

## Special Report

# A Strategic Action Plan for Achieving Uncompromising “Treat to Target” in Individuals with Insulin-Dependent Diabetes: A Report by the Center for Insulin-Dependent Diabetes Access’ Blue Ribbon Panel

PAUL RUDOLF, M.D., J.D. and AMANDA BARTELME

### ABSTRACT

The Center for Insulin-Dependent Diabetes Access, created by the Juvenile Diabetes Research Foundation International and funded by an unrestricted grant from The Medtronic Foundation, convened a Blue Ribbon Panel (the Panel) to identify barriers to achieving universal treatment-to-target in patients with insulin-dependent diabetes and to recommend solutions for addressing those barriers. The Panel was comprised of experts in diabetes care and included providers, academicians, researchers, payers, patient advocates, and policymakers. After reviewing the latest research on diabetes care, the Panel made six overall findings that identify barriers to achieving optimal diabetes care and made recommendations to address those barriers that are intended to achieve the goal of universal, uncompromising “Treat to Target” in insulin-dependent patients. The Panel’s findings were:

**Finding 1:** Improving care of patients with insulin-dependent diabetes depends on the public availability and ongoing collection of data that document patient characteristics, processes of care, health outcomes, the benefits and costs of new technologies, and the benefits and costs of different care models.

**Finding 2:** Availability of new technologies and information systems for monitoring and treating insulin-dependent diabetes is critical to achieving recommended hemoglobin A1c levels.

**Finding 3:** Increased reimbursement for new technologies and services provided by the “team” approach to medical management, such as coordinated non-face-to-face care and Internet communications, is imperative to achieving optimal diabetes care.

**Finding 4:** Improving access to endocrinologists, certified diabetes educators, and adopting a chronic care or “team” approach to treating insulin-dependent diabetes are critical to achieving a “Treat to Target” objective.

**Finding 5:** Primary care providers and individuals with insulin-dependent diabetes need to better understand the importance and impact of intensive insulin management and the “team” approach for treating diabetes in improving quality of life and reducing the incidence of long-term diabetes-related complications.

**Finding 6:** Demographic characteristics of individuals with insulin-dependent diabetes require innovative approaches to patient education, outreach, and patient-centric care in order to achieve a “Treat to Target” objective.

In the detailed report that follows, each finding is accompanied by a series of recommended action items intended to address the barriers that the Panel identified.

A number of entities and organizations have ongoing and planned activities intended to improve diabetes care, particularly for individuals with insulin-dependent diabetes. The Panel recommended that the diabetes community work to coordinate those efforts in order to avoid duplication and ensure more effective program management of those activities.

## INTRODUCTION

**T**HE CENTER FOR INSULIN-DEPENDENT DIABETES ACCESS (the Access Center) convened a Blue Ribbon Panel (the Panel) to discuss barriers to widespread adoption of intensive insulin management and to propose ways to address those barriers in order to improve the success rate of the “Treat to Target” objective for Type 1 diabetes. The Access Center, created by the Juvenile Diabetes Research Foundation International and funded by an unrestricted grant from The Medtronic Foundation, is staffed with reimbursement and policy experts from Avalere Health LLC (formerly The Health Strategies Consultancy LLC). The primary goal of the not-for-profit Access Center is to ensure that individuals with insulin-dependent diabetes have full access to new and beneficial technologies as prescribed by their physician. Specifically, the Access Center works proactively to identify and address public and private insurer coverage and payment barriers for diabetes treatments. In order to help achieve its long-term goal, the Access Center has gathered input from thought-leading clinical and policy experts to help develop a strategic action plan to overcome the challenges in delivering high-quality diabetes care to those in need.

In this document, the “Treat to Target” concept refers to the ability for patients, working with providers such as physicians and diabetes educators, to manage their insulin treatment such that they achieve glycosylated hemoglobin (HbA1c) levels at or below the recommended American College of Endocrinology or American Diabetes Association guidelines. “Target” refers to the optimal HbA1c level recommended for a patient by his or her physi-

cian, while “treatment” refers to diet, exercise, and insulin therapy, either managed through multiple daily injections or continuous subcutaneous insulin infusion.

Many patients with Type 1 diabetes do not achieve the HbA1c levels recommended by current national treatment guidelines: The American Diabetes Association recommends a target HbA1c of 7.0%, while the American College of Endocrinology recommends a target of 6.5%. Those guidelines have been shown, in the landmark Diabetes Control and Complications Trial (DCCT),<sup>1</sup> to reduce complication rates. A number of reasons have been suggested for why many patients fail to achieve optimal glucose control, including inadequate access to care providers, unavailability of new technology, and poor reimbursement for innovative diabetes care. The Panel brought together recognized experts in the fields of endocrinology, diabetes research, public policy, patient advocacy, managed care, employer health benefits, public health, and diabetes education to address these issues.

The Panel met on March 21, 2005 in Washington, DC and, drawing on their combined expertise, real-world experience, and research provided by the Access Center, made a number of findings regarding barriers to the “Treat to Target” objective as well as a series of recommendations for action items they believe are necessary to overcome those barriers. Prior to convening the Panel, the Access Center conducted primary and secondary research including interviews with various stakeholders on the care of patients with insulin-dependent diabetes. The results of this research were sent to the panelists and served as a starting point for the day’s discussion.

### *Scope of findings*

Although the original scope of the Panel's work addressed Type 1 diabetes, there was general agreement among Panelists that sufficient clinical evidence exists to justify the goal of intensive insulin management for patients with Type 1 diabetes *and* for patients with Type 2 diabetes who require insulin.<sup>1</sup> Furthermore, although certain clinical issues are unique to Type 1 diabetes (for example, hypoglycemia unawareness), many clinical recommendations for insulin management, such as the use of intensive insulin management and frequent blood sugar monitoring, are applicable to both populations of patients. Therefore, the Panel agreed that an uncompromising "Treat to Target" objective should be the goal of all insulin-related diabetes care and that many of their findings and recommended action items were applicable to all diabetes patients who require insulin. (Although the "Treat to Target" objective and other panel recommendations may be applicable to patients with diabetes who do not require insulin, the panel limited the scope of its discussion, findings, and recommendations to patients with insulin-dependent diabetes.) Furthermore, panelists agreed that the strategy for implementing many of the panel's recommendations should take into account the views of payers, policymakers, members of the diabetes community, and other stakeholders.

### *Overview of findings*

The Panel made six overall findings intended to advance the goal of universal, uncompromising "Treat to Target" in patients who use insulin. Each finding focuses on a distinct barrier to achieving optimal diabetes care and each is accompanied by a series of recommended actions meant to address the identified barrier. The Panel intends that the diabetes community consider and adopt the recommendations over the coming years. While each finding addresses a different barrier to optimal diabetes care, they are closely related, and a number of the actions are applicable to more than one finding. In the aggregate, these actions make up a strategic plan for the diabetes community over the coming years with regard to achieving the "Treat to Target" objective.

The Panel noted that a number of entities and organizations have ongoing or planned activities that are intended to improve diabetes care but may be duplicative or not well coordinated. Consequently, the Panel suggested that the diabetes community work to coordinate those efforts in order to avoid duplication and provide more effective program management of those activities.

## PANEL FINDINGS

**Finding 1:** Improving the care of patients with insulin-dependent diabetes depends on the public availability and ongoing collection of data that document patient characteristics, processes of care, health outcomes, the benefits and costs of new technologies, and the benefits and costs of various care models.

### *Panel discussion on data for insulin-dependent diabetes*

After a search of public databases, the Access Center determined that comprehensive data on insulin-dependent diabetes care and outcomes are not currently available. The data sets examined by the panel do not provide significant detail on patient characteristics nor, more importantly, on HbA1c levels and outcomes by population or geography. This information is of critical importance to the diabetes community and, when collected, will likely reinforce the need for improved care of people with diabetes, as well as providing important benchmark data to determine progress against the goal of universal "Treat to Target."

The Panel agreed that there are many areas where availability of data on diabetes patients would be helpful in improving care as well as revising coverage and reimbursement policy. The Panel identified the following areas where data are lacking: incidence and prevalence of Type 1 and Type 2 diabetes; the average HbA1c in various subgroups of patients; and patterns of diabetes care by provider, geographic region, payer, or patient group.

The Panel agreed that convincing employers, payers, and policymakers to change coverage,

reimbursement, and other important policies in accord with the Panel's findings and recommendations will require collecting data to show that current patterns and processes of care are not meeting the optimal standard of care identified in the DCCT. Specifically, data on the costs and benefits of certain patterns and processes of care will be critical for payers and employers to evaluate the return on investment for making innovative methods of delivering care (for example, the chronic care model or "team" approach to diabetes management) available to beneficiaries and employees with insulin-dependent diabetes.

In addition to having access to timely and accurate data on patient characteristics and current patterns of care, collecting data on the benefits of changing practice patterns [for example, the introduction of certified diabetes educators (CDEs) and the "team" care approach] and new technologies (for example, the use of continuous glucose monitoring or insulin pumps) also will be crucial to convince payers and policymakers to make new care practices and technologies more widely available.

While the Panel was able to review certain data, such as preliminary population-based data on HbA1c from the Centers for Disease Control and Prevention (CDC) and the Los Angeles Children's Hospital pediatric endocrinology division, these did not include patient-specific demographic or clinical information. However, these data did suggest that variations in disease severity, complication rates, and patient responsiveness to treatment inevitably led to substandard results in many individuals' efforts to reach their target HbA1c levels.

Establishing patient registries containing comprehensive clinical information (including blood sugar control) and information about consumption of health care resources (including the use of technology) at both an individual and population level has been controversial. Critics of large data collection efforts are concerned about how the data, even if de-identified, will be used, about patient confidentiality, the significant costs of collection, and the potential for the dataset to be incomplete.

The Panelists also concurred that continuing to gather primary data by interviewing a vari-

ety of stakeholders and individuals, including children with diabetes and primary care providers, would help the diabetes community remain abreast of the needs of stakeholders and the current state of diabetes care.

#### *Recommended action items*

The diabetes community should work to complete the following activities:

- Collect information on the following, through interviews, surveys, claims data, and medical chart reviews:
  - Number and geographic distribution of pediatric and adult endocrinologists, and CDEs;
  - Approaches used to deliver care to individuals with insulin-dependent diabetes, including the use of the chronic care model or "team" approach to medical management; and
  - Current patterns of care for the treatment of insulin-dependent diabetes including frequency and results of HbA1c measurements and monitoring of complications.
- Use existing Medicaid data and other public data sources to examine information on diabetes-related care patterns, demographics, and socioeconomic information on diabetes patients.
- If feasible, create a clearinghouse or registry for clinical and economic data on diabetes patients and diabetes care, including demographic information on patients and providers, data on consumption of resources, processes of care, and health outcomes from 1990 to the present.
- Initiate a workforce needs assessment, working with appropriate entities such as the Council on Graduate Medical Education (which was authorized by Congress in 1986 to provide an ongoing assessment of physician workforce trends and recommend appropriate federal and private sector efforts to address identified needs), and disseminate the results to policymakers with the intent of informing efforts to create incentives for physicians-in-training to specialize in endocrinology.

**Finding 2:** Availability and reimbursement for existing and emerging technologies and information systems for monitoring and treating insulin-dependent diabetes are critical to achieving recommended HbA1c levels.

*Panel discussion on use of existing and emerging technologies to treat diabetes*

Both clinical expertise and the latest technologies are required for optimal diabetes care. Even when providers such as endocrinologists and CDEs are available, insulin-dependent diabetes is a very difficult disease to treat appropriately for the following reasons:

- Issues inherent to diabetes, for example, hypoglycemia unawareness and the need for frequently administered medications;
- Issues related to individual patients, for example, difficulty adhering to the prescribed dietary regimen;
- Issues related to availability of knowledgeable providers; and
- The lack of availability of new technologies to monitor and treat diabetes.

The Panel acknowledged the ongoing efforts of many organizations and stakeholders in making new technologies available to insulin-dependent diabetes patients and agreed that a large number of patients have benefited from more intensive insulin treatment regimens, insulin analogs like ultra-long-acting glargine, insulin pumps, and more accurate, easier-to-use glucose monitors.

However, many patients are still not treated optimally. In some cases, substandard treatment can be attributed to the inadequate administration of insulin, as illustrated by patients who may take only one injection a day. However, the Panel believed that many patients—even those who are using available technologies and are being intensively managed by appropriate providers—will continue to experience suboptimal glucose control. The Panel noted that many of these patients could benefit immediately from the use of new technologies such as continuous glucose monitor-

ing and closed-loop insulin delivery systems. These patients also may benefit from remote access to endocrinologists who have reviewed the patient's electronic health record. Therefore, the Panel felt it was imperative that the diabetes community work to improve the availability of these and other innovative technologies.

*Recommended action items*

The diabetes community should work to complete the following activities:

- Identify and address regulatory barriers to Food and Drug Administration (FDA) approval of new technologies for monitoring and treating diabetes;
- Ensure coverage and appropriate payment by Medicare, Medicaid, and other payers for new technologies used to monitor and treat patients with insulin-dependent diabetes;
- Work with the FDA, the Centers for Medicare & Medicaid Services (CMS), and other payers to identify areas where collaboration and coordination of activities will increase, and potentially hasten, access to new technologies;
- Encourage the development of technologies and information systems that enable remote monitoring and real-time communication thereby permitting endocrinologists to treat large numbers of patients in remote areas;
- Encourage development of interoperable electronic health records that are tailored to the care of patients with insulin-dependent diabetes and to promote the use of remote monitoring and telemedicine.

**Finding 3:** Increased reimbursement for clinical services provided as part of the “team” approach to medical management, such as non-face-to-face care and Internet communications, is imperative to achieving optimal diabetes care.

*Panel discussion on reimbursement issues for providing diabetes care*

The panelists agreed that clinicians need to be adequately reimbursed for case manage-

ment, non–face-to-face care, and other services that are being provided to patients with diabetes.

Current reimbursement policies generally allow payment only for face-to-face services provided by physicians and other specified providers, such as nurse practitioners. Moreover, CDE services are not covered or reimbursed by all payers [Medicare reimburses CDE services but only in the context of its Diabetes Education benefit, Social Security Act Section 1861(vv)], meaning that many patients may not have access to these important providers.

Optimal diabetes management requires patients to be in contact with physicians and other providers, where they are living, working, and playing in order to obtain meaningful treatment recommendations and oversight that can be implemented in a timely manner. For example, the value of an office visit to discuss a week-old problem that may have already been resolved is much less than the value of an e-mail exchange at the time the problem is active.

*Reimbursement for non–face-to-face care.* In the future, more care is likely to be delivered in non–face-to-face settings because of the difficulty in scheduling timely office visits for acute problems and the increased expense and inconvenience of office visits as compared with Internet or phone communication. Historically, public and private payers have been reluctant to make separate payment for non–face-to-face care because of budgetary constraints and the potential for fraud and abuse. However, panelists felt that payers should be educated about the importance of non–face-to-face care for the insulin-dependent patient with diabetes, and the need to develop coverage and reimbursement policies that keep pace with the rapidly changing care environment.

In addition to using office visits to discuss medical problems, diabetes patients routinely transmit a large amount of data on their blood sugar levels to physicians by fax or over the Internet when they are well. Physicians review these data and then make recommendations over the phone or the Internet for insulin dose adjustments to optimize blood sugar control. Although current coding and reimbursement

policies arguably bundle payment for non–face-to-face services such as those described above into the payment amount for office visits, panelists generally agreed that the current level of office visit reimbursement is inadequate to pay for the time, resources, and infrastructure required for managing diabetes patients between office visits.

Other types of non–face-to-face care, such as telemedicine services provided by physicians and CDEs, are frequently not reimbursed even though, especially in remote areas, they may be cost-effective. Additionally, “group visits” are being utilized more frequently by academic medical centers (AMCs) and large clinics that have implemented the “team” approach to diabetes management, as a cost-effective way of managing patients with diabetes. (Group visits usually involve a number of patients being seen by a physician who performs a brief interval history on each patient, evaluates each patient’s blood sugar levels, and makes recommendations to each patient concerning his or her treatment regimen. Then one of the “team” providers educates the patients, as a group, on a pre-selected topic and conducts a group discussion. This type of visit generally takes about 2 hours.) Current reimbursement structures tend not to recognize these types of innovative care delivery models.

*Pay-for-performance.* The Panel also discussed pay-for-performance approaches to encourage high-quality diabetes care. Although some payers have implemented such approaches in the past, they have not been uniformly applied and analyzed. Recently, there has been some general agreement on what measures can be used to evaluate processes of diabetes care. However, measures to evaluate health outcomes in diabetes are still under discussion, in part because the lag between optimal diabetes care and the subsequent reduction in the incidence of long-term complications make outcomes difficult to measure. Nonetheless, reductions in HbA1c and cholesterol levels are thought to be appropriate surrogate markers for certain health outcomes and may become widely adopted.

Pay-for-performance approaches that utilize reduced co-payments or deductibles for pa-

tients who receive care from providers who have met certain quality standards are an alternative approach that the Panelists felt should be explored. The Panel also agreed that any pay-for-performance approach needs to provide enough additional reimbursement to qualifying providers to allow them to develop the infrastructure (e.g., electronic health records, hiring qualified staff) to enhance their ability to provide high-quality diabetes care. Finally, the Panel recognized that although the concept of pay-for-performance may offer a promising, innovative approach to encourage providers to deliver improved care, there is limited practical experience with the concept and there are significant implementation issues that need to be addressed before all stakeholders will support its widespread adoption.

#### *Recommended action items*

The diabetes community should work with physician groups, government leaders, employers, and payers to:

- Initiate pilot studies and demonstration projects for innovative ways to pay for the “team” approach to diabetes management;
- Cover and reimburse diabetes management services including non–face-to-face care and internet communications;
- Cover and reimburse innovative, patient-centric educational programs such as physician group visits;
- Develop evidence-based performance measures for diabetes care;
- Identify barriers to participation in pay-for-performance programs and work to develop appropriate incentives for physicians and other providers to participate in those programs;
- Identify current coverage and reimbursement policies for CDE services and work with payers to ensure that they cover and pay for appropriate CDE services;
- Identify and pay for cost-effective disease and case management programs;
- Make remote monitoring and telemedicine more widely available to patients with insulin-dependent diabetes; and
- Better understand where and when capitation or global fee reimbursement models are appropriate for diabetes care.

**Finding 4:** Improving access to endocrinologists, CDEs, and adopting chronic care or “team” approach to treating insulin-dependent diabetes are critical to achieving a “Treat to Target” objective.

#### *Panel discussion on access issues*

The Panel discussed issues related to the ability of insulin-dependent diabetes patients to access care from pediatric and adult endocrinologists and CDEs. The Panel also discussed the importance of the “team” approach to treating patients with diabetes.

*Primary care physicians (PCPs) and pediatric endocrinologists:* The Panel offered anecdotal evidence that there are not enough pediatric endocrinologists to provide care to all Type 1 diabetes patients. [For example, there are no pediatric endocrinologists between San Francisco and Los Angeles (Francine Kaufman, M.D., personal communication).] The situation is further complicated by the fact that most pediatric endocrinologists practice at academic medical centers (AMCs) in limited geographic areas and are not available to all children and adolescents with insulin-dependent diabetes. Because of the concentration of pediatric endocrinologists in AMCs, an even larger gap exists in the number of private practice pediatric endocrinologists outside of large cities and in non-urban settings. Therefore, pediatric endocrinologists often depend on PCPs to provide ongoing care for patients with diabetes, many of whom may not have the expertise or experience to provide optimal care to patients with insulin-dependent diabetes. In general, PCPs provide “well patient” and acute care for diabetes patients, while pediatric endocrinologists typically provide insulin management services for such patients. Therefore, timely communication between PCPs and pediatric endocrinologists is critical to coordinating patient care.

*Transition from pediatric to adult care:* The Panel also noted that pediatric diabetes patients frequently leave the care of their pediatric endocrinologist around the time they

reach the age of 18 because they go to college or move away from home. In addition, many adolescents lose medical coverage under their parents' health plans around age 18. If these patients are not cared for by adult endocrinologists, they may not receive optimal care and may have an increased risk of developing long-term diabetes-related complications. In fact, Panelists felt that many of these patients do not seek care from adult endocrinologists and therefore "fall through the cracks" of the health care system. Improving efforts to assure a seamless transition from pediatric to adult diabetes care is necessary in order to achieve the "Treat to Target" objective.

*Need for CDEs:* As the pathophysiologic understanding of diabetes has improved over the past 20 years, care has become commensurately more complex. PCPs are less likely to provide comprehensive diabetes care themselves because of, for example, time limitations or lack of expertise. Therefore, CDEs, who are specifically trained to educate and help manage insulin-dependent patients, have become extremely important in the delivery of care to patients with diabetes. While their expertise generally is well recognized by endocrinologists, it is not clear that CDEs are adequately utilized by PCPs. In addition, barriers to obtaining the CDE designation, as well as variation in coverage and reimbursement for CDEs across payers and employers, may further compromise patients' access to CDEs.

*Use of the "team" approach to diabetes care:* The "team" approach is being implemented in many AMCs and large clinics. This approach utilizes a variety of caregivers such as case managers, PCPs, endocrinologists, CDEs, licensed social workers, dietitians, nurses, and other providers to provide coordinated, comprehensive, and individualized care for patients with diabetes. Although the number and types of caregivers needed to care for individual patients will vary, "team" care typically includes office visits, diagnostic tests, as well as ongoing and timely support from CDEs and physicians through a variety of communication tools.

Making the "team" approach more widely available, particularly to pediatric diabetes pa-

tients, will require that PCPs be given either the resources needed to implement the "team" approach themselves or access to large centers who already utilize a team-oriented approach to care.

#### *Recommended action items*

The diabetes community should work to complete the following activities:

- Develop and implement strategies to increase access and use of endocrinologists and CDEs, including:
  - Gather and analyze data on the optimal number of pediatric endocrinologists and other clinicians needed to serve various diabetes populations and compare them with the current volume and distribution of these providers. Based on these findings, pursue the following activities as appropriate:
    - Create incentives for medical students and physicians-in-training to specialize in both pediatric and adult endocrinology;
    - Work with the National Health Service Corps (NHSC) to create incentives for endocrinologists to practice in underserved areas;
    - Identify ways to ensure a seamless transition when patients transfer care from a pediatric to adult endocrinologist; and
    - Determine the feasibility of having adult endocrinologists care for more pediatric patients to augment the shortage of pediatric endocrinologists.
- Educate PCPs about the value and availability of CDEs
- Increase the number of CDEs and review existing accreditation standards for CDEs to determine if they are a barrier to recruitment of CDEs;
- Review pre- and post-graduate medical education and advocate for increased exposure to the importance of the "treat to target" objective;
- Work with stakeholders to identify and address the barriers to providing "team" care for diabetes patients.

[The NHSC is a program administered by the Health Resources and Services Administration

(HRSA) with the goal of reducing disparities in access to primary care professionals by forming partnerships with communities, states, educational institutions, and professional organizations. NHSC also provides scholarship and loan repayment programs to encourage physicians to practice in underserved areas. More information on NHSC can be found at [http://nhsc.bhpr.hrsa.gov/.](http://nhsc.bhpr.hrsa.gov/)]

**Finding 5:** PCPs and individuals with insulin-dependent diabetes need to better understand the importance and impact of intensive insulin management and the “team” approach for treating diabetes in improving quality of life and reducing the incidence of long-term diabetes-related complications.

*Panel discussion on educating PCPs and patients about intensive insulin management*

The Panel noted that significant educational efforts will be required to make patients and physicians sufficiently knowledgeable about the importance of controlling HbA1c in order to reduce the risk of cardiovascular disease and other diabetes-related complications. The Panel highlighted the successful programs to make patients and physicians aware of the importance of low blood cholesterol levels in minimizing risk of cardiovascular disease.

Panelists felt that patient education efforts will need to focus on teaching patients about the effects of diabetes on their health, and on the benefits of the “team” approach to medical management. This will enable patients to understand how the “team” approach provides comprehensive diabetes care and will help them accept CDEs and other non-physician practitioners as essential caregivers. As discussed below, to be maximally effective, these efforts will need to take into account differences in cultural attitudes towards diabetes and medical care.

*Diabetes Care Coalition (DCC):* The panelists discussed a recently launched patient awareness initiative of the DCC, “Know Your A1C,” which is being piloted in Atlanta, GA, and Tampa, FL. The DCC consists of six major phar-

maceutical and medical technology companies that agreed to collaborate to develop a single public education message for dissemination via television, radio, and print advertising to educate patients about the importance of managing their diabetes. The “Know Your A1C” campaign is an unbranded awareness effort that does not promote any specific products. Instead, it encourages patients to reduce their risk of complications from diabetes by taking an active role in their own diabetes care. This initiative was launched in late January 2005, so its success has yet to be measured; however, the strategy of using mass media to reach patients with diabetes and to encourage them to work more closely with their doctors was thought to be a useful approach. Hopefully, lessons learned through the pilot program can be applied to other large-scale, national media campaigns.

*National Diabetes Education Program (NDEP):* The NDEP run by the CDC and the National Institutes of Health (NIH) is an initiative directed to both patients and providers with the goals of:

- Increasing awareness of the seriousness of diabetes, its risk factors, and strategies for preventing diabetes and its complications among at-risk groups;
- Improving patient understanding of diabetes and its control and to promote better self-management behaviors among people with diabetes;
- Improving health care providers’ understanding of diabetes and its control and to promote an integrated approach to care;
- Promoting health care policies that improve the quality of and access to diabetes care; and
- Reducing disparities in health among racial and ethnic populations disproportionately affected by diabetes.

Because PCPs care for many patients with different types of acute and chronic conditions, many of them may not have the time or resources to provide high-quality diabetes care, particularly when the patients are children. Therefore, even if PCPs understand the importance of intensive insulin management and the

“Treat to Target” objective, they may not be prepared or able to change their practice style to accomplish those goals. Educational efforts focused on PCPs will need to take into account their readiness to change and their ability to accommodate patients with insulin-dependent diabetes.

*Disease management programs:* If PCPs do not have the time or ancillary staff to provide meaningful, individually tailored, education and treatment to patients with insulin-dependent diabetes, then payers and patients may need to utilize disease and case management programs to assist in these efforts. In fact, a recent U.S. Government Accountability Office (GAO) study (GAO-05-210 released February 2005 and available at [www.gao.gov/cgi-bin/getrpt?GAO-05-210](http://www.gao.gov/cgi-bin/getrpt?GAO-05-210)) revealed that the vast majority of states and commercial payers cover diabetes education and medical nutrition therapy, albeit with various restrictions on utilization. Unfortunately, little is known about the long-term costs and benefits of these programs.

#### *Recommended action items*

The diabetes community should work to complete the following activities:

- Gather data on what tools PCPs need to improve their ability to provide outstanding diabetes care;
- Target initial education campaigns on developing and disseminating the tools identified;
- Identify PCPs with an interest in diabetes care who can be trained to provide more intensive diabetes care, and focus initial education efforts at this subgroup;
- Educate PCPs about the importance of CDEs in diabetes care and how to integrate CDEs into their practices;
- Improve collaboration and coordination of care between endocrinologists and PCPs;
- Educate patients and providers on understanding the importance of intensive insulin management and the effect of good blood sugar control on reducing the risk of cardiovascular disease;
- Assist PCPs, CDEs, and government leaders in understanding that the standard of diabetes care is to utilize intensive insulin management in all insulin-dependent patients; and
- Work with CDC and NIH, through programs like the NDEP, to help physicians implement the “team” approach to medical management.

**Finding 6:** Demographic characteristics of individuals with insulin-dependent diabetes require innovative approaches to patient education, outreach, and patient-centric care in order to achieve a “Treat to Target” objective.

#### *Panel discussion on the implications of cultural diversity in treating diabetes*

Panelists felt that differing cultural traditions and attitudes towards disease, diet, and medical care mean that a “one size fits all” approach to diabetes care and management is neither practical nor desirable. In fact, effective diabetes care requires a patient-centric approach to treatment that is explicitly sensitive to cultural issues. Such patient-centric, culturally sensitive care will become increasingly difficult with the growing diversity of the cultural and socioeconomic backgrounds of diabetes patient populations.

The Panel noted that even if individuals with diabetes visit a physician for 30 minutes every 3 months, this would amount to only 0.02% (30 minutes out of 129,600 minutes = 0.02%) of a patient’s attention during this time period being devoted directly to discussing diabetes management with their physician. The Panel agreed that additional emphasis should be placed on interacting with patients where they live, play, and work (for example, schools, community centers, and job sites) in order to better understand their needs and provide meaningful education that will change behavior and result in better management of their diabetes.

Innovative approaches to finding patients in need of clinical care and support, and providing meaningful, behavior-changing education and outreach that reflect patients’ individual ethnic, cultural, and socioeconomic backgrounds will be necessary to provide optimal

care. Specifically, arming patients with the skills, knowledge, and attitude (for example, meaningful self-management tools) that translate into behavioral changes is key to improving health outcomes in diabetes. The use and possible expansion of disease and case management programs needs to be evaluated in this context. Similarly, the use of electronic health records to document patient information, provide that information to all caregivers, and assure appropriate follow up will be extremely important for improving processes of care and health outcomes.

#### *Recommended action items*

The diabetes community should work to complete the following activities:

- Collect information as to what outreach approaches work best for different ethnic groups such as focusing education efforts on parents, schools, or community centers;
- Make diabetes treatment more patient-centric by adopting a culturally sensitive “team” approach to diabetes care;
- Work with appropriate stakeholders to develop meaningful outreach programs for schools, community centers, work sites, and other places where individuals with diabetes spend a large portion of their lives; and
- Develop internet-based education and training tools that are group specific (for example, employment groups such as trade unions, and school groups such as parent-teacher associations).

## CONCLUSION

Achieving the “Treat to Target” objective for patients with insulin-dependent diabetes will require a multi-pronged effort by the entire diabetes community. The findings and recommendations of the Blue Ribbon Panel constitute a strategic framework for the entire diabetes community as it advocates for improved diabetes care.

Given the nature and scope of the recommendations, it is likely that implementing these action items will require a coordinated, focused effort by the diabetes community. The Panel encourages the diabetes community to develop mechanisms to integrate the various on-going and planned activities and initiatives.

## REFERENCE

1. Diabetes Control and Complications Trial Research Group: The effect of intensive treatment of diabetes on the development and progression of long-term complications in insulin-dependent diabetes mellitus. *N Engl J Med* 1993;329:977–986.

Address reprint requests to:

*Paul Rudolf, M.D., J.D.*

*Avalere Health LLC*

*#900, 1350 Connecticut Avenue, NW*

*Washington, DC 20036*

*E-mail: info@avalerehealth.net*

## APPENDIX

Mary Austin, R.D., M.A., C.D.E.  
President  
American Association of Diabetes Educators  
54293 Salem Drive  
Shelby Township, MI 48316  
Phone: (248) 601-1503  
E-mail: maustinrd@aol.com

Linda Bergthold, Ph.D.  
National Practice Leader on Policy, Legislation and Compliance, Group and Health Care  
Watson Wyatt Worldwide  
10 Universal City Plaza  
Suite 3500  
Universal City, CA 91608-1108  
Phone: (818) 623-4757  
E-mail: linda.bergthold@watsonwyatt.com

Lawrence Blonde, M.D.  
Director  
Ochsner Clinic Foundation Diabetes Clinical Research Unit  
Ochsner Main Campus  
1514 Jefferson Highway  
New Orleans, LA 70121  
Phone: (504) 842-4020  
E-mail: lblonde@ochsner.org

Nancy Ann DeParle  
JP Morgan Partners  
2914 Tennyson Street, NW  
Washington, DC 20015  
Phone: (202) 362-4566  
E-mail: ndeparle@starpower.net

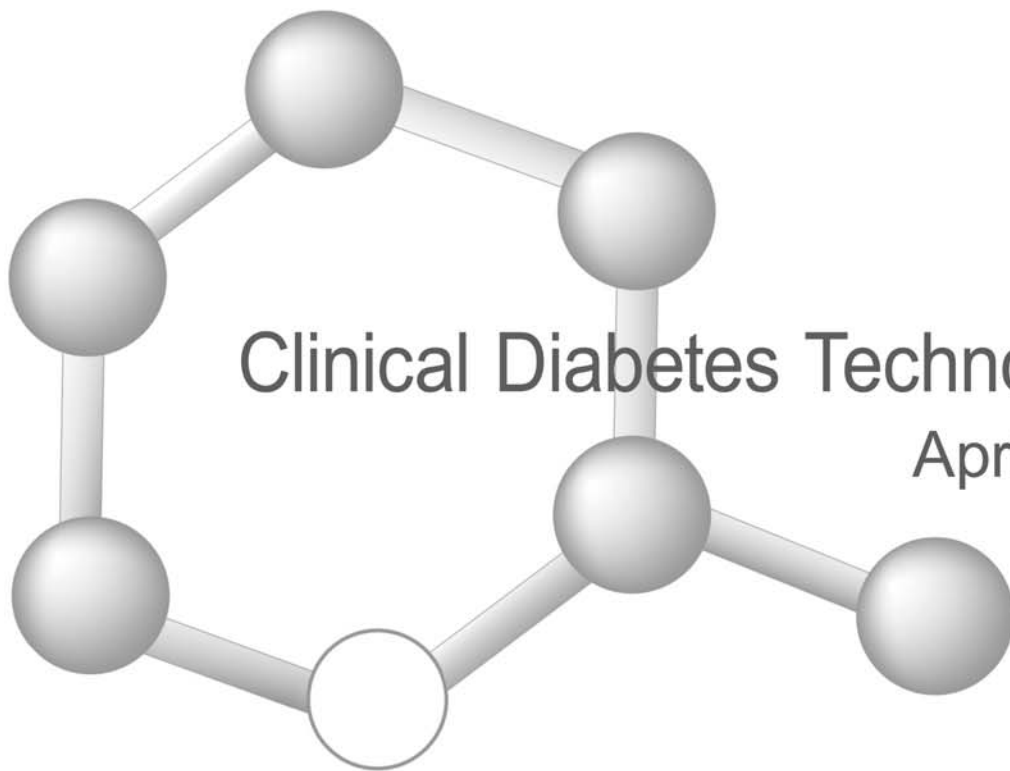
Francine Kaufman, M.D.  
Division Head of Endocrinology and Metabolism  
Children's Hospital Los Angeles  
Endocrinology, #61  
Los Angeles, CA 90027  
Phone: (323) 669-4606  
E-mail: fkaufman@chla.usc.edu

Margery Perry  
Research Chair and Board of Directors  
Juvenile Diabetes Research Foundation  
520 South Original Street  
Aspen, CO 81611  
Phone: (970) 319-9080  
E-mail: jdrfmom@aol.com

Frank Vinicor, M.D., M.P.H.  
Director of Diabetes Translation  
Centers for Disease Control and Prevention  
4770 Buford Highway NE  
Mailstop K-10  
Atlanta, GA 30341-3717  
Phone: (770) 448-5000  
E-mail: fxv1@cdc.gov

Anne Woodbury  
Fleishman-Hillard Inc.  
1615 L Street, NW  
Suite 1000  
Washington, DC 20036  
Phone: (202) 828-8807  
E-mail: woodbura@fleishman.com





# First Annual Clinical Diabetes Technology Meeting

April 15 & 16, 2005

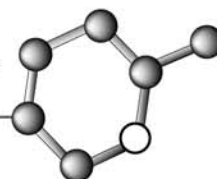
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**DIABETES TECHNOLOGY SOCIETY**

Applying science and engineering to fight diabetes



#### Developed in cooperation with:

- Barbara Davis Center for Childhood Diabetes
- Stanford University School of Medicine, Department of Pediatrics
- University of California at San Francisco, School of Medicine
- Pennsylvania State University, Department of Medicine
- Technologies for Metabolic Monitoring Research Program
- U.S. Army Research Institute of Environmental Medicine
- Mills-Peninsula Health Services
- Diabetes Technology & Therapeutics

#### Meeting supported by educational grants from:

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