



Optimizing Telehealth in California: An Agenda for Today and Tomorrow

Major Findings and Recommendations of the
California Telemedicine and eHealth Center
Telehealth Optimization Initiative



*"It is difficult to say what is impossible, for the dream of yesterday is the hope of today
and the reality of tomorrow." — Robert H. Goddard*

Telemedicine and telehealth are being explored worldwide by governments, health systems, clinicians, patient organizations, hospitals, clinics, and many others. Telemedicine is improving healthcare access, quality, and efficiency in new and cost effective ways. Can telehealth change the very foundational nature of healthcare delivery? Many are convinced this is true and that we should move forward as quickly as possible to implement telemedicine in as broad an environment as possible.

This policy brief explores how California can expand the availability of telehealth and reach full optimization of these extraordinary technologies. For over a decade California has been a leader in telehealth development, and we are again positioned to take a leadership role and move telehealth to the next level.

The California Telemedicine and eHealth Center (CTEC) is proud to present an agenda for telehealth and telemedicine that reflects the needs, concerns, and experience of the many experts, thought leaders, policy makers, health advocates, consumers, health systems, and others who contributed to the creation of this document.

This brief recommends a major shift in the way we view telemedicine and telehealth. It recommends the broad sweeping inclusion of telemedicine into our existing healthcare system. It is our hope that this document forms the foundation for new conversation and deliberation about the way in which we use, fund, and support telehealth in California.

I wish to extend my thanks to each member of the Telehealth Optimization Initiative for their commitment, hard work, lively discussions, and patience in creating a new and expanded vision of telehealth in California, and to the Blue Shield of California Foundation for funding this effort. Special thanks to the California State University Sacramento Center for Collaborative Policy for their efforts in guiding this Initiative. I also wish to extend thanks in advance to all those who will read this document and consider the possibilities for positive change.

It is often said that those who dream big achieve extraordinary results. The Telehealth Optimization Initiative is presenting a big vision to California – one which we know can be achieved. We look forward to working with all those interested in reaching this vision.

Christine Martin
Executive Director
California Telemedicine & eHealth Center
January 2009



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Major Findings and Collaborative Recommendations

Prepared by:

**California Telemedicine and eHealth Center
Telehealth Optimization Initiative**

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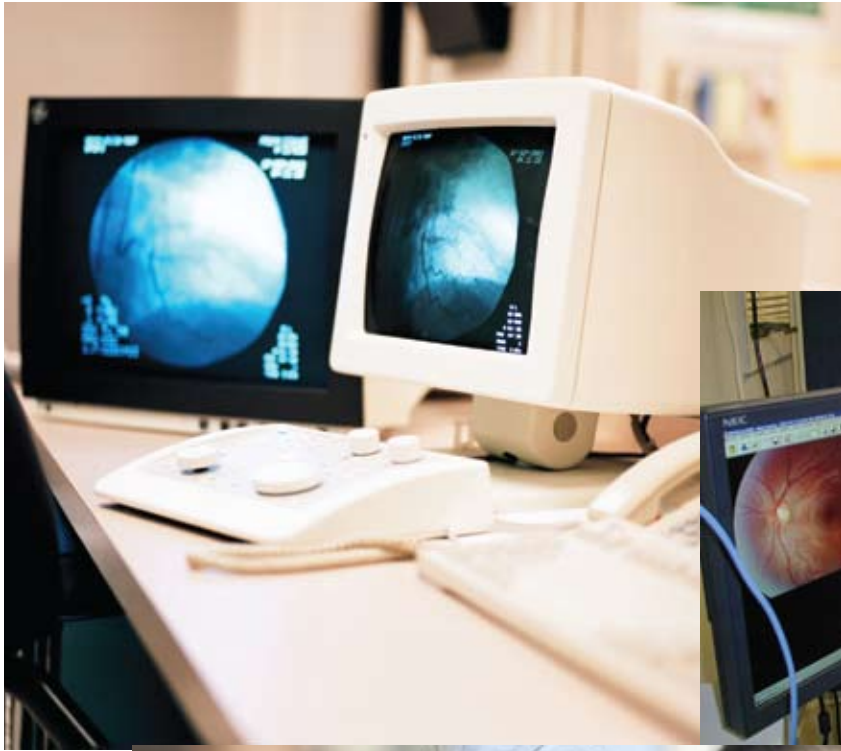


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Optimizing Telehealth In California: An Agenda For Today and Tomorrow

“The future of medicine is telemedicine”

—C. Everett Koop, MD, ScD, former Surgeon General of the United States

Government and industry leaders alike uniformly identify healthcare as a key issue of the day. Traditional healthcare systems are challenged to provide necessary access to care, are often not cost effective, and do not take full advantage of new technologies for effective service delivery. At the current pace, healthcare costs in the United States are expected to double over the next decade, while access to necessary healthcare is projected to decline.¹

Telemedicine is emerging as a critical component of the healthcare crisis solution. Telemedicine holds the promise to significantly impact some of the most challenging problems of our current healthcare system: access to care, cost effective delivery, and distribution of limited providers. Telemedicine can change the current paradigm of care and allow for improved access and improved health outcomes in cost effective ways.

Since the early 1990s, California has led the nation in telemedicine development. California was one of the first states in the country to pass telemedicine enabling legislation with the California Telemedicine Development Act of 1996. It required that healthcare providers be reimbursed for delivering services via telemedicine. As a result of this legislative authority, initiatives by healthcare philanthropies and program development by universities and healthcare organizations, hundreds of telemedicine programs have been established in rural communities throughout California. These communities have significantly benefited from increased access to healthcare.

At the time of initial telemedicine development, most proponents and policy makers believed adding telemedicine reimbursement to the suite of covered healthcare services would result in wide availability of telemedicine throughout California. In the decade following legislative authority, while there has been significant growth in rural telemedicine development, telemedicine has not reached anticipated service levels. Many telemedicine applications continue to have limited availability. Medical specialty services and other telemedicine

services such as home monitoring, stroke care, and ICU support, although proven to be highly cost and clinically effective, are not adequately available. Inadequate reimbursement is often cited as one of the major barriers to telehealth expansion. Telehealth and telemedicine proponents are now asking what policy and action steps would support movement efforts to optimize the use of these extraordinary technologies and programs.

What are Telemedicine and Telehealth?

Telemedicine refers to the provision of clinical services from a distance. The Institute of Medicine of the National Academy of Science defines telemedicine as “the use of electronic information and communication technologies to provide and support healthcare when distance separates the participants.” Telemedicine can connect remote clinicians with patients using technologies that allow for real time visits, called live interactive, or can transmit diagnostic patient information and images to a remote provider for review at a later time, called store and forward.

Telehealth refers to a broader range of services that includes telemedicine and other remotely provided services such as clinical education programs, patient support and education, health information exchange, clinical decision support, pharmacy and laboratory systems, and disaster response support. This brief does not address electronic health records and health information exchange implementation.

Telemedicine and telehealth are used interchangeably in this report to reflect the need for optimization of both.

Given the magnitude of the healthcare crisis and the potential for telemedicine to substantially support solutions, the California Telemedicine & eHealth Center (CTEC) convened key stakeholders to collaboratively consider these questions and to develop policy recommendations for the optimal deployment of telemedicine and telehealth. The Telehealth Optimization Initiative, a Collaborative formally chartered by CTEC, sought to engage the many telemedicine stakeholders; consumers, payers, advocates, funders, providers, healthcare systems, and others, to identify needs, concerns, and opinions of the different groups, and to develop a unified perspective on policy and strategies necessary to overcome barriers to widespread adoption. Appendix A provides a complete listing of Collaborative members. Major stakeholder groups representing different, broad-based constituencies with differing needs and concerns, participated in focus groups, structured interviews, and discussions of critical factors impacting telemedicine implementation. The findings from these efforts, along with independent research, were then reviewed by the Collaborative. The Collaborative identified a set of commonly agreed upon policy needs and outlined actions that legislators, funders, and other policy makers can enlist to advance and benefit from broader telemedicine deployment.

This report contains the result of the Collaborative's review and a blueprint for action. A summary of the recommendations and action steps is included in Appendix B.

Is This the Right Time?

The unsettled economic situation in California and the entire country has led some to question whether new initiatives like telemedicine optimization should even be considered. This difficult time presents an unprecedented opportunity to offer new ways to solve problems, particularly ones that are highly cost effective. The promise and potential of telemedicine is so great that it should be actively pursued during this critical time.

The Promise of Telemedicine: Access, Quality, and Efficiency

Telemedicine and telehealth address healthcare delivery in new ways. Telemedicine's adaptability, flexibility, and ability to eliminate physical boundaries bridge many of the service gaps unaddressed in our current system. Telehealth increases a clinician's ability to monitor and evaluate patients with geographical, social, and cultural differences. By reducing the need for providers and patients to be in the same location, new and more efficient ways of delivering care can be incorporated into the healthcare system.

The benefits of telemedicine and telehealth are summarized below.

Telemedicine increases access to healthcare:

- Remote patients can more easily obtain clinical services.
- Remote hospitals can provide emergency and intensive care services.

Telemedicine improves health outcomes:

- Patients diagnosed and treated earlier often have improved outcomes and less costly treatments.
- Patients with telemedicine supported ICUs have substantially reduced mortality rates, reduced complications, and reduced hospital stays.

Telemedicine reduces healthcare costs:

- Home monitoring programs can reduce high cost hospital visits.
- High cost patient transfers for stroke and other emergencies are reduced.

The Telehealth Optimization Initiative Participant Groups

American Heart and Stroke Association
 Blue Shield of California Foundation
 California Association of Physician Groups
 California HealthCare Foundation
 California Hospital Association
 California Primary Care Association
 California Telemedicine & eHealth Center
 Childrens Hospital Los Angeles
 Colonial Medical Group
 McLaughlin Communications
 Manatt Health Solutions
 Mattel Childrens Hospital UCLA
 Northern Sierra Rural Health Network
 Open Door Community Health Centers
 Speranza Avram & Associates
 State of California
 Business, Housing and Transportation Agency
 Health and Human Services Agency
 Department of Health Care Services
 Department of Managed Healthcare
 Department of Mental Health
 Department of Public Health
 The Children's Partnership
 University of California, Davis
 WellPoint/Blue Cross

Telemedicine assists in addressing shortages and misdistribution of healthcare providers:

- Specialists can serve more patients using telemedicine.
- Nursing shortages can be addressed using telemedicine.

Telemedicine supports clinical education programs:

- Rural clinicians can more easily obtain continuing education.
- Rural clinicians can more easily consult with specialists.

Telemedicine improves support for patients and families:

- Patients can stay in their local communities and when hospitalized away from home can keep in contact with family and friends.
- Many telehealth applications empower patients to play an active role in their healthcare.

Telemedicine helps the environment:

- Reducing extended travel to obtain necessary care reduces the related carbon footprint.

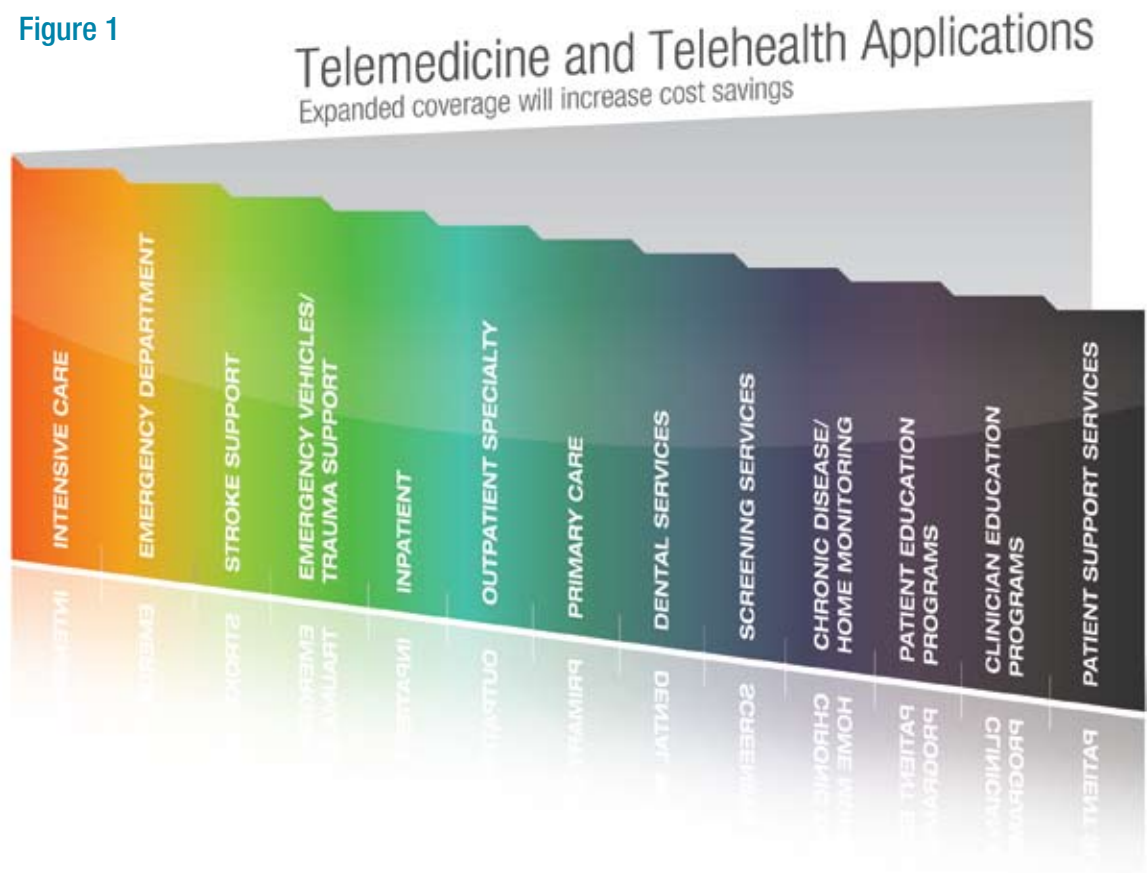
Telemedicine improves organizational productivity:

- Employees can avoid absences from work when telehealth services are available on site or when employees can remotely participate in consultations about family members.

Telemedicine Applications Support and Improve Care Across the Spectrum of Healthcare Services

Telemedicine and telehealth applications are now available for services covering the entire spectrum of healthcare, from managing chronic disease through the use of home monitoring systems to supporting critically ill patients in emergency departments and intensive care units. Research and demonstration projects indicate that telemedicine applications applied across the spectrum of healthcare services will result in substantial improvements. As illustrated in Figure 1, telemedicine and telehealth supports a wide variety of health services. Program experience indicates that major savings in healthcare costs and subsequent social service support can be achieved across the spectrum of healthcare services. Unfortunately, service providers receive little or no reimbursement for many of these services.

Figure 1



The following examples illustrate the improved outcomes and cost savings being achieved by telemedicine and telehealth programs:

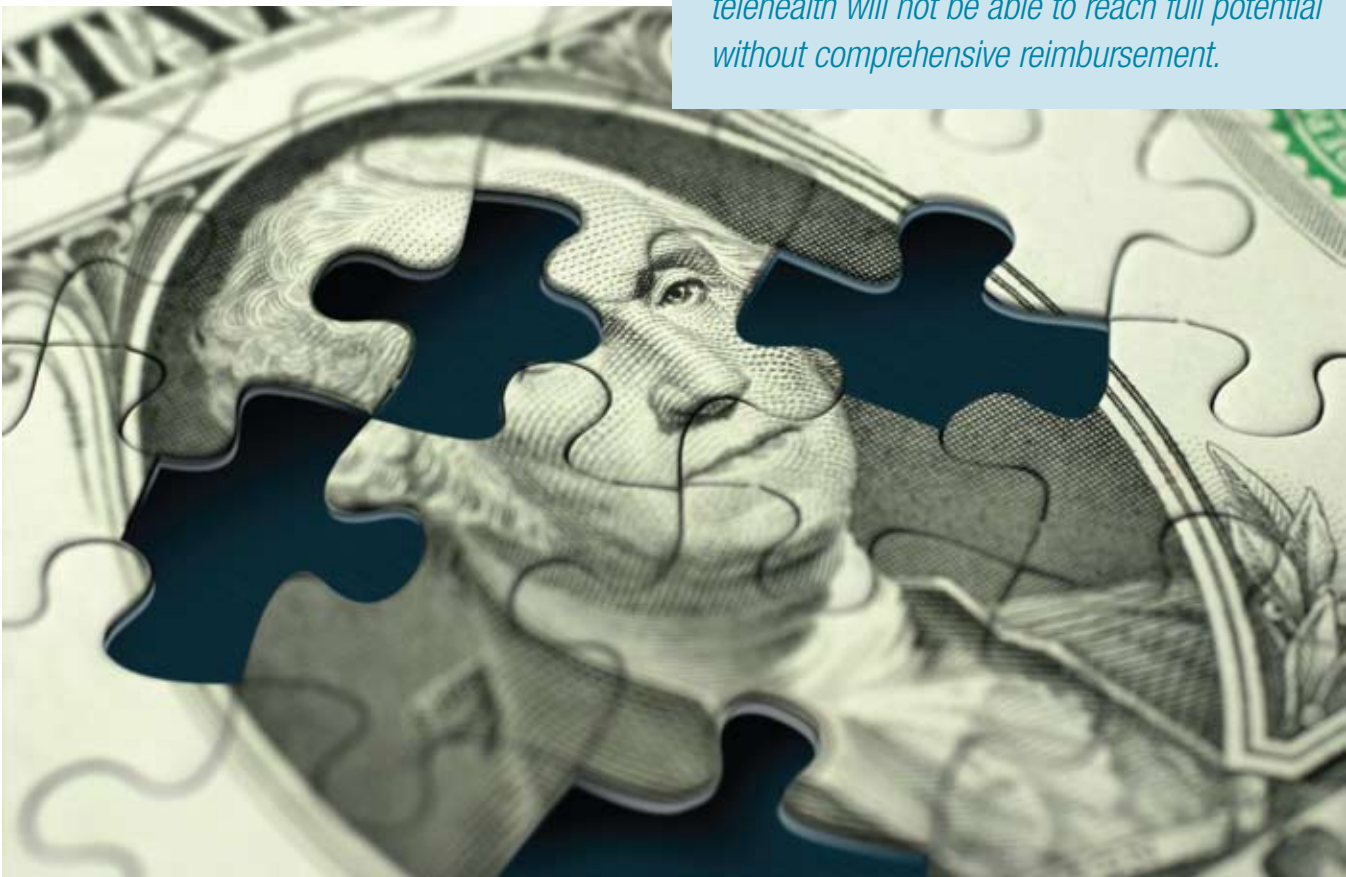
- Home monitoring of chronic diseases is reducing hospital visits by as much as 50% by keeping patients stable through daily monitoring.²
- The national average for re-admission to hospitals within 30 days following a heart failure episode is 20%. Telehealth monitoring programs have reduced that rate to less than 4%.³
- Timely provision of treatments that effectively reverse the consequences of a stroke have risen from 15% to 85% due to the availability of telestroke programs.⁴
- Telemedicine support to Intensive Care Units (often called eICUs) is reducing mortality rates by 15 – 30% and substantially reducing complications and length of stay.⁵
- Telemedicine retinopathy screening programs support early identification of serious eye disease and reduce the incidence of blindness in diabetic patients.⁶

Current Telemedicine Coverage and Reimbursement In California

Current coverage and reimbursement for telemedicine might best be described as a patchwork of services and payers with varying service coverage and payment restrictions between different health systems. Some reimbursement requirements specify covered services at certain locations; others limit the type of service to certain circumstances. Most experts believe that telemedicine and telehealth will not be able to reach full potential without comprehensive reimbursement. In California, Medicare, Medi-Cal (the State Medicaid Program) and Blue Cross are the state's principal payers for telemedicine services. The State Medi-Cal Program and Blue Cross have shown leadership in creating coverage and reimbursement to support access to services in rural areas of the state.^{7, 8}

In addition to limited reimbursement, some experts report that reimbursement incentives are misaligned. In many cases, the benefit resulting from telemedicine does not always accrue to the provider of service. New and more incentive based reimbursement models need additional refinement to reflect telemedicine workflows and efficiencies.

Most experts believe that telemedicine and telehealth will not be able to reach full potential without comprehensive reimbursement.



Other Inhibitors of Expansion

While coverage and reimbursement are significant issues to the optimal implementation of telemedicine, the California HealthCare Foundation and others cite additional barriers such as, the complexity and cost of technology, the lack of sustainable business models, the need for program funding, the need for updated provider licensing regulations, and the need to increase consumer demand.

Datamonitor, an international business forecasting firm, considers infrastructure, licensing laws, and technology standards to be short term inhibitors of telehealth. Considered as longer term inhibitors are human factors, including the use of technology, changing existing culture and work patterns, and heightening consumer awareness to increase demand for services, particularly in the home health sector.⁹

Key Findings

Telehealth has the potential to significantly change the way healthcare services are provided and received. Telehealth is changing the traditional paradigm that quality service generates high cost. As telehealth and telemedicine programs become readily available, patients and clinicians will find that telemedicine supports and improves many aspects of health delivery. The cost benefit and health improvements associated with telemedicine will continue to grow and be self reinforcing. This cannot occur until telemedicine is broadly deployed across many care settings. One study estimates the full deployment of telemedicine nationally would create savings of \$4.2 billion annually.¹⁰ Extrapolated to California, this would result in savings of \$511 million annually.

Telehealth will not achieve full financial benefit until fully deployed across all care levels and settings. Early telehealth utilization development emphasized improving access to care. Full deployment of telehealth and telemedicine will need to address health outcomes, efficiencies, and sustainable business models. Telehealth holds the promise of achieving long term cost savings to the healthcare delivery system when utilized to its full potential. Broad deployment reduces cost per use. It also leverages the most cost efficient applications to offset the cost of services, such as rural care or specialty care, where a per application cost may be higher but is the only feasible way in which to provide care.

Telehealth is held to a higher burden of proof for clinical efficacy and cost effectiveness, which limits the deployment of telehealth services and reimbursement. Funders and payers have expressed the need to have evidence that telemedicine equals or exceeds traditional delivery methods before they will expand reimbursement and coverage for telemedicine. Many studies indicate that telemedicine outcomes are not different than traditional delivery methods. Studies on the benefits of telemedicine programs, both clinically and cost related, show that telemedicine has major benefits as a delivery method. However, studies that directly compare the two delivery methods are either unavailable, inconclusive, or show mixed results. Payers should be encouraged to reverse the burden of proof and reimburse telemedicine, unless they can cite well designated studies that contradict telemedicine applications.

Consumer demand will help drive full deployment of telehealth. Consumer demand is a critical link in acceptance and expansion of any new product; telemedicine being no exception. Consumer demand drives private innovation and investment decisions.¹¹ Increased consumer awareness of telemedicine is expected to increase consumer demand.

Policy Recommendations for Broad Deployment of Telemedicine

“Telemedicine will fundamentally change the way in which we provide and receive healthcare.”

— Christine Martin, Executive Director, CTEC

While advocates of telemedicine and telehealth frequently articulate the benefits of full deployment, implementation efforts and payer inclusion of services has been incremental, resulting in varying payment policies for only a few services or by provider type in specific geographic areas around the state. The incremental approach, both necessary and appropriate during the initial development of telemedicine, now limits the availability of telemedicine services. Telemedicine adoption would be better advanced from policy that broadens and expands service availability. This fundamental paradigm shift will facilitate development across the entire service spectrum.

The Telehealth Optimization Initiative Collaborative members developed two overarching policy recommendations which form the foundation for expansion and optimization of California telemedicine. These recommendations promote and support telemedicine use whenever possible in all care settings.

1. **Telehealth and telemedicine services should be developed and implemented in every situation where patient care, access, provider availability, efficiency, or cost of service can be positively impacted.**
2. **Telehealth and telemedicine should be a covered and reimbursable method for the delivery of services across the entire spectrum of healthcare services.**

These two policies open the way for full development of telemedicine across the spectrum of available applications with all provider types.

These policies would allow new service providers to enter the field and would allow existing providers to expand services. It would also assure that coverage and reimbursement is not based on a specific service type or service location. Movement toward this type of policy is growing. The National Rural Health Association issued a similar policy statement that read as follows, “Reimbursement for services provided through telehealth should be made based upon medical effectiveness and utilization and not based upon or limited to particular delivery platforms or locations.”

Action Steps for Achieving Broad Deployment

The Collaborative identified 37 actions that support California’s broad deployment of telemedicine. The recommended actions address barriers to broad deployment and/or identify existing opportunities that can be leveraged. Action steps are organized into six major categories:

- Institutional Support and Incentives
- Consumer Demand
- Payer and Funder Support and Incentives
- Provider Availability
- Leadership, Expertise, and Coordination
- Research and Evaluation

Many of these action steps can and should be addressed immediately by government agencies, private foundations, and healthcare organizations. Some can be done individually and others will need or benefit from the same collaborative approach used for this project.

Institutional Support and Incentives

Government and large employers have a major role in expanding telemedicine availability and optimizing its use throughout the state.

Government

Sixteen percent of Californians rely on the state/ federally funded Medicaid program to receive healthcare.¹² Other state agencies, such as the Department of Mental Health, distribute millions of dollars for county- administered services.¹³ The California Department of Corrections and Rehabilitation (CDCR) provides healthcare to over 172,000 state prison inmates, many housed in rural areas of the state. The CDCR estimates telemedicine saves over \$850 for every avoided outside medical visit in transportation costs alone. In FY 2004 – 05, telemedicine use at CDCR resulted in over \$4 million in annual savings.¹⁴

Government agencies have difficulty justifying expenditures when financial benefits accrue in a different agency. This disjointed approach limits the deployment of telehealth. A coordinated and collaborative effort could result in substantial cost savings, improved access, and improved health outcomes in publicly-funded health programs.

Recommended action steps to optimize **government support** are:

1. Create a telehealth government task force comprised of various agencies and departments to assure that telehealth efforts are coordinated. Work with policy makers and key agencies, including control agencies, to create a better understanding of the potential for telemedicine to improve healthcare access to underserved populations and to promote its use.
2. Ensure that state agencies identify possible applications and develop feasibility studies on the expanded use of telehealth for cost reduction and service efficiency.
3. Ensure that local agencies receiving state General Funds identify possible applications for telehealth and develop feasibility studies on the expanded use of telehealth.
4. Encourage the University of California Medical Schools to develop one all-campus pool of telemedicine providers.
5. Encourage the federal Receiver for the California Department of Corrections and Rehabilitation to fully optimize the use of telemedicine in the delivery of patient care to the inmate population.
6. Encourage the Department of Corrections and Rehabilitation and the federal Receiver to form partnerships with rural and underserved communities to maximize the use of available medical and behavioral health providers.
7. Work with County Mental Health Plans to include support of telemedicine services and programs as part of their use of Mental Health Services Act funds, and to support county and primary care.
8. Encourage California Public Employee Retirement System to investigate the potential for telemedicine services to reduce healthcare premiums, particularly where services are known to reduce healthcare costs, such as health education, in intensive care units, and home monitoring.
9. Convene state regulators and other stakeholders to consider what statutes and regulations could be changed to positively support the expanded use of telehealth. Identify where policies need to be changed through legislative action and pursue such legislative changes.

Large Employers

Large employers can actively support telemedicine expansion by providing work site telemedicine centers. These services allow employees to obtain health education, necessary healthcare consultations, and/or participate in healthcare visits with loved ones without physically leaving the workplace. Not only do these centers have the ability to improve overall productivity, but such services can also potentially allow an employer to negotiate better healthcare premium rates. Similarly, large employers can impact telemedicine development by requesting its availability as a full service healthcare option. Telemedicine is also a green initiative. Workplace services can reduce the carbon footprint by reducing off-site travel to healthcare facilities.

Recommended action steps to optimize **large employer support** are:

10. Ensure that California's tax code allows telemedicine sites to be treated in the same manner as other employer provided medical benefits.
11. Encourage health insurers to provide discounts for employers who:
 - Support preventive medicine through telehealth services.
 - Utilize providers offering telemedicine services known to reduce healthcare costs, such as health education, in intensive care units, and home monitoring.



Consumer Demand

Consumer demand is a critical link in acceptance and expansion of any new product; telemedicine is no exception. Consumer demand drives private innovation and investment decisions. Increasing consumer demand will be the driver in reducing the cost per use. Consumer use/action will increase the return on investment for telemedicine infrastructure. Consumers will pick telemedicine options if they are informed of the benefits of such programs. Most consumers, if given the choice, would select an eICU for themselves or their family members if they knew mortality rates are 15 - 30% lower in ICU's that have eICU support. Similarly they would want home monitoring knowing the potential improvement in disease management and quality of life to both the patient, the patient's family, and caregivers.

Many retirees and travelers would purchase telemedicine riders to their insurance coverage if it meant they could see their regular healthcare providers during extended stays in other parts of the country or world. Clinicians would request telemedicine support if they were better aware of the efficiencies that can be achieved using telemedicine applications.

Even though telemedicine has been used in California since the early 1990s, it remains a relatively new method for providing healthcare. Consumers are largely unaware or only vaguely aware of this healthcare option.

Researchers at Purdue University, along with many others consider consumer demand as perhaps the single most critical factor in the expansion and deployment of telehealth.¹⁵

Historically, consumers have not played a role in determining the type of health service provided by their clinicians, but this is changing. Many products are now being advertised directly to consumers, from pharmaceuticals to elective surgeries to full body scans. In many cases consumers are willing to pay supplemental premiums or pay out of pocket for services. Home monitoring has great potential for consumer direct purchase.

In addition, consumers are regularly encouraged by healthcare associations to take an active role in their care by asking questions and learning about

conditions and treatment options. The increased availability and use of the Internet has further increased the consumer's ability to find information about health concerns and conditions.

These factors create an environment where consumer demand can play an increasing role in the availability and use of service delivery options. Consumer awareness will result in more requests to health plans, insurers, and individual clinicians to make telemedicine available.

A second group of telemedicine consumers are public payers, clinicians, and large employers who purchase health coverage for their employees. These groups, due to their size and economic importance to health plans, can be influential in obtaining certain types of services. Private insurers and payers look for technology deployment to increase quality, increase productivity, and reduce cost. Public health organizations seek to provide adequate access to care, particularly for underserved and publicly supported patient groups, and for cost containment of publicly-funded program costs.

Clinicians can also be considered consumers. A lack of familiarity and experience with telemedicine by clinicians, other healthcare professionals, and administrators are also barriers. While many are aware of telehealth, few have an understanding of the spectrum of services and even fewer understand the process for developing and implementing telemedicine services. When clinicians begin to request new services, healthcare organizations will make different purchasing decisions.

Telemedicine availability will increase if any of these consumer groups increase demand. Increased availability will, in turn, reduce cost.



Recommended action steps to optimize **consumer demand** are:

12. Ensure that all California payers provide information on telemedicine benefits to all enrollees in their *Explanation of Coverage* documents.
13. Ensure the development and distribution of a variety of educational materials, including public service announcements, aimed at informing consumers, providers, and insurers of the benefits and availability.
14. Develop incentives to encourage consumers to purchase home monitoring equipment, and participate in chronic disease monitoring and management programs.
15. Ensure that all California payers have clearly articulated telemedicine payment policies that are regularly updated and easily available to providers.
16. All entities covered under the Telemedicine Services Act of 1996 should require a designated officer to answer questions regarding coverage and payments.
17. The Department of Managed Health Care should include telemedicine services and benefits information in publications regarding health plan selection.



Payer and Funder Support and Incentives

Payers and other funders can drive the expanded use of telemedicine. Grant funding, reimbursement rates, and other incentives play a significant role in service optimization. Barriers to utilization related to funding are typically described as:

- breadth of reimbursement for telehealth applications
- reimbursement rates
- funding for program development

California payers have long reimbursed certain telemedicine services, but in most cases with limitations or conditions for use. In 1996, the California Medi-Cal Program created a reimbursement policy that allows payment for live interactive outpatient medical specialty services, and in 2005 expanded reimbursement to include limited store and forward services. In 1999, Blue Cross of California became the first private health plan in California to offer telemedicine services. The program currently includes more than 60 patient sites and eight specialty centers.¹⁶

Early adoption of reimbursement policy by these two major programs, combined with development grants from California Endowments, Foundations, and State and Federal Agencies, formed the initial nexus for telemedicine expansion in California. Early telemedicine efforts emphasized development of rural networks, primarily in community clinics

and federally qualified health centers, to provide outpatient medical specialty services to rural and underserved populations. The primary goal was to increase access to service rather than cost reduction, improved quality, or efficiency.

Since then, new telemedicine applications have become available across the entire spectrum of healthcare services. Some programs proven to create significant cost savings, improved health outcomes, and improved quality of life are not adequately covered by existing reimbursement policy, including stroke programs, intensive care programs, and home monitoring programs.

California is not alone. Across the United States telehealth reimbursement is limited, sporadic, and variable. Reimbursement is primarily limited to specific situations or types of care which by and large exclude many of the available applications. Without adequate reimbursement mechanisms, interest in broad adoption of telemedicine will remain limited.

A related issue is the reimbursement rate structure used for covered services. Telemedicine changes the work flow and resources used for service delivery. Reimbursement has not been adapted to these differences. Many patient sites and providers consider existing reimbursement rates to be too low and have become a significant barrier to creating sustainable programs. The availability of program start-up funds also remains a barrier.

Recommended action steps for **payers and funders to optimize support and incentives** are:

18. Healthcare leaders should identify and target financial support for telehealth programs, including provisions in grant programs that encourage private and public partnerships and increase the availability of services. Use similar incentives to emphasize the development of profitable and socially responsible programs, such as those that reduce the carbon footprint and create improved access to care.
19. Investigate and implement investment strategies necessary to provide capital funding for program start-up across the spectrum of healthcare services. Leverage savings to support investment today that can be repaid from future savings.
20. Support incentives that encourage corporations to undertake the business of telehealth. Specifically focus on engaging the venture capital community as a potential new funding source.
21. Leverage savings achieved through telemedicine programs to provide investment capital for new telemedicine efforts.

Provider Availability

Provider supply is a key factor in the expansion and optimization of telemedicine and telehealth. Broad deployment requires a pool of telemedicine providers large enough to allow the expansion of patient sites in a variety of settings that include hospitals, clinics, work sites, schools, home monitoring, and mobile settings.

The joining of providers and patients through telemedicine technologies requires some fundamental changes in the way that services can be provided. Distance from a qualified provider has been an historical barrier to care, limiting services in sparsely populated areas and limiting access to sub specialists. Telemedicine dramatically changes this dynamic, allowing patients to obtain care from anywhere in the world where a qualified provider is available. This creates a need to reconsider and modify the underlying systems and models used to bring patients and providers together.

California is currently implementing an initiative that will significantly expand the number of patient sites available throughout the state. But expansion of telemedicine patient sites must be met with an equal expansion of providers willing and able to provide telemedicine services. The entry of clinical providers into telemedicine has been slower than expected. Because California's early telemedicine development focused on patient care sites in rural areas where specialty care services were limited, major initiatives primarily leveraged specialty services provided by the University of California, Davis. Another major user of specialty services has been the California Department of Corrections and Rehabilitation.

After 10 years of telemedicine deployment, California has seen some increases in provider availability, but availability remains a major concern of telemedicine program developers, experts, and patient sites. Even so, both non-profit and for-profit provider groups and health systems express interest in developing new provider services. Individual providers are also increasingly interested in developing telemedicine practices.

Recommended action steps to optimize **provider availability** are:

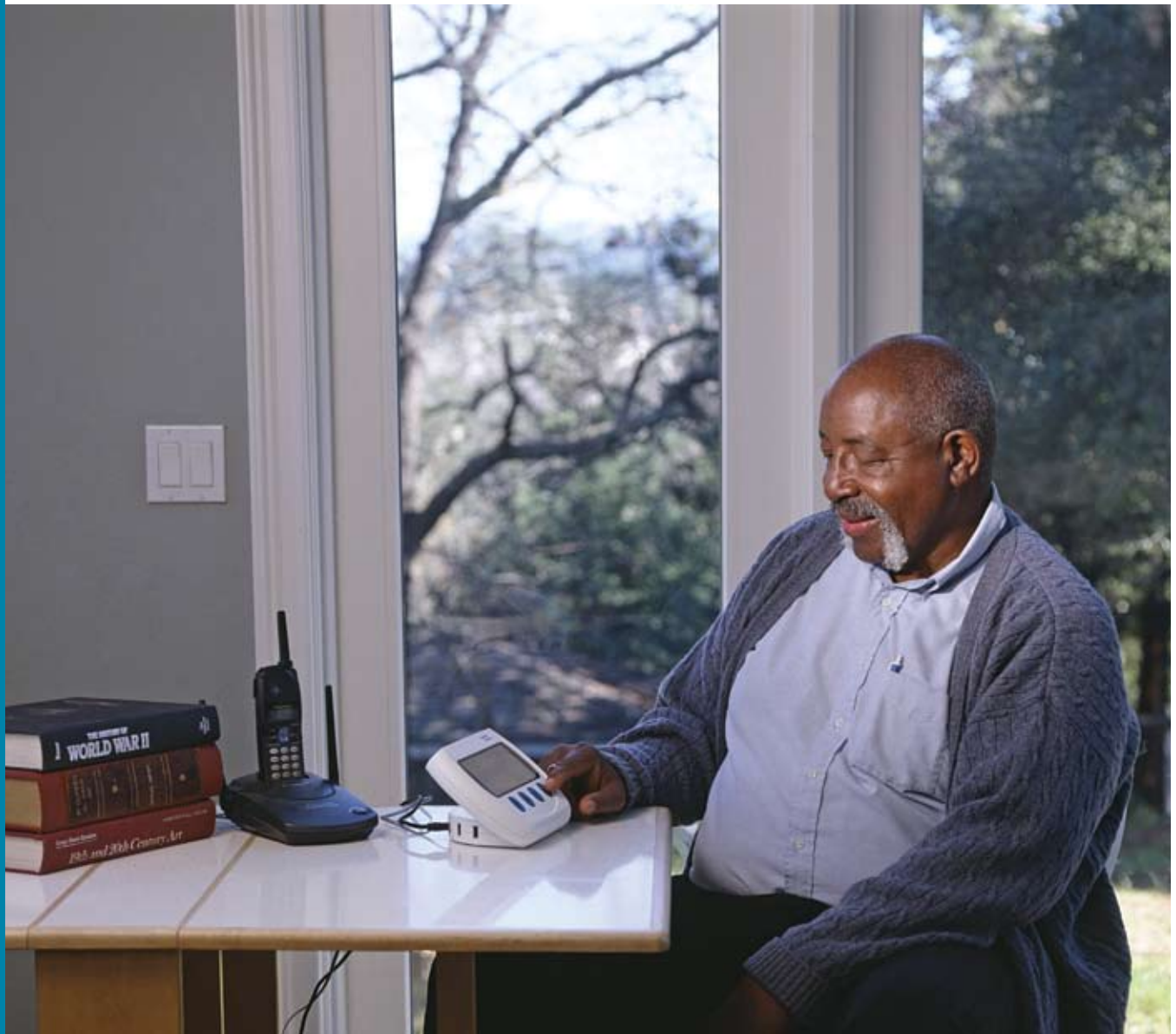
22. Request the Medical Board of California consider the need for telemedicine supportive policies and regulations including the need for expeditious processing of licensure applications. The Medical Board should recommend policy and regulatory changes to support telemedicine expansion in California.
23. Request the Department of Health Care Services review all Medi-Cal provider rules and regulations and make amendments where necessary to support the practice of telemedicine in California.

Attracting clinical providers to telemedicine and modifying existing work flows to adapt to differences in practice patterns present some challenges and barriers. Some of these are described below:

Adequate, appropriate reimbursement for telemedicine provider services is needed. Telemedicine reimbursement is currently limited to specific services in specific situations. Reimbursement does not cover the spectrum of services available through telemedicine, and reimbursement has not been adapted to complement telemedicine work flows.

- Licensure regulations restrict telemedicine practice. As more clinicians desire to practice telemedicine from out-of-state jurisdictions, interstate licensing requirements need to support telemedicine, while keeping public interest and safety a priority.
- Medi-Cal provider rules for approved provider sites were developed for clinic settings and are restricting the availability of Medi-Cal telemedicine providers working from other practice settings.
- Programs and opportunities to inform and train providers about telemedicine are limited. Few programs exist, either in person or online that adequately orient providers about the benefits and basic operation of telemedicine. Training is needed for new or potential telemedicine providers.
- Program and technical assistance is needed for providers wishing to enter the telemedicine field. Experience shows successful telemedicine providers must have adequate program development assistance from experienced experts in the field.
- Methods are needed to connect telemedicine providers with patient care sites. Many providers wish to develop telemedicine practices but are unable to determine where patient need exists or how to connect with programs outside normal practice and referral patterns.

24. Funders should encourage the development of services that assist provider and patient sites in coordinating service need with provider availability, including assistance with program development and technical support.
25. Industry professional associations and accreditation bodies should encourage the adoption of a standardized credentialing form (by facility type) that can be used by telemedicine providers to apply for privileging.
26. The federally designated Telehealth Resource Center Web site should include a web-based portal that identifies existing, licensed telemedicine providers.
27. Medical schools and other education training bodies should develop training and education programs to target and educate primary care and specialty providers interested in developing telemedicine practices.
28. Payers should identify changes in practice patterns associated with telemedicine and develop new reimbursement models that clearly support differences in telemedicine service delivery.
29. Government leaders should explore expanding federal and state loan repayment programs as a mechanism for encouraging providers to participate in telemedicine.



Leadership, Expertise, and Coordination

Successful telemedicine programs across the country cite the availability of expertise, current information, mentors, program development guides, and assistance as major factors of success. Throughout California there are programs and individuals with substantial expertise in developing and operating telemedicine programs, including 10 rural telemedicine networks, major universities, state agencies, private insurers, and non-profit organizations.

The federal Office for the Advancement of Telehealth (OAT) has acknowledged a national need for centralized expertise and assistance. OAT designated six Telehealth Resource Centers around the country to act as clearinghouses and information portals, providing a focus for expertise and experience on telemedicine program development and best practices. Recognizing California's leadership, OAT selected CTEC as the federally designated Telehealth Resource Center for California. CTEC has been a centralized clearinghouse and resource center for California's telemedicine and telehealth

efforts for the past 12 years, providing assistance and connecting new programs with operational experts. Resource Center activities and program development support will continue to be a critical factor in successful expansion of telehealth. In this newly evolving field, experienced program developers, mentors, and experts remain in short supply. The valuable lessons learned from both successes and failures must continue to be collected and applied to new program developments. California's current telemedicine initiative creates an unprecedented need for expanded program guidance and support, training, and information availability.

Coordinated program development is required. California does not have a current strategic plan dedicated to optimizing telehealth for underserved and publicly-funded programs. Without a high level plan, developed in collaboration with major stakeholders, decision making and deploying limited resources will be less effective.

Recommended action steps to optimize **leadership, expertise, and coordination** are:

30. Adequately fund the federally designated Telehealth Resource Center to continue and expand the operation of the centralized neutral source for information and program development support.
31. Designate a state agency level office to be responsible for the development of a coordinated strategic plan for the telemedicine components of publicly-funded health programs.



Research and Evaluation

Proper telemedicine deployment requires robust data management and ongoing performance evaluation. The Collaborative identified significant data gaps in information on telemedicine service needs and clinicians available to provide services.

The results of a literature meta-review conclude that telemedicine delivers outcomes similar to traditional medicine. Despite proven results, the burden of proof for converting services to the new technology requires telemedicine to provide and document a higher level of successful clinical outcomes. Proponents do not have the weight of evidence to demonstrate to payers that health outcomes are improved with telemedicine.

Most data collected to assess the need for telemedicine services in California was limited to efforts initiated during development of California's rural telemedicine programs. Data collection on telemedicine use at patient sites is not standardized or a requirement of funding agencies. The Medi-Cal

program and Blue Cross have attempted to monitor utilization with reimbursement codes; however, there is known underreporting of telemedicine services.

Lack of quantifiable information on need, coupled with lack of standardized service delivery information, limits analysis on current telemedicine impact to access to care, cost benefit analysis, and return on investment. Until this is resolved, payers should be encouraged to reverse the burden of proof and reimburse.

In addition, stakeholders express concern that provisions of the 1996 Telemedicine Services Act regarding service coverage by private payers have not been implemented. Little data are available, but data that exist indicates minimal adoption of telemedicine reimbursement policies by private payers has occurred.

An assessment of compliance with current law is needed.

Recommended action steps for government and funders to optimize **research and evaluation** are:

32. Conduct a statewide needs analysis and assessment of capacity of telemedicine delivery to identify unmet provider service needs and location of need.
33. Establish standardized data collection tools and encourage telemedicine funders to adopt the tools and require its use by all funded programs.
34. Develop and capture utilization data on telemedicine services from all patient and provider sites in California regardless of payment or funding source. Report this information annually in the Federal Telehealth Resource Center *Annual Report on the Status of Telemedicine in California*.
35. Funders should hold telemedicine to the same standards as traditional healthcare modalities when evaluating ways to enhance utilization.
36. The Little Hoover Commission, or similar independent body, should undertake a formal review and evaluation of the Telemedicine Services Act of 1996.
37. Contingent on funding, CTEC should conduct a baseline survey of California insurers and managed care organizations to understand how they decide whether or not to reimburse for telemedicine.



Conclusion

There is urgency to achieving full and optimal telemedicine and telehealth deployment. At both the state and federal level, healthcare reform requires action of the highest order. Without intervention healthcare spending will reportedly double over the next decade, resulting in healthcare costing 20 cents of every dollar that our nation produces.¹⁷ This is simply not sustainable.

Telemedicine is emerging as a critical, cost effective, and easily implemented solution to many healthcare issues. The widespread adoption of telemedicine has the potential to significantly change the way in which healthcare services are provided and received. If implemented across the entire spectrum of care, telemedicine can produce both significant improvements in healthcare outcomes, as well as reduce the rising costs of healthcare expenditures.

Although telemedicine in California has made significant advances in the past decade, major changes remain that must be implemented to fully utilize telehealth. California has been a leader for telemedicine development since the early 1990s. It is time for California to also lead the nation in the expansion of the availability of telemedicine and telehealth. CTEC's Telehealth Optimization Initiative and Collaborative has identified a set of practical and commonly agreed upon policy recommendations and actions that will assist legislators, funders and other policymakers in taking the next steps toward broader implementation.

CTEC and the Collaborative hope California will rise to the challenge and move to the next level of telemedicine implementation. Action now will lead the nation toward an affordable, quality healthcare system that meets the needs of all our citizens. Telemedicine can change the landscape of healthcare – the time is now.

Endnotes

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Appendix A: Telehealth Optimization Initiative Collaborative Members

The California Telemedicine and eHealth Center would like to acknowledge the participation of the many telehealth experts involved in this effort, and thank them for their commitment and support of this collaborative initiative.

American Heart and Stroke Association

Selinda Shontz, RD

Blue Shield of California Foundation

Deborah Schwab

Business, Housing and Transportation Agency

Kathryn Lowell

California Association of Physician Groups

Rick Swanson

**California Department of Health Care Services
Medi-Cal Benefits Branch**

Irvin White

**California Department of Health Care Services
State Office of Rural Health**

Candi Zizek, MPH

**California Department of Managed Health Care
Health Technology**

Ellen Badley

California Department of Mental Health

Penny Knapp

Wendy Desormeaux

**California Department of Public Health
Stroke and Prevention Program**

Lily Chaput, MD, MPH

California HealthCare Foundation

Margaret Laws

California Health and Human Services Agency

Christine Schmoeckel

California Hospital Association

Lois Suder

Anne McLeod

California Primary Care Association

Andie Martinez, MPP

California Telemedicine & eHealth Center

Christine Martin, MBA, PMP

Childrens Hospital Los Angeles

Daniel Plotkin

Colonial Medical Group

Sandee Saverien

McLaughlin Communications

Vanessa McLaughlin, MPH

Manatt Health Solutions

Timathie Leslie

Ann Boynton

Mattel Childrens Hospital UCLA

Debbie Landau

Northern Sierra Rural Health Network

Susan Thomas

Open Door Community Health Centers

Herrmann Spetzler

Speranza Avram and Associates

Speranza Avram, MPA

The Children's Partnership

Jenny Kattlove

University of California, Davis

Tom Nesbitt, MD, MPH

WellPoint/Blue Cross

Carolyn Carter

Appendix B: Telemedicine Optimization Initiative

Summary of Recommendations

Overarching Policy Recommendations for Broad Deployment of Telehealth

1. Telehealth and telemedicine services should be developed and implemented in every situation where patient care, access, provider availability, efficiency, or cost of service can be positively impacted.
2. Telehealth and telemedicine should be a covered and reimbursable method for the delivery of services across the entire spectrum of healthcare services.

Action Steps for Achieving Broad Deployment

Institutional Support and Incentives

1. Create a telehealth government task force comprised of various agencies and departments to assure that telehealth efforts are coordinated. Work with policy makers and key agencies, including control agencies, to create a better understanding of the potential for telemedicine to improve healthcare access to underserved populations and to promote its use.
2. Ensure that state agencies identify possible applications and develop feasibility studies on the expanded use of telehealth for cost reduction and service efficiency.
3. Ensure that local agencies receiving state General Funds identify possible applications for telehealth and develop feasibility studies on the expanded use of telehealth.
4. Encourage the University of California Medical Schools to develop one all-campus pool of telemedicine providers.
5. Encourage the federal Receiver for the California Department of Corrections and Rehabilitation to fully optimize the use of telemedicine in the delivery of patient care to the inmate population.
6. Encourage the Department of Corrections and Rehabilitation and the federal Receiver to form partnerships with rural and underserved communities to maximize the use of available medical and behavioral health providers.
7. Work with County Mental Health Plans to include support of telemedicine services and programs as part of their use of Mental Health Services Act funds, and to support county and primary care.
8. Encourage California Public Employee Retirement System to investigate the potential for telemedicine services to reduce healthcare premiums, particularly where services are known to reduce healthcare costs, such as health education, in intensive care units, and home monitoring.
9. Convene state regulators and other stakeholders to consider what statutes and regulations could be changed to positively support the expanded use of telehealth. Identify where policies need to be changed through legislative action and pursue such legislative changes.
10. Ensure that California tax code allows telemedicine sites to be treated in the same manner as other employer provided medical benefits.
11. Encourage health insurers to provide discounts for employers who:
 - Support preventive medicine through telehealth services.
 - Utilize providers offering telemedicine services known to reduce healthcare costs, such as health education, in intensive care units, and home monitoring.

Consumer Demand

12. Ensure that all California payers provide information on telemedicine benefits to all enrollees in their *Explanation of Coverage* documents.
13. Ensure the development and distribution of a variety of educational materials, including public service announcements, aimed at informing consumers, providers, and insurers of the benefits and availability.

14. Develop incentives to encourage consumers to purchase home monitoring equipment, and participate in chronic disease monitoring and management programs.
15. Ensure that all California payers have clearly articulated telemedicine payment policies that are regularly updated and easily available to providers.
16. All entities covered under the Telemedicine Services Act of 1996 should require a designated officer to answer questions regarding coverage and payments.
17. The Department of Managed Health Care should include telemedicine services and benefits information in publications regarding health plan selection.

Payer and Funder Support and Incentives

18. Healthcare leaders should identify and target financial support for telehealth programs, including provisions in grant programs that encourage private and public partnerships and increase the availability of services. Use similar incentives to emphasize the development of profitable and socially responsible programs, such as those that reduce the carbon footprint and create improved access to care.
19. Investigate and implement investment strategies necessary to provide capital funding for program start-up across the spectrum of healthcare services. Leverage savings to support investment today that can be repaid from future savings.
20. Support incentives that encourage corporations to undertake the business of telehealth. Specifically focus on engaging the venture capital community as a potential new funding source.
21. Leverage savings achieved through telemedicine programs to provide investment capital for new telemedicine efforts.

Provider Availability

22. Request the Medical Board of California consider the need for telemedicine supportive policies and regulations including the need for expeditious processing of licensure applications. The Medical Board should recommend policy and regulatory changes to support telemedicine expansion in California.
23. Request the Department of Health Care Services review all Medi-Cal provider rules and regulations and make amendments where necessary to support the practice of telemedicine in California.
24. Funders should encourage the development of services that assist provider and patient sites in coordinating service need with provider availability, including assistance with program development and technical support.
25. Industry professional associations and accreditation bodies should encourage the adoption of a standardized credentialing form (by facility type) that can be used by telemedicine providers to apply for privileging.
26. The federally designated Telehealth Resource Center Web site should include a web-based portal that identifies existing, licensed telemedicine providers.
27. Medical schools and other education training bodies should develop training and education programs to target and educate primary care and specialty providers interested in developing telemedicine practices.
28. Payers should identify changes in practice patterns associated with telemedicine and develop new reimbursement models that clearly support differences in telemedicine service delivery.
29. Government leaders should explore expanding federal and state loan repayment programs as a mechanism for encouraging providers to participate in telemedicine.

Leadership, Expertise, and Coordination

30. Adequately fund the federally designated Telehealth Resource Center to continue and expand the operation of the centralized neutral source for information and program development support.
31. Designate a state agency level office to be responsible for the development of a coordinated strategic plan for the telemedicine components of publicly-funded health programs.

Research and Evaluation

32. Conduct a statewide needs analysis and assessment of capacity of telemedicine delivery to identify unmet provider service needs and location of need.
33. Establish standardized data collection tools and encourage telemedicine funders to adopt the tools and require its use by all funded programs.
34. Develop and capture utilization data on telemedicine services from all patient and provider sites in California regardless of payment or funding source. Report this information annually in the Federal Telehealth Resource Center *Annual Report on the Status of Telemedicine in California*.
35. Funders should hold telemedicine to the same standards as traditional healthcare modalities when evaluating ways to enhance utilization.
36. The Little Hoover Commission, or similar independent body, should undertake a formal review and evaluation of the Telemedicine Services Act of 1996.
37. Contingent on funding, CTEC should conduct a baseline survey of California insurers and managed care organizations to understand how they decide whether or not to reimburse for telemedicine.



Notes

Optimizing Telehealth in California An Agenda for Today and Tomorrow

Companion Publications

The following publications were developed as part of the Telehealth Optimization Initiative and are available from the California Telemedicine & eHealth Center. These reports provide more detail on topics covered in the Major Findings and Recommendations Report.

**If You Bill It, They Will Come.
A Literature Review on Clinical Outcomes,
Cost-Effectiveness, and Reimbursement for Telemedicine
January 2009**

**Telehealth Optimization
Summary of Focus Group Methodology and Responses
January 2009**

**National Telemedicine Reimbursement Scan
Due for release April 2009**

The California Telemedicine & eHealth Center is a leading source of expertise and comprehensive knowledge on the development and operation of telemedicine and telehealth programs. CTEC has received national recognition as one of six federally designated Telehealth Resource Centers around the country.



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