



MEDICAL BOARD OF CALIFORNIA
Executive Office



July 10, 2010

The Honorable Gloria Negrete McLeod, Chair
Senate Committee on Business,
Professions and Economic Development
State Capitol, Room 2053
Sacramento, CA 95814

The Honorable Mary Hayashi, Chair
Assembly Committee on Business, Professions,
and Consumer Protection
State Capitol, Room 3013
Sacramento, CA 95814

Madame Chairs:

This report is submitted pursuant to California Business and Professions Code Section 2028.5, which was enacted in Assembly Bill 329/Nakanishi (Chap 386, Stats. of 2007).

AB 329 authorized the Medical Board of California (Board) to establish a pilot program to expand the practice of telemedicine in California. The purpose of the pilot is to develop methods, using telemedicine, to deliver health care to persons with a chronic disease. The pilot also shall develop information on the best practices for chronic disease management services and techniques and other health care information as deemed appropriate.

The bill requires the Board to report to the Legislature, with findings and recommendations, within one calendar after the commencement date of the pilot. However, in developing the parameters of the pilot, the Board realized that a one-year pilot was not feasible, valuable results would not be recognized, nor could feasible recommendations be made in such a short time frame. However, as will be explained in greater detail at the end of the report, this report only presents a summary of the milestones and achievements recognized during the first year of a three-year contract. The two subsequent annual reports will evaluate the effectiveness of the pilot; the final report (Summer 2012) will include a summary of the pilot and evidence-based recommendations.

In the long term, the pilot strives for an outcome that documents improved methods of teaching personal health care maintenance to a patient with a chronic disease and, with this increased knowledge, it is hoped that objective lab data from the pilot will reflect the improvements in the patient's self-managed care of the disease.

If the Board can be of further assistance, please contact me at (916) 263-2389.

Sincerely,



Linda K. Whitney,
Executive Director

cc: Bill Gage, Principle Consultant, Senate Committee on
Business, Professions and Economic Development
Ross Warren, Principle Consultant, Assembly Committee on Business,
Professions, and Consumer Protection
Members, Medical Board of California

First Annual Report to the Legislature

AB 329 (Nakanishi, 2007)

“Development of Diabetes Self-Management Education Program
via Telemedicine

for Patients in Rural Underserved Communities in California”



Administered by

University of California, Davis

Funded by

Medical Board of California

Submitted July 2010

Executive Summary

Assembly Bill 329/Nakanishi (Chap 386, Stats. of 2007) authorized the Medical Board of California (Board) to establish a Telemedicine Pilot Program (“pilot”) to expand the practice of telemedicine. AB 329 envisioned a one-year project and required the board to make recommendations regarding its findings to the Legislature within one calendar year of the commencement date of the pilot program. However, upon entering into initial discussions with interested parties, the Board quickly realized that a one-year pilot was not feasible, valuable results would not be recognized, nor could feasible recommendations be made in such a short time frame.

As implementation of the bill came to fruition, the Board determined that a contractor would develop a pilot that will deliver health care and education to diabetes patients in rural underserved communities in California. The contractor will play a significant role in developing the three annual reports evaluating the effectiveness of the pilot.

Project Overview

On July 1, 2009, the Board entered into a contract with the University of California, Davis (UCD), of which the UCD Health System (UCDHS) is a major partner. The UCDHS Chronic Disease Management Program (CMD), in collaboration with the UC Davis Center for HealthCare Policy and Research (CHPR) and UCDHS Center for Health and Technology (CHT), was to develop a telemedicine model for the provision of modern diabetes self-management education and training classes for patients with diabetes living in a 33-county area of rural, underserved communities in northern and central California.

It was determined that the classes offered would meet the current recommendations of the American Diabetes Association (ADA) and will be taught by health educators. In addition, this pilot was defined to study the impact of offering additional follow-up health coaching to class participants via a toll-free telephone line, internet “blogging,” or secure email. Data will be collected on the level of patient participation, patient clinical outcomes, patient and provider satisfaction, and project costs in order to evaluate the effectiveness and cost-efficiency of the program. The proposed project will occur over a three year time period to allow for sufficient time to measure project outcomes.

I. Focus of the Pilot Project

A. Diabetes

Although the legislation does not specifically identify which chronic disease to target, it was decided that the project will focus on diabetes, a serious medical condition impacting many Californians.

The incidence of diabetes in the United States is soaring. The Centers for Disease Control (CDC) reported in 2008 that 24 million people in the U.S. are affected by diabetes, an increase of more than 3 million people in approximately two years.¹ In California, it is estimated that nearly 2 million people have diabetes with a statewide prevalence rate of 6.2%, and increasing to 15.1% for those age 65 and older.

In addition, there are disparities in the incidence rate between various racial and ethnic populations. After adjusting for population age differences, the CDC-estimated rate of

diagnosed diabetes is 11.8% for African-Americans and 10.4% for Hispanics (11.9% for Mexican Americans) compared to 7.5% for Asian Americans and 6.2% for whites.¹

Finally, the economic cost of diabetes is enormous. In California, the cost of health care for patients with diabetes is estimated to be approximately \$12 billion a year which includes an estimated \$3.4 billion for over 300,000 diabetes-related hospitalizations.³

1. Centers for Disease Control and Prevention, Diabetes Public Health Resource, 2008. Fact Sheet Press Release, Available at: <http://www.cdc.gov/media/pressrel/2008/r080624.htm>, Accessed January 15, 2009.
2. He, G, Albright, A, Black, K, Lopez-Payan, S, "2005 Diabetes in California Counties: Prevalence, Risk Factors and Resources, <http://www.caldiabetes.org>. Accessed January 13, 2009.
3. Wagner EH, Sandhu N, Newton KM, McCulloch, DK, Ramsey SD, Grothaus, LC, Effect of Improved Glycemic Control on Health Care Costs and Utilization. JAMA, 2001, 285(2), 182-189.

B. Geographic Focus Area

For this pilot, the focus is on a 33 county area in northern and central California where the UCDHS CHT currently has telemedicine partners based in nearly 80 different clinics, practices, and hospitals serving rural and medically-underserved communities. The number of healthcare sites will increase in the next few years due to the California Federal Communications Commission's Pilot Project which will fund development of the California Telehealth Network (CTN) and the recent passage of Proposition 1D which provides for a telemedicine equipment loan program. This service area included in this proposal stretches from the Oregon border in the north, the coast on the west, the Nevada border on the east, and down the Central Valley through Merced County. In this service area, 25 of the 33 counties have a diabetes incidence rate that exceeds the state average of 6.2%.

C. Chronic Care Model and Self-Management

In the past decade, there has been an accelerating shift in the approach to caring for patients with chronic illnesses from the more traditional reactive approach to care that is planned and proactive. The Chronic Care Model, which is now widely accepted as "best practice," advocates a comprehensive, coordinated approach to care that is patient-centered and evidence-based. By coordinating health system improvements around clinical information systems, evidence-based care, delivery system improvements, and the provision of patient self-management support, the goal of the model is for "productive interactions" between an informed, empowered patient and a prepared, proactive practice team.

For this pilot project, UCD planned to develop and test educational interventions that focus on two parts of the model: 1) improving access to patient self-management support resources and 2) improving provider knowledge on evidence-based care. The goal of the *first* educational effort is on activating, educating and training patients to better manage their diabetes. It recognizes the central role of the patient as the one who does the majority of the day-to-day work of health management and makes the majority of decisions in dealing with their illness. Thus, there is a goal to teach patients not only information about their illness but how to take this information and use it to solve problems that come up in their daily lives and includes individualized approaches based on the diverse cultures of the patient population. The desired outcome is for patients to gain a greater sense of confidence and self-efficacy with respect to their diabetes. In the process, however, it must be recognized that a patient's readiness to manage their care

can vary over time so it is important to meet them “where they’re at.” The goal of the **second** educational effort is to provide primary care physicians, via telemedicine, with the most current knowledge and care management strategies to support the provision of evidence-based care.

D. Health Coaching

Health coaching is quickly emerging as a new approach of partnering with patients to enhance self-management strategies for the purpose of preventing exacerbations of chronic illness and supporting lifestyle and behavior change. A health coach is a specially trained educator who can provide information and support patients to make informed decisions and manage their health intelligently. Motivating patients to change health-related behaviors is challenging and a health coach can, through forming an alliance with a patient, help them work towards change.

II. Organizational Experience

A. UCDHS Chronic Disease Management Program

The CDM began in 2002 with a grant from the Robert Wood Johnson Foundation (to the Department of Family and Community Medicine) and has, since 2003, been supported by the Health System to continue and expand the work. The goal is to improve the quality of care provided to all patients with chronic illnesses; diabetes is one of the three chronic illnesses targeted. The initial focus has been on developing system wide clinical information infrastructure (e.g. patient registries and EMR tools), patient self-management resources, and active consultation with physicians and clinic staff teams around clinic redesign.

One of UCDHS’ greatest successes has been in the area of patient-self-management education. In 2008, four different diabetes classes were taught, totaling nearly 200 class sessions a year. The Diabetes Self-Management Education program received a certificate of recognition from the American Diabetes Association, a rigorous recognition process requiring programs to meet the highest educational standards. The certified class that was recognized is titled “In Charge and In Control.” The UCDHS program has been certified since 2003.

During the 2008-09 year, 276 patients were tracked who had taken the four week “In Charge and In Control” class. Comparing patients’ A1c and LDL lab values immediately before taking the class and 90-180 days following the class, there was a *statistically significant* ($p < 0.001$) decrease in mean HgbA1c from 8.3 to 7.4 and mean LDL from 112.0 to 100.4. In 2007, UCDHS also explored the feasibility of extending access to these classes within the Primary Care Network via videoconferencing. Patients attending the class at the remote site reported high satisfaction with the class and technology.

B. UC Davis Center for Health and Technology

The UCDHS Center for Health and Technology (CHT) began in 1992 and has grown to be an internationally-recognized leader in the use of telecommunications technology to improve the delivery of health care. CHT partners with approximately 80 hospitals and clinics throughout rural northern California, providing patients and their physicians with access to over 30 medical specialties and subspecialties through the use of

telecommunications technologies. CHT has completed over 13,000 telemedicine video-based clinical consultations since the program began. For this pilot, CHT will provide technical consultation and assessment of the rural practice sites participating in this pilot and provide the videoconferencing linkage for the educational classes.

C. UC Davis Center for Healthcare Policy and Research

The UCD Center for Healthcare Policy and Research (CHPR) was founded in 1994 with the mission of facilitating research, promoting education, and informing policy about health and healthcare. The CHPR brings together the talents of researchers representing a broad spectrum of disciplines from the School of Medicine, the main Davis Campus, and other organizations. With this multidisciplinary approach, the CHPR helps investigators examine questions pertinent to health services access, delivery, cost and outcomes, with an emphasis on healthcare policy. It also provides the administrative resources and technical expertise crucial to implementing this kind of focused, collaborative research. For this project, the CHPR will provide contract management, evaluation and administrative support.

D. UC Davis Office of Continuing Medical Education

The UCDHS Office of Continuing Medical Education (OCME) offers physicians and other health care providers' educational opportunities that foster excellence in patient care. Accredited by the national Accreditation Council for Continuing Medical Education, the Office provides both traditional and innovative modes of learning to physicians throughout northern California. Most recently, they have begun utilizing new learning modalities through innovative communication technologies including interactive remote video teleconferencing and CME self-study modules courses on the Internet. For this project, the OCME will provide consultation in the use of these new modalities and provide CME credit for the classes offered.

III. The First Year of the Pilot

The intention of this annual report is to provide an update and evaluation of the work in progress for the "Development of Diabetes Self-Management Education Program via Telemedicine for Patients in Rural Underserved Communities in California" pilot, which is administered by the UCD and funded by the Medical Board of California.

AB 329 envisioned a one-year project and required the board to make recommendations regarding its findings to the Legislature within one calendar year of the commencement date of the pilot program. However, upon entering into initial discussions with interested parties, the Board quickly realized that a one-year pilot was not feasible, valuable results would not be recognized, nor could feasible recommendations be made in such a short time frame.

Since the actual contract took effect and was negotiated for three years, this is only the first report to the Legislature. However, in order to comply with the wishes of the Legislature, this report covers the first period from July 1, 2009 to April 30, 2010, so that the report can be submitted by the deadline specified in law. UCD will play a significant role in developing the two subsequent annual reports evaluating the effectiveness of the pilot (to be submitted Summer 2011, at the end of the second year, and Summer/Fall 2012, to include a summary of the pilot and to prepare evidence-based recommendations.)

Under the direction of Dr. James Nuovo, the Principal Investigator, the project team core members have met on a monthly basis with the project manager from the Medical Board of California to ensure our continued movement forward in tandem as the project and its momentum increases. The project team has effectively organized and laid the foundation for the success of the project. A collaboration of efforts has been established between the Board and UC Davis departments including Chronic Disease Management (CDM), Center for Health and Technology (CHT), Center for HealthCare Policy and Research (CHPR), Office of Continuing Medical Education (OCME) and various rural prime network member clinics.

The UCD project team core members have worked with internal evaluation experts, statistical experts, and research project staff to develop a set of functional, viable and user friendly data collection forms. These forms will provide the data required to conduct valid and measureable outcomes and evaluation analysis.

The telemedicine Diabetes Self-Management Education Curricula was developed through the collaborative efforts of the project staff, subject matter experts and the health coaches. The curricula were piloted with a group of 9 patients with diabetes at UC Davis Medical Center. This test included the curricula and the telemedicine aspect of health educators conducting the educational process via telemedicine. The results of the pilot are as follows:

1. Overall positive experience with the telemedicine experience
 - a. Feedback was positive and participants enjoyed the experience
2. Regarding curricula, feedback included:
 - a. Rearrangement of specific booklet pages
 - b. Deletion of a specific page
3. Regarding delivery, feedback included:
 - a. Use a role play for teaching a specific content area
 - b. Re-organize teaching techniques for specific content areas.

This feedback and suggestions were incorporated into the curricula and delivery processing going forward.

The CME component is in the process of finalization with the OCME. The application for credit designation has been accepted and course subject matter, objectives and disclosures approved. The physician topic surveys have been finalized. In preparation for health coaching efforts as well as managing ongoing questions or concerns from clinics and class participants, a toll free number has been established for the project through the Chronic Disease Management Department.

Financially, the pilot team has spent only 50% of its funds for the first year while using over 75% of its planned project time during this fiscal period. The team plans to have 75% of the funding expended by the end of the first fiscal period. These lower-than-anticipated expenditures are attributed to several factors:

1. Delay in appropriations--expenses did not begin to accrue until August.
2. Personnel expenses less than forecasted due to delay in hiring staff.

UCD anticipates that the expenses will balance out during the first two quarters of the second year as we increase the number of sites, number of classes and expenses that tie to these efforts.

The project commenced formally on 7/1/2009. The contract and financial appropriations were finalized on 8/6/2009 and since then the team has been proceeding with an active timeline to

achieve the project's first year goals. The following is an outline of achievements to date and expected accomplishments by the end of 6/30/2010:

Accomplishments as of 4/30/2010

Staffing

1. Health educator staff have been recruited, hired and trained.

Institutional Review Board (IRB) [*a committee that has been formally designated to approve, monitor, and review biomedical and behavioral research involving humans with the aim to protect the rights and welfare of the research subjects*]

1. IRB approval was obtained as of 11/20/09.
 - a. Post pilot of the survey forms and curriculum IRB modification were submitted and approved as of 3/12/2010.
 - b. Approved IRB consent forms have been translated into Spanish.
 - c. Multiple modifications have been approved.
2. Clinic Sites
 - a. Site project binders which provide in-depth project details, timelines, goals, support documentation and forms required have been established.
 - b. The project has generated 3 invitations, one on Jan 6th, Feb 9th, and March 23rd.
 - i. A cumulative total of 23 sites have been invited on the dates mentioned above.
 - ii. Invitations are generated every 4-6 weeks.
 - iii. Invitations include a project description and a project manager contact to discuss any questions or concerns.
 - iv. A minimum of three clinics sites will be invited to participate every 4-6 weeks.
 - c. The first site recruited is Sierra Family Medical, located in Nevada City
 - i. The initial clinic site meeting with Sierra Family Medical providers and staff was completed on 3/11/2010.
 - ii. Classes on this site begin in June 2010.
 - d. Additional Sites that have accepted include:
 - i. Western Sierra Medical Center - Downieville
 - ii. Miners Family Health Center – Grass Valley
 - iii. Tahoe Forest (Rural Prime Site) – Truckee

Curriculum Development

1. The curriculum development was completed early January, 2010.
2. The curricula were piloted with diabetes patients on January 26, 2010 at UC Davis Medical Center.
3. The curricula were demonstrated on February 2, 2010, with staff from the Medical Board in attendance.
4. Class books are printing and will be completed by the end of May 2010.

Continuing Medical Education

1. The CME portion of this project has been submitted to and approved by the OCME.
2. Topic surveys for physicians have been established.

One-on-One Education Consults

1. Physician overview and process developed
2. Physician forms finalized

During this first period we have learned some interesting and valuable lessons that we share as lessons learned. We believe these can prove to be invaluable as we continue to develop the program at its highest quality and effectiveness for all in the future.

Note-worthy lessons learned:

1. Sites are opting out for the following reasons:
 - a. Have adequate diabetes education resources on site
 - b. Inundated with other projects
 - c. Tele-video room limitations
 - d. Inconveniently located televideo equipment
 - e. No outpatient clinics
2. Working with the UCD Rural Prime project has engaged several existing Rural Prime Clinics.
3. Working with existing collaborative groups like Health Alliance of Northern California (HANC) has proven very effective for spawning interest, engaging and recruiting sites.

Goals for 5/1/10-6/30/2010

IRB

1. All remaining items in Spanish requiring IRB approval will be submitted to the IRB early June.

Clinic Site

1. Begin participant recruitment within one week of human subject certification training completion by clinic staff.
2. Establish a new clinic site every 4-6 weeks.
3. Follow up with clinics that have demonstrated interest but have not committed
 - a. Redwoods Rural health Center
 - b. Warner Mountain Indian Health

Classes

1. Upon appropriate recruitment volume, site classes will be scheduled regularly at clinic sites.
2. Complete classes within 3-4 months of initial site visit.

Curriculum Development

1. All Spanish curricula will be translated by late June.
2. Spanish classes will be taught as needed after early July 2010.

CME

1. Upon site recruitment, physicians will be surveyed to obtain their CME preferred topics relating to diabetes and care of diabetes patients.
2. CME will be completed within 6 months of initial site visit

Evaluation

1. Conduct preliminary evaluation with data collected from initial site recruitment, classes and survey data obtained from both Diabetes Self-Managed Care Education and CME courses.
2. The provider satisfaction survey is in the early draft stages and will be completed by July 2010.

Project Timeline

Task	Proposed Completion Date	Actual Completion Date
Contract Completed / Appropriated	7/1/09	8/6/09
Recruit, hire, and train health educators/coaches	9/30/09	First health educator hired 10/19/09, second bi-lingual educator hired 12/14/09
Develop evaluation plan & methods; obtain IRB approval	9/30/09	Initial approval 11/20/09, additional modifications post pilot approved 3/12/10
Identify 1 st 6 healthcare sites to participate	9/30/09	Healthcare site recruitment commenced on 1/6/10 and 3 sites or more are being invited every 6 weeks
Meet with clinic providers and staff to review project, class enrollment process and patient follow-up	Begin as of 12/31/09 ongoing	Meeting with site #1 Nevada City completed on 3/11/10
Develop class curriculum and handout materials in English and Spanish	9/30/09	English version completed early January, piloted with patient participants on 1/26/10, piloted with Medical Board Staff on 2/2/10. Translation to Spanish to be completed by late summer 2010
Schedule classes and begin enrollment	Begin as of 12/31/09 ongoing	Patient recruitment and class scheduled early to mid June and then ongoing
Conduct monthly classes for each site	Begin as of 12/31/09 ongoing	Commencing early to mid June and ongoing
Conduct patient surveys; input data	Begin as of 3/31/10 ongoing	Commencing early to mid June and ongoing

Survey physicians re: CME topics; initiate noontime CME presentations; initiate individual consultations	Begin as of 9/30/09 ongoing	Commencing early to mid April and ongoing
Conduct chart audits 90-180m days following class	Begin as of 6/30/10 ongoing	Commencing mid October and ongoing
Conduct provider satisfaction and suggestions for improvement; implement changes	Begin as of 6/30/10 ongoing	Commencing June and ongoing
Evaluate progress to date; prepare annual report	Begin as of 6/30/10 ongoing	Began March and ongoing