior.

Hymel: Although we recognize the benefit of serving as an urgent care resource for various medical conditions, in terms of recognition for the center, our principal goal is to serve as a primary care "medical home" for our employees. We're letting them know that we are there for their everyday and preventive healthcare concerns and will serve them with quality medical care.

Gibson: And that points to Cisco's anticipated return on investment from this initiative. We have already seen cost reductions in increased use of generic pharmaceuticals with our in-house pharmacy and increased employee productivity. We also believe that Cisco's enviable employee retention rate of 93% gives us the opportunity to achieve an even lower cost of care per person over the course of time as awareness of the center and its offerings sets in. Finally, by serving as a medical home, as Dr. Hymel says, we're letting our employees know that there are alternatives to such things as emergency room drop-ins over the weekend or forgoing preventive care because it is not convenient. The future savings on Cisco's health benefits spend should be considerable from this. More importantly, we know that advancing optimal health status as part of the Cisco culture will result in healthier, productive, and happier employees in the future. **HD**

For further information, visit www.cisco.com.

REPRINTED WITH PERMISSION FROM THE JUNE 2010 ISSUE OF *HEALTHCARE DESIGN*. ©2010 VENDOME GROUP LLC. ALL RIGHTS RESERVED.