
MODELS FOR PRACTICE

FOCUS AREA: EDUCATIONAL AND COMMUNITY-BASED PROGRAMS

Program Name: Northern Sierra Rural Health Network
Telemedicine Program

Location: Nevada City, California

Problem Addressed: Community Health Development

Healthy People 2010 Objective: 7

Web Address: www.nsrhn.org

SNAPSHOT

Northern Sierra Rural Health Network (NSRHN) Telemedicine Program offers much-needed specialty health care, including psychiatry, dermatology, and pediatric neurology, to rural residents in eight counties in Northern California.

THE MODEL

Blueprint: NSRHN is a 501(c)(3), non-profit corporation promoting health and well being for all patients in the eight-county rural service area of Northern California. The service area is 26,217 square miles and includes the counties of Nevada, Sierra, Plumas, Lassen, Modoc, Siskiyou, Trinity, and Shasta. The total population is 380,268, of which 300,000 live in rural medical service study areas (MSSAs), as designated by the State of California. Sixty-seven percent of these MSSAs are designated as primary care health professional shortage areas. More than 20 percent of the population is uninsured, and Medi-cal and Medicare are the predominant payer sources for health-care services. There are limited specialty providers in the region, and residents must drive two to three hours through precarious mountain roads to access specialty care. Telemedicine provides a way to connect rural patients with urban specialists, enabling the patients to receive needed care closer to home and increasing continuity of care through the involvement of primary care providers.

NSRHN Regional Telemedicine Program is a collaborative project consisting of the following organizations:

- NSRHN – lead agency;
- Blue Cross of California – funding agency;
- University of California Davis Health System – funding agency and specialty provider;
- California Telehealth/Telemedicine Center – funding agency;

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- twenty-four primary care providers – rural telemedicine sites; and
 - three urban specialty sites – specialty provider and provider of educational services.

NSRHN is a collaborative of rural health care providers who many years ago identified telemedicine as a way of expanding access to care for rural patients. The original partners in the program were University of California Davis Health System and Blue Cross of California. These partnerships and subsequent partnerships enable the telemedicine program to receive the funding necessary to bring the technology of telemedicine to the region.

NSRHN has six full-time staff consisting of an executive director, a regional telemedicine coordinator, a telemedicine services coordinator, a network coordinator, a technology officer, and an administrative assistant. Each rural telemedicine facility has assigned staff to assist with telemedicine duties. Until recent state budget cuts forced reduction in state support for telemedicine, NSRHN paid for a portion of their salaries, but much of their time is donated.

The telemedicine network provides for consultation, diagnosis, and limited treatment options. Patients are “seen” by the specialty provider using two-way video and audio connections. A primary care provider determines that a patient requires a specialty consult. The telemedicine coordinator assigned to each site schedules the telemedicine appointment, which involves the patient, a specialist, and if necessary the primary care provider and takes place in the primary care provider’s office. Prior to the appointment, the coordinator arranges for necessary paperwork, such as lab work and test results, to be sent to the specialist. At the end of the consultation, the specialist faxes a consultation report to the primary care provider who may initiate treatment and then schedule another specialty consultation if necessary. The telemedicine network is also used to connect multiple sites throughout the region for continuing education classes and other meetings.

Making a Difference: Success of the NSRHN Regional Telemedicine Program is measured in terms of telemedicine utilization, patient satisfaction, and provider satisfaction. Since the program’s inception in 1999 and through June 30, 2002, the telemedicine sites in the region conducted over 850 specialty consults. The three most-used specialty services are psychiatry, dermatology, and pediatric neurology. In addition to specialty consults, the sites conducted a total of 210 continuing medical education events. All sites report patient satisfaction and provider satisfaction data. Overall, patient satisfaction, primary care provider satisfaction, and specialist satisfaction have all been very positive, with percentage satisfaction ratings from 86 to 90 percent.

Beginnings: NSRHN started in 1996 to expand access to health services by residents in rural northeastern California. In 1997, NSRHN received

\$50,000 from the California Telehealth/Telemedicine Center (CTTC) to begin a telemedicine program in eight rural sites. The University of California Davis Health System (UCDHS) placed telemedicine equipment in an additional five sites in the NSRHN region. In 1998, NSRHN received funding from UCDHS and the Far Northern Regional Center (FNRC) to purchase a video conferencing bridge—the core technology needed to connect the more remote sites. In 1999, Blue Cross of California began providing funds to equip additional sites in the region. Additional funding from FNRC and the State of California enabled more sites to participate. By 2002, a total of 24 rural sites participated in the NSRHN Telemedicine Program.

In 2000, a major grant was received from CTTC to help stimulate specialty consults in the closest urban area, Redding, California, resulting in more specialists in Redding performing consults for patients. Redding Medical Center, Mercy Medical Center, and Shasta Community Health Center each developed their telemedicine capacity with the help of this funding. CTTC funding enables the operation of the video conferencing bridge and provides training and technical assistance to the telemedicine partners. Funding from Blue Cross of California, UC Davis Health System, and the State of California pay for the technical support and warranty repair required by each rural site, a portion of the unsubsidized telecommunications charges, and some staffing costs.

Challenges and Solutions: Two major challenges were encountered as the program was implemented. The first was the lack of telecommunications infrastructure that existed in many of the rural communities. This challenge was overcome through the development of a complex private-line network supported by Universal Service funds—funds collected and distributed by telephone companies to support access to technology for education and for eligible rural health care providers. The second challenge was the slow acceptance of the new technology in some sites. This challenge has been overcome through more intensive on-site training of providers at new sites as they learn to incorporate telemedicine technology into their clinical practices.

Sustainability for the cost of the telephone lines is assured as long as the federal Universal Service program continues. Each rural site maintains responsibility for its own staffing and support structure for the program. Outside funding has been available to assist them but may not continue in the future. NSRHN is developing revenue-generating services to support the telemedicine activities—most notably, expanding its ability to support multi-site educational video-conferencing events. For example, NSRHN partnered with the California State Rural Health Association to conduct a rural bio-terrorism training, connecting 22 rural sites throughout rural California. Over 200 rural health providers participated in this project. NSRHN will continue to partner with organizations such as Blue Cross and University of

California Davis to help offset ongoing costs of the program.
Reimbursement for telemedicine services will also be maximized.

The executive director of the program, Speranza Avram, attends conferences and meetings throughout the state to explain the program and its impact on the community. An annual report highlighting telemedicine has been published, and the program is featured on its website. The funders also highlight the program through their publications and websites. Within the community, the telemedicine program has been featured at health fairs and has received press coverage.

PROGRAM CONTACT INFORMATION

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