



Bridging the Distance: Telemedicine Extends Reach of Healthcare in Europe

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In the remote, sparsely populated corners of northeastern Scotland, people in need of medical care face a formidable challenge: travelling to the nearest hospital over rugged countryside can take hours. But thanks to the Cisco HealthPresence™ solution, patients and caregivers are bridging the distance in an instant, recreating the experience of a doctor's visit over the Internet—complete with stethoscopes, thermometers, and blood pressure monitors. In France, meanwhile, the same technology is letting frail and elderly patients consult with specialists miles away without the stressful and costly ambulance ride through congested Paris streets.

Alternately called “telemedicine” or “telehealth,” the Cisco HealthPresence solution now being trialed in Scotland and France—and in several other communities around the world—is on track to transform how medical care is delivered to growing numbers of people. With aging populations putting enormous strains on healthcare systems in industrialized nations, and with the supply of healthcare professionals falling short of demand, telemedicine is emerging as an effective alternative to traditional in-person visits, promising to boost the quality and reach of medical care while also reining in costs.

At the foundation of the Cisco HealthPresence solution: a sophisticated workstation that combines high-definition video, audio, and immediate medical data exchange to simulate the experience of visiting a doctor or specialist in person. “Patients say it’s almost like walking into a room and seeing the doctor there,” says Christine McClusky, service development manager at the Scottish Centre for Telehealth (SCT), the organization that oversaw the Scottish program in partnership with the U.K.’s National Health Service and Cisco. “The high-definition screen is really clear; and being life-size makes it feel like you’re talking to a person only feet away from you.”



Doctors can plug an array of IP-enabled medical devices into the Cisco HealthPresence environment—everything from thermometers and stethoscopes to ear, nose, and throat (ENT) devices and examination cameras. An attendant who is a licensed healthcare professional facilitates the examination. Seated at a companion workstation endpoint that could be hundreds of miles away—or just across town—the consulting doctor or specialist sees the patient on a high-definition screen and analyzes data from the medical devices in streaming video. On a separate screen, the doctor can view the patient's medical records.

Beginning in early 2008, the first Scottish HealthPresence trial studied 114 patients suffering from a variety of health problems, including bites, burns, infections, and throat problems. To minimize the risk to patients and carefully gauge the effectiveness of telemedicine techniques, each patient undergoing an examination in the Cisco HealthPresence unit was later rechecked in-person. The result: only seven percent of patients had their treatment plans changed. "What this implies is that HealthPresence consultations are safe and appropriate," said Dr. James Ferguson, SCT's clinical director.

Last year, the SCT team conducted another trial in western Scotland, this time to determine whether doctors could effectively diagnose and treat heart patients at a distance. Participants in this telecardiology project were given EKGs and other tests at a local clinic and then assessed by cardiologists at a regional medical center using the Cisco HealthPresence solution. So far, Dr. Ferguson says the remote assessments have been a success, helping doctors decide early on whether patients should receive simple drug therapies or seek more extensive testing and treatment at a Glasgow facility.

Like Scotland, France has a population that is living longer and demanding more from its national healthcare system. Health professionals and policymakers are searching for ways to meet this demand and provide high-quality healthcare in the face of critical shortages of medical resources and escalating costs. Telemedicine is being embraced as an effective way to deploy limited medical resources more efficiently and equitably, and deliver expert care to people regardless of where they live.

In Paris, for example, doctors recently deployed two Cisco HealthPresence units to evaluate the effectiveness of conducting remote consultations between specialists at one hospital and elderly patients staying at a geriatric facility several miles away. In this pilot project—sponsored by a partnership between the Paris hospital consortium APHP, Cisco, and Orange Business Services—16 specialists conducted 220 remote clinical sessions with 160 patients.

Dr. Pierre Espinoza, who directed the Paris project, says preliminary results from the trials show that Cisco HealthPresence technology can help significantly improve the quality and economics of geriatric care by organizing scarce medical resources more efficiently. "Telemedicine is an effective response to managing the health of an aging population and offers equitable access to care," he wrote in a preliminary report.

Remote consultations were welcomed by the elderly patients, many of whom were frail and suffering from dementia. By using the onsite Cisco HealthPresence unit, they avoided a stressful ambulance ride to the specialist's hospital as well as long waits before seeing the doctor. In addition, patients said they felt more comfortable being accompanied during the consultations by their regular doctor.

A full range of specialties were represented in the Paris pilot, including orthopedics, cardiology, dermatology, and psychiatry—and no serious technical problems occurred during the sessions: Doctors successfully shared X-rays and medical records, cardiologists analyzed live data from ultrasound devices, and dermatologists diagnosed skin tumors that were later confirmed by biopsy. Specialists noted that the Cisco HealthPresence solution offers a cost-effective way to diagnose and monitor stroke victims.

Together, the French and Scottish projects are demonstrating the power of telemedicine to not only help improve care with faster diagnosis and treatment, but also stretch healthcare budgets by making the delivery of care more affordable and accessible. "Telemedicine has proved a critical tool in helping shift the balance of care," says SCT's Dr. Ferguson. "It makes the system more effective and makes more efficient use of specialist expertise. With a more challenging economic climate, health professionals and managers are going to have to take a closer look at tackling inefficient practices. The Cisco HealthPresence solution is a cost-effective way of doing that."



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