Improving Quality of Care for Californians with Diabetes

July 2002

Prepared for the California HealthCare Foundation by

Nancy Oswald, Ph.D.

POWERS & ASSOCIATES
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Executive Summary

California faces an epidemic of diabetes, with the highest incidence in the nation. Approximately two million Californians have diabetes. Those with the highest prevalence are people of color, people over 65, and people who are overweight. Complications of diabetes include heart disease, stroke, blindness and kidney failure. It is the sixth leading cause of death. Associated costs are staggering: $12 billion in California.

Diabetes is not curable, but it is treatable, and its complications are preventable. The goal of treatment is to manage the illness to live a healthy life. In the past five years, considerable evidence has emerged on several basic aspects of care to be provided by the health care system, and on the importance of involving the patient in managing his or her disease. Although there has been incremental improvement in measures of quality of diabetes care, there are systemic barriers to providing comprehensive diabetes care. The physician-centered, episodic acute-care model is not designed to care for large numbers of patients with chronic illness. In order for the health care system to meet the challenge of the epidemic, it must redesign its delivery of care. The Chronic Care Model, developed by Edward Wagner, M.D., provides an optimal design for needed comprehensive care. Its six components are (1) coordination with community resources, (2) strategic commitment of the organization, (3) support of patient self-management, (4) redesign of the delivery system, (5) clinical decision support, and (6) clinical information systems. Health care organizations that have adopted such comprehensive programs can demonstrate improvement in aspects of care and health status.

On the whole, California’s health delivery system faces a quality chasm between what is known to be essential aspects of care and what is actually being provided. Two parts of the health care system are adopting comprehensive diabetes care programs: community health centers and Kaiser Permanente. Among the network model managed care plans and physician organizations, few comprehensive programs exist. A small number of physician organizations are developing such programs, despite market forces and other conditions that discourage them. The state’s six major health plans have disease management programs, mostly vendor-operated and targeted at the sickest patients. Other barriers face fee-for-service providers and patients: a lack of
reimbursement for support of patient self-management and drug coverage. Overall, there is a lack of culturally responsive programs for communities with the greatest prevalence.

A few key initiatives in California have embraced the challenge to leap the quality chasm, in addition to the initiatives within the community health centers and Kaiser Permanente. The State Department of Health Services Diabetes Control Program (DCP) has actively partnered with providers and with the diabetes community to influence improvements in care. The California Cooperative Healthcare Reporting Initiative (CCHRI) Diabetes Continuous Quality Improvement (CQI) Project has brought together health plans and physician organizations, as well as other key stakeholders, to create several key breakthroughs: establishing common guidelines, addressing key data issues, and promoting change to a population-based approach for diabetes care. Recently, the six largest health plans agreed to the Pay for Performance Initiative, whereby physician organizations will be rewarded for improving their diabetes and other types of care.

The California HealthCare Foundation (CHCF), as well as others, can build upon and complement these initiatives to catalyze the adoption of the comprehensive diabetes care programs. Support can be given for the development and growth of structured collaboratives that have demonstrated their ability to accelerate improvement in diabetes care. CHCF can bring together those entities already engaged in improvement efforts to further catalyze the adoption of models that work, such as the Chronic Care Model. Finally, CHCF can facilitate culturally appropriate diabetes prevention education and self-management programs for persons with diabetes, providers, and public health activists.
I. Introduction

This paper is one of five white papers produced by Powers & Associates at the request of CHCF. In addition to diabetes, the other four topics include breast cancer, end-of-life care, heart failure, and pediatric asthma. The primary purpose of each paper is to assist CHCF staff and others in determining priority areas for investment in quality improvement in the state of California. While each paper stands alone, together the five form an integrated body of work.

Each paper includes the following sections: the epidemiology of the disease/condition; costs; the state of knowledge on preventing, diagnosing, treating, and monitoring the disease/condition; the gaps between knowledge and treatment; current efforts to close the gaps; and opportunities and recommendations for potential investments by the Foundation. In order to preserve the readability of the paper and limit its length, most of the sections are illustrative, rather than exhaustive. Any omission of specific information or an initiative does not intentionally imply it has been deemed unworthy of acknowledgement.

As the team of authors writing these papers delved into opportunities for fundamentally improving quality of care, it became apparent that a coordinated care model provided a common framework across all five diseases/conditions and is especially appropriate for chronic conditions, such as diabetes. The basics of the Chronic Care Model are described within this paper and it is included in the recommendation section. Other recommendations specific to priorities identified by key stakeholders within each disease/condition are included in the papers.
II. Epidemiology

More than one and a half million adult Californians (8.4 percent of the population) have diagnosed diabetes. Only two other states, South Carolina and Mississippi, have a greater percentage of their population with diabetes. California had the highest incidence (rate at which new cases occur) of diagnosed diabetes in the nation during the 1990s: it more than doubled. Furthermore, it is estimated that one-third of all diabetes goes undiagnosed. In other words, two million Californians have diabetes. To call diabetes in California an epidemic is not an understatement.

There are two types of diabetes. Type 1, formerly referred to as juvenile diabetes and insulin dependent diabetes mellitus, is most commonly diagnosed in childhood. Type 1 is an autoimmune disease in which an antibody reaction renders the pancreas unable to produce insulin, the hormone that transports glucose in the blood to cells. Type 2, formerly referred to as adult onset diabetes and non–insulin-dependent diabetes mellitus, accounts for between 90 and 95 percent of diabetes cases. Although the onset of Type 2 usually occurs in adulthood after age 40, it is increasingly being diagnosed in children and adolescents. The major physiological problem for Type 2 is insulin resistance: cells are resistant to insulin and thus cannot convert the glucose in the blood into usable energy. In both types, glucose builds up the blood, starving cells and causing damage to other organs. Neither type is curable today. Both are progressive and chronic, though treatable, conditions. The goal of treatment is to live a healthy life and prevent and minimize the debilitating complications of diabetes.

In 1996, diabetes was the seventh leading cause of death in the United States. By 1999, it had risen to the sixth leading cause. Every day, 2,200 new cases are diagnosed. The incidence of diabetes increased 33 percent nationwide in the 1990s, and increased 70 percent among people ages 30 to 39. The earlier in life one acquires diabetes, the greater the risk of complications, and the complications are numerous and significant. Diabetes is the leading cause of kidney disease, of lower extremity amputations, and of new cases of blindness in people ages 20 to 74. Annually, diabetes causes about 33,000 people to develop kidney failure, about 86,000 people to have a foot or leg amputated, and an estimated 12,000 to 24,000 people to become blind. A person with diabetes has two to four times the chance of a heart attack or a stroke, and is three
times more likely to die from influenza or pneumonia. A person with diabetes is also at increased risk for gum disease and corresponding bone loss. A person with diabetes who smokes has from 43 percent to 100 percent greater risk of death from diabetes-related complications than does one who does not smoke.

The meteoric increase in Type 2 diabetes corresponds with the increase in the prevalence of obesity. In 2001, U.S. Surgeon General David Satcher, M.D., Ph.D., noted this in his “Call to Action to Prevent and Decrease Overweight and Obesity.” A weight gain of 11 to 18 pounds doubles a person’s risk of developing Type 2 diabetes. Eighty percent of people with diabetes are overweight or obese. In a 1997 survey, the Centers for Disease Control and Prevention (CDC) found that in California, 62 percent of African Americans, 61 percent of Hispanics, and 52 percent of Caucasians in California were overweight or obese. Furthermore, 70 percent of all groups reported eating less than the recommended 5 servings a day of fresh fruits and vegetables, and 38 percent of Latinos and 19 percent of Caucasians reported no leisure-time physical activity.

Obesity and inactivity are the greatest risk factors for Type 2 diabetes. Other risk factors include:

- Being a member of a high-risk ethnic group. Native Americans have a 280 percent higher risk of getting diabetes; African Americans have a 205 percent higher risk, and Hispanics have an 81 percent higher risk. Asian Americans and Pacific Islanders are also at a higher risk than Caucasians.

- Being elderly. More than 18 percent of persons over 65 years old have diabetes.

- Having a family member with diabetes.

- Giving birth to a child of nine pounds or over and/or previously having had gestational diabetes (diabetes that occurs during pregnancy). Gestational diabetes usually is temporary, resolving once the baby is born. However, having gestational diabetes increases the risk by 40 to 50 percent of developing Type 2 diabetes later in life.
III. Cost

The staggering costs for care associated with diabetes stem from treatment of its complications: hospitalizations, dialysis, and surgeries. The World Health Organization estimates that the health care costs incurred by a person with diabetes are three times those of a person without diabetes. The CDC estimated that in 1997, the average health care cost for a person with diabetes was $10,071 annually; the health care cost for a person without diabetes was $2,699. The total costs of treating diabetes in the United States were almost $100 billion. The Diabetes Control Program (DCP) of the California Department of Health Services estimates the costs in California at $12 billion annually.

Jeffrey P. Koplan, M.D., M.P.H, former director of the CDC, summarizes: “Dramatic new evidence signals the unfolding of a diabetes epidemic in the United States. With obesity on the rise, we can expect the sharp increase of diabetes rates to continue. Unless these dangerous trends are halted, the impact on our nation’s health and medical care costs will be overwhelming.”
IV. State of Knowledge, Prevention, Diagnosis, Treatment, and Monitoring

The CDC director’s dire prediction about the diabetes epidemic contains one note of hope: “Unless these dangerous trends are halted . . .” The reasons behind the mushrooming rates of increase of Type 2 diabetes are deeply intertwined with major trends in the U.S. population in general and the California population in particular. The risk of diabetes increases with age; people are living longer. The risk of diabetes is greater in the non-Caucasian sectors of the population; the growing majority of Californians are people of color. Most significantly, the increase in prevalence of diabetes is directly related to sedentary lifestyle and high-caloric diet. People in the United States are exercising too little and eating too much. These are demographic, cultural, and economic forces. What will enable those in the health care system dealing with diabetes to possibly compete with these forces and halt the epidemic of diabetes? Nothing less than a profound change in how the health care system deals with the prevention and treatment of chronic disease, and diabetes in particular. It requires a change from the fragmented, episodic, acute-care design to one that orients itself to involving patients in the prevention of chronic illness and keeping chronically ill people well. In the Institute of Medicine’s report *Crossing the Quality Chasm*, the Committee on Quality of Health Care in America notes, “In a population increasingly affected by chronic conditions, the health care system is poorly organized to provide care to those with such conditions.”

Type 2 is preventable in many people. The results of a large clinical trial of high-risk individuals demonstrated that lifestyle changes (weight loss and increased physical activity) reduced the incidence of Type 2 diabetes by 58 percent. Furthermore, with appropriate treatment (including lifestyle changes), the debilitating and often fatal complications of diabetes—heart disease, stroke, kidney failure, blindness, amputations—can be prevented as well.

In the past few years, considerable professional consensus on what constitutes good diabetes care has evolved into evidence of what is essential to good diabetes care. In other words, clinical wisdom has evolved from “we think this is the right thing to do” to “we know this is the right
thing to do.” The goal of treatment is not to cure the patient of diabetes, but to provide the care so that persons with diabetes optimally live with their chronic illness.

**Measures and Guidelines**

A significant step in this evolution was the formation of the Diabetes Quality Improvement Project (DQIP), created by the Health Care Financing Administration (HCFA, now the Centers for Medicare and Medicaid Services). In 1997 key organizations came together to determine (1) what aspects of appropriate diabetes care are important to measure to determine the quality of care, and (2) what are appropriate measurements at this time. Participating in this effort were the American Diabetes Association (ADA), the Foundation for Accountability, the Centers for Medicare and Medicaid Services, the National Committee for Quality Assurance (NCQA), the American Academy of Pediatrics, the American College of Physicians-American Society of Internal Medicine, the CDC, and the Veterans Administration. The process resulted in the DQIP measures: “Consensus around a single set of measures creates a powerful tool for focusing on key components of diabetes care as a basis for quality improvement and allows for a valid comparisons of care within and across health care settings.” The DQIP Accountability Measures standardized the basis by which health care entities reported on their quality of diabetes care.

<table>
<thead>
<tr>
<th>Aspect of Care</th>
<th>Frequency</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin A1c (hba1c) tested</td>
<td>Once a year</td>
<td>The amount of glucose (also called sugar) in the blood</td>
</tr>
<tr>
<td>Hba1c controlled below 9.5% (also called glycemic control)</td>
<td>N/a</td>
<td>To control high levels of glucose in the blood</td>
</tr>
<tr>
<td>Eye exam (also called retinal exam) performed</td>
<td>Once a year</td>
<td>To detect risk of blindness</td>
</tr>
<tr>
<td>Lipid profile (also called cholesterol or LDL levels) performed</td>
<td>Once every 2 years</td>
<td>To detect risk of heart disease and stroke and kidney failure</td>
</tr>
<tr>
<td>Lipids controlled below 130 mg/DL</td>
<td>N/A</td>
<td>To decrease risk of heart disease and stroke</td>
</tr>
<tr>
<td>Kidney disease monitoring (also called nephropathy monitoring and microalbuminuria testing)</td>
<td>Once a year</td>
<td>to detect risk of kidney or renal failure</td>
</tr>
<tr>
<td>Blood pressure controlled below 140/90</td>
<td>N/a</td>
<td>To decrease risk of heart disease and stroke</td>
</tr>
<tr>
<td>Foot exam performed</td>
<td>Once a year</td>
<td>To prevent the risk of amputation</td>
</tr>
</tbody>
</table>

DQIP also developed another set: the DQIP Quality Improvement Measures. DQIP recommended that providers collect these for the purpose of developing internal quality improvement efforts. They track the distribution of HbA1c levels, lipid profiles, and blood pressure values among the entire population of persons with diabetes receiving care by that
provider. Initially, the foot exam was part of the improvement measure set, but was moved into the accountability set a year or so later.

Within a couple of years, NCQA incorporated the first six DQIP accountability measures into its Comprehensive Diabetes Care measure in the 2000 Health Plan Employer Data and Information Set (HEDIS). In April 2001, NCQA, the American Medical Association, and the Joint Commission released the “Coordinated Performance Measurement for Management of Adult Diabetes.” Building upon the DQIP measures, they added measurements for two additional aspects of care, influenza immunizations and frequency of office visits. They furthermore describe treatment goals, clinical recommendations, standardized data elements, and the rationale for each measure. For example, although the DQIP measure for blood glucose control currently requires glucose levels below 9.5 percent, the stated treatment goal is at or below 7 percent. (The normal level for a person without diabetes is less than 6 percent.) Although these measurements do not measure all aspects of care, there is consensus that these aspects are basic to good diabetes care.

These DQIP measures represent consensus in the medical community on evidence-based guidelines for comprehensive diabetes care. Although related, guidelines and measures are not equivalent. Clinical practice recommendations or guidelines are intended to support clinical decisions. Measures are tools to ascertain the quality of care within a given health care entity. Although many different entities have their own diabetes care guidelines, they are remarkably similar. The CCHRI Diabetes CQI Project has succeeded in developing one set of guidelines, endorsed by all major health plans in the state.

The other essential part of diabetes care is the involvement of the patient in managing his or her disease. “The single most important aspect of diabetes care is patient self-management.” Self-management has several components. In its Clinical Practice Recommendations 2001, the ADA states:

“Achieving near normal or normal blood glucose levels in patients requires comprehensive education in self-management and, for most individuals, intensive treatment programs. Such programs include the following components according to individual patient need:

- appropriate frequency of self-monitoring of blood glucose (SMBG);
- medical nutrition therapy (MNT);
- regular exercise;
- self-administration of insulin for Type 1 and some Type 2 patients; medications for some Type 2 patients;
- instruction in the prevention and treatment of hypoglycemia and other acute and chronic complications;
- continuing education and reinforcement; and
- periodic assessment of treatment goals.”
Keeping blood glucose in control is a daily activity. If blood glucose is too low (hypoglycemia), one can become dizzy, shaky, moody, and confused, and can eventually lose consciousness. If one’s blood glucose is chronically too high (hyperglycemia), the serious complications of diabetes set in: heart disease, stroke, blindness, and kidney failure. If hyperglycemia in persons with Type 1 diabetes is not treated, a potentially life-threatening condition (ketoacidosis) can lead to a coma and requires immediate medical attention. Self-monitoring means measuring one’s blood glucose level. It involves a finger prick and analyzing the blood with a glucose meter, a small-computerized device. There are several different varieties of blood glucose meters. Self-management means keeping blood glucose in control.

Regular exercise and an appropriate diet are not only the most critical factors in preventing diabetes, they are also the most important parts of the treatment plan for a person with Type 2 diabetes. There is no “special” diabetes diet. The ADA Diabetes Food Pyramid, almost identical to one for the general population developed by the U.S. Department of Agriculture, incorporates good nutrition guidelines applicable to all. The significant difference between these guidelines for a person with diabetes and a person without diabetes is in the effect: A person with Type 2 diabetes who does not eat a modified carbohydrate, low fat diet has at least twice the risk of developing a fatal and/or disabling condition. A diet must be tailored for each patient, taking into account his/her current weight, health status, culture, lifestyle, activity levels, and work. Eating is a highly personal activity. Both a clinician skilled in nutrition and the patient and his/her family are involved in developing the nutrition plan. This plan incorporates the latest nutritional guidelines (modified by the ADA as recently as December 2001) on the one hand and the particular personal and cultural preferences of the patient on the other.

The same principles apply to the importance of a regular physical exercise program for treatment of Type 2 diabetes. Everyone should exercise regularly; a person with diabetes should exercise to lower the risk of potentially fatal complications. In most cases, exercise lowers blood glucose levels and certainly enhances stress reduction and cardiovascular health. However, this exercise must be done in conjunction with knowing one’s symptoms and self-monitoring of blood levels, as there are times when exercising can exacerbate insulin-related problems.
Medications play a role in the treatment of diabetes. For persons with Type 1 and some persons with Type 2 diabetes, self-administering artificial insulin, done prior to meals with a syringe or pump, is an essential part of their therapy. Medications for Type 2 diabetes can be used to supplement diet and exercise. Whereas Type 2 can be controlled with good diet, regular exercise, and monitoring, it cannot be controlled using only medications. They are a second line of treatment. Most major pharmaceutical manufacturers make some type of diabetes drugs, and there are also generics. There are three major classes:

- drugs that stimulate the release of insulin (e.g., Diabeta manufactured by Aventis, Micronaser by Pharmacia, Prandin by Novol);
- drugs that sensitize the body to insulin (e.g., Glucophage by Bristol Meyer Squibb, Avandia by Glaxo, Actos by Lilly); and
- drugs that slow or block the breakdown of starches and glucose (e.g., Prevose by Bayer)

Other important aspects of comprehensive diabetes care include:

- medications to reduce the risk of heart disease and stroke: ACE inhibitors, cholesterol-lowering agents, and aspirin;
- smoking cessation counseling; and
- regular dental examinations.

**Figure 1: Chronic Care Model**
Today the focus of discussion on diabetes care is no longer *what* is the right thing to do, but *how* is the best way to do it. There is now evidence on the *what*: that key aspects of care, including actively involving the patient, improve outcomes, i.e., people with diabetes have their disease more in control and have fewer debilitating complications. The crucial next step in the evolution from consensus to evidence is around *how* the process of care can best improve the outcomes of care. There is a growing consensus around a model of a process of care that optimizes providing the critical aspects of care, which in turn improves the outcomes. The Chronic Care Model, developed by Ed Wagner, M.D., of the MacColl Institute for Healthcare Innovation at Group Health Cooperative in Seattle, in collaboration with the Institute for Healthcare Improvement (IHI), dynamically outlines what is needed to create “productive interactions” between a “prepared, proactive practice team and an “informed, activated patient.”

The Chronic Care Model identifies six essential elements of a system that encourages high-quality chronic disease management: community, the health system, self-management support, delivery system design, decision support, and clinical information systems.

**Table 2. Application of the Chronic Care Model to Diabetes Care**

<table>
<thead>
<tr>
<th>Component of Chronic Care Model</th>
<th>Application to Diabetes Care</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Community</strong></td>
<td></td>
</tr>
<tr>
<td>• Community programs</td>
<td>• American Diabetes Association brochures, website, programs</td>
</tr>
<tr>
<td>• Senior centers</td>
<td>• State Diabetes Control Program</td>
</tr>
<tr>
<td>• State health departments</td>
<td>• Local YMCA exercise programs</td>
</tr>
<tr>
<td>• Patient advocacy organizations</td>
<td>• Local senior center</td>
</tr>
<tr>
<td></td>
<td>• Spanish-language community groups</td>
</tr>
<tr>
<td><strong>Health System</strong></td>
<td></td>
</tr>
<tr>
<td>• A strategic priority of management</td>
<td>• Resources for a care management program</td>
</tr>
<tr>
<td>• Clinicians incentivized to meet standards of care</td>
<td>• Incentives for clinicians to meet DQIP measures</td>
</tr>
<tr>
<td>• Access to care before complications arise</td>
<td>• For persons with diabetes at all stages of disease, not just with complications</td>
</tr>
<tr>
<td><strong>Self-management Support</strong></td>
<td></td>
</tr>
<tr>
<td>• Patient education classes about the illness</td>
<td>• Classes and materials, home glucometers, and booklets to record glucose</td>
</tr>
<tr>
<td>• Patient education materials</td>
<td>• Goal setting regarding glucose control, diet, weight, exercise, how often glucose levels are checked, e.g., “patient agrees to lose 1 point or to check glucose levels every morning or to walk 5 blocks each day</td>
</tr>
<tr>
<td>• Goal setting between provider and patient</td>
<td>• A patient reminder care to do routine diabetic tasks</td>
</tr>
<tr>
<td>• Follow-up visits or phone calls for re-emphasis</td>
<td></td>
</tr>
<tr>
<td>• Classes on “learning to live with chronic disease”</td>
<td></td>
</tr>
</tbody>
</table>
Table 2. Application of the Chronic Care Model to Diabetes Care (Cont’d)

<table>
<thead>
<tr>
<th>Delivery System Design</th>
<th>Decision Support</th>
<th>Clinical Information Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Primary care teams with clear division of labor</td>
<td>• Care teams of different clinicians (physician, nurse, health educator, dietician, pharmacist)</td>
<td>• Chronic illness registry for population-based care</td>
</tr>
<tr>
<td>• Planned visits for chronic illness to overcome the “tyranny of the urgent”</td>
<td>• Planned visits with non-physician clinician who has authority under protocol to change medications/doses so physician doesn’t have to do this</td>
<td>• Reminder systems for clinicians</td>
</tr>
<tr>
<td>• Continuity of care so patient sees same clinicians each visit</td>
<td>• Case management for people who have poor glucose control</td>
<td>• Feedback to clinicians on how patients are doing</td>
</tr>
<tr>
<td>• Capacity for case management</td>
<td>• Call patients who have not had regular visits</td>
<td>• Feedback to patients on how they are doing</td>
</tr>
<tr>
<td>• Group visits</td>
<td>• DQIP measures, standards of care, guidelines</td>
<td>• Electronic Medical Record (EMR) is the ideal but not essential</td>
</tr>
</tbody>
</table>

Sources: Thomas Bodenheimer, M.D., www.improvingchroniccare.org

These components foster “productive interactions between patients who take an active part in their care and providers backed up by resources and expertise.”32 The Chronic Care Model provides a supportive framework where both clinicians and patients actively engage in the multifaceted, ongoing treatment of diabetes. A recent California study examined the relationship between HbA1c testing rates and self-reported measures of health status of people with diabetes. It concluded “Health plan and provider group investments in educational efforts aimed at increasing testing rates are likely to lead to improved glycemic control and a reduction in the incidence of diabetes-related complications...”33
Support for patient self-management differs from patient education. It means more than talking to a patient, referring him or her to a class, and handing out a brochure. Self-management means an “informed, activated patient…. Patients must take better care of themselves to keep their chronic illnesses under control, and need to be trained in proven methods of minimizing complications, symptoms and disability…. But effective self-management means more than telling patients what to do. It means giving patients a central role in determining their care, one that fosters a sense of responsibility for their own health.”

Its increasing recognition and usage demonstrate growing consensus around the Chronic Care Model. The Robert Wood Johnson Foundation sponsors a national program, Improving Chronic Illness Care (ICIC), with the Chronic Care Model as its cornerstone. DQIP, in addition to its measures for standards of diabetes care, has developed a Compendium of Best Practices, in which it bases its review of best practices in diabetes care on the Chronic Care Model. The CDC and the U.S. Department of Health and Human Services Bureau of Primary Care (BPHC) uses the Chronic Care Model as the basis of its national standards for diabetes care for the Health Disparities Collectives. As an example, BPHC’s mandatory measures include, in addition to HbA1c testing and control, “documentation of self-management goal setting” and “registry size.” (Registry means the list of all patients in a system with a given condition or disease.) California’s DCP will target “expanding the use of the Chronic Care Model” in its 2002 statewide planning process. “The Chronic Care Model is like an evidence-based guideline: a synthesis of system changes to be used to guide quality improvement.”

The acute-care, physician-centered model is not equipped to halt the epidemic of diabetes. The physician alone in his or her office does not have the ability to know all of his or her diabetic patients and whether they are up to date on all of their tests, much less the time to spend creating and monitoring treatment goals. Health systems need programs, not just individual physicians, to manage care of their patients with diabetes. The CDC Task Force on Community Preventive Services issued a report in July 2001: Strategies for Reducing Morbidity and Mortality from Diabetes Through Health-Care System Interventions and Diabetes Self-Management Education in Community Settings. Two of their four recommendations are disease management programs and case management in health-care settings. Disease management (also called disease state management and care management) is “a program to manage care of populations with particular diseases or conditions. It is an integrated system of interventions, measurements, and refinements of health care delivery designed to optimize clinical and economic outcomes within a specific population.” Case management is “a program to manage [the care of] individual patients with high risk or high cost conditions.” Physicians are the appropriate clinicians for some aspects of this care; for other aspects, different clinicians are more appropriate—nurses, health educators, dieticians, and pharmacists, to name a few. Multiple clinicians with a team approach are needed as part of a program of comprehensive diabetes care.

Diabetes—its causes, risk factors, consequences, and treatment—is not a mystery. There is little controversy about what needs to be done to halt the epidemic. There is a growing consensus about how to do it. In California, where the incidence is increasing faster than anywhere in the nation, how big are the gaps between what is known and what is being done?
V. Gaps Between Knowledge and Treatment

How is the health care system in California doing in providing comprehensive care to people with diabetes? An obvious place to start is to look at how the commercial and Medicare managed care plans are doing on the six DQIP measures in the HEDIS Comprehensive Diabetes Care measure. Most California health plans (and all of the largest health plans) report their HEDIS scores through the California Cooperative Healthcare Reporting Initiative (CCHRI).

As the six measures have been collected the same way for just two years, only 1999 and 2000 can be compared. The good news is that the overall trend shows more monitoring is being done and glucose levels for diabetic patients who are members of these health plans are in better control. Compared to national averages, California average scores fall in the 50th and 75th percentiles. The bad news is that, at best, four out of five persons over 65 with diabetes are getting their blood glucose tested, and one-third of those individuals have very high blood glucose levels (above 9.5). Not even half of persons with diabetes are having kidney disease testing.

Managed care plans, however, do better than providers who are paid fee-for-service Medicare in California. A recent study reported an increase in two of three DQIP measures in the late 1990s (see Table 4). Yet at best, 31 percent of California Medicare fee-for-service beneficiaries with diabetes are not getting HbA1c tests or eye exams, and 29 percent are not getting their cholesterol checked. Like their managed care counterparts, California fee-for-service providers do not match the best states in providing services to seniors with diabetes.42
Table 3. California Health Plan Performance on HEDIS Comprehensive Diabetes Measure

<table>
<thead>
<tr>
<th>DQIP/HEDIS Measure</th>
<th>Population</th>
<th>CCHRI 1999 Average</th>
<th>CCHRI 2000 Average</th>
<th>Number of plans showing statistically reliable improvement</th>
<th>Number of plans showing statistically reliable decline</th>
<th>National Average of Health Plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>HbA1c testing</td>
<td>Commercial</td>
<td>73.22%</td>
<td>75.53%</td>
<td>6 out of 15</td>
<td>1 out of 15</td>
<td>74.95%</td>
</tr>
<tr>
<td></td>
<td>Medicare</td>
<td>75.11%</td>
<td>79.27%</td>
<td>6 out of 11</td>
<td>1 out of 11</td>
<td>77.92%</td>
</tr>
<tr>
<td>HbA1c ≤ 9.5</td>
<td>Commercial</td>
<td>55.56%</td>
<td>57.69%</td>
<td>5 out of 15</td>
<td>1 out of 15</td>
<td>55.13%</td>
</tr>
<tr>
<td></td>
<td>Medicare</td>
<td>64.59%</td>
<td>67.65%</td>
<td>6 out of 11</td>
<td>0 out of 11</td>
<td>64.75%</td>
</tr>
<tr>
<td>Eye exam</td>
<td>Commercial</td>
<td>47.89%</td>
<td>52.52%</td>
<td>6 out of 15</td>
<td>2 out of 15</td>
<td>45.35%</td>
</tr>
<tr>
<td></td>
<td>Medicare</td>
<td>64.03%</td>
<td>67.73%</td>
<td>6 out of 11</td>
<td>1 out of 11</td>
<td>59.20%</td>
</tr>
<tr>
<td>LDL testing</td>
<td>Commercial</td>
<td>71.32%</td>
<td>77.18%</td>
<td>10 out of 15</td>
<td>0 out of 15</td>
<td>69.00%</td>
</tr>
<tr>
<td></td>
<td>Medicare</td>
<td>73.78%</td>
<td>79.95%</td>
<td>6 out of 11</td>
<td>1 out of 11</td>
<td>70.26%</td>
</tr>
<tr>
<td>LDL&lt;130</td>
<td>Commercial</td>
<td>42.02%</td>
<td>47.21%</td>
<td>7 out of 15</td>
<td>0 out of 15</td>
<td>36.65%</td>
</tr>
<tr>
<td></td>
<td>Medicare</td>
<td>46.70%</td>
<td>52.19%</td>
<td>5 out of 11</td>
<td>0 out of 11</td>
<td>42.68%</td>
</tr>
<tr>
<td>Nephropathy testing</td>
<td>Commercial</td>
<td>43.17%</td>
<td>45.87%</td>
<td>6 out of 15</td>
<td>1 out of 15</td>
<td>36.03%</td>
</tr>
<tr>
<td></td>
<td>Medicare</td>
<td>43.57%</td>
<td>48.74%</td>
<td>6 out of 11</td>
<td>1 out of 11</td>
<td>38.27%</td>
</tr>
</tbody>
</table>

Source: CCHRI (David Shechter, Ph.D.), and NCQA Quality Compass

Table 4. California Medicare Fee-for-Service Provider Performance on DQIP Measures

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HbA1c testing</td>
<td>65%</td>
<td>69%</td>
<td>85%</td>
</tr>
<tr>
<td>Eye exam</td>
<td>70%</td>
<td>69%</td>
<td>80%</td>
</tr>
<tr>
<td>LDL testing</td>
<td>61%</td>
<td>71%</td>
<td>79%</td>
</tr>
</tbody>
</table>

Source: CMRI

These measures show the gaps between what is known to be good diabetes care and what is being provided to people with diabetes who have health care insurance. However, one in five persons in California do not have insurance. Hispanic Californians, with an 81 percent higher chance than non-Hispanic Caucasian Californians of acquiring Type 2 diabetes, are 300 percent more likely to not have insurance. The number of Californians with diabetes who are not receiving diabetes care is greater than what these tables show.
Overall, performance on the DQIP measures in California has improved since they have begun to be used. It appears that the efforts to promote standardized clinical measures and to demand accountability have had a positive effect. However, the current gap between what is known and agreed to be basic care for diabetes and what is actually being provided is not merely a gap; it is a chasm. As some have noted in referencing the IOM’s report, a chasm cannot be crossed in baby steps. It takes a leap to cross a chasm: a profound change in how the health care delivery system provides care to persons with chronic illness, and diabetes in particular.

What are the barriers facing the California health care system that keep providers from doing what is known to be good diabetes care? They are not different from those facing providers elsewhere in the United States. In 1998, DQIP researched 77 studies of diabetes care improvement interventions and found five major barriers to best care:

**Delivery system not designed for chronic care.** Diabetes care is being provided in an outpatient care system designed to treat acute illness. Patients with infectious diseases or minor trauma do not require long-term monitoring and treatment like patients with diabetes. Offices and clinics do not have information systems to identify patients with diabetes, track their status systematically, provide education to patients and their families, and provide prompts for ongoing care and monitoring.

**Lack of clarity about standards of care.** Physicians and other caregivers are not clear about what is considered “best care.” Organizations such as the American Diabetes Association, the Department of Veterans Affairs, and managed care plans have developed and distributed guidelines that contain differing information. Primary care physicians have trouble keeping up with current guidelines because they also treat patients with numerous other diseases addressed by guidelines. The use of traditional continuing medical education alone has not been effective.

**Busy physicians.** Physicians are under pressure to keep individual patients’ visits as short as possible. If the physicians and office staff are not working as a team and if the physician does not use an efficient information system, diabetes care is rarely comprehensive when physicians treat high volumes of patients.

**Financial disincentives.** Some organizations, such as capitated managed care plans, have financial incentives to provide good preventive diabetes care. However, practitioners in the fee-for-service environment do not have these incentives, and some types of preventive care and patient education are not reimbursed.

**Poor support of patient self-management.** Patients must be involved in their own disease management. Many patients do not understand the seriousness of diabetes and its complications and are not concerned about making lifestyle changes until their health deteriorates. The health care system is often difficult for patients to understand and access, particularly for older patients and those with low levels of literacy or an inability to speak and read in English.

These barriers create the chasm. One barrier—lack of clarity on standards of care—has been surmounted. This should give impetus to face the others, which involve multiple components of health system organization, clinical policies, financing issues, and patient involvement. The leap across the chasm will take many conscious efforts to create the profound change needed in how
care is delivered. One thing is for certain: California clinicians cannot be expected just to “work harder” to see that their diabetic patients receive basic services. It requires minimally a program of care (disease management), and optimally a new model of care (the Chronic Care Model).

Safety-net Providers: Community Health Centers and Public Hospitals

In general, California community health centers face the same barriers as health care providers, but to a greater degree. Their patients disproportionately come from sectors of the population at higher risk for diabetes with lower levels of literacy and English-language skills. Furthermore, many of their patients have no insurance and come to centers with minimal previous health care. These safety-net providers care for a higher percentage of persons with diabetes with less revenue to cover their care. Yet, 23 of these community health centers that have participated (or are currently participating) in the BPHC’s Health Disparities Collaboratives are providing comprehensive diabetes care and can show measurable improvements. They are demonstrating how use of the Chronic Care Model can improve diabetes care in an environment that demands cost effectiveness.

Based on ICIC’s work and the IHI Breakthrough Series, the Collaboratives provide a one-year intensive learning structure with four training sessions, implementation phases, individual coaching, and monthly reporting requirements. The center must make an organizational commitment to participate. “Without the commitment of the senior leader of the center, the center would fail.” Their commitment includes a specific improvement project, with measurable goals. A team of three individuals (at least one clinician and one administrator) represents the center at the learning sessions, and spends approximately three to four hours per week implementing the project. The center covers the cost of their time and other costs of implementation. The Collaborative funds training and travel costs for the center’s team.

The results from the Collaboratives to date have shown significant improvements in measures of care within a matter of months: HbA1c testing rates tripled at participating centers. The average HbA1c was over 1 percent lower. A one-point drop in HbA1c translates into a 15 to 20 percent decrease in diabetes complications.

Public hospitals are the other major component of health care’s safety net in California. Los Angeles County Hospital alone provides 3 million outpatient visits a year. These entities face an additional challenge: patients who utilize an emergency department as their basic method of accessing primary care. No program such as the Health Disparities Collaboratives exists for these providers. The Collaboratives are only open to community health centers with specific designations (330, FQHC, “look alikes”). If some public hospitals have developed programs to manage their diabetic patients, they are not widely known.

Managed Care: Health Plans and Physician Organizations

Half of California’s insured population under 65 and one-third of the Medicare population are members of managed care plans and receive their primary care from the physician organizations contracting with those plans. There are two basic types of California managed care plans: Kaiser Permanente and network plans, of which Health Net, PacifiCare, Blue Cross, Blue Shield, Aetna-U.S. Healthcare, and CIGNA are the largest.
With the health plan, the hospital, and the physician organization all under the same organizational umbrella, Kaiser Permanente (KP) has the most comprehensive care management programs for its members with diabetes. In 1997, KP created a Care Management Institute (CMI) with a vision to “synthesize knowledge about the best clinical approaches and create, implement, and evaluate effective and efficient health care programs.”\textsuperscript{50} It launched its Integrated Diabetes Care Management Program that same year. CMI serves as the nexus for researchers, policymakers, and clinical leaders (“champions” as they are officially called). From 1996 to 1999, all of the DQIP measures improved. In the 2001 Comprehensive Diabetes Care HEDIS scores, the two California Kaiser Permanente groups on the whole ranked better than the other 13 commercial plans and 9 Medicare plans. In particular, they ranked better on the eye exam and kidney disease monitoring, tests that require referral to another clinician.

**Table 5. Kaiser Permanente Performance on HEDIS Comprehensive Diabetes Measure**

<table>
<thead>
<tr>
<th>DQIP/HEDIS Measure</th>
<th>Kaiser Permanente North Rank among All Plans</th>
<th>Kaiser Permanente South Rank among All Plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>HbA1c Testing – Commercial</td>
<td>3/15</td>
<td>6/15</td>
</tr>
<tr>
<td>HbA1c Testing – Medicare</td>
<td>1/11</td>
<td>2/11</td>
</tr>
<tr>
<td>HbA1c &lt; 9.5 – Commercial</td>
<td>6/15</td>
<td>8/15</td>
</tr>
<tr>
<td>HbA1c &lt; 9.5 - Medicare</td>
<td>1/11</td>
<td>5/11</td>
</tr>
<tr>
<td>Eye exam - Commercial</td>
<td>1/15</td>
<td>3/15</td>
</tr>
<tr>
<td>Eye exam - Medicare</td>
<td>1/11</td>
<td>2/11</td>
</tr>
<tr>
<td>LDL testing – Commercial</td>
<td>8/15</td>
<td>1/15</td>
</tr>
<tr>
<td>LDL testing – Medicare</td>
<td>5/11</td>
<td>1/11</td>
</tr>
<tr>
<td>LDL &lt; 130 – Commercial</td>
<td>7/15</td>
<td>2/15</td>
</tr>
<tr>
<td>LDL &lt; 130 – Medicare</td>
<td>2/11</td>
<td>1/11</td>
</tr>
<tr>
<td>Kidney disease testing - Commercial</td>
<td>2/15</td>
<td>1/15</td>
</tr>
<tr>
<td>Kidney disease testing - Medicare</td>
<td>2/15</td>
<td>1/15</td>
</tr>
</tbody>
</table>

Source: CCHRI

The focus of the CMI diabetes care management program is on implementation at the regional, local, and individual clinic site. Regions receive financial support for these efforts. Reflecting many of the components of the Chronic Care Model, implementation interventions include feedback reports, clinician reminders, patient reminders, dedicated care managers, multidisciplinary care management teams, clinician educational resources, group visits, case management, and identification and support of local champions. Many of these do not have automated support, however. KP has identified information technology as “the most powerful lever to make the right thing easier to do. Such support includes automated orders, reminders, feedback, registries, charting, and other decision support.”\textsuperscript{51} In 2001, KP announced that it is investing $1.5 billion in the next few years to improve their clinical information systems, including an electronic medical record.
In the network part of California’s managed care system, comprehensive care management programs for persons with diabetes are rare. Few of California’s more than 200 physician organizations have any sort of comprehensive diabetes care program. There are several interconnected reasons for this:

The highly competitive California health care market has rewarded managing cost, not managing care. Insurance premiums in California during the 1990s were among the lowest in the country. Creating new business models took precedence over creating new care models.

In 1999, the state created financial solvency requirements for physician organizations. Meeting those requirements has become a priority for physician organizations, leaving few financial and human resources for quality improvement efforts.

Physician organizations cannot make a business case for improving chronic care; there is no return on investment. If they invest in resources to provide comprehensive diabetes services (staff, more visits), they will not benefit from the savings of reduced hospitalizations. The aligned financial incentives mentioned by DQIP’s *Compendium* do apply to Kaiser Permanente, but they do not apply to the majority of physician organizations that contract with network plans.

Neither health plans nor physician organizations have information systems designed to manage clinical information. Although CCHRI and CALINX—an attempt funded by the California HealthCare Foundation (CHCF) to standardize basic administrative data sets—have made some dent in the gigantic number of data issues, these issues still loom large and are often perceived as overwhelming.

Taking risk for pharmacy in the late 1990s was particularly harmful to physician organizations’ bottom line. Many succeeded in pushing the risk back to health plans. Thus health plans have the pharmacy data, an important component of diabetes management.

Health plans delegated responsibility for organizing care delivery to physician organizations, and therefore did little to develop their own disease management capabilities.

Health plans mandated and physician organizations responded to NCQA requirements (health education classes, policies and procedures for quality management committees) in a piecemeal, fragmented manner.

Of the 25 largest physician organizations in California\(^5\) (excluding the two Permanente groups), approximately ten have programs for their patients with diabetes that go beyond referring people to health education classes and case management for people with catastrophic illness. In addition, several groups apart from the 25 largest groups have more-developed diabetes programs. Some of these groups have full or partial risk arrangements with hospitals, and thus reap cost savings from decreased hospitalizations. Despite the barriers, these organizations have initiated programs and are taking steps to improve their diabetes care.

Briefly noted, examples of such programs are:

- Scripps Clinic Medical Group (San Diego): A nurse management program in conjunction with primary care physician visits, in which nurses collected baseline data,
engaged patient in diabetes education, and managed glucose, lipid, and blood pressures over a two-year period.

- Health Care Partners (Los Angeles County): An intervention program to increase nephropathy screening and increase use of ACE inhibitors.

- Hill Physicians (East Bay and Central Valley): A program to notify physicians of their patients with HbA1c tests of 9.5 or above. Physicians can refer diabetic patients to group visits.

- Brown and Toland (San Francisco): A program that has tracked HbA1c testing rates, HbA1c control, and eye exam testing rates for its members with diabetes since 1997, and LDL testing rates since 1999. Primary care physicians receive a “support report for diabetes care” which provides them the names of all their patients with diabetes who “have not received one or more recommended services or who may not be meeting recommended treatment goals.”

- CareMore Medical Group (Los Angeles County): A multidisciplinary team program that integrates “high touch and high tech” care and can measure its success by lowered blood glucose levels, patient loyalty, and physician satisfaction. This program also has special emphasis on good foot and wound care.

- Physicians Medical Group of Santa Cruz: A “high yield, low overhead” program in an IPA targeting physicians to increase referrals to a high-quality patient education program.

- Beaver Medical Group (San Bernardino County): A program where physicians have been notified of patients with HbA1c over 9.5, and is now expanding to include patients over 8.5 and those who have not received a foot exam in the past year.

All six of the largest California-based network health plans have some kind of program for diabetes, targeted at their sickest members. Currently, health plans invest most of their disease management dollars in these programs, as distinct from increasing payments to physician organizations for improving their diabetes care. Five out of the six contract with disease management companies or glucose monitoring manufacturers. One does not have a program targeted at diabetes per se, rather at its four co-morbidity conditions. The common characteristics of these programs are: risk stratification targeting patients with co-morbidities, contacting the patient directly (programs vary as to when and how they notify the patient’s physician), and offering some kind of testing and monitoring intervention. In fall 2001, a pharmacy benefit manager, Prescription Solutions, launched a diabetes initiative aimed at using pharmacy data to determine underuse of certain medications and to educate physicians about more appropriate testing and medication therapy.

There is no consensus on which entity has the key responsibility for these programs—the health plan or the physician organization. Those physician organizations with more comprehensive diabetes care programs have a more negative assessment of these health plan/vendor programs than those organizations that do not. Critics note the lack of coordination between these programs and the primary care physicians, and the almost exclusive attention to the most acutely ill patients. Such programs are “limited in their effectiveness and reach by their reliance on
traditional patient education rather than modern self-management support, poor linkages to primary care, and reliance on referrals rather than population-based approaches. Health plans counter this criticism by pointing to the failure of the majority of physician organizations to improve diabetes care on their own and to their PPO and HMO patients who are not part of physician organizations.

Fee-for-Service Medicare Providers

Almost 65 percent of Medicare patients and half of commercially insured patients are not in managed care plans. CMRI, California’s Medicare quality improvement organization, has a diabetes campaign that monitors DQIP testing rates using billing data and provides a “Prevent Diabetes Complications” toolkit, with chart stickers, flow sheets, and patient reminders, free of charge to providers serving Medicare patients.

Medicare reimbursement policy has not incentivized providers to develop appropriate services for those with chronic illness. It does not cover many of the services critical to support patient self-management, such as group sessions that reinforce healthier lifestyles. Until last year Medicare did not pay for nutrition counseling and other key components of diabetes treatment. Now it only covers patient self-management training when done in an ADA-certified program. Although reasonable as a quality standard, certification requirements can pose barriers to care delivery sites, particularly smaller ones that want to put more comprehensive services in place. The ADA, however, has streamlined its certification process; the number of programs has tripled in one year, and now 98 California programs have this certification.

Other Barriers to Care

Fee-for-service Medicare does not have a prescription drug benefit, and at best Medicare managed care plans cover only 69 percent of diabetes medications and at worst less than one-third. Two pieces of state legislation in the past couple of years have addressed this issue. SB393 stipulates that persons with diabetes on Medicare can purchase their medications at a discounted price (the same price charged to the Medi-Cal program). As health care and pharmacy costs in particular are rising dramatically, access to diabetes medications will continue to be threatened.

SB64 requires that insurance companies cover the cost of diabetes medications, supplies, and education. Some companies have interpreted “education” to mean mailing out a brochure. Furthermore, education that does match the culture and language skills of the person with diabetes cannot be effective in helping him/her to understand the disease, much less to manage it. Too often materials and services lack the cultural sensitivity necessary for them to be effective in those populations at the greatest risk. “Advice which is understood is more likely to be heeded; advice which can be followed without estrangement (with cultural congruence) is more likely to be followed; trust will further improve the chances of adopting a positive change.”

The obstacles to smooth exchange of electronic data continue to pose frustrations to providers attempting to improve their diabetes care. These obstacles include the lack of capital for good clinical information systems, the lack of standardization of electronic data, and concerns about government regulation of patient confidentiality.
VI. Current Efforts to Close the Gaps

As we have seen, in two parts of California’s delivery system (KP and community health centers) national initiatives with regional support have helped clinicians develop comprehensive care programs. The California Primary Care Association (CPCA) manages the Health Disparities Collaborative community health centers in California and other western states. There are other California-based initiatives that are preparing the California health care delivery system for its leap across the diabetes care quality chasm.

California Department of Health Services Diabetes Control Program

Funded primarily by the CDC, DCP works from a strategy of “models of influence,” to increase awareness of the epidemic of diabetes in California and promote efforts to halt it. It has four major areas of activities: health systems, surveillance, special projects, and communication. Forming partnerships is key to its work with health systems. It developed the Diabetes Coalition, comprising researchers, providers, and patient advocates to work with the DCP in developing effective programs and to serve as a forum where leaders can coordinate their efforts. It also participates in the Health Disparities Collaboratives and the CCHRI Diabetes CQI Project. Its surveillance of prevalence of diabetes is conducted on a county-by-county basis throughout the state. DCP’s special projects include:

In collaboration with Medi-Cal, the University of California at San Diego, the Santa Barbara Regional Health Authority, and Harbor-UCLA Medical Center, DCP conducted a study to assess the impact of self-management and case-management about Medi-Cal patients. Blood glucose levels declined significantly among patients who received care guidelines, monitoring, and nutrition education.

U.S./Mexico Border Project Initiative Project, a multistate and binational collaborative with the Pan American Health Organization, focuses on research, prevention, and control along the border. It is currently conducting a household survey in communities along the border.
With the California Department of Health Services Preventive Health Care for the Aging, DCP is working to decrease the number of seniors with undiagnosed diabetes.

DCP carries out its communication work through “Cal NDEP,” the California implementation campaign of the National Diabetes Education Program (NDEP). NDEP, a joint program of the CDC and the National Institutes of Health, develops copyright-free high-quality materials (print, video, radio, TV) customized for specific audiences. Its target audiences are people with diabetes, providers, payors, purchasers, policymakers, and the general public. Cal NDEP’s mission is “to partner with spirited volunteers and passionate leaders in California communities to educate our diverse population about diabetes.” It carries out this mission through grass-roots campaigns. In a structured program, DCP staff works with 50 different organizations in four areas in the state to mobilize volunteers. In 2001, diabetes among African Americans was the focus of a Cal NDEP campaign: letters and media kits were mailed to all 50 organizations and to radio stations, articles were submitted to publications, and information was disseminated at African American events and celebrations.

DCP has a program (funded in part by CHCF) to train people with diabetes to teach others about the essential aspects of care. DCP has developed Diabetes Health Record Cards, wallet-sized interactive self-management tools available in 12 different languages that include a list of exams and how often they are recommended. For diabetes educators, DCP created “Take Charge” presentations, also available in 12 languages, to teach patients how to use their Diabetes Health Record Cards. Finally, DCP is creating a Diabetes Community Quilt as a tribute to people who live with diabetes and who have died from it. Individuals submit photos and stories to put a human face on the epidemic.

CCHRI Diabetes CQI Project

One of the partnerships that DCP has put considerable effort into developing is the CCHRI Diabetes CQI Project. DCP, the Pacific Business Group on Health (PBGH), CMRI, 13 network health plans (including all of the largest), and 21 physician organizations (including the two Permanente groups) participate. Founded in 1997 as an offshoot of the CCHRI HEDIS Data Collection project and funded by pharmaceutical company grants, the project focuses on helping physician organizations “demonstrate a measurable improvement in the health of patients with diabetes.” It has provided a forum and support for health plans and physician organizations to work through barriers. Although the project will not produce benchmark data on the DQIP levels for the participating physician organizations until early 2002, the project’s accomplishments have been significant, according to CCHRI Diabetes CQI steering committee participants and staff:

Health plans have agreed to one set of evidence-based guidelines for diabetes care based on DQIP. This directly addresses the “lack of clarity about standards of care” barrier. All participating organizations are distributing the one-page “2001 Basic Guidelines for Diabetes Care” to California physicians.

Health plans and physician organizations have a place for open dialogue and have worked together to improve DQIP measures. It provides a forum where each participant can take on the responsibility to raise the bar.
Difficult data barriers have been unearthed and are being addressed. The project has provided all participating physician organizations (some for the first time) a “95 percent accurate” registry of their diabetes patients. It also has been assisting physician organizations when they face technical problems collecting their DQIP data. An electronic data exchange pilot is demonstrating (with appropriate confidentiality provisions) how plans can electronically share pharmacy data with physician organizations, and physician organizations can share laboratory data with plans.

The project has gathered numerous intervention and education materials into a “toolkit” for physician organizations to use with their clinicians.

Physician organizations are sharing “best practices” on how they are redesigning their delivery systems and increasing support of patient self-management to improve care. Several leaders cited this as one of the most important aspects of the project.

Perhaps the most fundamental accomplishment is a shift in the participating physician organizations’ view of themselves over the duration of the project from one of “aggregating individual medical services” to “population-based health care.” This conceptual change is essential to making the leap from an acute-care model to a coordinated care model. As one physician organization leader noted, “This is what managed care is supposed to be about.”

The greatest challenge to the project is maintaining the attention from the multiple priorities of physician organizations, which fight constant fires ranging from financial solvency to disgruntled physicians to competing health plan demands. Some physician organizations withdrew from the project because they had conflicting data priorities. Some health plans have not touted the project nearly as much as their own disease management programs. This collaborative effort lives in an ongoing culture of mistrust.

**Pay for Performance Initiative**

As the CCHRI Diabetes Project is addressing data and care delivery issues facing plans and providers, the Pay for Performance initiative is tackling the business case. The current tiny quality bonuses paid to physician organizations based on differing and conflicting health plan requirements do not constitute a business case. Under the auspices of the Integrated Healthcare Association, the six largest health plans in the state have recently committed to financial payments to physician groups based on their performance against a common set of measures, separate from negotiated capitation rates. These payments will take into account absolute performance levels and improvement in performance levels. “Each health plan will make its own, separate decisions about the amount of the potential physician group bonus payment. IHA will continue to encourage plans to think in terms of significant financial incentives, but there is no set requirement. The actual dollar value of the performance payment depends on the number of health plan members and the percentage of the bonus.” An independent entity, such as CCHRI, will verify compliance with the measures. One of those measures will be the HEDIS comprehensive diabetes care measure.
Foundation-supported Collaboratives to Improve Diabetes Care

The importance of collaboration across many organizations and institutions and at all levels of providing diabetes care is gaining support from California grant-making foundations. In Orange County, the California Endowment, the Wellness Foundation, and several corporate foundations fund the Orange County Diabetes Collaborative. This collaborative provides funding to four collaboratives of community groups and health care providers to conduct outreach and education for high-risk populations and to create data systems as a basis for comprehensive care. In San Diego, two health care systems have received Robert Wood Johnson Pursuing Perfection grants, supporting collaborative approaches to chronic care.
VII. Opportunities and Recommendations

How can CHCF, as well as other interested stakeholders, best support efforts to heal the diabetes epidemic in California? DCP Director Albright answers concisely, “The most important thing the Foundation could do is to promote the Chronic Care Model.” The components of an action strategy, as outlined in the recommendations below, bring together and energize those already involved in developing diabetes care and prevention programs. By supporting those “doing the right thing,” CHCF could help create a “tipping point” in how providers and patients manage diabetes.

**Recommendation #1: Work with the CCHRI Diabetes CQI Project to create a structured collaborative based on the Chronic Care Model and the Quality Improvement Model for their participating physician organizations.**

The CCHRI Diabetes CQI Project has created a necessary and significant foundation for quality improvement in diabetes care among its participating organizations. In 2002, it is focusing efforts on supporting participating organizations with interventions to improve quality. With CHCF’s support, the Project could accelerate those interventions by structuring the collaborative (or part of the current collaborative) with the components of the Chronic Care Model and the Quality Improvement Model. Structured collaboratives, like the Health Disparities Collaboratives, have shown that by using these models providers can measure significant improvement in the components of the DQIP indicators within one year. CHCF would reward those organizations already committing their own resources to improving their diabetes care by offering education and training and customized coaching through a structured collaborative managed by CCHRI Diabetes CQI Project. This would complement the Pay for Performance Initiative that will financially reward organizations for improvements in their diabetes care, among other indicators.

**Recommendation #2: Work with CPCA to increase the number of community clinics in the Health Disparities Collaboratives.**

There are a couple of ways that CHCF could support the involvement of more community clinics in these collaboratives. First, as clinics must have a FQHC (or “look alike”) designation to
participate in the Health Disparities Collaboratives funded by HRSA/BPHC, CHCF could fund CPCA to create a parallel collaborative for those clinics that do not have a FQHC designation. This would increase the number of clinics serving populations at high risk for diabetes that have training to provide optimal diabetes care through using components of the Chronic Care Model. Second, CHCF could provide scholarships to cover transportation and lodging costs for California clinics eligible but not financially able to participate in the Health Disparities Collaboratives. It could also provide grant funding directly to clinics to partially cover their implementation costs, with the stipulation that the clinic show how it plans to cover those costs once the grant has ended.

**Recommendation #3: Work with DCP to hold a meeting (and fund possible follow-up activities from that meeting) of public and private providers using the Chronic Care Model to improve diabetes care.**

The dynamic nature of the Chronic Care Model demands creative and innovative methods to implement it. Bringing together those providers who are using it will help them learn from and support each other. For example, community health centers have particular expertise in cultural competence. Given the disproportionate numbers of African Americans, Latinos, Native Americans, and Asian Americans with diabetes and given the importance of patient self-management, cultural competence is an essential one for providers caring for those patients. Physician organizations in the private sector could learn from community health centers. In turn, community health centers could benefit from learning about the data innovations being developed by physician organizations serving commercial populations. The two Permanente Medical Groups participate in the CCHRI Diabetes CQI Project with commercial physician organizations and collaborate with community health centers through Kaiser’s Community Health Project. These multi-provider meetings could happen on a statewide level, or on a countywide or region-wide level depending on the interest. This complements DCP’s desire to create “models of influence” and to promote the Chronic Care Model.

**Recommendation #4: Work with DCP and ADA to create venues to bring together providers and people with diabetes in order to improve models for patient self-management.**

This recommendation parallels the critical importance of dynamic communication between clinician and patients on an individual level. In order to change the acute care model to a chronic care model, patients must be actively involved. Providers can only develop effective patient self-management components with active input from patients. By bringing together those providers who are already developing programs and patients who already understand the role of their own active participation, models can be created to share with providers and patients all over the state.

**Recommendation #5: Fund DCP or ADA or other organizations working on diabetes education to develop effective, targeted diabetes prevention education.**

Lifestyle changes are critical in both the prevention of the incidence of type 2 diabetes among high-risk individuals and the prevention of serious complications in patients with the disease. In the same way the public now understands the connection between tobacco and lung cancer and between HIV/AIDS and unsafe sexual activity because of ongoing public education campaigns, the public needs to understand the connection between physical inactivity and poor nutrition and diabetes. As HIV/AIDS prevention education is now targeted the gay male population where the
highest incidence occurred, diabetes prevention education needs to target those populations where the highest incidence of diabetes occurs. In order to be effective, this education must be culturally and linguistically appropriate.

Recommendation #6: Use CHCF’s Web site or link with already existing Web sites or fund the creation of Web sites that promote and popularize diabetes care management programs that improve quality.

Interactive web resources that allow individuals involved in quality improvement interventions to share their experience, ask their peers for advice, and learn from others’ experience are an important component of creating a “tipping point.” Such a website could include a registration and corresponding listserv (as CHCF’s Healthline currently does) that would notify users of updates to the site.

Recommendation #7: Fund diabetes improvement initiatives for specific provider organizations that partner with a community resource.

A key component of the Chronic Care Model is that the responsibility for improving diabetes care for their patients does not fall solely an individual organization, much less an individual clinician. Frequently community organizations provide excellent, culturally competent support for patient self-management. A provider organization does not have to recreate those resources; it can partner with an entity like the local ADA or a community health center that has support groups for patient self-management. CHCF could encourage such partnerships by funding them, and then popularizing them through their Web resources.
VIII. Conclusion

By adopting any or all of the preceding recommendations, CHCF can support those organizations already involved in improving diabetes care to accelerate and optimize their work. By popularizing this work throughout the state, others will learn and adopt models such as the Chronic Care Model. In this way, CHCF and other interested stakeholders can best target resources to close the gaps between what is known to be good care for Californians with diabetes and what is currently being done. In this way, significant contributions can be made to contain the epidemic of diabetes in California.
Endnotes


2 The sharp increase in prevalence may be attributed in part to an increased awareness of the disease, as the results of self-reported surveys comprise much of the basis for this data.


11 Al-Delaimy, Wael K. *Diabetes Care,* December 2001


13 Overweight is defined as having a Body Mass Index (BMI) of over 25 and under 30; obese is having a BMI of over 30. (http://www.nhlbisupport.com/bmi/bmicalc.htm)


16 California’s particularly high rate of prevalence is in part explained by its concentration in these high-risk populations, which constitute a majority of California’s population.

17 Ibid. P. 88.


22 Diabetes: A Serious Public Health Problem (http://www.cdc.gov/diabetes/pubs/glance.htm)


The DQIP measure of HbA1c of 9.5 is NOT a recommendation; it is a measure.


Standards of Medical Care for Patients With Diabetes Mellitus. (http://journal.diabetes.org/FullText/Supplements/DiabetesCare/Supplement101/S33.htm)

Model Components. (http://www.improvingchroniccare.org/change/model/components.html)


Self-Management Support (http://www.improvingchroniccare.org/change/model/smsupport.html)


Strategies for Reducing Morbidity and Mortality from Diabetes Through Health-Care System Interventions and Diabetes Self-Management Education in Community Settings. (http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5016a1.htm)

The other two CDC Task Force recommendations focus specifically on empowering people with diabetes to manage their illness: diabetes self-management education in the home for children and adolescents with Type 1 diabetes, and self-management education in community gathering places for adults with diabetes.

National Study of Physician Organizations and the Treatment of Chronic Conditions.

Ibid.


Op. Cit. CDC. *Fact Sheet.*

Category names in italics added by author. DQIP *Compendium.* P 16. [Nancy: is the page number correct—“one-point-six”?]

Collaborative Tools Overview. (http://www.improvingchroniccare.org/tools/ctoverview.html)


Wagner E. “Designing Practice for Chronically Ill Patients: The *Chronic Care Model.*” (http://www.improvingchroniccare.org)

These are BPHC designations for types of community health centers.

Kaiser Permanente’s National Integrated Diabetes Care Program, Millbank Memorial Fund.

Ibid.

These are groups with at least 87,750 managed care members. (http://www.cattaneostoud.com/medgroup_reports.htm)

Most health plans do pay bonuses for quality performance to physician organizations. However, these are not as significant as health plan expenditures on vendor disease management programs.


CHCF study. “How Much Do Plans Cover for Drugs Treating Four Common Diseases?”


For more information on the Quality Improvement Model, see IHI Quality Improvement Resources: A Model for Accelerating Improvement. (www. ihi.org/resources/qi/index.asp)

See www.californiahealthline.org