



## **Telehealth Research Case Studies**

Numerous studies have shown that telehealth improves access to health care, boosts quality of care, and increases cost efficiencies in the delivery of care. Here are summaries of key research studies showing telehealth successes in these three areas.

### **Access to Health Care**

A 2008 UC-San Francisco study compared skin cancer patients who received store and forward tele-dermatology services with patients who received conventional dermatology referrals. The tele-dermatology patients, on average, completed their initial consults in 4 days, versus 48 days for conventionally referred patients; for biopsies, the wait was 38 days, versus 57 days; and for cancer removal surgery, 104 days versus 125 days.

*Journal of the American Academy of Dermatology, Aug. 2008*

San Francisco's BeWell Mobile is an interactive disease management software application. Patients with asthma or diabetes send their vital signs via cell phone to their providers, and receive condition-specific recommendations or a follow-up phone call from their provider. A Bay Area test trial found that 50 asthma patients ages 12 to 20, who had previously required four to five emergency room visits annually, had zero visits during the two-year trial period.

*Bloomberg Businessweek.com, April 30, 2008.*

A study of post-traumatic stress disorder patients found that telemedicine patients had fewer therapy appointment cancellations than in-person patients, 24% versus 34%, fewer no-shows, 5% versus 19%, and fewer treatment program drop-outs, 6% versus 29%.

*Telemedicine and e-Health, December 2008*

New Mexico's Project ECHO uses telehealth, case-based learning and disease management techniques to expand access to care for patients with hepatitis C and other chronic, complex conditions in rural underserved communities and state prisons. Program evaluations show a high level of effectiveness of the training components of the program. After one year, community providers reported a reduced sense of isolation and improved professional satisfaction.

*The Commonwealth Fund Newsletter, 2009*

The Pacific Center for Special Care at the University of the Pacific School of Dentistry is demonstrating the effectiveness of a Virtual Dental Home (VDH). Community-based allied dental personnel and dentists collaborate via telehealth technologies to deliver health promotion/prevention and dental services to patients in underserved communities. Services are delivered in schools, Head Start Program centers, group residential facilities, senior housing, and nursing homes. The VDH will deliver more oral health per dollar than other models of care.

*Dr. Paul Glassman, Professor of Dental Practice, Director of Community Oral Health,  
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## **Quality of Health Care**

A 2008 study examined stroke patient consults between emergency physicians at four community hospitals and stroke specialists at UC San Diego. It compared patient assessments conducted by telephone with those via a tele-stroke program, which included video conferencing and store and forward images of CT brain scans. More than 98% of patients in the telehealth program who needed thrombolytic drugs, which break up or dissolve blood clots, received them compared to 82% of patients in the telephone-only assessment. This timely use of optimal treatments can mean the difference between a stroke patient's substantial recovery, and death or long-term disability.

*The Lancet Neurology, September 2008*

A 2007 study found that patients in a medically underserved rural area who received psychiatric services via video conferencing had clinical outcomes and patient satisfaction levels that were equivalent to patients who received in-person services. In addition, video conferencing services were 10% less expensive per patient than in-person services.

*Psychiatric Services, June 2007*

A 2005 study of a telehealth medical evaluation program at five childcare centers found that the program reduced childrens' absences due to illness by 63%, let parents remain at work in 91% of cases evaluated by the program, and avoided provider office or emergency room visits in nearly 94% of cases.

*Pediatrics, May 2005*

## **Cost Efficiencies in Health Care Delivery**

Catholic Healthcare West's (CHW) Congestive Heart Active Management Program (CHAMP), a disease management program for congestive heart failure patients, monitors patients' health via regular telephone check-in calls from registered nurses. CHW, which operates the Sacramento-area Mercy chain of hospitals, said the program has cut hospital readmission rates up to 85%.

*Sacramento Bee, Jan. 30, 2011*

In 2004-05, the California Department of Corrections and Rehabilitation provided 9,100 telehealth consultations for inmates, saving taxpayers roughly \$4 million in transportation and security costs.

*California Legislative Analyst's Office, 2006*

St. Mary's Heart Center in Duluth, MN, implemented a disease management program with home tele-monitoring for high-risk congestive heart failure (CHF) patients. The program increased use of appropriate medications, improved patients' functional status and reduced readmission rates, length of stay and overall costs. The center's six-month readmission rate was reduced from 20% to 4% and for the most vulnerable patients to 2.5%. The national readmission rate is 40% to 50% for CHF patients.

*Agency for Healthcare Research and Quality Health Care Innovation Exchange, Dec. 8, 2010*

### **Cost Efficiencies in Health Care Delivery (cont'd)**

A study of tele-intensive care units (ICUs) at the University of Massachusetts Memorial Medical Center and two community hospitals found that the community hospitals were able to treat an average of 50% more patients with tele-ICU monitoring, who otherwise would have required transfers to other facilities, saving an average of \$10,000 per patient. In addition, the per-patient costs at the Medical Center dropped an average of \$2,600.

*National Network for Health Innovation, December 2010*

A study found that an intensive care unit telemedicine program at a community hospital in California generated \$388,000 for the facility by keeping children in the community hospital rather than transporting them.

*Telemedicine Journal and e-Health, 2004*

In North Dakota, a telepharmacy project contributed approximately \$12 million to the local economy by having pharmacists supervise technicians in other locations dispense medications via live video teleconferencing.

*North Dakota State University, North Dakota Telepharmacy Project*