The State of Technology in Aging Services in California

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I. INTRODUCTION

The Center for Aging Services Technologies (CAST) is a coalition of more than 400 technology companies, aging services organizations, businesses, research universities and government representatives working together to realize the potential of technology for innovative development across the continuum of health care, housing and services for the aging. Its mission is to foster the adoption of technology-enabled care to help older adults maximize their independence, support the needs of professional and family caregivers, improve quality of care and quality of life, reduce our nation’s health care costs, and increase aging services provider efficiency.

The purpose of this paper is to describe the current state of affairs of technology in aging services and related policy in California, particularly with regard to the advancement of technology-enabled services in long-term care and individual home settings. This paper seeks to identify both barriers and potential opportunities to further advance the use of aging service technologies in California. It is to serve as a foundation for a call to action for providers, technology companies, and government and private payers to advance technology development and application. This will be the first of several papers that focus on individual states’ progress to date and potential opportunities for advancement in the use of aging service technologies. It is also hoped that this effort will serve as a practice and advocacy guide for use in states nationwide.

This paper was completed in partnership with Aging Services of California and benefited from the insights and experience of its members and staff. It also benefited from the innovations of several Area Agencies on Aging and MSSP programs throughout the state.

Definitions

Health information technology (HIT) is broadly defined as the hardware and software used to store, retrieve, share and use health information to treat patients effectively.

Aging service technologies: Aging Services Technologies can be broadly defined as technologies that can be used by older adults, caregivers (both professional and informal), health care providers and aging services providers to improve the quality of care, enhance the caregivers’ experience, efficiencies and cost-effectiveness. These technologies broadly include assistive, telemonitoring, telehealth, telemedicine, information, and communication technologies that intend to improve the aging or care experience. Aging services technologies can be categorized into three broad areas based on the relationship these technologies address between the older adult and his/ her environment (safety), oneself (physical and mental health/ wellbeing), and others (social interaction). For more information on specific types of aging service technologies see [www.agingtech.org](http://www.agingtech.org).
2. **EXECUTIVE SUMMARY**

The Center for Aging Services Technologies (CAST) developed this paper to describe the current state of affairs of technology in aging services and related policy in California, particularly with regard to advancing technology-enabled services in long-term care and individual home settings. It also serves as a foundation for a call to action for providers, technology companies, and government and private payers to advance technology development and application.

Current rates of electronic health records (EHRs) adoption among various providers as well as specific uses of HIT by long-term care providers were reviewed to provide a base line. Providers vary significantly in their rates of adoption, and while more are preparing to implement various forms of HIT, current utilization is still rather low. Utilization is higher among providers affiliated with larger multi-facility organizations or health systems.

There are several early adopters of aging service technologies. The investments of private non-profit providers as well as the efforts of public home and community based services providers were highlighted. Examples range from wireless point of care systems to cognitive fitness, to telehealth monitoring and videoconferencing for socialization and care teams. These early achievements can serve as a point of reference for other providers in the field, as well as a foundation to evaluate and improve the application of specific emerging technologies.

The policy and legislative context for HIT and aging service technologies in California was discussed to capture important groundwork that has been laid and to identify deficiencies in current policies and unsuccessful legislation to be further pursued. Governor Arnold Schwarzenegger has begun several initiatives in HIT over the past few years that require continued focus and development. Several recommendations by advisory bodies in California are featured for their relevance to aging service technologies.

Several barriers to the advancement of aging services technology in California and suggestions for mitigating them were presented. Identified barriers include lack of awareness of technology and its value proposition for care; technical uncertainties; limited demonstration of sustainable business models and lack of reimbursement; lack of central and ongoing state leadership for HIT; and an impending state fiscal crisis. Before detailing specific possible opportunities to advance aging service technologies in California, the paper emphasizes the need to consider the strategic overlap of certain common goals for aging service providers, government, and private payers in order to focus priorities. An initial list of potential opportunities and resources in the public and private sectors is provided.
Finally, a call to action is given to providers, technology companies, and government and private payers. Substantial opportunity exists for technology to be an accelerator to help change the way health care and long-term care services are provided in the state. Therefore, all entities with the ability to further this change – including private and public providers, technology companies, and government and private payers – should act on these opportunities with the resources and capacities that are uniquely available to them. CAST seeks to serve as a facilitator and change advocate in this process with the various parties involved.

3. CURRENT EHR & HIT ADOPTION IN ACUTE AND LONG-TERM CARE

In 2004, President Bush issued an Executive Order to establish the goal of nationwide adoption of interoperable health information technology infrastructure, including electronic health record systems (EHRs), by 2014. He created the position of National Health Information Technology Coordinator in the U.S. Department of Health and Human Services to lead the country in achieving this goal. If that goal is translated into firm mandates, all health facilities, including nursing facilities, could be required to implement electronic record systems by that date. In California, Governor Schwarzenegger in 2006 established a goal to achieve 100 percent electronic health data exchange among payers, health providers, consumers of health care, researchers, and government agencies over the next 10 years (by 2016).

Health care and long-term care providers in California vary significantly in their rates of EHR adoption and use of health information technology. In general, rates of adoption remain low. Among physicians, independent doctors have adopted EHRs at nearly twice the rate of their counterparts in medical groups, 37 percent to 20 percent respectively. Many more hospitals (13 percent) than clinics (three percent) have adopted EHRs. The Kaiser Permanente health system has been a leader in implementing EHRs among California hospital systems. Kaiser recently completed inpatient installations of its $4 billion private “HealthConnect” electronic health record system at 10 of its 30 California hospitals. Kaiser plans to install the system at 14 additional hospitals by the end of 2008.1

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1 Rauber, San Francisco Business Times, 2/25
Among long-term care providers in California, approximately 21 percent of nursing facilities and 17 percent of residential care facilities for the elderly (RCFEs) – California’s licensed assisted living facilities, use some type of EHRs for clinical functions. Such applications include assessments and progress note documentation; medication and treatment administration; care planning; electronic prescribing; and decision-support tools. However, not all of these providers can be accurately described as full EHR adopters (see figure 1).²

In general, the use of HIT in long-term care varies by functionality and provider type. However, with regard to financial and certification reporting to government payers, most nursing homes and RCFEs use HIT. All participating nursing homes are required to use electronic systems for minimum data set (MDS) reporting. Likewise, all publicly-funded home and community based service (HCBS) providers serving older adults are required by the California Department of Aging to electronically report service information for billing purposes. With regard to overall HIT adoption beyond financial reporting, nursing facilities affiliated with a hospital or multi-facility organization are two to three times more likely to employ HIT. Forty-four percent of RCFEs have adopted some kind of HIT (see figure 2).

More specifically, survey data shows that use of HIT for clinical charting functions such as assessments and progress note documentation; treatment administration; care planning; ePrescribing; and decision-support tools is approximately 21 percent for nursing homes and 17 percent for RCFEs. However, more RCFEs utilize medication administration applications than do nursing facilities, 22 percent and 18 percent, respectively (see figure 3).

A quarter of physicians routinely use ePrescribing and another 10 percent do occasionally (see figure 4).3

Long-term care providers discuss the value of HIT in terms of promoting standardized documentation, decreasing errors, monitoring compliance w/care standards, improving charge capture for billing, reducing time spent on chart audits, and improving communication among providers. The effective exchange of standardized information between the different care providers, as well as other caregivers, is considered key for the success of the CAST technology-enabled care vision. Providers also identified lack of capital resources, lack of professional IT staff, IT product not integrated, staff lack computer skills, and lack of reimbursement for using IT as barriers to more rapid adoption in the field.4

4. EARLY ADOPTERS OF AGING SERVICES TECHNOLOGIES

The implementation of aging service technologies beyond electronic billing systems and electronic health records is still very much in its infancy in California. However, several private providers and public home and community-based service providers have been “early adopters” by breaking new ground through the use of technology to achieve their service mission and goals. The following is a snapshot of the efforts of a few early adopters in California.

4.1 Private Aging Service Providers

The following are examples of non profit multi-facility organizations that have made strategic investments in aging services technology infrastructure and tools. It should be noted that there are several other non profit and proprietary organizations and single-site providers who have also been early adopters but are not discussed in this paper.

4.1.1 American Baptist Homes of the West (ABHOW)

ABHOW, headquartered East of San Francisco, has embraced high-tech to deliver high-touch services. ABHOW leadership has recognized that technology can be vital to seniors’ well-being, particularly when new tools facilitate communication, lifelong learning and residents’ ability to continue living independently. A vice president for information technology and a team of eight engineers and several IT technicians now lead ongoing innovations in technology for ABHOW.

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Wireless Electronic Care Records & Pharmacy Tracking System

Among its most essential applications is a nurse call and a clinical recordkeeping and billing system called PointClickCare (www.pointclickcare.com). This EHR-type system allows caregivers in the skilled nursing and assisted living areas to track vital statistics, record care plans and do all their recordkeeping on wireless touch-screen tablet or laptop computers at a resident’s bedside. All the data is encrypted and protected by multiple levels of passwords. The technology is designed to make records more complete and more accurate, which leads to more accurate billing, better staffing plans and greater ease in demonstrating to state regulators that communities are meeting regulatory requirements.

ABHOW has recently begun implementing another aspect of PointClickCare, the electronic pharmacy tracking system. Federal mandates require all acute care facilities to have some electronic oversight of their medication. While that has not yet been mandated in long-term care, ABHOW decided to embrace the technology with the knowledge that eventually it will be the standard and not the exception.

Implementing this system required significant culture change. The process included extensive training, redefining workflow, and developing new ways of thinking about how care is presented and documented. Some residents worried that nurses would sit at a desk with their nose in a computer. Instead, a new workflow pattern actually allowed caregivers more time with the residents.

Remote Monitoring and Emergency Call Systems

ABHOW is currently working to standardize the nurse call systems, which now differ from one community to the next. The call systems let a resident who needs help send an alert to first responders by pushing a button on a pendant worn around the neck or wrist.

ABHOW also is adding motion sensors in its independent living apartments, using Stanley Senior Technologies, a division of Stanley Security Solutions, Inc. (www.seniortechologies.com). The system informs staff if there has been a lack of a normal range of daily activity by the apartment residents, who may not interact as frequently with care staff as other residents. Door sensors provide supplemental activity data for residents who have pets that could trigger motion sensors. ABHOW emphasizes that residents’ privacy will be preserved and that the sensors are an optional service enhancement. At Alzheimer’s care centers, anti-wandering and external video systems are being installed to improve resident safety.
Cognitive Fitness

In order to create an environment of learning and cognitive stimulation for residents, ABHOW has incorporated the use of PositScience (www.positscience.com), a computer-based class designed to improve memory and cognitive ability. ABHOW has installed the system in all of its 10 multi-level care communities, with six computer stations in each community. They also have installed the program at most of their affordable housing communities. PositScience is designed to be engaging and easy-to-use and includes six auditory exercises performed on a computer. The program calibrates itself to individual performance, so that participants work at a pace that is right for them. Regular use can range from 15 minutes to as much time as participants wish. For maximum benefit, PositScience recommends completing 35-40 hours within three months. The program provides extensive detail about individual progress and performance and allows participants to repeat the program as often as they wish.

PositScience cites scientific studies that show the program can improve memory by an average of 10 years and increase mental processing speed by 131%. Resident feedback has been very positive and demand has maximized current capacity. ABHOW plans to install the next version of the program, which adds interactive video and other media.\(^5\)

Virtual-Visiting Videoconference Technology

ABHOW has begun using a web-based video conferencing program called Family Virtual Visits (FVV) (www.familyvirtualvisits.com), which conveniently connects residents with their families who are far away. FVV provides live, full-motion videoconferences with family and friends (and can be used for virtual service coordination) over the Internet.

A Virtual Visit Center consists of a large-screen monitor, a cabinet enclosing a PC, a camcorder, echo-canceling microphone, modem and an internet-controlled power switch device. Family or care providers schedule visits online. When the scheduled time for the visit occurs, the remote participant logs into a website to join their conference from their home or office PC, and the call happens automatically. At ABHOW, the TV, video camera and lights turn on and off automatically and operate hands-free for the resident.

\(^5\) http://www.positscience.com/science/science_results/
ABHOW hopes that their communities will soon be able to provide residents with more technological services, particularly those that allow them to stay independent as long as possible such as telehealth technologies. As it implements new technology, however, ABHOW contends it will always ensure it never takes the place of person-to-person care. They believe the human touch is what fulfills their mission, and technology must give the staff the ability to have the time for that.

### 4.1.2 Eskaton Senior Residences and Services

One of Eskaton’s primary strategic directions is to explore how technology tools can be applied in various services and housing settings to empower, protect and enhance the well-being of residents, clients and employees. Through collaborative partnerships and interdisciplinary teams, Eskaton seeks to learn and research technology applications to meet specific needs of seniors, caregivers, and staff members, ensuring the best possible living environments and services.

#### Electronic Point of Care System

Like many organizations, Eskaton, headquartered in Northern California, faced the operational challenge of shifting staff time from paperwork to resident care and an infrastructure challenge with older buildings. Their forward-thinking approach to technology and partnerships helped them succeed in several technology initiatives. First, Eskaton implemented the Achieve point of care (POC) system ([www.achievehealthcare.com](http://www.achievehealthcare.com)). The program helps hands-on clinical staff more accurately document resident care and promotes timely communication between clinical staff and physicians. The system provides a snapshot of the resident’s profile as well as a photo for simple identification purposes. Information is collected in a standardized way to maximize consistency and to reduce confusion and human error.

The system can be accessed on a number of portable devices such as laptops, tablets, and kiosk PCs. Resident care needs and assignment information as well as monitoring reports can be readily accessed. Phase in has begun for an icon interface for CNAs to track completion of their care duties. Highlighted icons denote required orders, and the system prompts staff with a series of questions to be answered. Once completed, the highlight is turned off indicating task completion. The icons facilitate greater accuracy of care by staff for whom English is a second language. If a CNA notes any vital signs out of normal range, the system notifies all (PA/ MD/ RN) immediately.

Due to the importance of training to the success of the venture, Eskaton hired a full-time IT employee to manage the training components. It was essential that skilled nursing staff were fully trained on the system to ensure compliance. Turnover increased temporarily among some
staff that were resistant to technology. Eskaton realized the right people need to be on board for success to occur.

Cognitive Fitness

Eskaton also has implemented a number of technology initiatives beyond the electronic point of care system. Taking an interest in residents’ cognitive wellness, Eskaton conducted a trial of the Dakim [m]Power cognitive fitness system (www.dakim.com). Positioned as fun and easy to use, [m]Power is a cognitive exercise system that provides residents with a challenging, entertaining and enjoyable mental workout. It employs touch screen technology and combines original content with memory-invoking images to stimulate participants’ minds. Eskaton completed a trial in June 2007 and due to positive focus group and survey results from residents, Eskaton has deployed a dozen [m]Power systems in a broad array of their communities in independent, assisted living and memory care settings.

Remote Telehealth and Wellness Monitoring

In April 2008, Eskaton will begin piloting GrandCare Systems (www.grandcare.com), a communication and monitoring system designed to help seniors live independently in their own homes. By using the older adult’s television, the system allows family and friends to send messages, pictures, reminders, calendar appointments and other data from their personal computers or cell phones to a dedicated, customized television channel. The channel also offers general information features such as the weather forecast, headline news, famous quotes, word definitions and spiritual offerings. Family members and caregivers can coordinate schedules through a web-based calendar function.

GrandCare also has health and wellness monitoring functionality. Discreet sensors (motion, door, temperature, etc.) as well as call buttons and tele-health sensors (blood pressure cuff, weight scale, glucose meter, etc.) are placed in the home so consumers, family members, and
caregivers can be aware of any abnormal health vitals or abnormal lack of activity. Alert and data parameters are designed based on the consumer’s desires and support needs. Path lighting can be activated by the motion sensors for safety at night.

The Eskaton Geriatric Care Management department will be closely involved in the pilot, including home-based clients and family caregivers of the program. The pilot program will span six months with pre and post questionnaires designed for clients, family members and Eskaton staff to assess multiple factors and benefits of the system.

**Technology Demonstration Home**

The Eskaton Demonstration Home broke ground on February 14, 2008 with an anticipated grand opening scheduled for September 2008. The home is located on a new “Eskaton Village” campus in Roseville, CA. Technology partners include Intel, California Lighting Technology Center, GrandCare Systems, Dakim Inc., and CAST.

A few of the technologies to be showcased in the Demonstration Home include:

* Passive monitoring of activities of daily living
* Caregiver network accessible via secured website
* Portable medication dispenser and alert
* Smart lighting and LED technologies
* Smart appliances
* Personal health record
* Two-way video communication
* Wellness monitoring station with telehealth capacities
* Social connection tools for resident, family and friend engagement
* Cognitive games with embedded assessment
* Safety and security features for persons with various abilities
The Demonstration Home also will showcase contemporary universal design as the first Eskaton-Certified Home™ to support the needs of older adults in their own homes. It will educate the building industry about the certification program and address ADA and handicapped stereotypes of residential home design.

4.1.3 Front Porch

Front Porch, headquartered in Southern California, recently formed a Front Porch Center for Technology Innovation and Wellbeing. The Center’s vision is that technology innovation has an important role to play in enhancing each individual’s ability to “live life my way” in the place he or she calls home. Their goal is to harness technology solutions that support and enhance wellbeing and help older adults thrive in mind, body and spirit. The Center is taking the following four-step approach to work collaboratively with stakeholders, funding sources, researchers and technology partners:

The initial work of Front Porch’s Center for Technology Innovation and Wellbeing will focus on the roles that technology can play in the following key areas:

1. Assist in maintaining brain health
2. Enhance social connectedness
3. Promote engagement & growth
4. Give persons proactive/participatory control over their own health and wellness
5. Prevent emergencies or serious events before they occur
6. Increase resources & support to both formal and informal caregivers
Current Efforts

Front Porch’s initial project implemented technology to support cognitive fitness, using Dakim’s [m]Power system discussed above (www.dakim.com). Front Porch uses the largest number of Dakim [m]Power units in the country – 60 units at 15 locations, including affordable senior housing communities. Front Porch is currently working on deploying technologies to enhance social connectedness, including Nintendo® Wii (www.nintendo.com/wii) and personal video conferencing. The Center is funded through both Front Porch and private foundation dollars and has additional projects planned that will be rolled out mid to late 2008.

4.2 Public Aging Service Programs

As mentioned above, the California Department of Aging requires all publicly-funded home and community based service (HCBS) providers serving older adults through Area Agencies on Aging to employ electronic data reporting for billing purposes. This was an important step taken by the Department which could support analysis of service expenditure and outcome data in the future. The primary HCBS care management program in California is called the Multi-Purpose Senior Services Program (MSSP). Two software packages have been most commonly used by MSSP programs, “Q” by CH Mack and “MSSPCare” by RTZ.

Some MSSP agencies have ventured beyond the required applications to adopt other aging service technology tools. The following are examples of innovative applications.

Electronic Care Assessment and Management

Several MSSP care management service agencies in California have begun expanding the functionality of their financial reporting software to encompass client care needs assessment and care tracking, with some systems adding medication management.

Care Management Services of the University of California Davis Health System in Sacramento has been using the “Q” integrated care management software to conduct initial care needs assessments as well as annual reassessments. Care managers, mostly social workers, use laptops and wireless technology to do care assessments in consumers’ homes. Program managers are able to run ad hoc reports for quality assurance to see that care needs assessments align with proposed service plans. The technology also has supported inputting physician and emergency contacts as well as incidences of acute or institutional care. Use of the technology has required a service methodology culture shift by staff to become comfortable interacting with a client while using a laptop instead of taking notes by hand. Clients seemingly have had little resistance to the change.
The Partners in Care Foundation in Southern California and other MSSP providers including SCAN Health Plan, San Diego County and Huntington Senior Care Network, have been working to take integrated care management software one step further to incorporate medication management. Similar to a tool used in home health, the providers have worked with RTZ to include a medication list and drug interaction function in the electronic screening tool. Using evidence-based knowledge and expert panels of physicians and pharmacists, key medication interaction issues for the client population were targeted. The system also facilitates consultation with pharmacists to better manage clients’ care plans and medications. A web-based version of the application also has been developed to streamline its use by eliminating software installation and data retrieval burdens. The medication management tool has been piloted and refined, and is currently being rolled out by participating providers. SCAN Health Plan, the largest MSSP provider in the state, has implemented the web-based system with tablet and laptop computers equipped with wireless phone cards. Six nurses and 21 care managers now use the system to serve more than 900 clients.

**Remote Telehealth Monitoring**

At least one public care management service for older adults has explored using remote health and wellness monitoring technology in a client’s home. The Council on Aging Silicon Valley Care Management Services in 2002 began piloting the use of Health Buddy®, a product of the Health Hero Network ([www.healthhero.com](http://www.healthhero.com)). The agency has utilized this telehealth device to facilitate patient education and health monitoring through its interactive question and answer capacity. Based on a patient’s health management needs, certain questions would be asked on a daily basis about how the individual was feeling, whether they took medication or followed other elements of a personal wellness plan, or to report adverse events such as falls. The device also asks trivia questions to add
interest for consumers and increase utilization. The agency did not use monitoring tools now offered by Health Buddy including a glucose monitor, weight scale, blood pressure monitor, peak flow meter, nor did it have the software-enabled health decision support tools.

Benefits reported by consumers include a sense of empowerment and security in their personal health management, connectedness to the contemporary world through the use of technology, and enjoyment and stimulation of the trivia questions. Diabetic clients appeared to benefit more than others from the educational function of the device by helping them make daily lifestyle choices. Case managers reported appreciating being able to see clients’ daily entries which enhanced provider awareness of consumer’s health status and provided “red flags” for issues needing care management follow-up and intervention.

When Silicon Valley Care Management Services first began using the Health Buddy system approximately 75 units were deployed to clients. Today, approximately 15 older adults are participating. An agency representative attributed the gradual phase-out not to client or staff dissatisfaction with the technology, but rather to the lack of a self-sustaining business model or reimbursement for its use, lack of an internal agency champion of its use as was present at the outset; and simple maintenance issues that caused inconvenience to the users and program staff. Initially the agency benefited from exceptionally low implementation costs because of the technology vendor’s own interest in testing the device. Through the years, the agency has become a conventional customer and is responsible for supporting regular costs.

**Teleconference Virtual Multi-Disciplinary Care Team**

The Riverside Office on Aging, together with other local government partners, is actively pursuing the development of a virtual multi-disciplinary team, or “Virtual MDT,” of health and social service professionals to provide a level of service that would otherwise be unattainable and impractical for both agencies and clients. The population to be served is isolated older adults with multiple and complex health and social issues as well as victims of elder abuse and neglect. Video-conferencing technology will be established either in clients’ homes and/or in a satellite office or congregate setting that is convenient for the older adult. The Virtual MDT will join from their respective locations via teleconferencing, allowing the team to assemble in a timely way – as the issues being addressed are often urgent. The technology will make it possible to bring together very busy clinicians who otherwise would be unavailable to meet in person. Moreover, the technology respects customary service processes as well as the social dynamic of presence and interpersonal interaction in ways that phone conferencing and email do not. In addition to the Riverside Office on Aging, the Virtual MDT agency partners include the Community Health Agency, the Department of Mental Health –
Older Adults Division, and the Department of Public Social Services (adult protective services). The collaborators are attempting to secure certain public funds to implement the project.

**Web-based Aging Service Information Resources**

The Council on Aging Silicon Valley (in Santa Clara County) is one of 21 counties in California to utilize a web-based information and advocacy resource for its older and disabled adult consumers, their caregivers and service providers. Network of Care (http://santaclara.networkofcare.org/aging/home/index.cfm) was originally created with funding from a California Department of Aging long-term care innovation grant. Santa Clara County adopted the project as part of a broad effort by the county to improve and better coordinate long-term care services locally. Consumers and their families obtain access to information through a comprehensive, well organized and up-to-date service directory as well as advocacy and other resources to empower them to make informed decisions regarding the needed care in their lives. Service providers and care managers, both public and private, use the resource to better deal with the problems of fragmentation by coordinating their efforts to link the consumer with the most appropriate service.

### 5. Policy & Legislative Context

To better understand how utilizing Aging Service Technologies relates to public policy in California, the following is an overview of the policy and legislative context for HIT in general. To date, no executive branch policies or legislation has been set forth that specifically addresses the deployment of technologies to enhance services and quality of life for older Californians. However, there have been policies and legislation that seek to form a broader HIT infrastructure that will enhance providing care and services for older adults and establish a foundation for emerging aging service technologies.

#### 5.1 Governor’s Policy Initiatives

Governor Schwarzenegger has issued three Executive Orders relating to HIT in California. Executive Order S-12-06 on July 24, 2006 established an e-Health Action Forum to help create a statewide HIT policy and set the goal of full data information exchange between consumers, insurers, providers, researchers and government agencies within 10 years (hospitals, clinics, skilled nursing facilities, home care agencies, pharmacies, physicians and other health professionals). A second Executive Order, S-21-06 on October 27, 2006, established a State Broadband Taskforce to create a statewide policy on broadband. The goal of the taskforce is to coordinate all state agencies on broadband, reduce barriers to fiber optic installation, and establish a consistent pricing policy and enhanced wireless and Voiceover Internet Protocol technologies. A third Executive Order, S-06-07 on March 14, 2007, established a workgroup on HIT and quality/transparency improvement in health care.
Recommendations made by the e-Health Action Forum and Broadband Taskforce are discussed on page 19.

The Governor also has formed a HIT Financing Advisory Commission. It is chaired by Health and Human Service Agency Secretary Kim Belshe and Business, Transportation, and Housing Secretary Dale Bonner. Its membership spans several state departments and offices including the State Treasurer, Commissioner of Insurance, Director of the Department of Finance, Director of the Department of Managed Health Care, and the CA state employee and teachers retirement systems, as well as the Infrastructure Bank and major health care and financing sector representatives. Its purpose is to determine how lack of access to capital impedes implementation of HIT in various health care sectors, and how to address these impediments. The Commission is to issue a report in the summer of 2008.

5.2 Legislation

Enacted:

The Telemedicine Development Act of 1996 (SB 1665) laid the groundwork for the use of telemedicine in California. It required all private insurers and the state Medicaid program (Medi-Cal) to reimburse for services that are provided through telemedicine that would otherwise be reimbursable if provided “face-to-face,” and allows for interstate “teleconsultation” without a California license if the consultation is with a licensed California practitioner. The telemedicine can be provided by licensed health practitioners, defined as a physician or surgeon, doctor of podiatric medicine, clinical psychologist, marriage and family therapist, clinical social worker, or dentist.

AB 329 (Nakanishi), a bill enacted in 2007, seeks to advance the utilization of telemedicine for chronic disease management. Sponsored by the Medical Board of California (MBC), the bill requires the MBC to establish a pilot program to expand the practice of telemedicine in California for chronic disease management. The Medical Board is to develop methods, using a telemedicine model, to deliver health care to persons with chronic diseases. The project also is required to generate information on best practices for chronic disease management services and techniques. The Medical Board is required to convene a working group of interested parties from the public and private sectors, including, but not limited to, state health-related agencies, health care providers, health plan administrators, information technology groups, and consumer groups. The MBC is currently formulating how to proceed and will hire staff to manage the pilot.
**Pending:**

Although not specifically related to technology, AB 1022 (Saldana) “Continuing Care at Home,” a bill currently pending and sponsored by Aging Services of California, could help some private aging service providers incorporate technology to serve older adults. The legislation would authorize facility-based providers to offer in-home care by utilizing continuing care retirement community (CCRC) care contracts. Current CCRC law limits these providers from including off-campus older adults in a CCRC contract. The change would likely enable providers to provide more innovative services, including technology-enabled care and wellness monitoring, as part of their CCRC contract for services delivered to individuals in free-standing homes. The bill also would clarify the right of providers to provide services outside of the facility campus without the need to license private residences.

**Failed:**

Other bills that would have moved HIT initiatives forward in the state have recently failed. AB1X 1 by Assembly majority Speaker Fabian Nunez contained a compromise version of Governor Schwarzenegger’s health reform plan, including HIT initiatives. The bill would have required ePrescribing standards, a pilot program, and recommendations for statewide adoption before January 1, 2009. It would also have created Personal Health Records (PHRs) for Medi-Cal and Healthy Families enrollees. The bill failed not due to the elements related to HIT, but from a lack of consensus on the larger health reform package and an impending state fiscal crisis. Governor Schwarzenegger may pursue these elements in a different vehicle or venue.

Another bill introduced in the special session on health reform, SB1X 13 (Maldanado), also was unsuccessful. The legislation would have required the California Health Facilities Financing Authority (CHFFA) to establish a low-interest loan program to provide any participating health institution, health facility, hospital, long-term care facility, or licensed physician and surgeon with financing for the costs of purchasing a health care information technology system. It would have required the authority to annually report on the utilization of this loan program to the Legislature. To alleviate the costs borne by individuals for the purchase of HIT, SB1X 13 would also have authorized a tax credit equal to 15 percent of the cost incurred by a taxpayer for HIT. The bill was carried by a member of the minority party in California and was unable to garner sufficient political support in either the regular or special sessions in 2007 and 2008, partly due to the impending fiscal crisis in California. SB 320 (Alquist) would have created a “California HIT Infrastructure Program” and would have designated a lead California state agency for HIT implementation. Among other things, the bill would have required a PHR and EHR adoption plan by March 2009 and identification of incentives.
for adoption (i.e., Medi-Cal reimbursement, pay for performance, tax incentives, etc.). The bill would also have established a Health Care Information Infrastructure Fund. SB 320 was vetoed by Governor Schwarzenegger in 2007, who stated that this work was already underway and was contained in his health reform plan.

6. ADVISORY BODY RECOMMENDATIONS

Several advisory bodies, both public and private, have made recommendations on how to advance the adoption of HIT in California. The following is a brief summary of a select few of those recommendations. The complete sets of recommendations can be found at the web links provided below.

First, Governor Schwarzenegger’s eHealth Action Forum produced a report containing a series of recommendations for state action:

1. Establish statewide HIT leadership;
2. Structure financing methods and identify sources;
3. Make targeted investments in HIT (in communications and telemedicine projects, and with a focus on entities with capital constraints);
4. Augment current privacy and security protections; and
5. Engage consumers.

The complete report can be found at: http://www.dmhc.ca.gov/library/reports/news/CA%20HIT%20Study%202007.pdf

The Governor’s Broadband Commission issued a report in January, 2008 entitled “The State of Connectivity: Building Innovation Through Broadband.” In it the commission made several recommendations for state action, including the following related to HIT:

1. Create a statewide e-health network with an accountable State entity;
2. Remove policy barriers for appropriate reimbursement by health plans; and
3. Increase e-health training for health professionals.

The complete report can be found at http://www.calink.ca.gov/taskforcereport/

The California HealthCare Foundation (CHCF) has been a key thought leader and policy change advocate with regard to health information technology in California. CHCF has held numerous policy briefings and has issued several reports with substantial recommendations for state action. Among these recommendations are:
1. Develop an IT-savvy health care workforce
   • Direct the California State University System and Community College systems to develop standardized HIT curriculum and certification for allied health care workers;
2. Create a Social Investment Fund to support health care innovation through HIT
   • State, foundation, stakeholder, and health plan investments to the fund;
   • Require sustainable business plans; and
   • Focus on projects that take technology products and application ideas from “post-lab” to “pre-market,” not in the experimental or mass adoption phases
3. Establish agenda for HIT in Long-term Care (as recommended by LTC community)

The complete reports can be viewed at:
http://www.chcf.org/topics/view.cfm?itemID=125646
http://www.chcf.org/topics/view.cfm?itemID=132819
http://www.chcf.org/topics/view.cfm?itemid=133552

7. Barriers and Opportunities

7.1 Overcoming Barriers:

Several barriers to the advancement of aging services technology in California have come into focus from the above discussion. First, advances in technology and their value proposition to care services are still largely unfamiliar to consumers, care providers and government officials. Continued education about technologies for each of these stakeholders will be necessary to expand awareness and spawn new innovation and partnership for government programs and private services. Furthermore, large-scale pilots are needed to generate quantitative data on the value and effectiveness of technology-enabled services. For example, data on technology applications with populations similar to those who could be served through Medi-Cal will be helpful in demonstrating the value of technology to government officials.

Second, significant technical uncertainty about technology remains a barrier for organizations, including management and care staff, as well as for government program staff. Technical uncertainties include reliability and maintenance, interoperability, long-term viability, changing the interpersonal interview dynamic to accommodate technology, and user compliance. Technology companies will need to continue to address these concerns, provide superior customer support and education for users and providers, and design their products to be interoperable with other devices and allow effective exchange of standardized health information.
Third, demonstration of sustainable business models to support aging service technologies in various care settings is still in its infancy. Furthermore, reimbursement from insurers and government programs to use technologies is nearly nonexistent. However, through the course of education and data collection, as well as finding common objectives with payers (as discussed below), we believe increasing levels of reimbursement is likely in the future despite fiscal constraints. Moreover, private aging service providers are in a unique position to test and demonstrate sustainable business models with their private-pay consumers.

Fourth, as pointed out by several advisory bodies and legislators, California lacks a central government “czar” for HIT or aging services technology. Significant and positive executive branch initiatives are underway that embody key elements of a comprehensive state approach. However, efforts are not centrally coordinated with dedicated staff for long-term operations. No sequential plan has been identified or process established to examine the potential applications, guide its testing and evaluation, or sustain its implementation within health care and aging programs. The state should centralize current efforts before the next gubernatorial election to prevent a loss of momentum.

Finally, it is important to acknowledge the barrier presented by the current state fiscal crisis in the magnitude of $14-16 billion for FY2008-09. All public programs are anticipating a ten percent cut across the board, including in Medi-Cal and HCBS waiver services. Legislators have been advised that any legislation costing $50,000 or more will be subject to the “suspense file” in the Appropriations committees. Starting new initiatives or diverting existing monies from current uses without a clear “payout” of cost savings will be improbable if not impossible. Therefore, it will be essential to work to position technology acquisition costs into existing infrastructure cost centers, and position technology-enabled services as innovative solutions in existing government systems change and cost-control efforts as discussed below.
Identifying Opportunities:

Before identifying opportunities to advance aging service technologies, it is useful to consider the strategic overlap of goals for aging service providers, government, and private payers. By focusing on common objectives, priority will be given to improving the aging experience for older adults without regard to ability to pay, interests will align, new ideas will emerge, and new opportunities will be found. The following is an initial and incomplete list of potential opportunities in the public and private sectors.

7.2 Potential Opportunities & Resources in CA: Government

As identified above, given the state’s fiscal crisis, cost efficiency or savings data is now even more paramount to the willingness of state and local governments to explore new applications and models of care. Therefore, it may be necessary to find ways to employ the use of technologies in federally-funded state demonstration projects and initiatives. While private aging service providers are not dependent upon government funds for a majority of their current client populations, it may be in their strategic interests to partner with government in order to:

1. Develop HIT infrastructures that are linked to health facilities and medical professionals;
2. Develop long-term sustainable community-based care models for future generations of older adults for whom technology-enhanced HCBS is likely to be strongly preferred; and
3. Fulfill non-profit and community benefit missions to serve low-income older adults.

The opportunities identified include:

- **$22 million FCC Telehealth Network Infrastructure Grant**
  The Schwarzenegger Administration was successful in securing a $22 million three-year Federal Communications Commission (FCC) Rural Health Care Pilot Program grant to create a California Telehealth Network. Initially, it seeks to link health facilities to create a sustainable statewide network that provides rural California communities with access to a wide range of telemedicine and eHealth activities. The pilot proposes an initial focus on 319 rural sites over a three-year period. Strong emphasis will be placed on infrastructure development, telecommunications quality and technical support, rather than

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**Overlap of Aging Service Provider & Payer Goals:**

1. Broad implementation of HIT across care settings
2. Increasing quality of care
3. Increased staff efficiency
4. Promoting less expensive HCBS, consumer choice
5. Increasing safety in the home living environment
6. Home-centered chronic disease management
7. Better quality of life
mass deployment of older legacy technologies. The long-term vision will be to develop an infrastructure that is subsequently expanded statewide to serve all California health providers. While long-term care providers are initially not eligible to apply to be pilot sites independently, they may be eligible as part of a “consortia” that includes an eligible health facility. Opportunities also may exist to partner with health facilities for those providers who offer home health services.  [http://www.caltelehealth.org/](http://www.caltelehealth.org/)

**CA Community Transitions (Department of Health Care Services)**

The State of California was awarded a $130 million 5-year “Money Follows the Person” grant of flexible funds from the federal Centers for Medicare and Medicaid Services (CMS). The purpose of the project is to demonstrate how to support persons who transition from a skilled nursing facility (after a stay of six months or longer) to a home setting with long-term services and supports. Through this focus on transitions, the state will move toward rebalancing Medi-Cal spending in favor of home and community-based, long term services and supports. The demonstration expects to enroll 2,000 persons from up to 10 regions in the state. Through successfully supporting individuals as they transition back to community living, the state has the opportunity to earn a higher percentage of federal dollars over the five-year demonstration period. The Department is interested in exploring the use of technologies to help achieve the goal of 24/7 community service coverage as well as safety support for individuals in their homes.

[http://www.chhs.ca.gov/initiatives/Olmstead/Pages/MoneyFollowsthePersonGrant.asp](http://www.chhs.ca.gov/initiatives/Olmstead/Pages/MoneyFollowsthePersonGrant.asp)

**Coordinated Care Management RFP (Department of Health Care Services)**

DHCS is soon to release a request for proposals (RFP) from public or private entities to provide Coordinated Care Management Program (CCMP) services to fee-for-service Medi-Cal to two populations:
- Seniors and Persons with Disabilities (SPDs) who have chronic conditions or who may be seriously ill and near end of life; or
- Persons with chronic health condition(s) and Serious Mental Illnesses (SMIs).

The Department encourages proposals that utilize technology to accomplish care management services.

[http://www.dhcs.ca.gov/provgovpart/rfa_rfp/Pages/OMCPcoordcaremgtHOME.asp](http://www.dhcs.ca.gov/provgovpart/rfa_rfp/Pages/OMCPcoordcaremgtHOME.asp)

**HCBS Medicaid Waiver / MSSP (DHCS/CDA/AAAs)**

Opportunities should be explored for enhancing service to the Medi-Cal waiver older adult (i.e., Multi-Purpose Senior Services Program) with aging service technologies (personal
emergency response systems, tele-care management, biometric telehealth and wellness monitoring in the home). Must be able to demonstrate cost efficiency.

- **Medical Board Chronic Disease Telemedicine Pilot Project (AB 329)**
  As discussed in the legislative section above, the Medical Board of California will soon be embarking upon a pilot to demonstrate the use of telemedicine for chronic disease management. Aging service providers should seek representation in the work group to be formed and provide education regarding applicable aging service technologies.

- **Legislative Informational Hearing/ Aging Technology Demonstration**
  Similar to the format used by CAST on Capitol Hill for congressional staff, aging service providers could sponsor a legislative informational briefing and technology demonstration for legislators and staff, the executive branch including representatives from the Governor’s office and key departments and programs, and local aging service agencies.

- **Legislation or Executive Order to Create Agenda for Aging Service Technologies**
  Similar to the legislation sponsored by CAST at the federal level, S.908, legislation or executive directives could be pursued at the state level to create a policy agenda for the testing and application of aging services technology in California.

### 7.3 Potential Opportunities & Resources in CA: Private Sector

The following is a very small listing of possible private sector funding and pilot opportunities in California. The state is fortunate to be home to many innovation-oriented foundations.

- **Blue Shield of California Foundation**
  CAST and members of Aging Services of California have been key partners with BSCF in exploring possible opportunities in the area of aging services technology. CAST has provided a comprehensive review of available technologies and their value proposition to older adults through aging services. The foundation requires that proposals serve residents of California and are issued to not-for-profit organizations. Details of the foundation’s grant making will be forthcoming but are anticipated to begin in 2008. [www.blueshieldcafoundation.org](http://www.blueshieldcafoundation.org)

- **California Emerging Technology Fund (CETF)**
  CETF was established and funded through the SBC/AT&T and Verizon/MCI merger agreements in November 2005. CETF provided $3.5 million to the CA Telehealth Network. The focus of the fund is on achieving ubiquitous access to broadband and advanced services in California, particularly in underserved communities through the use of existing and emerging technologies. Applicability to aging service technologies is not yet known. [www.cetfund.org](http://www.cetfund.org)
• **California HealthCare Foundation**
  As discussed above, CHCF has been a leader in the field of HIT in California and has continued grant making interest in HIT and long-term care. Current emphasis is placed on chronic disease management and end of life care. [www.chcf.org](http://www.chcf.org)

• **Long-Term Care Managed Health Plans**
  Because of their size and a business model that employs a set amount of reimbursement (capitation) for each subscriber, managed health plans that cover care costs (including chronic or long-term care) for older adults offer a unique opportunity to conduct large-scale demonstration projects of aging service technologies. Since client populations often mirror that of fee-for-service Medi-Cal programs, demonstrations could provide significant financial data to demonstrate the value and cost effectiveness of aging service technologies.

• **Health Evolution Partners/ CalPERS HIT Investment Initiative**
  Health Evolution Partners, a San Francisco-based health care private equity firm headed by former National Coordinator for Health IT David Brailer, together with the California Public Employee Retirement System (CalPERS) and other partners including General Electric recently formed a coalition aimed at accelerating the adoption of technology to boost health care quality and reduce costs. CalPERS has committed $700 million. Among its efforts will be a focus on new approaches to chronic care management and issues surrounding corporate wellness programs. [www.healthevolutionpartners.com](http://www.healthevolutionpartners.com)

8. **Call for Action**

The current state of aging services technologies in California requires a call for action. Substantial opportunity exists for technology to be an accelerator to help change the way health care and long-term care services are provided in the state. Therefore, all entities with the ability to further this change – including private and public providers, technology companies, and government and private payers – should act on these opportunities with the resources and capacities that are uniquely available to them. CAST will serve as a facilitator and change advocate in this process with the various parties involved. Together with Aging Services of California, CAST also will pursue a legislative briefing and aging services technology demonstration in California, modeled on the briefings conducted at the federal level, to educate state policy makers on available technology and potential benefits.

8.1 **Providers**

Providers should pursue resources to plan and execute additional outcome-oriented field pilots and larger-scale demonstration projects. This is paramount in showing how technology can improve
quality of care, consumer satisfaction and well being, staff efficiency, etc., with various populations of older adults in different care settings. Such findings can lead the way for government and other payers to change traditional reimbursement policies and program structures to achieve these mutual goals.

Early adopters should raise awareness among policy makers about “best practices” of how providers have made strategic investments in technology to improve care as well as what barriers they face to achieve sustained business models and broad deployment of aging service technologies. Critical to success is the need to address organizational integration and adoption of new work-flow strategies, development of innovative business models to sustain operations, and the provision of technical support personnel to manage new processes. Private aging service providers who are primarily funded by private-pay consumers are uniquely positioned to modify operating practices and service delivery because they are not wholly dependent upon government or other payer sources.

Providers also should commit executive staff resources to pursue possible opportunities and resources such as those outlined above. For example, long-term care and home health care providers could seek partnerships with hospitals and clinics to participate in the $22 million FCC grant for the California Telehealth Network project. They should advocate that the state look at the entire spectrum of care, including long-term care and home health, as it implements the Telehealth Network.

8.2 Technology Companies

Technology companies must be called to action in order to enhance the technical capabilities of their technologies to realize the technology-enabled care vision. Important steps include achieving interconnectivity between different and disparate clinical information technology systems, which is needed to guarantee completeness and continuity of information between the home and long-term care settings and assuring continuity of care. Technology companies may wish to craft a common standard of practice to provide adequate technical support to ensure that emerging tools are dependable for consumers and care providers for on-going service operations. Companies should address acceptance and usability of technology by end-users. This might be achieved by taking a systematic approach to research and development that involves the participation of seniors, caregivers and providers in the products’ design and development cycle.6

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8.3 Government and Private Payers

Government and private payers must be called to action to capitalize on the opportunity of technology-enabled care. Given their economies of scale, these payers have a unique ability to apply existing resources currently channeled through “legacy” reimbursement methods into an improved model of preventive care. For example, the systems change efforts funded by the federal government including the “Money Follows the Person” grant and nursing home transition efforts present an opportunity to explore changing the state’s business model for providing the most appropriate care at the right time to older adults, particularly frail seniors wishing to live in the community. A renewal of the state’s MSSP Medi-Cal waiver application to CMS may provide the state an opportunity to obtain any necessary authority to allow reimbursement for technology-enabled services in the MSSP program.

Private payers are a critical participant in this call for action. Because of their ability to tailor a package of services to meet the needs of consumers within a certain amount of reimbursement (capitated payment), they are uniquely positioned to change traditional service and payment models. Health plans should seek partnerships with aging service providers and technology companies to quantify the value of technology-enabled care and demonstrate economic and non-economic benefits for their plan’s benefit populations. Because the care needs of the plans’ beneficiaries are often comparable to those of public fee-for-service program consumers, quantitative findings will be especially informative for government payers and may potentially be drivers of change to reimbursement policies.

9. Conclusion

Although the field is still in its infancy and adoption rates of both HIT and aging services technologies in California are still relatively low, innovations are happening throughout the state by private and public aging service providers. Significant public policies have been initiated in California that will form the backbone for future developments. Substantial barriers remain, including a daunting state fiscal crisis, but opportunities at various public and private levels are emerging. By focusing on common service objectives, interests will align, new ideas will emerge and opportunities to harness the value potential of technology, especially the potential to control health care costs, can be found. Success will require all parties involved to take action. CAST can be both a catalyst and bridge to help bring about this change.
ABOuT CAS T

The Center for Aging Services Technologies (CAST) is leading the charge to expedite the development, evaluation and adoption of emerging technologies that will transform the aging experience.

CAST four focus areas:

1. Driving a global vision of how technologies can improve the quality of life for seniors while reducing health care costs;
2. Accelerating technology research and development through pilot evaluations with seniors;
3. Advocating to remove barriers to the rapid commercialization of proven solutions; and
4. Promoting dialogue about standards to ensure interoperability and widespread access to aging-services technologies.

CAST is now an international coalition of more than 400 technology companies, aging-services organizations, businesses, research universities and government representatives working together under the auspices of the American Association of Homes and Services for the Aging (www.aahsa.org). The members of AAHSA help millions of individuals and their families every day through mission-driven, not-for-profit organizations dedicated to providing the services that people need, when they need them, in the place they call home.

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