

# USING TELEHEALTH AND OTHER CONNECTIVE TECHNOLOGIES TO REACH AND SERVE OLDER ADULTS AND ADULTS WITH DISABILITIES

*A review of the issues, challenges and potentials involved in using telehealth and other connective technologies, with recommendations for the Riverside County Advisory Council on Aging and Riverside County Office on Aging for exploring next step strategies in Riverside County*

Based on the June 22, 2006 Roundtable on Using Telehealth to Reach and Serve Older Adults and Adults With Disabilities

Conducted by the Riverside County Foundation on Aging for the Riverside County Advisory Council on Aging and Riverside County Office on Aging, in partnership with VNA of the Inland Counties and the Riverside Community Health Foundation

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On June 22, 2006, the Riverside County Foundation on Aging, in partnership with the Riverside County Office on Aging, Advisory Council on Aging, Riverside Community Health Foundation, and VNA of the Inland Counties, convened a roundtable of experts in the field of telehealth, adult services and human and social services to explore the use of telehealth and other connective technologies to reach and serve older adults and adults with disabilities (see appendix for a list of participants). The roundtable was moderated by Ray Mastalish, then Deputy Director for Senior Programs, of the Riverside County Office on Aging.

The purpose of the roundtable was to provide the Office on Aging and its Advisory Council on Aging with a planning document outlining possible next steps in exploring the use of telehealth and other connective technologies to reach and serve its target service population. Objectives HW.3 and HW.4 in the Office on Aging's Four-Year (2005-2009) Strategic Plan, entitled *Strength in Aging*, states that the Advisory Council, with its Health & Wellness Committee in a lead role, will work with the Office on Aging to coordinate with local agencies, healthcare organizations and communications and technology companies to explore the use of and funding for telemedicine and other technologies to promote senior health and wellness. The Foundation convened the roundtable on behalf of the Advisory Council's Health and Wellness Committee to help facilitate the Advisory Council's efforts to identify funding strategies for such initiatives.

The roundtable focused primarily (but not exclusively) on the use of *enabling* and *connective* technologies. Enabling technologies allow people to do more for themselves and to stay in their own homes or independent settings for as long as possible. Connective technologies, using computers, telephones, television or other devices, help ensure a healthy and collaborative relationship between older adults and their families, caregivers and healthcare providers.

The roundtable discussion was guided by five questions:

1. What kinds of telehealth services and other connective technologies are you aware of that are currently being used nationally to reach and serve older adults and adults with disabilities to help them stay connected to their families, caregivers, community institutions and healthcare providers?
2. Which technologies are demonstrating promise in terms of their cost-effectiveness and ability to enhance connectivity, increase healthcare productivity, ease caregiver stress, and help older adults and adults with disabilities maintain their independence and ensure their continued health and safety?
3. What kinds of barriers are healthcare, aging services and other providers encountering as they apply telehealth and other connective technologies, and how are they addressing these obstacles?

4. What kinds of telehealth and other connective technologies are currently being used in Riverside County, what are they being used for, and how well are they working?
5. What kinds of telehealth and other connective technologies could be used by healthcare, aging services and other providers in Riverside County? What would be the logical and realistic next steps in launching a pilot project(s) and/or expanding an existing project?

Rather than a verbatim transcription of the proceedings, this document presents the major challenges and opportunities identified by roundtable participants, and strategies and recommendations for addressing the challenges and capitalizing on the opportunities.

Roundtable participants noted that several factors were driving the more widespread adoption and use of telehealth and other connective technologies. These include:

1. Demonstrated effectiveness of some telehealth and connective technologies. In the medical arena especially, it becomes more effective to be able to deliver health and clinical services to homebound and disabled elderly in their homes, congregate living facilities and other housing arrangements rather than in bricks-and-mortar facilities, especially when they live in remote and rural areas. The “healthcare-without-walls” concept is particularly suited to Riverside County, which encompasses 7,000 square miles ranging from mountain to desert to rural and urban areas.
2. An aging population means more homebound and disabled elderly, and more chronic diseases, both of which result in financial pressures on the healthcare delivery system. Certain telehealth and other connective technologies are demonstrating significant cost savings and are proving to be a more cost-effective way of reaching and serving older adults and adults with disabilities.
3. A notable shortage of nurses and a growing shortage of primary care physicians will prompt the use of telehealth and connective technologies that demonstrate time savings and clinical efficiencies for medical professionals.
4. A new vision of community is emerging as cities and other areas are wired for broadband and area-wide wireless systems, enabling the more widespread use of the Internet and other technologies to connect people wherever they are.

#### CURRENT TELEHEALTH AND OTHER CONNECTIVE TECHNOLOGIES THAT ARE SHOWING PROMISE IN THEIR APPLICATIONS

##### ***1. Home-monitoring technology to monitor and track basic health conditions.***

VNA of the Inland Counties’ home telehealth program uses video telehealth visits between nurses and patients to monitor disease-specific outcomes, weight, blood

oxygenation levels, and blood pressure readings. The information is then provided to the attending physician on a preset schedule. Two VNA programs – the Health Management Program and the T-L-C/Tele-Link Companion program – use video-enhanced telemonitoring for in-home “visits.” A third telemonitoring program provides non-video telemonitoring in the client’s home for monitoring client vital signs and medication use. Telehealth visits have built-in disease management components that help educate clients on how to better manage their own conditions. VNA notes that a nurse driving to see patients in their homes for personalized home visits can handle four to five visits a day, while a telehealth nurse can handle 10 to 15 visits per day.

The Veterans Health System nationally is using relatively simple home monitoring devices to manage the treatment of over 20,000 veterans with heart disease, depression, diabetes, post-traumatic stress disorder, pulmonary disease and other chronic diseases. The VA plans to expand the program by the end of this year. The VA nationally also is providing telemental health initiatives as well as teleretinal imaging and teledermatology and other telemedicine services.

Regionally, the VA Desert Pacific Healthcare Network (VISN 22) runs the Care Coordination Home Telehealth (CCHT) program (covering Los Angeles, Long Beach, San Diego, Loma Linda and Las Vegas) using nurses and other licensed healthcare professionals to provide care coordination services to patients with chronic diseases. Each nurse or other licensed provider (depending upon diagnosis and program) can manage up to 150 patients a day, a highly cost-effective arrangement since only 5% of the patients being monitored on any given day will need more than basic attention. The care coordinator serves as the point of entry to the system and is intimately involved with all aspects of a patient’s care.

The VA system nationally also is developing an initiative to support the caregivers of veterans and prevent burnout. The initiative is using the existing telehealth network to survey caregivers in the homes of veterans to measure levels of stress, burden and need. Healthcare professionals and staff have also been surveyed. The VA is now developing an algorithm that will be distributed to caregivers of veterans in the telehealth network on their messaging devices. Caregivers routinely will be asked to answer a series of questions through the use of a touch screen. VA care coordinators will monitor the answers to determine if and when caregivers need help or an intervention is warranted.

Program efficiencies and cost-savings are being demonstrated by both the VNA and Long Beach VA telehealth initiatives. VNA of the Inland Counties notes a savings of \$4,500 per acute episode per patient who avoids hospital visits because of home telehealth visits and interventions. The Veterans Health System, using patient populations to include diabetes, hypertension, coronary artery disease, pulmonary disease and other chronic diseases, evaluated patients taking 10 or more medications and who were frequent visitors to hospital emergency rooms at a cost exceeding \$25,000 in cost per year to identify initial enrollees. These so-called “frequent flyers” were enrolled in a care coordination/home telehealth project and evaluated over a period of time, and significant cost savings have been documented, primarily because of reduced hospital visits. Early

review of the patients are showing utilization decreases as much as 60% as well as improved satisfaction and quality of life for the patient. The program started with a pilot project in the Florida VA Sunshine Healthcare Network. Nationally, there are over 20,000 patients enrolled in these programs in every VA Network (21) in the county.

***2. Using teledentistry for screening, diagnosing and referring patients in remote and rural areas***

Dental health directly impacts physical health. Several teledental initiatives nationally and in the region are providing remote dental screening, diagnosis and referral for residents in rural areas. One regional initiative is the Teledentistry Network project at Childrens Hospital Los Angeles. Funded by the California Telemedicine and eHealth Center (CTEC), the project uses telecommunications technology to serve a school-based network that connects rural communities in Tulare County with an eHealth center at Childrens Hospital to provide oral health consultation and referral services for migrant children. Once established, the network will expand to include other school districts in the region and link them to existing healthcare delivery networks in the state for dental and medical care.

***3. Use of connective technologies and health screening capabilities that allow people to live independently and safely in their own homes, and to age in place***

The Georgia Institute of Technology's *Aware Home Research Initiative* is working on creating "Smart Aware Homes" that incorporate sensors and other tracking and connective technologies to monitor an occupant's whereabouts and activities. The goal is to incorporate into the home technologies that help older adults age in place by supporting communications and work among formal and informal caregivers, simplifying home management tasks, and helping those who are at risk and the family members who care for them. One example is the Memory Mirror, which helps people remember if they have taken their medications or taken them too often. The technology is built into the medicine cabinet and records the use of medications, providing a graphic display of the frequency of use.

Since 1999, the MIT AgeLab has been working to invent new ideas and creatively translate technologies into solutions that help people age in place and live independently across their life spans. Housed within MIT's School of Engineering Systems Division, the AgeLab works with other universities, the aging community and business partners to build assistive devices that deliver information, basic health care, support and critical assistance to older adults and others who are living with degenerative conditions. The goal is to create technologies that are so user friendly that those with limited amounts of technology skills can benefit from their design and use in the home.

The University of Virginia's Medical Automation Research Center has developed a passive vital signs system that measures and reports pulse, breathing and restlessness while a person is laying in bed or sitting in a chair. The system alerts caregivers if the individual's vital signs drop below or exceed pre-set thresholds, or if there are episodes

of sleep apnea. It also has developed technologies to reduce falls among the elderly through the use of a highly sensitive passive gait monitor that measures and transmits a person's step count, average walking velocity, step length and stride length.

Elite Care Retirement Homes (Oregon), a private company, has been working with Intel Corp. and Oregon Health and Science University to create assisted living facilities with sensors and other monitoring technologies that generate critical health and safety data and support aging in place. Oatfield Estates, one of Elite Care's Senior Living Residential Centers, incorporates state-of-the-art technologies for monitoring and providing care to its residents. A web-based "family portal" allows family members, caregivers and other stakeholders to remotely access vital information on the web, creating a synergy between family, residents and staff. Elite Care notes that about two-thirds of the 80 residents of Oatfield have dementia or Alzheimer's, and that without the technology, many might have to be locked in their rooms.

As part of the Kentucky Telehealth Network's state-wide initiative to improve the health of rural communities, an apartment complex for low-income seniors in Louisville has been equipped with telemedicine capabilities that allow physicians at the University of Louisville to consult with nurses at the complex's health and wellness center. While not located in a rural area, the complex is being used as a test site because many of the residents would not otherwise have access to health care. Residents go to the examination room and are "seen" by physicians located at the University's telemedicine center.

#### **4. *Incentivizing physicians to use electronic medical records (EMRs)***

Medicare is incentivizing physicians to use electronic medical records (EMRs). As part of this effort, Lumetra, a San Francisco-based technology consulting company, provides California primary care practices serving Medicare beneficiaries with free help in selecting, implementing and utilizing EMR systems that will enhance patient safety, office efficiency and quality of care. This is part of a four-state Doctor's Office Quality-Information Technology pilot program funded by the Centers for Medicare and Medicaid Services, implemented after a successful two-year pilot project.

Medicare also is providing financial incentives, which entail cash payments to physicians who use EMRs but only when they meet certain performance goals. Such *pay for performance* schemes are controversial with physicians, so the program reportedly is not being embraced by significant numbers of physicians.

Additionally, many physicians, especially those in solo practices, cannot afford the costs entailed in converting to EMR systems. This is where *Regional Health Information Organizations* (RHIOs), including the Inland Empire RHIO, could be used to serve as *Application Service Providers* (ASPs) for physician practices within the region served by the RHIO. RHIOs are regional collaboratives created to allow for the exchange of health information and other data among its members. ASPs provide computer-based services over a network.

**5. *Use of the Internet to create opportunities for social connectiveness, helping people in their homes stay connected with the outside world and with their family members and loved ones.***

Home-bound patients with chronic and other debilitating diseases can easily become socially isolated, and when they do, they become depressed, their medical conditions worsen, they become more isolated, and they end up becoming trapped in a downward spiral.

The Internet and other web-based technologies can be used to help people access and sustain social and psychological support, and receive valuable education and health information in their homes. Many consumers obtain significant amounts of information in chat rooms and on community websites, where they connect with people who share the same issues, concerns and interests. Video conferencing and other devices enable people to easily stay in touch with friends, family members and loved ones. Many visiting nurses associations use video visits with home-bound clients to create and sustain personal connections. The technology is relatively inexpensive, easy to use, and far more efficient than having a nurse drive an hour or two just to see one patient.

**6. *Using telemedicine to create virtual healthcare networks serving residents of rural and otherwise remote areas***

The San Diego-based Council of Community Clinics is using telemedicine to reach and serve residents of rural community clinics and health centers in San Diego, Imperial and Riverside Counties. The project is building an infrastructure that will use video communications technology to provide rural residents with access to clinical and specialty services that are not available in their local communities. The project also will use the video technology to educate and train rural healthcare providers. The Community Clinics Health Network will function as the hub, with services provided to five community health center organizations with 11 sites in the three counties. To date, limited clinical services are being offered.

Loma Linda University Medical Center has become a nexus for several local telehealth networks. The University, designated by the California Telemedicine and eHealth Center as the Southern California eHealth Network, is designing, building and implementing a regional network from the University's existing telemedicine hub to provide specialty support for clinical diagnosis and treatment. Focusing on three hospitals and two primary care clinics in the nine-tribe Indian Health, Inc. consortium, the goal of the project is to build an eHealth network that enhances access to health care for rural Southern California. The Medical Center's Diabetes Treatment Center is examining the feasibility of using telehealth technology to deliver health information to patients in their homes. The Medical Center's Center for Prehospital Care, Education and Research has partnered with the U.S. Department of Defense to create a DISCOVERIES project which will research and develop telemedicine and other emerging technologies for use in emergency medical services. The University also is considering creating a center to train physicians in the use of telehealth and other technologies.

## BARRIERS AND OTHER CHALLENGES LIMITING THE ADOPTION AND USE OF TELEHEALTH AND OTHER CONNECTIVE TECHNOLOGIES

### 1. *Problems with technology's ease, economy and efficiency of use*

#### *Issues Hindering the Use of Technology by Physicians and Healthcare Providers*

Physicians as a group are not afraid of or resistant to the use of technology. Rather, they want technology that is user friendly, easily fits into their practice, and helps them operate more efficiently and cost-effectively. This is especially true when physicians move to the use of electronic medical records and clinical decision support systems. Some physicians have spent thousands of dollars moving toward the use of electronic medical records and clinical decision support systems only to encounter problems with incompatibility, complexity, vaporware and other issues that create serious problems for their practices and result in physician resistance and skepticism.

Much current technology available to medical practices is *incompatible*, meaning that when a physician practice has one system in place, other systems cannot be used as part of the original system. Technology purchased from one company often will not mesh with technology available from other companies. And when government regulations change, requiring a change in a practice's workflow, the existing technology often cannot be adapted to meet the changes.

Much technology also does not easily fit into a practice's existing work flow. In fact, the technology may force the physician to change his or her workflow to fit the technology, preventing physicians from migrating from a current way of doing business to a more efficient, technology-enhanced way of doing business. Additionally, many vendors have adopted a "one-size-fits-all" approach to their software, as if all physician practices operate as a unified system. This may work for closed unified systems such as Kaiser Permanente or the Veterans Health System, but not for the majority of physicians

Because it's often easier for technology companies to develop hardware than matching software, software development lags behind the hardware. As a result, companies often advertise extravagant software packages that allegedly come with their hardware, but have not yet been completed and adequately tested. Called *vaporware*, these programs either fail to materialize or do not live up to expectations, creating problems for those who have purchased them. Physicians typically may see 40 to 50 patients a day and cannot afford to install technology that will complicate their workflow and reduce the number of patients they can see in a day. The potential benefit to physicians of technology is that it will enable them to see the "right" 40 to 50 patients. But physicians want to know that what they're buying will be reliable and easy to use and not complicates their already complicated lives and/or exposes them to liability risks.



To help consumers make sound purchasing decisions, technology companies and healthcare providers are now coming together to review and put their stamp of approval on emerging technologies so potential hardware and software buyers will have some degree of confidence in making their purchase decisions. Seals of approval are being given to products and systems that are *interoperable* (meaning that they work together to accomplish a common task; for software, this would mean programs that exchange data via a common set of business procedures, that read and write the same files, and use the same protocols). They are also reviewing emerging *killer apps* (applications, or computer programs that are so useful or desirable that they provide a value to an underlying technology) that could be used to connect all users.

The Veterans Health System conducts extensive reviews of contract applications, and once technology vendors pass through the review system, local VA health systems can purchase and use their applications. One criterion in the review and approval process is that an application must be able to fit into the system's existing electronic medical records system, which the VA uses comprehensively across all its facilities. Vendors make changes to their technologies based on identified need.

Another key element in getting healthcare providers to adopt and use technology is finding a physician or clinical champion within a system who believes in the potential benefits of technology and who promotes its use. Many initiatives fail precisely because they lacked a key leader who believed in and pushed for the use of the system despite its problems and shortfalls.

### *Issues Hindering the Use of Technology by Older Adults and Adults With Disabilities*

Many older adults and adults with disabilities lack the broadband and/or wireless capabilities needed to support the use of emerging and otherwise sophisticated telehealth and other connective technologies. They may be unfamiliar with computers or resist the use of computers and other technologies because they consider them to be intrusive, and invasion of their privacy, or not worth the effort entailed in learning how to use the computer or technology.

Because many seniors don't have broadband or wireless capabilities in their homes, existing telehealth initiatives must use telephone-based equipment over existing telephone lines. But communications and data transfer are moving from phonenumber-based to cable-based broadband and to wireless systems, so there is a growing disconnect between the need for telehealth and other connective technologies and the technology capabilities of many older adults.

## **2. *Reimbursement limitations and barriers***

Reimbursement continues to be one of telehealth's greatest barriers, and while reimbursement does not ensure the success of a telehealth project, lack of reimbursement can mean that the initiative, despite its success, could fail. Government and private insurance reimbursement tends to be spotty at best and limited.

The California Telemedicine Development Act prohibits health service plans from requiring face-to-face contact between healthcare providers and patients for services that could appropriately be provided through telemedicine. Medi-Cal also must recognize telemedicine as a legitimate means by which patients can receive medical services without person-to-person contact with a provider.

Medicare coverage of telemedicine services, while far from comprehensive, is expanding, often through the use of pilot projects. Medicare coverage is contingent on the use of real-time, interactive audio and visual telecommunications, and is limited to rural or rural underserved areas. Medi-Cal and California's County Medical Services Program (CMSP) cover only real-time interactive audio, video or data communications, but is not limited to rural or rural underserved areas. Currently, 27 state Medicaid programs acknowledge some reimbursement for telehealth services, with a significant expansion in the area of behavioral health. California requires private insurers to reimburse patients for telepsychiatry services.

### ***3. Security and privacy concerns***

There are serious concerns about privacy and security in the use of telehealth and the transfer of patient information electronically given the risk of identity theft. With the more widespread adoption and use of wireless systems, there is a tremendous amount of data "flying around," and the data must be protected. But several model security systems, such as PayPal, are being used successfully in the financial and retail industries to enable the online use of sensitive financial information for payment, banking and other purposes, and these systems could be adopted to the healthcare system. This would make the protection of data, including data being transferred through a wireless system, less risky than the storage and use of data on a laptop computer which, when taken home, is vulnerable to theft.

### ***4. Regulatory barriers***

While computerization and telehealth are gaining ground in the healthcare industry, regulatory barriers continue to hamper their use and create problems for providers. The California Association of Homes and Services for the Aging (CAHSA), for example, convened a taskforce to examine the use of technology to enable the provision of continuing care in the home setting, and found that while there are models demonstrating value and effectiveness, regulatory issues create barriers in the state of California to implementing some of the technology. The barriers can only be removed through new or amended legislation and/or regulations.

## **5. *Liability concerns***

Physicians particularly are concerned about the risk of malpractice and with licensure issues associated with the use of telemedicine, including cross-state practice issues. Telemedicine challenges the concept of medical negligence by reconfiguring the patient-physician relationship and the duty that flows from that relationship, not to mention altering the standard of care. Practitioners are constrained by interstate licensure statutes, which by individual state laws range from reasonable to extremely restrictive. Few professional associations have developed standards or practice guidelines for certain telemedical applications, and regulatory agencies have not kept pace with telemedicine innovations. As a result, it's difficult to obtain professional liability insurance, and this hinders physician adoption of the technology.

## **6. *Limitations in the technology itself***

Teleconferencing and other connective technologies for certain kinds of interactive medical situations, especially psychiatry, may limit its usefulness and accuracy. Especially in psychiatry and psychology, where the quality of videoconferencing can be poor and lead to difficulties in really seeing the patient and interpreting subtle gestures and changes in demeanor. Psychiatrists and psychologists want to be present with their patients so they can detect visual clues. But uneven quality with current web-based videoconferencing means that images often slow down, drag, or lock up, preventing an accurate diagnosis. The same problems often hinders attempts to remotely diagnose medical conditions.

## **7. *Patient compliance issues***

Patient compliance can be a problem. Patients frequently become bored with the repetitive tasks and routines that are a part of the monitoring process. VNA of the Inland Counties reports that about 5% of home telehealth patients tend not to answer routine questions on a regular basis, and some stop participating in the process. The challenge is to make the process engaging and stimulating, as well as user-friendly and as simple as possible, to encourage continued participation. The VA Health System believes that reinforcement and regular communication and education from the Care Coordinator and other team members can contribute to helping patients understand the significance of the system in helping the patient to better manage a disease.

NEXT STEPS FOR EXPLORING THE USE OF TELEHEALTH AND CONNECTIVE TECHNOLOGIES TO SERVE OLDER ADULTS AND ADULTS WITH DISABILITIES IN RIVERSIDE COUNTY

- 1. *Leverage the potential created by the roundtable for forming a public-private sector partnership to facilitate the development of and funding for telehealth initiatives in Riverside County.***

The June 22 roundtable was a first step in bringing key public and private sector players to the table. For many, it was their first involvement with the County's aging network and exposure to the issues confronting the County as its population ages. The Riverside County Office on Aging and the Advisory Council on Aging should take the lead in capitalizing on the momentum generated by the roundtable, especially its potential for engaging new resources and for making Riverside County a leader in the use of telehealth and other technologies to reach and serve older adults and adults with disabilities.

***2. Bring consumers to the table when technology is being discussed, designed, and implemented to ensure the adoption of consumer-focused, user-friendly systems.***

The Office on Aging and Advisory Council on Aging, as part of its mandated advocacy role, should take the lead in working with other organizations and agencies to advocate for involving consumers from the aging and disability communities in any discussion of the use of technology. Older adults and adults with disabilities must have the opportunity to provide their insights and perspectives on how they want technology to work, what is acceptable to them, the role they are willing to play in its use, the costs they are willing to bear, and the kinds of features that will entice them to use it. It is important to remember that technology is a tool and not an end in itself. It is "the pencil in the hand." The best way to get older adults and adults with disabilities to use technology is to have them at the table when the technology is being discussed and developed so the end product is designed with real users in mind and is user friendly.

***3. Consider developing a teledental initiative to reach and serve older adults in rural and otherwise remote areas of the County***

The Office on Aging and Advisory Council should, as follow-up to Objective HW.3, take the lead in working with other agencies and organizations, including the Tri-County Dental Society and the Community Access Center, to explore teledental initiatives. One model for consideration is the Teledentistry Network project at Childrens Hospital Los Angeles. Funded by the California Telemedicine and eHealth Center, the project uses telecommunications technology to serve a school-based network that connects rural communities in Tulare County with an eHealth center at Childrens Hospital to provide oral health consultation and referral services for migrant children. Another possible resource is the University of the Pacific's School of Dentistry. Local senior centers also could be involved in teledental initiatives.

***4. Collaborate with the Veterans Health System to explore its experiences and best practices in using telehealth and other web-based initiatives.***

The Office on Aging and Advisory Council on Aging should, as follow-up to Objective HW.4, encourage linkages with the Veterans Health System to study its best practices and learn from its experiences. The Veterans Health System, including the VA Desert Pacific Healthcare Network, now has a significant amount of experience in the use of care coordination plus telehealth to monitor, track and undertake interventions with patients in their homes. The VA has developed a tool kit for using home telehealth and

other telehealth applications as part of its larger care coordination efforts. Information on the tool kit and other protocols being used by the VA for its use of telehealth as part of its Care Coordination programs is available by visiting the VA's Office of Care Coordination's website at [www.va.gov/occ/](http://www.va.gov/occ/). The VA also uses individualized and secure websites (*My Health Vet*) for patients so they can access information on their personal health status, upcoming appointments, and medication records, and use a resource library with disease management, disease prevention and health promotion educational and informational materials.

**5. *Explore Elite Care Retirement Homes' Use of Monitoring and Connective Technologies in its Residential Care Facilities.***

The Office on Aging and Advisory Council could take the lead in exploring Elite Care's experiences in using monitoring and connective technologies, including the corporate strategies it developed to ensure the acceptance and use of the technology by residents, family members, and staff. The widespread and successful use of connective technologies in Elite Care's facilities works because the company deliberately created a culture that would encourage the acceptance and use of the technology. The company is extremely passionate about what it is doing, and is open and willing to share its experiences and best practices with others.

**6. *Promote an ongoing dialogue with state legislators and regulators, focusing on key staff members, to educate and inform them of the value of telehealth and other connective technologies, and secure their help in removing and/or reducing the regulatory barriers to the adoption and use of these technologies.***

The Office on Aging and Advisory Council should, through its California Senior Legislators and the County Legislative Office/Lobbyists, work with other advocates to promote a dialogue to educate legislative and regulatory staffers on the demonstrated cost-effectiveness and clinical value of telehealth initiatives that are currently being used to reach and manage people with diabetes, hypertension and other health conditions.

**7. *Work with and leverage local cable and telecommunications companies, as well as local municipalities, to create new initiatives and build on existing enabling and connective technology initiatives to ensure that the County's older adult residents are included in and benefit from these initiatives.***

The Office on Aging and Advisory Council should, as follow-up to Objective HW.4, approach local cable and telecommunications companies as well as the City of Riverside and other County jurisdictions to explore their involvement in and capitalize on emerging opportunities in assistive and connective technologies to ensure that the County's older adult residents are included in and benefit from these initiatives. The Advisory Council could, through its Housing/Transportation Standing Committee, work to educate builders and developers on the important of incorporating fiber-optic capabilities in their new homes to support advanced communications networks.

Some cities now require builders to incorporate fiber-optic capabilities in their new homes as part of an initiative launched by FOCUS (Fiber-Optic Communities of the US), a non-profit organization representing local communities with the most advanced communications networks.

Cable and other telecommunications companies are pushing to connect as many homes and businesses as possible. Telecommunications companies are particularly aggressive in this arena since they are losing their install base to the widespread adoption of wireless technology, and because cable companies are now offering telephone services over the Internet. The market for *VoIP (Voice Over the Internet Protocol)* is immense and will continue to grow. The push of telecommunications companies into high-speed access as well as the continued expansion of cable-based high-speed services will enable the widespread use of home-based telehealth and other connective technologies. Telecommunications companies are reconfiguring their infrastructures to encompass *community-wide area networks (CWANs)* that enable connectivity everywhere people may be located.

Local cable companies should be encouraged to provide discounted bundled cable services (including broadband) to people who are homebound and/or disabled so they can access the internet, educational and information resources, and websites that allow for social connectedness.

Cities and local jurisdictions are taking the lead in building area-wide wireless systems to enable comprehensive connectivity. The City of Riverside is now expanding its Downtown Wireless Mall to provide free high-speed Internet access to a 35-block downtown area. The City of San Francisco is working with EarthLink and Google to create a universal, affordable wireless broadband network that will cover the entire City. A special task force, including members from the community, is working with the City to examine hardware, support and content issues. The City of Pasadena has entered into an agreement with EarthLink to build, own and operate a 23-square mile citywide municipal wireless network. The network will enable high-speed access for all residences, businesses and visitors to the city.

#### ***8. Explore Innovative Sources of Funding to Support the Development of Telehealth and Other Technology Initiatives***

The Office on Aging, Advisory Council on Aging and the Riverside County Foundation on Aging could work with the Economic Development Agency of Riverside County and other public agencies and private-sector organizations to explore sources of funding support for telehealth initiatives. Because the health and wellbeing of County residents directly impacts the economic health of the County and its business base, the Riverside County Office on Aging could work with the County Board of Supervisors and local businesses to explore innovative funding mechanisms for a baseline telehealth initiative. The development and ongoing operation of the 911 telephone emergency service has been funded by a local tax on user phone bills. A local tax or other funding mechanisms could be used to support the development of a telehealth initiative serving older adults

with diabetes, obesity, hypertension and other medical conditions that have gained national attention.

**9. *Enlist the Help of Baby Boomers in Getting “Older” Seniors to Accept the Use of Home-Based Monitoring and Connective Technologies.***

The Office on Aging and Advisory Council could take the lead in enlisting the help of Baby Boomers to act as advocates for the use of monitoring, tracking and other assistive technologies by older adults and work with older adults to help them understand and accept their use. Many adults in their 70s and beyond resist the idea of having anything in the home that allows other people, including family members, to track their activities. But a convincing argument can be made that the use of such technology enables family members to become part of a virtual care team. Baby Boomers who are now entering their 60s are caregivers and are more familiar and comfortable with technology, so there will be less resistance as this cohort enters their senior years.

**10. *Enlist the help of the California Telemedicine and eHealth Center (CTEC) to explore next steps for a telehealth initiative in Riverside County.***

CTEC has expressed an interest to the Riverside County Foundation on Aging in sending key staff to Riverside County to meet with interested parties to discuss state-wide initiatives being funded by CTEC and explore how CTEC could work with local agencies on a County initiative. The Office on Aging and Advisory Council on Aging should take advantage of this stated offer. CTEC was created in 1997 to facilitate the growth of telemedicine and eHealth in California by working collaboratively with hospitals, clinics, county and state agencies and other community-based organizations and nonprofit entities. It currently is helping to fund 17 projects across the state.

**11. *Explore training and consultative opportunities with the University of California Davis Medical Center’s Telemedicine Learning Center.***

The Office on Aging could work with the Riverside County Medical Association to explore ways to take advantage of the educational and training resources offered through the University of California Davis’s Telemedicine Learning Center. The Center, part of UC Davis’ Center for Health and Technology, offers one- to three-day programs that train healthcare professionals, including physicians, executives, and technicians, in telemedicine topics ranging from business and administrative issues to clinical and technical processes. Financial assistance is available to organizations that cannot afford the full tuition. Staff from the Center also have come to the VA Long Beach Medical Center to consult with its telemedicine staff.

**12. *Access and leverage the resources of the Center for Aging Services Technologies (CAST).***

The Office on Aging and Advisory Council on Aging should take the lead in working with other local agencies and organizations in the telehealth field to take advantage of the

resources offered through the Center for Aging Services Technologies (CAST). CAST is a national consortium of technology vendors, aging services organizations, research universities and government agencies working to develop and deploy technologies that can improve the aging experience in the U.S. CAST operates under the auspices of the American Assn. of Homes and Services for the Aging. The CAST website (<http://agingtecn.org>) serves as a clearinghouse for information and resources on aging services technologies. CAST also publishes reports and position papers on aging services technologies, issues and developments.

**13. *Access and leverage the resources of the American Telemedicine Association, a national trade association of telemedicine vendors and users.***

The Office on Aging and Advisory Council on Aging should also work with other local agencies and organizations to tap into the resources of the American Telemedicine Association. The Association promotes and advocates for consumer access to medical and health services through the use of telecommunications technology. The Association could be invited to hold its annual convention in Palm Springs, enabling interested parties to meet technology vendors and learn about and evaluate their technologies.

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MATERIALS PROVIDED AS BACKGROUND READING TO  
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*California Telemedicine and eHealth Center: History and Overview*. From the California Telemedicine & eHealth Center's website ([www.cteconline.org](http://www.cteconline.org)), 2006.

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