With a view towards broader access and better care, Stanford Dermatology uses Cisco HealthPresence to launch Teledermatology Clinics

Customer Profile

- **Region:** Stanford, Calif., and the surrounding area of Palo Alto, Santa Clara County, and San Mateo County, which collectively form the hub of Silicon Valley
- **Industry:** Healthcare
- **Business Issue:** Expand Stanford Dermatology Clinic's outreach, treatment, referral, and consultative capabilities by introducing a weekly teledermatology clinic designed to contribute new levels of convenience, savings, green consciousness, and efficiency to regional patients and processes

Background

Stanford Dermatology Clinic, part of Stanford Hospital & Clinics (SHC), wanted to institute a specialized dermatology telehealth program that took advantage of the latest advances in the field. The impetus was threefold:

- Bring in a large roster of patients being referred through an established telehealth clinic in San Jose;
- Make appointments less time-consuming and more convenient for patients; and
- Solidify Stanford's stature as a leader in the use of information and medical technology

Although Stanford Hospital and Clinics has incorporated components of telemedicine into its medical exam process, the practice was not as widespread among the specialty areas. Led by dermatologist Dr. David Wong, the Stanford Dermatology Clinic partnered with Cisco LifeConnections Health Center and Pharmacy in San Jose to create a live weekly interactive teledermatology clinic. A follow-up survey of patients found that, among other benefits, the teledermatology clinic enhanced patient satisfaction and made it easier to schedule appointments.

Goal

The goals of the program were patient-centered and broadening outreach, enhancing convenience, decreasing “no-show” rates by sparing patients long commutes, reducing waiting rooms time, and adding another innovative technology to Stanford’s inventory.

“Teledermatology is a medical area where screening and consultation are of high value. I can see it being extremely useful in other specialties that rely heavily on screening and consultation.”

— Prathima Srinivas M.D., MHA, Medical Advisor, Program Manager Global Healthcare Services and Practice, Cisco Systems
Solution

Stanford Dermatology Clinic partnered with Cisco’s LifeConnections Health Center and Pharmacy in San Jose, a Primary Care Medical Center site available to Cisco employees and their family members. The Life Connections Health Center includes a telemedicine clinic that is enabled by Cisco HealthPresence, a comprehensive software solution for care at a distance. The software helps enable integration of high-definition video, audio, medical devices, and collaboration tools to deliver an enhanced doctor-patient consultation experience across remote distances. It meets the increasing need for easy-to-access, convenient, high-quality patient care, and facilitates increased collaboration across the healthcare continuum.

Results Seen at Stanford

- Helped enable Stanford Dermatology Clinic to set up weekly teledermatology consultation sessions, a first among Stanford’s specialty clinics leveraging telemedicine
- Delivered an array of dependable, high-resolution live videoconferencing tools that work well for dermatology’s highly visual examination needs, including dermascopes, power zoom, freeze-frame and polarizing devices, and oblique-angle viewing
- Expanded access to a large base of new patients in San Jose and made it easier to manage the incoming stream of new patient referrals
- Eliminated travel time for patients, lowering costs and raising satisfaction
- Reduced the number of no-shows as well as complaints about time lost in waiting rooms
- Became a national example of teledermatology in action, as well as a model for other clinical specialties at Stanford considering introducing telemedicine

“Great experience. I loved seeing HealthPresence at work.”
— Patient, Cisco LifeConnections Health Center and Pharmacy

Challenge

Based on its national rankings, high marks for patient safety, and collection of research awards (including the Nobel Prize for its work on recombinant DNA), Stanford Hospital & Clinics has clearly made good on its mission of “providing excellent care for patients who live close by, as well as those who come from afar for treatment of complex disorders.”

Founded in 1858 in San Francisco as the Medical Department of the University of the Pacific, Stanford Hospital & Clinics now occupies six buildings on the Stanford campus, including the main hospital, Stanford Comprehensive Cancer Center, the Hoover Pavilion, and an outpatient psychiatric center.
Because of its close physical and intellectual relationship with Silicon Valley (the campus is biking distance from Stanford Research Park and Page Mill Road technology companies, and 20 miles from San Jose), the medical center has cultivated a forward-thinking approach to technology.

In mid-2010, Stanford Hospital & Clinics saw an opportunity with the Cisco LifeConnections Health Center to bring teledermatology to Stanford Dermatology Clinic. Stanford and Cisco organizations collaborated to align the shared vision and strategy for use of technology in launching the teledermatology service. “Cisco’s IT vision is to lead every move we make with networked IT. This program exemplified bringing the elements of technology and patient care together,” says Uma Desiraju, Sr. Manager of Cisco LifeConnections Health Center IT. In early 2012, Stanford Hospital & Clinics saw an opportunity to bring teledermatology to Stanford Dermatology Clinic.

Based in neighboring Redwood City, the Stanford Dermatology clinic specializes in treating common and rare conditions, including skin cancer, skin allergies, blistering disorders, and pediatric skin diseases. Through teledermatology, David Wong, MD, PhD, dermatologist at the Clinic, reasoned that staff could better manage and triage its patient load, reduce appointment backlogs and months-long waits for appointments, and set a precedent for specialty telehealth practices at Stanford. “It improves access to healthcare, decreases wait time, decreases traffic travel time, decreases time away from work and it gives patients access to specialist care.”

"Stanford’s teledermatology service using Cisco HealthPresence helps bring care to the patient.”
— Shailen Patel, M.D., Chief Medical Advisor and Program Management Leader, Global Healthcare Solutions and Healthcare Services Practice, Cisco Systems

“This technology has a major impact on patient care by enabling those who would otherwise be unable to get care to have timely and convenient access to high-quality care,” said Dr. Wong. “It overcomes geographic barriers. It decreases wait times for appointments. It saves travel time and cost. It decreases time away from work. It increases convenience of care. It brings care to the patient. By improving access, it can increase quality of care through earlier detection and earlier treatment intervention. It gives patients access to consultations with specialists at leading medical institutions like Stanford.”

In March 2012, Dr. Wong set up a pilot program to hold weekly teledermatology consultations at the Cisco LifeConnections Health Center and Pharmacy. Founded in 2008 and located on the Cisco campus in San Jose, Health Center uses a patient-centered model to support Cisco employees and their family members with an array of services that include health coaching, disease management, pharmacy services, vision care, physical therapy, acupuncture, chiropractic and mental health services.

“At Cisco’s LifeConnections Health Center, dermatology was a top referral to specialty care. Hence, the Stanford Teledermatology program was an ideal solution to leverage telemedicine and showcase technology to increase access to specialty care for patients on campus.”
— says Katelyn Johnson, Cisco’s Sr. Manager Integrated Health
By adopting the teledermatology solution, Stanford Dermatology Clinic wanted to achieve the following:

- Improve efficiency of patient screening and triage referrals funneled in through the patient Life Connections Health Center in San Jose
- Reduce obstacles at the dermatology clinic, which can lead to long waits for appointments and time spent in waiting rooms
- Lower the cost of seeing patients for initial screenings, including savings on staff time and room prep and materials
- Lower the cost borne by patients of traveling to and from appointments, including the hours of lost income
- Boost patient satisfaction by making visits more convenient and efficient
- Acquire new, high-resolution diagnostic tools and methodologies with mobile endpoints and multipoint control units
- Become a national showcase for the growing field of teledermatology and an internal model for specialty uses of telemedicine at Stanford
- Help Stanford lower its carbon footprint and build on its green ethos

Looking back, said Juanita Garza-Castro, Business Manager Ambulatory Services, Stanford Hospital & Clinics, getting the clinic up and running took commitment and a willingness to bear with the learning curve associated with new technologies and procedures. “It wouldn’t have come together without Dr. Wong having pushed for it,” she said. “We had the right combination of having a physician who is interested in the technology and the medicine and in starting something new.”

She also sees the clinic as one more way to demonstrate the medical center’s commitment to technology and innovation. “Stanford wants to be on the leading edge of things,” she continued. “Getting the Stanford name out there is always an advantage.”

“Cisco HealthPresence extends the reach of the physician.”
— Dr. David Wong, MD, PhD, Dermatologist, Stanford Hospital & Clinics

Solution
To set up the teledermatology program, the Stanford Dermatology clinic joined forces with the Cisco LifeConnections Health Center team, who have extensive experience with telehealth protocol, operational processes, and technology. The Cisco team has launched national and international telemedicine clinics to broaden care access for the Cisco employees across the globe. Cisco HealthPresence is a comprehensive software solution that helps enable the integration of high-definition video, audio, medical devices, and collaboration tools to deliver an enhanced doctor-patient consultation experience across remote distances. Along with Cisco TelePresence Management Suite, this solution allows users to manage, deploy, and schedule their entire video network from a single user interface. This provides centralized control for the entire network of onsite and remote video systems, including endpoints such as tablets, multipoint control units such as terminals or gateways, as well as video recording solutions, gatekeepers, and gateways. In its current iteration, Cisco LifeConnections Health Center provides the exam room with accurate lighting specifications, the videoconferencing equipment, all of the high-resolution tools and devices, the exam nurse, and the support staff, both medical and technical.
Dr. Shailen Patel, M.D., Chief Medical Advisor and Program Management Leader, Global Healthcare Solutions and Healthcare Services Practice for Cisco Systems, sees the teledermatology solution bringing the clinic right into people’s homes. “Doctors don’t make home visits anymore (those days are gone), but patients still want the doctor to come to them.”

If Stanford Dermatology Clinic opts to expand the program, the simplified configuration capabilities of Cisco HealthPresence make it possible to add new users quickly and easily.

Results

Green-Minded

The Stanford Dermatology Clinic and Cisco LifeConnections Health Center partnership for Teledermatology makes the best possible use of resources separated by 30 miles of some of the worst traffic snarls in the nation. Commutes between the two neighboring counties can routinely take 60 to 90 minutes or more, with all the attendant carbon emissions and high frustration levels that come with it. “One of the best things about our telehealth offering, it gets cars off the road,” said Garza-Castro. “The green aspect is a big part of Stanford’s ethos.”

The Access-Detection Connection

Removing obstacles to appointments is not just convenient; it also translates to earlier detection. And early detection, said Garza-Castro, can often mean life-saving earlier treatment. “Early detection is a goal for LifeConnections and Dr. Wong. If teledermatology gets people to the doctor more quickly, then it could mean a big difference in terms of morbidity.”

“It's just human nature,” she continued. “As much as we stress early diagnosis, employees push it off. Anything you can do to get people in sooner helps.”

A follow-up survey of Stanford teledermatology patients confirmed that patients were able to schedule an appointment faster when teledermatology was included as an option. The pie chart below shows the breakdown.

“Our goal is to keep as many patients inside the network as possible, to contain healthcare costs, and offer the best services to employees. Our Cisco HealthPresence helps us with all that.”

— Shailen Patel, M.D., Chief Medical Advisor and Program Management Leader, Global Healthcare Solutions and Healthcare Services Practice, Cisco Systems
Figure 1. Percentage of Patients Scheduling Visit Sooner

<table>
<thead>
<tr>
<th>Did the on-site teledermatology service allow you to visit a dermatologist sooner?</th>
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<tr>
<td>No**</td>
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<td>Yes</td>
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** Reasons for “No”
1. Two months wait
2. Doctor was booked, only available after 2.5 weeks
3. No sooner appointment time


Better Outcomes All Around
Because dermatology diagnosis relies so heavily on nuanced visual assessment, the specialty is widely viewed as a good fit for telemedicine. “I believe it should be an integral part of the future of dermatology, and I’d like to see Stanford at the forefront,” Dr. Wong says.

His view corresponds to the latest research on the subject. According to the American Telemedicine Association, “by using advanced communication technologies, dermatologists are able to widen their reach to patients in a cost-effective manner.”

A recent study at UC Davis Medical School found benefits that went beyond simple cost savings. According to the study, which was published in the January 2012 issue of the Archives of Dermatology, “live interactive teledermatology visits can significantly improve clinical outcomes.”

In the study, 1500 patients were evaluated via live interactive teledermatology between 2003 and 2005, comparing diagnoses and treatment plans between referring physicians and teledermatologists. “Among 313 patients with at least two teledermatology visits within one year, clinical improvement was observed in 68 percent of patients,” the study’s authors say.

Source: UC Davis dermatologists find telemedicine effective for patient care - January 17, 2012

The survey also generated an array of personal comments from patients, including the following:

- “Very convenient. Great use of technology to cut time and travel.”
- “This was an excellent service, I have already recommended it to others.”
- “Great experience!!!! And I wasn’t sure at first.”
- “This service is great. The physician detailed the next steps and what I should look for. I really felt like I had been ‘seen.’”
The High-Def Difference

Those at the intersection of dermatology and telemedicine agree that the highly visual nature of dermatology makes it an ideal specialty for the practice of telemedicine. Of particular efficacy for those in the budding field of teledermatology are the specialized, high-resolution videoconferencing tools such as episcopes, power zoom, freeze-frame and polarizing devices, and oblique angle viewing.

Dr. Wong found that the high-definition video, clear audio, and connected medical devices with Cisco HealthPresence software and the Cisco TelePresence video endpoints made remote visits feel highly immersive. “The high resolution is outstanding, and the peripherals allow for distant and close-up video.”

Looking Forward

With an international reputation for excellence, Stanford Hospital & Clinics is continually searching for ways to broaden access and improve the patient experience. Since March 2012, each week, Dr. Wong sees patients located at the Cisco LifeConnections Health Center, using the teledermatology clinic that is enabled by Cisco HealthPresence solution.

After only six months, the system has already proven itself to have enhanced patient satisfaction, reduced appointment backlogs, and promoted early detection. Dr. Wong does not envision the future without it. “It is the future,” Dr. Wong said. “It will have such a major impact that no one will even say the terms ‘telemedicine’ or ‘teledermatology’; it will just be an integrated part of medical care.”

Dr. Prathima Srinivas M.D, MHA, Medical Advisor, Program Manager of Global Healthcare Services and Practice, also believes the teledermatology clinic will serve as a model for other specialty departments at Stanford that may be considering adding telehealth programs to their own outreach efforts. “Stanford wants to be on the leading edge of things, and it is perfectly situated to do that,” she says. “We have Silicon Valley and all its innovation right here, and we have the kind of people who want and expect that.”

But more than models and money and innovation, she believes teledermatology can have a major effect on patients’ health, the primary goal of any telehealth endeavor. “That’s the sweet spot: better care through early screening,” she says.

“Just by providing opportunities for screening that were not there, we can potentially affect outcomes,” she says. “If we expedite treatment because of an early examination, then we could potentially save lives.”