

Diabetes Initiative of South Carolina



2009 Annual Report

Daniel T. Lackland, DrPH
Chair, Board of Directors
Diabetes Initiative of South Carolina





Diabetes Initiative of South Carolina
96 Jonathan Lucas Street
Suite 816 · CSB
PO Box 250624
Charleston · SC 29403

(843) 876-0968
(843) 876-0998 Fax
benkej@musc.edu
www.musc.edu/diabetes

February 23, 2010

To Governor Sanford and the Members of the General Assembly:

On behalf of the Board of Directors of the Diabetes Initiative of South Carolina (DSC), I am pleased to present our Fourteenth Annual Report (calendar year 2009). This report was requested in the Diabetes Initiative of South Carolina Act, Chapter 39, Section 44-39.

Since its inception, DSC has been committed to the reduction of excess economic and health burdens related to the diabetes epidemic in our state. DSC works to establish partnerships that facilitate activities and interventions creating a cost efficient network throughout South Carolina. We have established many active programs of patient and health care provider education focused on diabetes prevention and control. Through effective collaboration with the Diabetes Prevention and Control Program of the South Carolina Department of Health and Environmental Control, we have established coalitions throughout the state with current efforts to institute nurse-dietitian teams in underserved and rural areas of South Carolina. DSC also works with the National Library of Medicine to establish and maintain computerized training programs in community libraries providing access to information on diabetes for all people in the state. A major focus of DSC is the elimination of health disparities from diabetes, obtaining funding from the Centers for Disease Control and Prevention. The three Diabetes Centers of Excellence continue to reduce mortality, morbidity and financial costs with implementation of diabetes-intensive management programs in the hospital setting.

Our successes have been monitored and assessed by the DSC Surveillance Council over the past 10 years and are being organized in a summary report. This report will describe the significant reductions in amputations, stroke and hospitalizations for heart disease for people with diabetes, as well as an increase in the number of health care providers in underserved and high-risk areas of the state. These findings will be used to develop cost-efficient evidence-based strategies, policies and recommendations for reducing the diabetes burden in the state.

This unique collaborative initiative has enhanced extramural funding opportunities of education programs, clinical care and research focused on diabetes, which accounts for over \$7 million dollars in 2008. The number of young investigators continues to increase, developing the next generation of diabetes care, management, and research professionals.

We are grateful to the General Assembly for the establishment and support of this unique Initiative in response to the needs of the people of South Carolina. The collaborating partners of DSC have been effective with significant improvements in the excess disease burden in the state. Despite evidence showing major reductions in the economic and health burden of diabetes, it is essential to maintain and enhance the momentum for the people of South Carolina. We look forward to implementing new strategies and reporting our successes to you.

Sincerely,

A handwritten signature in black ink that reads "Daniel T. Lackland". The signature is written in a cursive style.

Daniel T. Lackland, DrPH
Board Chair, Diabetes Initiative of SC

Enclosure

Table of Contents

	Page
Executive Summary	1
Historical Background	3
10 Year Strategic Plan	4
Budget and Supplemental Support	7
Outreach Council Annual Report	10
Diabetes Center Council Annual Report	14
Surveillance Council Annual Report.....	16
Diabetes Initiative of South Carolina/Midlands Site Annual Report	20
S.C. Diabetes Prevention and Control Program, DHEC Annual Report	22
Board of Directors and Council Members	30

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Major accomplishments were achieved during 2009 as a result of the collaborative efforts of the Diabetes Initiative of South Carolina (DSC). Among those accomplishments were significant improvements, including:

- An increase in the number of health care providers participating in education and training programs;
- Implementation of numerous diabetes care and treatment recommendations from the Board and Councils focused on improved quality of care;
- A significant decline in the rate of lower extremity amputations for South Carolinians with diabetes;
- An increase in the number of South Carolina health care providers receiving state-of-the-art diabetes treatment regimens; and
- An increase in the number of community-based coalitions focused on the treatment and prevention of diabetes in South Carolina.

The Diabetes Initiative represents a unique model for the rest of the nation to address the burden of diabetes. DSC functions as a mechanism for individuals and organizations to work together in maximizing the efficiency of activities and interventions. The collaborations of DSC with the South Carolina Department of Health and Environmental Control, the American Diabetes Association and the Centers of Excellence (Charleston, Columbia and Greenville) have resulted in great strides in diabetes prevention and control in South Carolina. Such cooperation with a central goal significantly reduces both the health burden and the economic burden in the state. The DSC Board acts as a forum for these groups as well as other agencies, health care providers, and organizations to facilitate preventive health services. In fact, the Diabetes Initiative represents a true statewide partnership that continues to expand. This collaborative body, consisting of the key groups and organizations regarding the reduction of the diabetes burden, has developed strategies and policies that have greatly enhanced the quality of diabetes care in South Carolina.

The partnerships, working through the three Councils (Outreach, Professional Education, and Surveillance), appreciated great successes during 2009.

The Outreach Council continues the impressive coordination of programs focused on patient education targeting the highest risk segments of the population. These programs have increased diabetes awareness and continue to motivate patients with diabetes to maintain their care. With the formation of over 30 coalitions throughout the state, lay groups concentrate on informing people in their regions about diabetes and its complications. An annual conference is held for individuals affected by diabetes where multiple aspects of the disorder are presented and discussed. Several major extramurally funded grants continue to focus on imparting information about diabetes to diverse audiences. An innovative program, supported by the National Library of Medicine, has established computerized diabetic patient education in libraries and community sites throughout South Carolina. Over 200 diabetic children and youths with diabetes attended Camp Adam Fisher, where they learned the latest news about diabetes management from their peers and from volunteer health professionals.

Professional education remains a major focus of the Diabetes Initiative of South Carolina. The 15th Annual Diabetes Fall Symposium for Primary Health Care Professionals was attended by 365 health professionals. This annual conference offers state-of-the-art presentations of scientific topics on diabetes treatment and control. The symposium also provides a forum for young investigators throughout the state to present their research. Additionally, diabetes educational conferences were conducted throughout the state, including the 7th Annual Diabetes/Heart Disease & Stroke Winter Symposium. The three Centers of Excellence work together on several education initiatives focused on the excellence of medical care for diabetes in South Carolina. DSC continues with very successful programs to train more Certified Diabetes Educators in the state of South Carolina and also maintains several websites which highlight recent developments in diabetes research and care for health professionals.

The Surveillance Council's efforts have identified positive results from interventions and programs. Over the past decade, significant increases were detected in the frequency of diabetes-related monitoring, including blood glucose, hemoglobin A1c, lipids, blood pressure, foot examination and eye examination from health professionals. In addition, treatment rates of associated factors, including hypertension and elevated blood lipids, have dramatically improved. These trends have coincided with the downward trends in lower extremity amputations and in heart attacks and strokes among people hospitalized with diabetes.

Assessment of the DSC 10-Year Strategic Plan (1998 – 2008) is nearing its completion. We are currently evaluating our progress in meeting goals, with a monograph to be produced and the findings to be used in the development of the strategic plan for the next ten years.

The people of South Carolina continue to have an excess physical and financial burden of diabetes and diabetes-related outcomes. However, the maintenance of collaborative efforts of the Diabetes Initiative of South Carolina has functioned as a response to the needs of the public and allowed the implementation of strategies and programs in a fiscally responsible manner. While great strides have been made in reducing the burden of diabetes, the plans to be implemented in 2010 will further lead to a better quality of life for all South Carolinians, and we look forward to presenting those future accomplishments.

HISTORICAL BACKGROUND

HISTORICAL BACKGROUND

In 1991, the Division of Diabetes Translation, Centers for Disease Control, Atlanta, Georgia, published updated trends in diabetes and in diabetic complications in the United States, between 1980 and 1989. Major trends included an increasing prevalence of diabetes and increasing hospitalization rates among diabetic individuals for the serious complications of amputations, end stage renal disease, myocardial infarctions and cardiovascular death. The prevalence of diabetes was doubled in blacks when compared with whites. There was an increase in all major cardiovascular complications among blacks with diabetes. Diabetes was the leading cause of blindness among adults, and women with diabetes were at an increase risk for adverse outcomes of pregnancy.

These issues were magnified in South Carolina, relative to most other states in the United States. Diabetes prevalence was estimated at 6.1%, 5th among 38 states surveyed. Diabetes as a contributor to mortality was increasing in incidence in South Carolina and diabetes accounted for approximately 11% of hospital admissions. Overall, 14% of hospital beds were occupied by people with diabetes. Longitudinal data in the decade of 1980-1990 revealed increases in the prevalence of excess weight, self-reported hypertension and high blood cholesterol in individuals known to have diabetes. Hospitalization rates for renal failure, amputation, and myocardial infarction were increasing and the mortality rate for diabetes as one of the listed causes of death in South Carolina was steadily rising, from 50.7/100,000 population in 1980 to 71.1/100,000 population in 1992.

Shortages of health care professionals involved in care for people with diabetes were recognized. In particular, there were inadequate numbers of primary care physicians, endocrinologists, nephrologists, certified diabetes educators, podiatrists, and pharmacists trained in the care of people with diabetes. Major physician health professional shortages were identified by the Office of Primary Care, S.C. DHEC in 50% of the 48 counties in South Carolina and 74% of the counties in the state were designated by the S.C. State Health and Human Services Commission as medically underserved.

Crude estimates of quality of care for people with diabetes were made. In one survey of type 2 diabetes patients in 1994, 24% had not seen a medical doctor in the past year for diabetes, only 34% reported that they checked blood glucose at least once a day, and a mere 28% had ever heard of HbA_{1c}. Of these, only 18% had an A_{1c} check in the past year. Approximately one quarter of the diabetes individuals reported eye examinations and less than half said they had a foot examination in the past year. It was found that diabetes education had been provided to less than 50% of diabetic individuals.

Evidence was appearing from large scale collaborative clinical trials that the risks of morbidity and mortality from such cardiovascular complications as myocardial infarction and stroke could be substantially reduced by intensive management of lipid profiles and elevated blood pressure. In 1993, the seminal report from the Diabetes Control and Complications Trial (DCCT) established that intensive glycemic regulation in type 1 diabetes would substantially decrease the risks for the progression of retinopathy, nephropathy, and neuropathy. Simple, inexpensive low dose aspirin therapy produced modest risk reductions for myocardial infarction as a secondary prevention strategy. Microalbuminuria was recognized as a risk marker for cardiovascular events and for renal failure, and it was predicted that intervention trials with angiotensin converting enzyme inhibitors (ACEI) would be effective in delaying progression of these serious complications

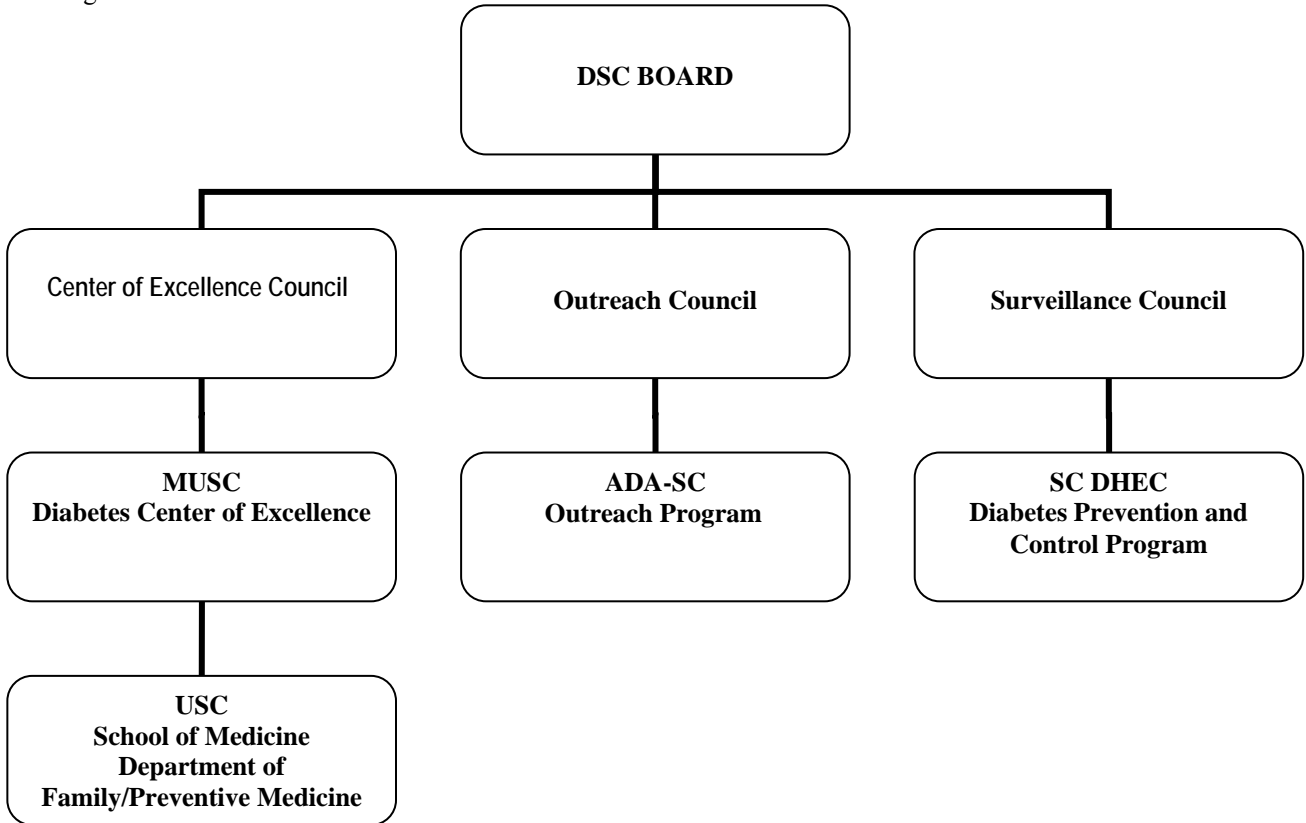
Thus, a serious public health problem of diabetes and its complications was recognized in South Carolina and in the United States. An undersupply of qualified health professionals was on hand to deal with the increasing demands of more intensive education and health care for people with diabetes. Ominous upward trends in mortality and morbidity statistics were present, and an increasing incidence of markers of future cardiovascular events (hypertension, cholesterol, over weight/obesity) was occurring. It was evident that an action plan was needed.

10 YEAR STRATEGIC PLAN

BOARD OF DIRECTORS
10 YEAR STRATEGIC PLAN

The Diabetes Initiative of South Carolina (DSC) was created by legislative action and signed into law by the Governor of South Carolina in July, 1994. The law established a Board of Directors with members appointed by the top officials of key organizations with an interest in diabetes and its complications. The Board has met quarterly since that time and has annually submits this Report. It is referred for progress review by the Legislature and the Governor.

The Organization Chart of the Diabetes Initiative of South Carolina is shown below:



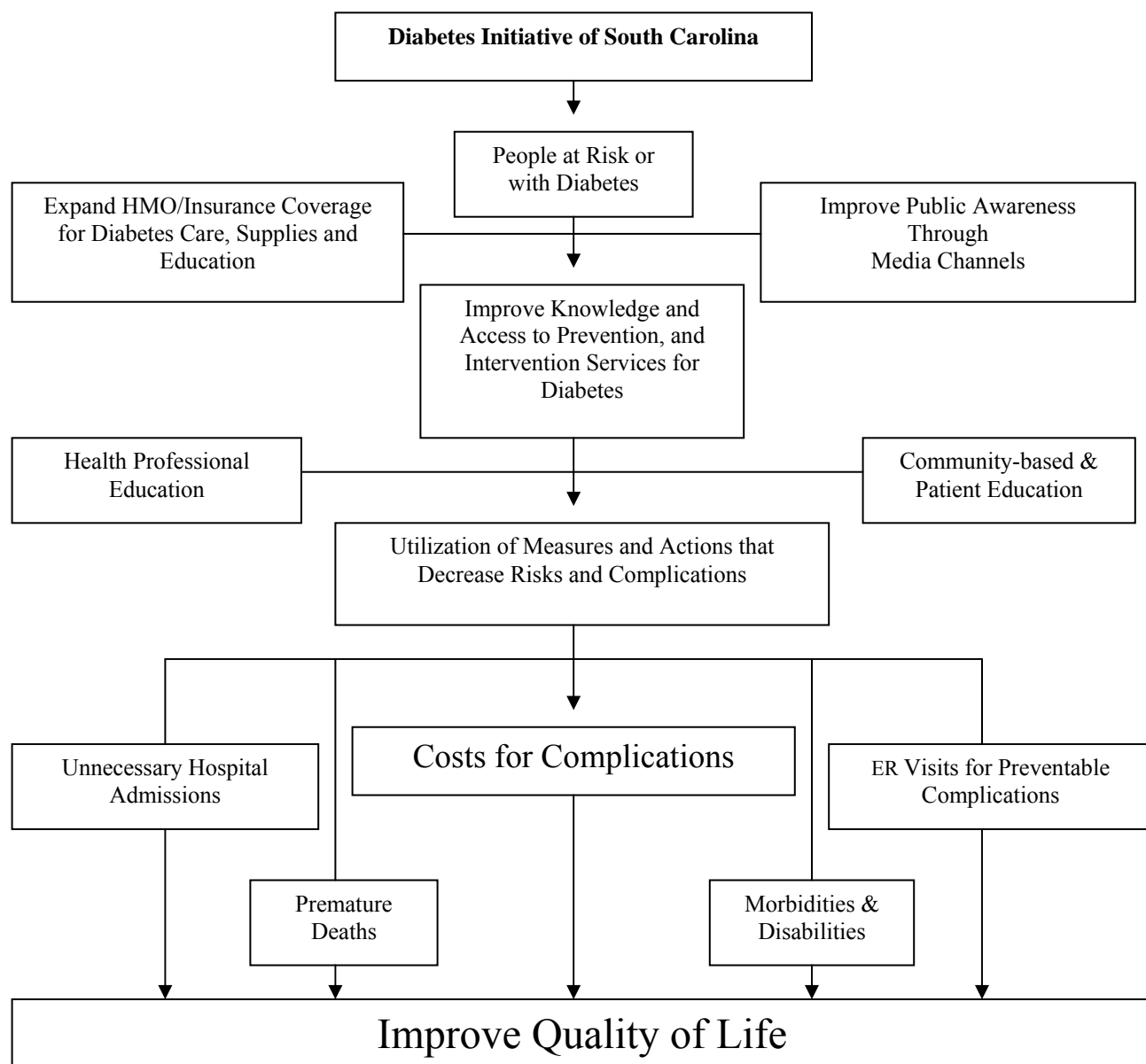
There are three Councils; the Center of Excellence, Outreach, and Surveillance Council. There is a Diabetes Center of Excellence, established in the original legislation, based at the Medical University of South Carolina. This Center is responsible for administering the many activities and programs of DSC and its Board and Councils. It is also responsible for developing and administering professional education programs for health professionals of all varieties in South Carolina, to improve their knowledge and abilities to care for people with diabetes in our state. The Outreach Council is responsible for community interface, with a broad goal of improving diabetes care and education directed at people affected by diabetes. The Surveillance Council is responsible for acquiring, analyzing and distributing epidemiologic information about diabetes including its prevalence costs, morbidity, and mortality. This Council works closely with the Diabetes Prevention and Control Program of SC Department of Health and Environmental Control, and issues regular Burden Reports on the scope and impact of diabetes in South Carolina. A DSC site has been established in the School of Medicine at USC, and provides a critical mechanism for liaison between the two schools and for oversight of programs and activities in the midlands and upstate regions of South Carolina.

We also regularly interact with the American Diabetes Association, Carolinas Center for Medical Excellence, the Hypertension Initiative of South Carolina and the Area Health Education Consortium. Full reports from key components in the DSC structure are included in this Report.

The DSC Board developed a Long Range Strategic Plan in 1998, and has been monitoring results relating to its goals and objectives on a regular basis. The plan has 9 major goals, and The Board expects quantitative evidence of progress towards achieving these goals during the ten year time span of The Plan, 1998 - 2008. These goals are:

- Goal I: To improve knowledge of diabetes, quality of life, and access to prevention and intervention services for people at risk and those affected by diabetes.*
- Goal II: To increase the utilization of short-term (surrogate) measures which lead to actions that will delay progression of complications of diabetes.*
- Goal III: To address the needs of persons at risk and with diabetes by increasing services and education in health professional shortage areas in South Carolina.*
- Goal IV: To reduce the morbidity rates from diabetes-related complications.*
- Goal V: To reduce the age-adjusted mortality rates from diabetes and its complications.*
- Goal VI: To decrease risks for select groups of people with diabetes where the prevalence and complication rates exceed those of others.*
- Goal VII: To reduce preventable hospital admissions and charges for diabetes.*
- Goal VIII: To reduce preventable visits to the emergency room by people with diabetes.*
- Goal IX: To improve the statistical basis for estimating the prevalence of diabetes in South Carolina.*

The mechanisms by which these goals may be achieved are given in the following outline.



In calendar year 2004, we completed a review of 5 years of progress, which concentrated on the first 3 goals of the 10 Year Strategic Plan. We recognized that the legislation had created a uniquely successful statewide collaborative effort. Programs were generally on target and were productive. Examples were community outreach, professional and patient education programs, and surveillance of trends in diabetes care. It was recognized, however, that prevalence of diabetes and obesity was increasing, and that comorbidities such as hypertension and altered blood lipids complicated overall management. Major extramural grant funding for community-based programs and clinical trials had been acquired at MUSC and at USC. Overall, progress with that unique combination of public and private resources (federal, state, regional and local support) had been exciting.

Currently, we are evaluating our progress on the 10 Year Strategic Plan for improving diabetes in South Carolina. Programs have been operative for a sufficient time to begin to see trends in morbidity, mortality, hospitalizations, emergency room visits, and health disparities among people with diabetes in South Carolina. After this analysis by the Board, Councils, and major partners, we will publish a monograph at the 10-year mark in 2010. Areas of defined advances will be described as well as issues, which require further attention. Since diabetes mellitus is a chronic disease with very long-term complications, it is likely that another decade (or more) of work will be needed to be certain that promising trends are sustained and real.

BUDGET AND SUPPLEMENTAL SUPPORT

BUDGET

	<u>FY 2008 – 2009</u>
State Appropriation	\$ 289,088
Less Cuts	<u>120,561</u>
Total Budget	\$ 168,527

SUPPLEMENTAL SUPPORT

The establishment of the Diabetes Initiative of South Carolina has had a major objective to at least match state funding with outside grant support. We have consistently exceeded state support, each year since the Diabetes Initiative was created in 1994. We are pleased to report major success in this area in fiscal year 2009.

1. South Carolina Diabetes Prevention and Control Program-DHEC (SC DPCP-DHEC):
The Diabetes Prevention and Control Program (DPCP) within the Department of Health and Environmental Control is funded by the Centers for Disease Control and Prevention's Division of Diabetes Translation. This five-year grant, which added an additional one-year cost extension, focuses on strengthening secondary and tertiary prevention of type 2 diabetes through improvements in health communications, health systems, and community interventions. To carry out these aims, the DPCP operates under a systems based approach, working together with partners to create the conditions necessary for people with type 2 diabetes to live healthy lives. The Diabetes Initiative of South Carolina Board of Directors provides clinical oversight to the program whose goals and aims are integrated into and complementary of DSC's Strategic Plan.
PI: Mike Byrd, PhD, MPH
2. Bridging Barriers to Diabetes Care with Telemedicine. The goal of this randomized clinical trial is to evaluate the effectiveness of a comprehensive diabetes self-management intervention that utilizes telemedicine to improve adherence to American Diabetes Association Clinical Practice Guidelines for adults with Type 2 diabetes living in rural South Carolina. PI: Richard Davis, PhD; Co-PI: Robert Moran, PhD
3. LOOK-AHEAD. This study will address questions of macronutrient intake in relation to cardiovascular risk factors and clinical events in persons with type 2 diabetes under conditions of either usual care or intensive weight loss intervention. USC holds a subcontract for the study wide dietary assessment and is responsible for the collection, quality control, and analysis of dietary data from the 20 clinical centers nationwide. PI: Michele Nichols
4. Treatment Options for Type 2 Diabetes in Youth Study (TODAY) is a multi-center clinical trial designed to evaluate lifestyle and pharmacologic approaches to treatment of type 2 diabetes in multicultural adolescents. PI: Elizabeth Mayer-Davis
5. Epidemiology of Diabetes Intervention and Complications (EDIC) is a follow-up study of the course of patients enrolled in the Diabetes Control and Complications Trial (DCCT) in Charleston. Along with patients from 27 other centers in United States and Canada, this is a study of vascular complications after long-term glycemic control in type 1 diabetes. Another 10 year follow-up (2006 – 2015) is approved. PI: Jeremy B. Soule, MD
6. Intravenous Insulin Protocol in Diabetes and Renal Transplantation from the American Diabetes Association. The purpose of this study is to provide tight blood sugar control using insulin given through the veins at the time of kidney transplantation and up to 3 days after surgery. After release from the hospital, the patient will control blood sugar with insulin injections or pills. With this approach, outcomes should improve for diabetic transplant patient such as longer life of the new kidney, fewer hospital readmissions, decreased associated infections, and other advantages. This study will significantly and positively effect kidney transplantation and diabetes outcomes. Presumably, good blood sugar control at the time of kidney transplantation will improve overall survival of the new kidney, and these results may reshape patient care in this setting. PI: Kathie L. Hermayer, MD
7. REACH US: Center of Excellence for Eliminating Disparities (REACH SeaCEED)* is funded by the Centers for Disease Control and Prevention and focuses on community-based participatory approaches to eliminating disparities in African Americans at risk and with diabetes. Each year, the Center offers Legacy funding for 2/3 counties to address diabetes prevention and control in African Americans. DSC serves as the scientific review group for the Center. PI: Carolyn Jenkins, DrPH
Diabetes 101 & Soulfully Fit Programs. The Beaufort-Jasper-Hampton County Health Services received a \$20,000 grant from the REACH SeaCEED* grant to implement Diabetes 101 & Soulfully Fit programs during 2008 - 2009. PI: Valerie Muehleman

8. SEARCH for Diabetes in Youth 2: South Carolina Site was previously developed during the South Carolina Diabetes Child & Adolescent Registry (SEARCH) study. This study is awarded from CDC/NIDDK (NIH). The purpose of this project is to maintain a network of standardized surveillance systems of childhood diabetes that will be targeted towards accurate documentation of the prevalence and incidence of specific diabetic phenotypes among diverse populations. PI: Anwar Merchant, ScD, MPH, DO
9. Nutrition and Metabolic Status in Youth with Type 1 DM: SEARCH Ancillary Study (SNAS) SNAS uses both cross-sectional and longitudinal designs, with the overall study goal being to examine associations of nutritional factors with 1) the progression of insulin secretion defects, and 2) the presence of CVD risk factors in youth with DM. PI: Angela Liese, PhD
10. Spatial epidemiology of diabetes in the SEARCH for Diabetes in Youth Study. This ancillary study to the SEARCH for Diabetes in Youth Study and the SEARCH Case Control study aims to (1) describe and map the spatial distribution of incident pediatric diabetes; (2) evaluate the association of diabetes incidence with geographic and neighborhood characteristics; (3) to explore the extent to which geographical and neighborhood characteristics and established individual-level risk factors are similar or different with respect to their influence of Type 1 or Type 2 diabetes. PI: Angela Liese, PhD
11. Developing Measures of the Built Nutrition Environment. This project aims to apply and further develop accessibility measures of the built nutritional environment using GIS technology. It will rigorously evaluate the statistical properties of the nutritional accessibility measures and explore their spatial attributes in study area comprising seven rural and one urban county. PI: Angela Liese, PhD
12. Soulfully Fit Program – Lowcountry Diabetes Initiative. SC DHEC – Diabetes Prevention and Control provides grants for this faith-based program designed to help communities lower the risk of heart disease and other contributing chronic conditions. Soulfully Fit is implemented through the Beaufort-Jasper-Hampton County Health Services. PI: Valerie Muehleman.
13. Soulfully Fit Toolkit Program – Lowcountry Diabetes Initiative. Received funding to develop toolkits to help 14 churches implement the Soulfully Fit Program. PI: Valerie Muehleman
14. Trial Net Natural History of the Development of Type 1 Diabetes. This study will test whether new therapies can delay, or prevent the onset of type 1 diabetes in “at risk” individuals. PI: Sandra Weber, MD
15. Type 1 Diabetes Genetics Consortium. This is an important research program to understand the causes of Type 1 diabetes. The T1DGC focuses on recruiting families with at least two siblings (brothers and/or sisters) who have type 1 diabetes. PI: Sandra Weber, MD
16. Assessing the Durability of Basal vs. Lispro Mix 75/25 Insulin Efficacy, the Durability of Twice-Daily Insulin Lispro Low Mixture Compared to Once-Daily Insulin Glargine when Added to Existing Oral Therapy in Patients with Type 2 Diabetes and Inadequate Glycemic Control. PI: Sandra Weber, MD
17. INternational Study of Prediction of Intra-Abdominal Adiposity and its Relationships with CardioMETabolic Risk/Intra-Abdominal Adiposity (INSPIRE-ME). The purpose of this study is to look at the relationship between the amount of intra-abdominal adipose tissue (stomach fat) and heart disease as well as the risk of developing type 2 diabetes over 3 years. This study will help to find if there is also a relationship between the amount of intra-abdominal adipose tissue and the presence of other heart risk factors such as high blood sugar level, blood fat levels, hypertension, albumin in the urine, smoking, family history of cardiovascular events, and lack of physical exercise. PI: Sandra Weber, MD
18. Diabetes Connect – The goal of the Diabetes Connect program is to improve the delivery of care and testing for people with obesity, cardiometabolic risk factors and diabetes in the rural primary care physician offices. PI: Gwen A. Davis, RN, MN, CDE
19. Non-recurring State Diabetes Funds. The SC Department of Health and Environmental Control received non-recurring state funds to address the diabetes epidemic and its precursors like obesity, healthy nutrition, lack of physical activity, and complications such as heart attacks, stroke, blindness, kidney failures, and amputations. Funds will allow for programs such as Diabetes Connect, which provides education for MD office staff to enhance knowledge, skills and systems to improve the quality of care provided to their patient's with metabolic syndrome, obesity, and diabetes. Examples of the diabetes prevention activities are 1) the Power to Prevent Diabetes initiative that the Office of Minority Health is implementing in partnership with the Greenville Hospital System. The program is designed to encourage African Americans at risk for type 2 diabetes to become more physically active and to develop healthy eating habits. 2) Funds were distributed across five regions of the state to hire Community Health Advocates to implement diabetes prevention programs and encourage individuals to find out their diabetes status by getting tested. 3) Funds were distributed across five regions to implement action oriented projects such as building walking trails, starting farmers markets, and other risk reduction projects. PI: Mike Byrd, PhD, MPH

SUMMARY OF SUPPLEMENTAL SUPPORT

	<u>PROJECT</u>	<u>P.I.</u>	<u>(APPROXIMATE SUPPORT)</u>		<u>YEARS</u>
			<u>YEARLY</u>	<u>TOTAL</u>	
1.	SCDCP-DHEC	M. Byrd	689,585	4,137,510	2009-2014
2.	Telemedicine	R. Davis	195,954	2,413,000	2003-2009
3.	LOOK AHEAD	M. Nichols	57,242	609,298	2002-2013
4.	TODAY	E. Mayer-Davis	37,586	284,157	2003-2009
5.	EDIC	J. Soule	179,750	1,682,227	2006-2015
6.	Renal Transplant	K. Hermayer	600,000	1,800,000	2007-2010
7.	REACH CEED	C. Jenkins	850,000	4,250,000	2007-2012
8.	SEARCH 2–USC Site	A. Liese	383,913	2,538,938	2006-2010
9.	SNAS – USC Site	A. Liese	82,780	236,580	2008-2012
10.	Spatial Epi	A. Liese	287,571	876,980	2007-2009
11.	Build Environment	A. Liese	222,048	513,648	2008-2011
12.	Soulfully Fit	V. Muehleman	9,000	9,000	2009-2010
13.	Soulfully Fit Toolkit	V. Muehleman	5,000	5,000	2009-2010
14.	Trial Net	S. Weber	20,000	120,000	2004-2009
15.	Genetics Consortium	S. Weber	5,000	20,000	2006-2009
16.	Basal vs. Lispro Mix	S. Weber	10,000	40,000	2006-2009
17.	INSPIRE-ME	S. Weber	20,000	60,000	2007-2009
18.	Diabetes Connect	G. A. Davis	427,174	427,174	2008-2009
19.	Non-Recurring Funds	M. Byrd	2,000,000	2,000,000	2009-2010
		TOTAL	\$ 6,082,603	22,023,512	

Comment

Yearly funding of programs in education, care, and clinical research focus on improving outcomes for people with diabetes in SC. Total funding is now at \$22 million, and yearly funding exceeds \$6 million. This yearly extramural funding is more than 21 times our current state budget. Thus, the modest investment that the state has provided for the Diabetes Initiative of South Carolina’s core funding has paid very impressive dividends in attracting extramural support for 19 long-term projects which address a wide variety of issues relating to diabetes and its complications.

**DIABETES INITIATIVE OF SOUTH CAROLINA
OUTREACH COUNCIL ANNUAL REPORT
JANUARY 1, 2009 – DECEMBER 31, 2009**

**Diabetes Initiative of South Carolina
Outreach Council
January 1, 2009 – December 31, 2009
Annual Board Report**

Functions

As defined by Section 44-39-50 amendment to 1976 Code of Laws for South Carolina, the Diabetes Outreach Council shall oversee and direct efforts in patient education and primary care including:

1. Promoting adherence to national standards of education and care.
2. Ongoing assessment of patient care, costs, and reimbursement issues for persons with diabetes in South Carolina.
3. Preparing an annual report and budget proposal for submission to the Diabetes Initiative of South Carolina Board.

Ongoing Outreach Council Meetings and Activities

The Outreach Council of the Diabetes Initiative of South Carolina met 4 times in 2009. Additionally, the Statewide Coalitions met two (2) times in spring and fall. The Coalitions presented posters at the Annual DSC Primary Care Symposium in September 2009.

Prominent Activities

REACH: Charleston and Georgetown Diabetes Coalition

REACH US: SouthEastern African American Center of Excellence for Eliminating Disparities (SEA-CEED)

The **Diabetes Initiative serves as the Central Coordinating Agency** and provides quarterly overview and scientific guidance for this CDC funded grants. The focus is to decrease disparities for African Americans at risk and with diabetes. A major emphasis is on building community capacity to address the problems related to diabetes prevention and control. In addition to our activities focused on improving community capacity, training, and community and systems change within Charleston and Georgetown Counties, we provide consultation, capacity building, ongoing training, and small grants to others in the southeastern states.

Small grants of \$28,000 each were presented annually to other coalitions that are working to improve diabetes outcomes in African American communities. The recipients for 2008-2009 and the goals of each are:

The Beaufort Jasper Hampton Comprehensive Health Services, Inc., Lowcountry Diabetes Initiative Coalition (South Carolina) through a sustainable community coalition has brought together members of the Jasper County community. **Beaufort Jasper Hampton Comprehensive Health Services, Inc. (BJHCHS), South Carolina Region 8 Department of Health Environmental Control (SC DHEC Region 8), and the Gullah Black Nurses Association** are collaborating to improve self-care of African Americans living with diabetes who do not have access to services through Diabetes Self-Management Education (DSME) in Jasper County. The coalition is increasing community awareness of obesity risk factors of nutrition and physical activity as they relate to the management of diabetes and are increasing awareness of current standards of care and testing for people with obesity, cardiometabolic risk factors, and diabetes.

The Georgia Southern University, JP Hsu College of Public Health, Jenkins County Community Coalition are developing a sustainable community coalition with the ultimate goal of translating evidence-based diabetes prevention and management strategies for use in Jenkins County, Georgia. The project is bringing together members of the Jenkins County community, faith-based organizations, local health department, local businesses, community-based organizations and academic researchers. GA, as well as identifying and disseminating resources for diabetes prevention and management in their community.

Mecklenburg County Health Department (MCHD) and Johnson C. Smith University (JCSU) have created "Diabetes Connections," a program to reduce the prevalence and morbidity of type 2 diabetes among African Americans to the target level included in the North Carolina Healthy People 2010 goals. The MCHD Community Health Leadership Academy is working to improve the quality and intensity of services provided by the MCHD and JCSU on a project that is educating and training community health ambassadors to create culturally sensitive and tailored primary prevention initiatives in their church and community. The coalition formed between MCHD, JCSU, and other partnering organizations make up the Community Health Leadership Academy (CHLA). "Diabetes Connections" will become a more intensive process aimed at reducing the prevalence and morbidity of type 2 diabetes among the target population. The coalition is working to decrease the emotional, spiritual, physical, and financial burden of diabetes.

The 2009-2010 grant recipients are:

Welvista/Darlington Free Clinic will focus on linking people with diabetes with needed services including diabetes education, obtaining needed medications and resources to better manage diabetes.

Project DIRECT/North Carolina Public Health Foundation will work with Toy Truckers to reach African American men at risk and with diabetes to increase services and linkages.

Tennessee Office of the American Diabetes Association and Shelby and Davidson County will work with African American communities and faith-based institutions to implement diabetes activities in area churches.

State of Mississippi: Decreasing Disparities for African Americans with Diabetes, a statewide Coalition to decrease disparities for African Americans with diabetes.

Other REACH Activities include:

- Two student internships worked with REACH during summer, 2009-- Jacketta Cobbs, who is from Charleston, has just received her MPH in epidemiology from Florida A&M University and Dennis Orwat, a 2nd year medical student. Both will present posters at the Symposium on their work. They examined 5 years of REACH Survey Data (random sample of 900 African Americans each year) to answer the following 2 questions: 1) What are the differences in preventive practices and health care among African Americans with diabetes living in Charleston and Georgetown when compared to African Americans without diabetes? One of the most interesting findings was that African American women with diabetes in the sample were twice as likely to have a hysterectomy as those without diabetes. 2) What have been the changes in diabetes care and practices over the past 5 years? Virtually all preventive practices improved over the 5 years.
- Catherine Ling, a PhD Nursing Student also worked with REACH focusing on ER use and diabetes.
- Ongoing weekly diabetes self management training and education classes by CDE and RD at 4 Fetter Health Center sites, 4 St. James Santee Health Center sites, East Cooper Community Outreach Center, and other intermittent 3-5 class series at other sites where 8 or more people attend continue. AADE Educational Recognition Program application is being submitted.
- REACH also worked with Palmetto Primary Care Physician Network (PPCP) to obtain AADE Educational Program Recognition. PPCP is a network of 43 physicians and primary care providers in the Charleston area, and have developed an EMR system, case management and educational programs focused on diabetes, hypertension, and hyperlipidemia. Many of their providers are NCQA certified.
- Georgetown Diabetes CORE Group support for Bunnell Foundation Grant (\$10,000 for 2009-2010).
- Recipient of Medical Student Ball support for the Charleston County Diabetes Coalition for diabetes supplies and activities for those unable to afford monitoring strips and supplies.
- Numerous activities to increase community awareness of diabetes prevention and control.
- Provision of small grants of \$3,000-\$56,000 for 9 community partners—although most were near the smaller amount.
- Continuation of diabetes prevention, Diabetes 101, ADA's Choose to Live for women, and foot care education and training for community groups.
- PR campaign including media appearances on radio and TV, bus signs focusing on managing diabetes

Educational materials developed by REACH include:

- My Guide to Sugar Diabetes, 4th Edition
- Check Yourself to Protect Yourself: Taking Care of our Feet
- Patient Mini-Record for Tracking the ABCs of Diabetes
- Updated Webpage
- Healthy Eating Posters
- Resource Directory

Other programs and activities of Outreach Council Members during the quarter to address diabetes include the following groups and activities:

South Carolina Vocational Rehabilitation Department and South Carolina Medicaid continue to provide diabetes education for eligible clients and assists the clients in obtaining or maintaining their work environments to support their “disabilities” related to diabetes and its complications. With current economic conditions, these groups continue to be an important source of funding for those unable to afford health care and diabetes self-management training, as well as helping people with diabetes find or maintain their jobs.

National Partnership to Fight Chronic Disease (PFCH) Coalition, a national coalition of patients, providers, community organizations, business and labor groups, and health policy experts, committed to raising awareness of policies and practices that save lives and reduce health costs through more effective prevention and management of chronic disease.

Welvista (formerly known as CommuniCare), which provides medications for the uninsured and those who have lost their jobs. Welvista also provides patient navigators in some SC hospitals to assure that eligible patients are linked with services and have access to needed medications.

South Carolina Hospital Association that continues to focus on improving diabetes control for inpatients with diabetes. C. Jenkins and K. Reeves completed a literature review to identify evidence-based practices for improving outcomes and reducing re-hospitalizations. Our goals are to:

1. Adapt and distribute the diabetes discharge plan from Project RED for use by DSC and area hospitals if desired. Prepare and distribute a very brief summary of recommendations from research and practice standards.

Pharmaceutical Companies and support that the companies can provide for improving diabetes in SC. We are currently collecting available literature for the DSC Outreach Educational Materials Committee to review and catalog for all.

sanofi aventis has worked with DSC to produce 2500 copies of 6 different patient education literature pamphlets focused on improving diabetes.

Outreach Grants under Review or Funded

Funded: Technology Center for Healthy Lifestyles, a collaborative effort of USC School of Public Health and MUSC College of Nursing was approved by Health Sciences South Carolina and Centers of Economic Excellence (CoEE). This proposal is a collaborative effort of University of South Carolina and Medical University. We thank the SC Legislature for their continuation of the CoEE. The CoEE funding will help support 2 CoEE endowed professorships. We must generate \$40,000 in matching funds prior to obtaining \$3.6 million for MUSC efforts. S. Blair at USC and C. Jenkins at MUSC

Under Review: Emily Clyburn Diabetes Education Program—Currently under development with initial concept paper developed. D. Lackland, C. Jenkins, L. Waddell.

Outreach Grants submitted but not Funded

Improving Chronic Care for Diabetes Prevention and Control within MUSC systems was submitted to Duke Endowment. However, Duke will not be considering new grants for this cycle of funding. C. Jenkins, PI

RC1 Diabetes in African Americans –Hospital-Community Transitions, an application for Stimulus Funding, is focused on improving inpatient diabetes control, discharge planning, and community management of diabetes. Co-PI C. Jenkins, K. Hermayer (To be resubmitted to NIH-NIDDK in early 2010)

Other programs and activities of the Outreach Council during 2009 to address diabetes include the following groups and activities:

MUSC Stroke Fair where DSC provided an educational exhibit (in collaboration with REACH), screening and education s. High-risk individuals and those with diabetes were screened. High risk individuals received patient focused counseling, referral, and follow-up including one person with 418 mg/dl blood glucose who reported that she only took her insulin when her blood glucose was over 400 because she “gained too much weight with insulin” and another who had “prediabetes” if screening results were accurate. He also had elevated blood pressure and elevated lipids, but was unaware of all. These individuals are fairly typical of those who participate in screenings that are offered by the Tri-County Black Nurses Association

South Carolina Vocational Rehabilitation Department and South Carolina Medicaid continue to provide diabetes education for eligible clients and assists the clients in obtaining or maintaining their work environments to support their “disabilities” related to diabetes and its complications. With current economic conditions, these groups continue to be an important source of funding for those unable to afford health care and diabetes self-management training, as well as helping people with diabetes find or maintain their jobs.

National Partnership to Fight Chronic Disease (PFCH) Coalition, a national coalition of patients, providers, community organizations, business and labor groups, and health policy experts, committed to raising awareness of policies and practices that save lives and reduce health costs through more effective prevention and management of chronic disease.

The PFCD's mission is to:

- Challenge policy makers to make the issue of chronic disease a top priority and articulate how they will address the issue through their health care proposals;
- Educate the public about chronic disease and potential solutions for individuals, communities, and the nation; and
- Mobilize Americans to call for change in how policy makers, governments, employers, health institutions, and other entities approach chronic disease.

Welvista (formerly known as CommuniCare), provides medications for the uninsured and those who have lost their jobs. Welvista also provides patient navigators in some SC hospitals to assure that eligible patients are linked with services and have access to needed medications. A major challenge for people with diabetes who are uninsured or unemployed is affording the monitoring supplies. The lack of monitoring frequently leads to increased ER use (at >\$1,000 per visit). The cost of this visit would pay for daily monitoring supplies for almost 3 years!

South Carolina Hospital Association that continues to focus on improving diabetes control for inpatients with diabetes. Currently, we are examining not only ways to improve inpatient management of diabetes but are exploring ways to improve discharge planning and education so that patients can better manage their diabetes after discharge.

sanofi aventis has graciously printed 2500 copies of 5 different diabetes education brochures for the DSC. These are distributed at health fairs and other activities in South Carolina.

Publications: (2009)

Jenkins, C, Magwood, G, Hossler, C, Thomas, V, Linnen, F. Community health workers and their roles in diabetes prevention and control. In: Jack, L. Editor, Diabetes in black America: public health and clinical solutions to a national crisis. Munster, IN: Hilton Publishing. 2009

Jenkins, C., Magwood, G., Thomas, V, Linnen, F., REACH Charleston and Georgetown Diabetes Coalition: Improving outcomes for African Americans with diabetes. In: Liburd, L., Diabetes and health disparities community-based approaches for racial and ethnic populations. Springer Publishing

Jenkins, C., Pope, C.A., Magwood, G., Vandemark, L., Thomas, V., Linnen, F., Beck, L.S., Zapka, J. An evolving expanded chronic care framework to improve diabetes management-the REACH case study. Progress in Community Health Partnerships: Research, Education, and Action (in press PCHP-TM-0001-2009).

Yuen, H.K., Onicescu, G., Hill, E.G., **Jenkins, C.** Statewide survey of oral health education provided by Certified Diabetes Educators. Diabetic Medicine (In Press)

Hossler, C.L., **Jenkins, C.**, and King, M. The effect of payer status on the quality of diabetes care: Results from a REACH 2010 project. SOJNR (In Press)

Magwood, G., **Jenkins, C.**, Zapka, J. Validation of Diabetes Health-Related Quality-of-Life Instruments Using Cognitive Interviewing With Older African Americans. Journal of Nursing Measurement 17(3): 195-220.

National Presentations (Invited):

- National Health Disparities Conference
- ADA Health Disparities Conference (one of six to be recognized for Health Disparities Research)
- International Conference on Health Promotion, Nairobi, Kenya

For SC Diabetes Prevention and Control Program and DSC at USC, see their reports. Note that Outreach provides funds for Diabetes Camp Coordinator (E. Todd-Heckel).

**DIABETES INITIATIVE OF SOUTH CAROLINA
DIABETES CENTER COUNCIL ANNUAL REPORT
JANUARY 1, 2009 – DECEMBER 31, 2009**

**Diabetes Initiative of South Carolina
Diabetes Center Council
January 1, 2009 – December 31, 2009
Annual Board Report**

Professional Education Activities:

- CDE Update Course, February 11 & 12, 2009
N. Charleston Convention Center, SC
- 15th Annual DSC Symposium for Primary Healthcare Providers; September 24- 25, 2009
N. Charleston Convention Center, SC

Discipline	Day 1	Day 2
RD	40	40
RN	119	116
PhD	2	3
Stud/Other	86	83
SW	2	3
MD/OD	49	29
Pharmacy	59	53
Total	357	327

Upcoming Professional Education Activities:

- CDE Update Course, February 25 & 26, 2010
N. Charleston Convention Center, SC
- 16th Annual DSC Symposium for Primary Healthcare Providers; September 23-24, 2010,
N. Charleston Convention Center, SC

Professional Presentations:

- RN Competency Lectures on “Diabetes Concepts”
- JC Diabetes Inpatient Certification

Meetings:

- MUSC Diabetes Advisory Committee for Patient Education
- MUSC Hospital Diabetes Task Force
- Hospital Quality Committee
- JC Inpatient Diabetes Certification Task Force

Projects:

- JC/ADA Diabetes Inpatient Certification
- MUSC 5-site ADA Outpatient ERP 1/2009-1/2012

Clinical:

- MUSC Diabetes Management Service

Publications:

- **Hermayer, KL**, et al. “Impact of Improvement Efforts on Glycemic Control and Hypoglycemia at a University Medical Center” JHM, Vol 6, No 6, July-August 2009.
- **Hermayer, KL**, Cawley P, Arnold PC, Sutton, A+, Crudup, J*, Kozlowski, L, Hushion, T, Sheakley, M, Epps, N, Weil, R, Carter, R. Impact of Improvement Efforts on Glycemic Control and Hypoglycemia at a University Medical Center. Journal of Hospital Medicine. In press, 2009.

- **Alele J**, Kamen DL, **Hermayer KL**, **Fernandes J**, **Soule J**, Ebeling M, Hulsey TC. The Prevalence of Significant Left-Right Hip Bone Mineral Density Differences among Black and White Women. *Osteoporosis International*. (February 23, 2009)
- Carter RE, Lin Y, Lipsitz SR, **Hermayer KL**. Relative Risk Estimated from the Ratio of Two Median Unbiased Estimates. *Journal of the Royal Statistical Society*. Submitted for review, 2008.
- Iloka U, **Hermayer KL**. A Review of the Effects of Hyperglycemia and Diabetes on Chronic Pulmonary Disease. Submitted to *Journal of Respiratory Diseases* as an invited author. 2009.
- **Fernandes JK**, Wiegand RE, Salinas CF, Grossi SG, Sanders JJ, Lopes-Virella MF, Slate EH. Periodontal Disease Status in Gullah African Americans with Type 2 Diabetes living in South Carolina. Accepted for publication *Journal Of Periodontology*, March 2009
- Marlow NM, Slate EH, Bandyopadhyay D, **Fernandes JK**, Salinas CF. Serum Albumin and Root Caries in Gullah African American Diabetics. Submitted for publication in the *Journal of Dental Research*.
- Sale MM, Lu L, Spruill IJ, **Fernandes JK**, Lok KH, Divers J, Langefeld CD, Garvey WT. Genome-Wide Linkage Scan in Gullah-Speaking African American Families with Type 2 Diabetes. The Sea Islands Genetic African American Registry (Project SuGAR) Diabetes 2009
- Erbe L, **Soule JB**. Clinical Pearl—how Many Insulin Vials. *Clinical Advisor*. 2008; 11(9): 8.

**DIABETES INITIATIVE OF SOUTH CAROLINA
SURVEILLANCE COUNCIL ANNUAL REPORT
JANUARY 1, 2009 – DECEMBER 31, 2009**

**Diabetes Initiative of South Carolina
Surveillance Council
January 1, 2009 – December 31, 2009
Annual Board Report**

Functions

The Surveillance Council was established in 1995 to develop and implement a state-of-the-art system for the assessment of diabetes in South Carolina, and to provide a mechanism to evaluate interventions and control programs. The Council consists of diabetes care providers, epidemiologists, program specialists and researchers, and is staffed by data specialists at the South Carolina Department of Health and Environmental Control and the Medical University of South Carolina. The Council operates with formal meetings and communications.

The Council has established the following objectives:

Develop, implement and evaluate surveillance protocols and methodologies to assess diabetes awareness and knowledge, prevalence of diabetes, access to primary care, quality of diabetes self-management, and utilization of monitoring guidelines. This includes the evaluation of patient and professional education programs. Specific efforts include:

- Develop and maintain a mechanism to analyze mortality, morbidity, hospitalization and survey data in production of reports to describe the burden of diabetes in South Carolina.
- Analyze the effects of co-morbidities with diabetes.
- Establish and maintain an ongoing evaluation of the role of insurance and managed care companies in control of diabetes.
- Function as a central unit composed of multiple organizations and disciplines involved in the surveillance of diabetes in South Carolina.
- Function as a data and information resource for DSC and DCP and other organizations involved in diabetes control.
- Develop and maintain an Internet Website for distribution of information regarding diabetes in South Carolina.
- Establish a scientific forum to showcase diabetes research and projects in South Carolina.
- Establish a methodology to estimate the prevalence of diabetes in South Carolina based on clinical data.
- Establish a methodology to assess trends in diabetes-related outcomes and clinical practices.

Major Accomplishments

The summary of the major accomplishments follows:

- Maintenance and distribution of the Burden of Diabetes in South Carolina report and updated data which is distributed in hard copy and through the webpage.
- Development and maintenance of a diverse group of investigators in South Carolina who focus their work on the study of diabetes.
- Development and maintenance of an Internet Webpage.
- The Council has organized several reports and manuscripts focused on lower extremity amputations, cardiovascular disease, stroke hospitalizations, and hypertension in South Carolina and associated trends that identified a possible positive effect from DSC interventions.
- Maintenance of DSC webmaster.
- Establishment of 10-year strategic plan evaluation committee.
- Production and distribution of data slides which are distributed in hard copy and can be downloaded from the webpage
- Coordination of the scientific poster session in conjunction with the 2009 Diabetes Symposium. Thirty-seven abstracts and posters were presented with three SC students receiving cash awards, and three community awards.

- Establishment of a working committee to identify a methodology to assess trends in clinical practices, patient behaviors and outcomes related to diabetes.
- Maintenance of a working committee to use clinical data bases to estimate the prevalence of diabetes in South Carolina.
- Maintenance of a working committee to study Type 2 diabetes in young adults.
- Maintenance of collaboration with the Hypertension Initiative to use primary care office based data base to assess risk factor control.
- Establishment of a mechanism to evaluate the intervention and education programs.

Specific accomplishments related to the DSC goals are:

Goal I: To improve knowledge of diabetes, quality of life and access to prevention and intervention services for people at-risk and those affected by diabetes.

- Working with working team, the Council has identified baseline estimates of clinical practices regarding HbA_{1c}, microalbumin, eye examinations, foot examinations and lipid profiles.
- Utilization of primary care was identified from the Medicaid database.

Goal II: To increase the utilization of short-term measures which lead to actions that will delay progression of complications of diabetes.

- Working with Hypertension Initiative and other collaborators including State Health Plan, the Council has identified baseline estimates of clinical practices regarding HbA_{1c}, microalbumin, eye examinations, foot examinations and lipid profiles.
- Diabetes data and information was reported to providers through the distribution of the second Burden report as well as via the Website.
- Information regarding diabetes in South Carolina was also distributed via Diabetes Centers of Excellence, Carolina Medical Review, DCP, and through HMOs.

Goal III: To address the needs of people at-risk and those with diabetes by increasing services and education in health professional shortage area in South Carolina.

- The Council worked with the Office of Research and Statistics and SC AHEC to identify areas of shortages based on providers per population.
- Areas of shortage were also identified by area of under-utilization based on Medicaid and similar databases.

Goal IV: To reduce the mortality and disability rates from diabetes-related complications.

- The Council has established access to a variety of data sources including vital records, Hypertension Initiative of SC data base, Medicaid, Medicare, hospital billing, insurance claims, and the Southeastern Kidney Council in order to establish a comprehensive data system for diabetes.
- The Council has helped establish an inventory of diabetes researchers and projects in South Carolina. The various investigators and projects will be listed on the Webpage. The annual Symposium continues to function as a forum for the investigators to meet and exchange ideas regarding diabetes in South Carolina.
- The Council has prepared and published several reports and manuscripts focused on lower extremity amputations in South Carolina and associated trends in racial disparities in diabetes-related hospitalizations that identified a possible positive effect from DSC interventions.

Goal V: To reduce the age-adjusted mortality rates from diabetes and its complications.

- Council has identified and plotted trends in mortality associated with diabetes in a manner that can be monitored and used to predict outcomes.
- The Council established measures and data sources to plot the trends.

Goal VI: To decrease risks for select groups of people with diabetes where the prevalence and complication rates exceed those of others.

- Maps have been generated to identify areas of excess risks of diabetes based on self-report, hospitalizations, and Medicaid, as well as the locations of CDEs.

Goal VII: To reduce preventable hospital admissions and charges for diabetes.

- The Council has developed a system of measures based on hospital billing data that assesses costs associated with hospitalizations associated with diabetes.

Goal VIII: To reduce preventable visits to the emergency room by people with diabetes.

- The Council has developed a system of measures based on hospital billing data that assesses costs associated with emergency room use due to conditions associated with diabetes. These results were presented at Student Research Day and the 2009 Diabetes Symposium.

Goal IX: To improve the statistical basis for estimating the prevalence of diabetes and diabetes-related complications in South Carolina.

- Trends in hospitalizations for cardiovascular disease with and without diabetes have been identified to estimate the burden of diabetes.
- A major effort in 2009 was the collaboration with the Hypertension Initiative of SC data base that includes 300,000 outpatients in SC with clinical and laboratory measurements. This data resource will be used to assess control of diabetes and associated risk factors.
- A committee was established to identify measures that estimate prevalence based on clinical values. The committee will assess Medicare, Medicaid, insurance claims, and hospital discharges to refine the estimates currently based on self-report.
- The Council has established a working relationship with the Southeastern Kidney Council to quantify the impact of diabetes on end-stage disease.

Summary Annual Report

The Surveillance Council was involved with numerous major achievements during year 15. A primary objective was the development of the evaluation plan and report format for the first 10-year strategic plan followed with the development of the second 10-year strategic. An evaluation committee has been established tasked with the production of the 10-year evaluation report. The committee will obtain data regarding the aims and objectives from the Strategic Plan and evaluate changes in the measurement parameters. The lead writing team meets regularly to discuss progress. The goals of the group are 1] the preparation of the evaluation technical report that will address the detail the evaluation measure and 2] the publication of a scientific manuscript that will describe the trends in outcomes measures associated with the DSC first to-year period. In essence, both documents will focus on trends, changes and rates during the 10-year period. These measures will then be used to design the second 10-year strategic plan. The report and manuscript will be completed in 2010.

Three areas of focus included the surveillance of diabetes-related outcomes trends, clinical practices related to diabetes, and the continued use of the DSC webpage as a source of information and data regarding diabetes in South Carolina.

The surveillance activities for outcomes trends identified several key findings focused on amputations, cardiovascular disease hospitalizations, stroke hospitalizations, cardiomyopathy and hypertension. From 1996-2002, there were significant downward trends in the number and rate of lower extremity amputations in South Carolina as well as the United States as a whole. However, the downward trend for South Carolina was significantly greater than the trends for the US indicating that the rate of improvement may be better than the country as a whole. Likewise during this time period, the rates for cardiovascular disease and stroke hospitalizations among individuals with diabetes have been declining. Equally important, the racial disparity gap for whites and blacks has been narrowing with progress among African Americans with diabetes showing greater improvement than their white counterparts. Similarly, no differences in case-fatality rates between hospitalized white and black individuals were detected indicating similar treatment in hospital settings in South Carolina. Likewise, cardiomyopathy remains a major complication for diabetes with similar trends and racial disparities identified in the South Carolina population. In addition, intensive treatment of diabetes was identified with improvement in peripheral vascular disease. These results were reported in the *Diabetes Care*, *Southern Medical Journal* and *Ethnicity and Disease*.

The assessments co-morbid conditions including hyperlipidemia and hypertension with diabetes have identified significant improvements in the outpatient and inpatient settings. However, disparities in outcomes and control of risk factors remain evident. While the combination of conditions increases the risks of adverse outcomes for all individuals, the risks continue to occur earlier in life for African Americans identifying the need for early diagnosis and aggressive treatment and prevention. Analyses of the outpatient primary care patient data base from The Hypertension Initiative of South Carolina identified some improvements in the hypertension, glycemic and hyperlipidemia control levels of patients with diabetes in South Carolina. However, these analyses also identified a significant racial disparity in the control level with less than 10 % of the patients with all three conditions under control. Likewise, the assessment of the Medicare beneficiaries in South Carolina by Carolina Medical Review from 2005 to 2006 identified improvements in annual eye examinations from 52.85% to 54.27%; annual lipid profiles from 70.45% to 76.17%; and annual hemoglobin A1c from 81.08% to 82.99%.

The Council continued to coordinate the scientific poster session for the Diabetes Symposium in 2009. This event continues to increase in numbers and quality of research findings, and functions as a forum for describing diabetes research in South Carolina. Likewise, the DCS webpage continues to be a major resource for information and data regarding diabetes in South Carolina. The number of contacts increases each month and the addition of a dedicated webmaster has increased this use. The major accomplishment of Council for 2009 has been the increase of the collaborative network of investigators and professionals focused on the assessment of diabetes in South Carolina.

**DIABETES INITIATIVE OF SOUTH CAROLINA
MIDLANDS SITE ANNUAL REPORT
JANUARY 1, 2009 – DECEMBER 31, 2009**

**Diabetes Initiative of South Carolina
Midlands Site
January 1, 2009 – December 31, 2009
Annual Board Report**

Governing Committee Members: **Steve Barnett, MD**, Private Practice, Winnsboro; **Sue Haddock, PhD**, Associate Chief of Staff for Research, Dorn VA Center; **Connie Hopkins, MSN, CDE**, Inpatient Diabetes Education, Palmetto Richland Hospital; **David Keisler, MD**, Associate Professor, Family Medicine; **Kay McFarland, MD**, Professor, Internal Medicine; **Anwar Merchant, Sc.D, MPH, DMD**, Associate Professor, Norman Arnold School of Public Health; **Dero Myers, PhD**, Neuropsychiatry; **Al Pakalnis, MD**, Professor, Ophthalmology; **Sharm Steadman, PharmD, CDE**, Professor, Family Medicine; **Rebecca Wrenn, MS, RD, LD**, Program Coordinator, SC DHEC, Office of Public Nutrition

Collaborative/Committee Accomplishments:

- Newsletter for diabetes health professionals; Kay McFarland, MD, Editor
- Diabetes Education for State Employees through Prevention Partners/Employee Insurance Program, 140 participants through 4 programs across the state; Sharm Steadman, PharmD, CDE, Elizabeth Todd Heckel, MSW, CDE
- South Carolina Department of Vocational Rehabilitation, 583 new referrals for clients with diabetes, 1523 cases served, 386 cases rehabilitated; Elizabeth Todd Heckel, MSW, CDE ; Alfreda King, SC Dept. of Vocational Rehabilitation
- Diabetes Education Groups, First and third Tuesday of every month, Family Practice Center, Sharm Steadman, PharmD, CDE
- Medical Advisory Committee, SC, National Kidney Foundation; Ali Rizvi, MD, CDE; Elizabeth Todd Heckel, MSW, CDE
- Camp Adam Fisher, Carolina's largest overnight camp for children 6-16 years with diabetes; 225 campers; Elizabeth Todd Heckel, MSW, CDE; Ali Rizvi, MD, CDE
- DHEC, "Improving Diabetes & Cardiovascular Care: Innovate to Better Collaborate; 235 participants; February 27, 28, 2009, Myrtle Beach, Sharm Steadman, PharmD, CDE, Elizabeth Todd Heckel, MSW, CDE

Academic/Community Activities:

2009 Publications

1. Rizzo M, **Rizvi AA** (corresponding author), Rini GB, Berneis K. The Therapeutic Modulation of Atherogenic Dyslipidemia in the Metabolic Syndrome: What is the Clinical Relevance?" *Acta Diabetologica* 2009; 46:1-11.
2. **Rizvi AA**. Benefits and Risks of Oral Medications for the Treatment of the Elderly with Type 2 Diabetes. *Geriatrics and Aging* 2009;12(3);119-127.
3. Rizzo M, **Rizvi AA**, Spinas GA, Rini GB, Berneis K. Glucose-lowering and Anti-atherogenic Effects of Incretin-based Therapies: GLP-1 Analogues and DPP-4 Inhibitors. *Expert Opinion on Investigational Drugs* 2009; 18(10):1495-1503.
4. **Rizvi AA**. Nutritional Challenges in the Elderly with Diabetes. *International Journal of Diabetes Mellitus* 2009; 1:26-31.
5. **Rizvi AA**. Cytokine Biomarkers, Endothelial Inflammation, and Atherosclerosis in the Metabolic Syndrome: Emerging Concepts. *American Journal of the Medical Sciences* 2009; 338(4):310-318.
6. Bhatt H, **Rizvi AA**. Average Inpatient Glucose Levels during the first 72 hours, Clinical Outcomes, and Length of Hospital Stay in Patients with Acute Ischemic Stroke. *International Journal of Diabetes and Metabolism* 2009 (in press).
7. **Rizvi AA**, Chillag SA, Chillag KJ. Perioperative Management of Diabetes and Hyperglycemia during Orthopaedic Surgery. *Journal of the American Academy of Orthopaedic Surgeons* (in press).

8. Use of Pharmacologic Agents for the Treatment of Hyperglycemia in Type 2 Diabetes: A Brief Overview for the Health Care Professional. *Journal of the South Carolina Medical Association* (in press).
9. Butler C, Butler WM, **Rizvi AA** (corresponding author). Sustained remission with the kinase inhibitor sorafenib in Stage IV metastatic adrenocortical carcinoma. *Endocrine Practice* (in press).

2009 Published Abstracts

1. Bhatt H, **Rizvi A**. Mean Blood Glucose, Length of Hospital Stay, and Inpatient Complications in Patients with Acute Ischemic Stroke (Abstract # 1009-P). *Diabetes 2009* (Abstract book supplement).
2. S.R. Coleman, **A. Rizvi**. Association between Diabetes-Related Distress and Postprandial Hyperglycemia in Patients with Diabetes. Abstract # P-0786, *International Diabetes Federation 20th World Diabetes Congress Abstract Book*, p. 267.
3. E. Todd-Heckel, **A. Rizvi**. Camp Adam Fisher: evolution of a summer camp for children and adolescents with diabetes in South Carolina, USA. Abstract # P-1482, *International Diabetes Federation 20th World Diabetes Congress Abstract Book*, p. 502.
4. **Rizvi A**. An Office-based “Stepped-Up” Protocol using the PDSA Cycle for Management of Gestational Diabetes Mellitus. Abstract # P-1471, *International Diabetes Federation 20th World Diabetes Congress Abstract Book*, p. 498.
5. **Rizvi A**. Medical student perceptions and acceptance of a multi-disciplinary diabetes elective. Abstract # P-1220, *International Diabetes Federation 20th World Diabetes Congress Abstract Book*, pp. 412-13.

Presentations

1. Grand Rounds, Department of Medicine, Phoebe Putney Memorial Hospital and Medical College of Georgia SOWEGA Campus Albany, GA: “Recent Progress in Diabetes Monitoring and Treatments” July 2009
2. Noon CME Conference, Palmetto Health Baptist, Columbia, SC: “Recent Developments in the World of Diabetes” July 2009
3. Internal Medicine Grand Rounds, Palmetto Health Richland-USC School of Medicine, Columbia, SC: “Diabetes in 2009: A Changing Landscape” August 2009

Abstract Presented

Camp Adam Fisher: evolution of a summer camp for children and adolescents with diabetes in South Carolina, USA ; World Diabetes Congress of the International Diabetes Federation, Montreal, Canada, Oct. 18-22, 2009; Ali Rizvi, MD, CDE; Elizabeth Todd Heckel, MSW, CDE

**SOUTH CAROLINA DIABETES PREVENTION AND CONTROL PROGRAM
S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
JANUARY 1, 2009 – DECEMBER 31, 2009**

South Carolina Department of Health and Environmental Control
Statewide Diabetes Activities
January 1, 2009 – December 31, 2009
Annual Board Report

The South Carolina Department of Health and Environmental (DHEC) and the South Carolina Diabetes Prevention and Control Program (DPCP) are dedicated to the Prevention of Diabetes and Other Chronic Disease Disparities. The overarching goals of the DPCP and the diabetes efforts at DHEC are to prevent complications, disabilities, and burdens associated with diabetes as well as eliminate diabetes-related health disparities.

Prominent 2009 Diabetes Related Initiatives That Have Assisted Us In Meeting Our Goals

I. State and Federal Updates:

Statewide Diabetes Strategic Plan

The Diabetes Initiative of South Carolina’s (DSC) ten year strategic plan ended December 2008 and a new ten year diabetes statewide strategic plan will be developed based on focus groups and SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis led by DHEC and REACH US: SEA-CEED. Themes were developed from the results of the SWOTs and will assist in the development and implementation of a statewide diabetes community action plan to be completed by July 2010.

Collaborative Chronic Disease, Health Promotion, and Surveillance Program Initiative

The SC Department of Health and Environmental Control’s Diabetes Prevention and Control Program along with Healthy Communities, Tobacco Prevention and Control, and Behavioral Risk Factor Surveillance Systems have entered into a 5-year collaborative initiative funded through the Centers for Disease Control and Prevention. The collaborative effort continues programmatic efforts to reduce chronic disease morbidity and its related risk factors and to reduce premature death associated with chronic diseases. It also continues surveillance, assessment, and evaluation efforts to measure the public health impact of these programs, while placing new emphasis on collaborative work. A recurrent and central guiding principle that is encouraged by all four programs is the increased emphasis on partnerships and collaboration (both internal and external to the state health department) and on program collaboration for the purpose of leveraging CDC and state (federal and non-federal) resources to achieve common goals shared by different programs. It is anticipated that increased partnerships and collaborations will lead to positive and measurable public health impact.

FY 09-10 Nonrecurring State Money for Diabetes

The state legislator allocated \$2,000,000 to SC DHEC to address diabetes for FY 09-10. DHEC will use these funds on the following projects with plans to show outcomes to support continuing funding of these initiatives.

PROGRAM	POPULATION	INTERVENTION
Wise Woman	Women 40-64	Screening/education on metabolic risk factors
Media Campaign	Statewide	NDEP media campaign on prevention and management of diabetes
Power to Prevent	African American communities	CDC/NDEP curriculum by Office of Minority Health and Spartanburg
Nov 2, '09 African American Conf	African Americans	Day long conference for over 800 attendees
Community Screenings	Population at risk	March 2010 – Three to four screenings

Legislative Awareness Day	Legislators and staff	May 2010 – State House Awareness with partners
Action Oriented Projects	Targeted DHEC regions	Tangible product to assist with risk reduction
Community Health Advocate	Rural African American communities	Diabetes 101 & follow up on those at risk
HealthMap RX/Disease management	Employees with diabetes/heart disease	Modeled after “Asheville project” health coaching by pharmacists
Region 8 Diabetes Program	People with Diabetes	Diabetes Self-Management Education
Community Connector	People with diabetes/chronic diseases	Connecting communities to resources
Diabetes Connect	Family Planning/Internal Medicine MD offices	Educational modules on standards of care for diabetes and obesity
Professional Education Winter symposium	MD offices and Community Health Centers	March 2010 – 1.5 day workshop
Partnership for Surveillance	Diabetes and CVD stats	CCME partnership for billed data Hospital glycemic control project
Epidemiology/Evaluation support	USC Public Health Consortium partnership	Plan and evaluate all programs

II. Diabetes Surveillance Systems:

Goal: Monitor the statewide diabetes burden and identify gaps to assist with planning, decision-making, and evaluation

2009 Diabetes Burden Report

The 2009 Diabetes Burden Report has been completed and is posted on the DHEC website, the REACH US SEA: CEED and the Diabetes Initiative of South Carolina websites. A letter will be developed and sent along with the Executive Summary and a link to the websites to agency personnel, partners, SC legislators, and other DPCP’s. Limited copies will be printed by the three entities to disseminate hard copies to those that request it.

Data System Expansion - MUSC’s Hypertension Initiative

The DPCP along with the Tobacco Division have formed a new partnership and developed a contract with the Hypertension Initiative to expand their practice based surveillance and data system to include risk factor control for both diabetes and tobacco-related treatments and outcomes. Within their community-based practice network in SC, they have identified approximately 56,000 adults with diabetes and roughly 90,000 cigarette smokers. Thus, there are important and substantial opportunities for effective interventions at the practice and community level that can be tracked through their community-based practice network.

III. Health Systems Improvement:

Goal: Through partnerships expand the Diabetes Connect program to provide education for MD office staff to enhance knowledge, skills and systems to improve the quality of care provided to their patient’s with metabolic syndrome, obesity, and diabetes.

SC DHEC “Diabetes Connect” program

The goal of the SC DHEC “Diabetes Connect” program is to improve the delivery of care and testing for people with obesity, cardiometabolic risk factors and diabetes in the rural primary care physician offices. Clinical support staff and office physicians/NPs/PAs complete needs assessments that allow comparison of the staff responses to the physician expectations. Multiple educational sessions are conducted in the individual offices.

At the completion of the education modules (intervention), a post needs assessment is done to define changes and improvements. This program will generate continuous quality improvement in the office setting and develop the office staff's capacity to assist the busy clinician.

At 15 months of the 18-month project, the post needs assessments are not all completed. Results to date are:

- 206 pre clinical staff needs assessments
- 76 post clinical staff needs assessments
- 73 MD needs assessments

Table 3: Participation by MDs in the program September 30, 2009

	# Of MDs **	# MDs Contacted	Participating MDs	
Florence	69	53	27	51%
Marion	15	6	2	33% *
Darlington	28	32	5	16%
Orangeburg	35	44	14	32%
Berkeley	28	21	7	33%
Dorchester	37	37	11	30%
Colleton	19	4	2	50%
Hampton	8	17	3	18%
	239	173	71	

** 2007 SC ORS data for FP, IM, Geriatrics, GP physicians for targeted county

Table 4: Educational Module Dosage to date (Sept 30, 2009)

Educational Topic	Number of Staff Encounters
What is Diabetes?	110
Diet	182
Physical Activity	61
Acute Complications: hypo and hyperglycemia	41
Neuropathy	158
Nephropathy	70
Cardiometabolic Risk Factors	14
Cardiovascular Disease and Diabetes	13
Obesity/BMI Measurement	80
Insulin	37
Oral Medications	25
	791

Highlights of the 15-month report include:

1. The comparison of pre and post needs assessments completed by the clinical staff showed significant improvement ($p < .05$) for 14 of the 15 questions about staff's comfort level in providing skills/duties for standards of care for patients with diabetes and obesity and utilization of community resources.
2. The examination of the "disconnect" between MD and the office support staff showed:
 - a. Comparison of PRE clinical office staff assessments to the expectations of office MD shows an alarming "disconnect" between the MD and clinical staff's assessment of their "comfort" in performing many of the simple procedures/tasks as well as the frequency these standards are preformed. The most alarming "gaps" in delivering the standards of care were:
 - Obtaining serum creatinine yearly
 - Obtaining lipid panel annually
 - Obtaining A1C every 3-6 months
 - Assessing patients' ability to use glucose monitor each visit
 - Performing monofilament screen on feet annually
 - Performing foot exam each visit
 - Screening urine for albumin annually
 - b. Comparison of POST clinical staff needs assessments to the expectations defined by the supervising MD noted that the staff are more aligned with the MD's expectations of their duties in the office to provide obesity and diabetes duties.

This program is continuing in seven (7) additional counties in FY 10 through state non-recurring funds.

Goal: To increase the number of health care providers engaged in professional education on recommended standards of care.

7th Annual Diabetes/Heart Disease & Stroke Winter Symposium

The "7th Annual Diabetes/Heart Disease & Stroke Winter Symposium, Evidenced-Based Management-Improving Diabetes & Cardiovascular Care: Innovate, Motivate to Better Collaborate" was held at the Crown Reef Resort and Convention Center, Myrtle Beach, SC on February 27 – 28, 2009. The keynote speaker was Dr. Sam Dagogo-Jack, Professor of Medicine and Director, Fellowship Training Program in Endocrinology, Diabetes and Metabolism, and Director, Clinical Research Unit at the University of Tennessee Health Science Center, Memphis, TN. There was a record attendance of 205 health care providers from across the state of South Carolina as well as participants from Georgia and North Carolina. For the first time, a physician track was offered in addition to the general session.

Annual recognition awards are made in six categories. The 2009 recipients were:

- ❖ Certified Diabetes Educator of the Year: Carolyn Jenkins, DrPH, CDE, RD, APRN, BC-ADM, FAAN
- ❖ Community Health Center of the Year: Sumter Family Health Center, Sumter, SC
- ❖ SC DHEC Regional Diabetes Educator(s) of the Year: SC DHEC Diabetes and Disparities teams:
 - Region 1-Laureen Riley RN, Kathy Parnell RD
 - Region 4-Cami Bremer RD MPH, Tammy Turner RN MN CDE
 - Region 5-Stacy Gaillard RN MN, Wanda Tutt RD
 - Region 6-Lori Goulet RN MN CDE, Shuling Kuo RD
 - Region 8-Elba Rivera RN, Sarah Smith RD CDE
- ❖ Community Health Center of the Year: Sumter Family Health Center, Sumter, SC
- ❖ Health Care Provider of the Year: Dean Floyd, MD
- ❖ American Hospital Association/American Stroke Association – Get with the Guidelines Hospital of the Year: East Cooper Regional Medical Center, North Charleston, SC
- ❖ Power to End Stroke Ambassador of the Year: Carrie F. Whipper

Completed evaluation forms were received from 116 of the attendees. Overall comments were extremely favorable about the conference objectives and faculty presenters. During the symposium, 91 registrants consented to participate in follow-up and further studies. The initial follow-up survey was launched the second week of July using the Zoomerang online survey system. The questions focused on changes in professional practice made as a result of information obtained at the symposium.

Follow-Up Evaluation for the 2009 Diabetes/Heart Disease & Stroke Winter Symposium

During the 2009 Winter Symposium, 91 of 205 registrants consented to participate in follow-up and further studies. The initial follow-up survey was launched in July 2009 using the Zoomerang online survey system and consisted of sixteen questions that focused on changes in professional practice made as a result of information obtained at the symposium and demographics. Responses were received from 38 participants (42% response rate). By professional occupation, 54% of respondents were nurses, 14% registered dietitians, 8% nurse practitioners, 5% physicians, 19% Other. Eighty two percent reported being in practice for 10 or more years and females made up 95% of survey participants. Primary work setting was 39% at community health centers, 21% DHEC, 16% hospitals, 3% private practice and 21% other. Direct patient care was reported as their main role by 59% of all respondents. Ninety-seven percent would attend another Winter Symposium.

When asked if changes were made in patient care as a result of things learned while attending the symposium, 24 respondents replied yes. Eighteen percent (7) replied that the changes were working well with 45 percent (17) reporting some success. An additional 18% percent reported making no changes, but the information learned validated their current practice.

Of the 24 respondents who indicated they were incorporating information into their practice, 85% were including AADE behavioral principles, 77% motivational interviewing, 68% ASH recommendations for treatment of hypertension, another 68% were treating tobacco use/dependence using the Clinical Practice Guideline, 38% use of electronic medical record, and 25% identified additional Medicare billable services.

When asked about modifying their patient care practices by adopting evidenced-based updates/standards, 71% were doing earlier testing for pre-diabetes/cardio metabolic syndrome, 68% reported using new drugs on the market for diabetes and hypertension treatment, and 57% were testing for the stages of development for Chronic Kidney Disease based on what they had learned at the 2009 Winter Symposium.

In addition, respondents were asked about modifications to their patient counseling with respect to nutrition and physical activity. For their patients with diabetes, 91% of respondents modified both their nutrition and physical activity counseling. For their patients with hypertension, 91% of respondents modified their physical activity counseling and 86% modified their nutrition counseling.

A variety of responses were given when respondents were asked to explain major barriers to implementing new information into their practice. Responses seemed to fall into the categories of 1) patient/staff readiness to change, 2) systems changes (administrative policy, layers of administration, level of authority, multiple delivery sites, limited resources), 3) staff turnover/training, 4) language barriers, 5) scope of practice.

South Carolina Primary Health Care Association (SCPHCA)

The DPCP and the Tobacco Division have partnered with the SCPHCA, a long-time advocate for the medically underserved in South Carolina, to assist us in the following over the next five years:

- providing information on best practices,
- providing periodic updates to health center clinical staff,
- securing speakers for and explore further collaboration with the SCPHCA Annual Clinical Retreat,
- collaborating with other chronic disease prevention stakeholders,
- assessing health center interest in working on and implementing various chronic disease prevention initiatives, and
- assisting health centers in the implementation of identified initiatives through currently established mechanisms and the development of any additional means.

IV. Community Awareness and Outreach:

Goal: Increase diabetes knowledge and awareness across disparate and hard to reach communities.

IMARA Woman Partnership (Media Campaign)

DHEC's DPCP and the Office of Minority Health (OMH) have continued their collaborative partnership with the IMARA Woman Magazine, Inc., a personal lifestyle and growth magazine, targeting women of color. The DPCP collaborated on the Health Ministry Empowerment Tour, the IMARA Woman TV Show, and had diabetes related articles and advertisements in the bi-monthly magazine. This year's tour featured speaker was Ms. Katrina Spigner, a South Carolina author, motivational speaker, and life coach. There were a total of 507 participants combined at the three tour stops this year, (Charleston, Aiken, and Rock Hill). Attendees at the tour stops were from 26 of South Carolina's 46 counties as well as Augusta, GA and Charlotte, NC.

Free health screenings were given at each of the tour stops with a total of 492 for all three stops. Health screenings included blood pressure, blood sugar, cholesterol, BMI, mammography, HIV status, seasonal flu shots, and nerve system analysis. In Charleston a total of 262 screens were given with 20% of those screened at-risk. A total of 126 participants were screened in Aiken, no information was provided on percent at-risk. There were 104 screenings done in Rock Hill with 15% of the screens at-risk.

IMARA's Health Assessment Survey and Findings

During the Tour the DPCP conducted a health assessment survey to determine the health profile (readership's overall health status and risk behaviors) of the tour participants. This data will be used for retrospective evaluation and will assist in future program planning. Data collected included demographic information, social determinants of health, health status, health behaviors, health care access and utilization, and knowledge relating to type 2-diabetes prevention and control.

A total of 255 participants completed the cross sectional health assessment survey. Median age of participants was 53.5yrs, 84% had more than a High School education, 42% were married, 37% were unemployed, and 38% lived under 200% of the federal poverty level. Homeowners represented 85.4% and most respondents reported no financial (55%) or food (63%) worries in the past 12 months. Eighty-one percent rated their general health as good or better and 93% expressed satisfaction with life. Respondents reported on average three days of poor physical health and four days of poor mental health. There were 88.6% uninsured respondents, 93% could identify a personal doctor, 90% had visited a doctor in the past year, yet nearly 20% lacked access to care due to cost. Eighty percent of respondents were overweight or obese, 73% did not meet recommended levels of physical activity and only 19% consumed recommended servings of vegetable. Twenty-four percent reported they have been told they have pre-diabetes, 21% reported having diabetes, 58% met the recommended two or more A1C test per year and 78% had taken a self-management class.

Implications and Recommendations

Obesity is associated with an increased risk of developing insulin resistance and type 2 diabetes. Key future directions are needed to begin pre-diabetes prevention awareness and for the creation of a broad-base framework for the delivery of programs.

Local Diabetes Coalitions/Community Groups

Over the years, the DPCP has provided technical assistance as well as mini-grants to several coalitions and community groups and there are currently 22 active groups across the state. The goals of the community groups are to:

- **Provide a forum for local communities to discuss diabetes-related activities that are locally driven and controlled.**
- **Share resources and information with the expectation that all such efforts will support the implementation of the Statewide Diabetes Strategic Plan.**
- Help create awareness of diabetes and its related issues at the community levels.

- Increase communication and coordination among existing organizations and institutions to reduce unnecessary duplication of diabetes related projects.
- Obtain collaboration between organizations.
- Help solicit corporate support for community projects.

Fiscal Year 2009-2010 mini-grant recipients received between \$1000 - \$5000 to implement the following activities: developing or expanding health and physical fitness ministries, partnering with local community health centers, working with local school systems to address obesity and healthy eating, and developing community gardens. Current funded community partners:

- Acercamiento Hispano (Region 3)
- Georgetown County Diabetes CORE Group (Region 6)
- Low Country Diabetes Initiative (Region 8)
- Midlands Diabetes Coalition (Region 3)
- Neighbors Helping Neighbors (Region 6)
- St. John Baptist Church (Region 3)
- St. Mark AME Community Resource Outreach Project (Region 4)
- St. Paul Community Outreach, Inc. (Region 3)
- The Vision Foundation (Region 3)
- Williamsburg County Diabetes Education Coalition (Region 6)

Annual Mid-Year Community Partners Meetings

The DPCP hosted the 6th Annual Mid-Year Community Partners Training on Thursday, April 2, in Columbia, SC. There were 35 people in attendance representing coalition members, non-profit agencies/community organizations including faith based health ministries. Participants came from the following counties: Kershaw, Orangeburg, Florence, Spartanburg, Olanta, Marion, Aiken, Richland, Horry, Charleston, Williamsburg, Georgetown, and Beaufort/Jasper.

The day was filled with information regarding protocol for the upcoming mini-grant RFA, skills building in program evaluation, and two demonstrations of coalition program activities. The LowCountry Diabetes Initiative provided a demonstration on how they have combined the following curriculums/campaigns: Diabetes 101, Eat Smart Move More SC, Power to End Stroke, and M.E.S.S. (Mothers Eliminating Secondhand Smoke) into a series of Soulfully Fit Health Ministry Trainings. The training has introduced congregations to skills building health education programs. Participants walk away with knowledge on how to develop or enhance a faith and health ministry for their church by incorporating health promotion and wellness.

The Aiken County Diabetes Coalition in partnership with the Margaret J. Weston Community Health Center demonstrated their Community Garden Project utilizing the 'lasagna' and 'pillow' garden concept. Lasagna Gardening is a nontraditional organic gardening method that relies on a layering method called "sheet composting." The name "Lasagna," comes from the way garden beds are created from layers, the same way you layer ingredients when making a pan of lasagna. Watering and weeding are reduced through the heavy layers of mulch and by planting crops close together. The lasagna layering method quickly builds soils that are incredibly rich in nutrients, resulting in higher than average garden productivity. Afterwards, the coalition donated all of the supplies they used during the demonstration as a door prize.

Eighth Annual Statewide Community Partners Meetings

The South Carolina Diabetes Prevention and Control Program and the Diabetes Initiative of South Carolina (DSC) sponsored the Eighth Annual Statewide Community Partners Meetings on Thursday, September 24, 2009 in collaboration with the 15th Annual Diabetes Fall Symposium for Primary Health Care Providers. There were 41 participants representing 21 community groups from SC, NC, and GA. The day was filled with information related to the diabetes mini-grants, effective program evaluation, sharing of best practices, and success story development. Eight groups entered the 10th Annual Scientific Poster Session and the

Diabetes Initiative of South Carolina awarded a certificate and monetary award to the top three (1st Place – Georgetown Diabetes CORE Group, 2nd Place – Neighbors Helping Neighbors, and 3rd Place - Acercamiento Hispano).

South Carolina's African American Conference on Diabetes

The 13th Annual African American Conference on Diabetes was held on Monday, November 2, 2009 at the Brookland Baptist Conference Center. This statewide conference, one of the largest lay health conferences in the state, is sponsored by the community-based organization, The Diabetes Today Advisory Council (DTAC) and the SC DHEC Diabetes Prevention and Control Program. Eight hundred sixty participants, many having boarded buses as early as 5:30 a.m., had the opportunity to fellowship and learn the importance of health education in the control and prevention of diabetes. After a warm welcome from SC DHEC Commissioner Earl Hunter and DTAC president Thomas Smith, the first plenary speaker was Dr. James Coleman, Jr. from the CDC who emphasized the importance of gaining knowledge and incorporating changes in our lives to live healthier, both physically and spiritually. Ms. Val Summersett from Lexington Hospital introduced us to “the Dos and Don’ts of Tootsie” (proper foot care) while Mr. Ramsey Makhuli from the SC Dept of Health and Human Services got everybody up and active with exercises that everyone could do. A conference favorite was Ms. Jeanette Jordan, a registered dietician that reminded us that small dietary changes can yield big health rewards. The closing plenary was Ms. Loretha Huff, a sanofi aventis A1C Champion, who shared her 23-year adjustment to diabetes and how insulin saved her life.

Of the 28 exhibitors, seven DHEC programs exhibited at this years’ conference and dedicated nurses from Region 3 administered 60 flu shots. A Health Assessment Survey was administered to each participant as well as an invitation for participant’s with diabetes to take part in a follow-up study. A primary goal of the conference is to provide informal diabetes education opportunities to individuals with diabetes, so the follow-up study will attempt to learn more about how information gained during the conference is being used to improve their self-management over time. Two hundred forty one participants signed up to participate and will receive a phone call, once within the next 3, 6, 9 **or** 12 months to ask them a few diabetes related questions.

Statewide Diabetes Media Plan

The DPCP has non-recurring state money to use for a statewide media campaign that will run throughout most of the state from January 2010 – April 2010. The National Diabetes Education Program’s (NDEP) *Manage Your Diabetes* and the *Get Real* prevention campaign tools will be utilized and a press release will be issued simultaneously throughout all partnering publications. We will work with the Obesity Division to possibly run some of their 7 *Healthy Habits* ads that reinforce the NDEP Small Steps prevention messages.

Seventy percent of media funds will be devoted to primary prevention and 30% to secondary prevention (management). We are working with several radio stations, TV stations, and print media and plan to target African Americans and Hispanics/Latinos.

**DIABETES INITIATIVE OF SOUTH CAROLINA
BOARD OF DIRECTORS AND COUNCIL MEMBERS**

Diabetes Initiative of South Carolina

Board of Directors

Members

Daniel Lackland, Dr.PH

Chair, DSC Board of Directors

Chair, Surveillance Council

Biometry/Epidemiology, MUSC

Pamela Arnold, MSN APRN, BC-ADM, CDE

Diabetes Center of Excellence, MUSC

John Bruch, MD

Greenville Hospital System

Melanie Giese, RN

SC DHHS, Bureau Director

K. Sue Haddock, RN, PhD

Chair, IMDH Steering Committee

Wm. Jennings Bryan Dorn VA Medical Center

Elizabeth Todd Heckel, MSW, CDE

DSC Midlands Site, University of SC

Kathie L. Hermayer, MD, MS

Endocrinology, MUSC

Shauna P. Hicks, MHS, CHES

SC DHEC – Office of Minority Health

Carolyn Jenkins, DrPH, APRN, RD, CDE

Chair, Outreach Council

College of Nursing, MUSC

David Keisler, MD

SC Academy of Family Physicians

Arthur Kennedy, MD

Private Practice, Orangeburg

Usah Lilavivat, MD

Internal Medicine, Sumter

Louis M. Luttrell, MD, PhD

Chair, Division of Endocrinology, MUSC

Ronald Mayfield, MD

Endocrinology, Spartanburg Regional Healthcare System

Edi McNinch, RN, CDE

SC DHEC, Home Health Services

Al Pakalnis, MD

University of SC, Ophthalmology

Karen Reeves, BSN, MHHA, FACHE

South Carolina Hospital Association

Ali Rizvi, MD

USC School of Medicine, Richland Memorial

Kenneth Trogdon

Welvista, Executive Director

Hobart O. Trotter, Jr.

ADA – Southeastern Division

Lisa Waddell, MD, MPH

SC DHEC, Deputy Commissioner for Health Services

Advisory Members

Yaw Boateng, MS, MPH, RD, LD, CDE

SC DHEC, SC Wise Woman Program

Edwin Bransome, MD

Internal Medicine/Endocrinology, IMDH Task Force

Brent Egan, MD

Hypertension Initiative of SC, MUSC

David Garr, M.D.

SC AHEC, Executive Director

Rhonda Hill, PhD, CHES

SC DHEC, Diabetes Prevention and Control Program

John Little, MD

Companion, HMO

Mark Massing, MD, PhD, MPH

The Carolinas Center for Medical Excellence

Honorary Members

John A. Colwell, MD, PhD, CDE (Past Chair)

Past DSC Board Chair; Professor Emeritus, MUSC

James Edwards, DMD

Past President, MUSC

Ed Owens

ADA – Southeastern Division

Stephen H. Smith

ADA – Past Board Chair

Diabetes Center Council

Members

Pamela Arnold, MSN, APRN, BC-ADM, CDE

Chair, Diabetes Center Council

Director, Diabetes Management Service, MUSC

Kathie L. Hermayer, MD, MS

Endocrinology, MUSC

Carolyn Jenkins, DrPH, APRN, RD, CDE

Chair, Outreach Council

College of Nursing, MUSC

Advisory Member:

John A. Colwell, MD, PhD, CDE

Past DSC Board Chair;

Professor Emeritus, MUSC

Surveillance Council

Members

Daniel Lackland, DrPH (Chair)
Pamela Arnold, MSN, APRN, BC-ADM, CDE
Walter Bailey, MPH
Yaw Boateng, MS, MPH, RD, LD, CDE
Shelly-Ann Bowen, PhD, MS(CT), ASCP
Edwin Bransome, MD
John Colwell, MD, PhD, CDE
Gwen A. Davis, MN, RN, CDE
James Ferguson, DrPH
Susan Frost, MS, RD, LD
Tom Gaffney, MD
K. Sue Haddock, PhD, RN, CNNA
Elizabeth Todd Heckel, MSW, CDE
Khosrow Heidari, MA, MS, MS
Kelly Hunt, PhD
Carolyn Jenkins, DrPH, APRN, RD, CDE
Kenne Mountford, BS
Patsy Myers, DrPH
Al Pakalnis, MD
Lanique Stepney
Kenneth Trogon
Odessa Ussery, Med, CCMEP
Caitlin Wood

Biometry/Epidemiology, MUSC
Chair, Diabetes Center Council, MUSC
SC Office of Research and Statistics
SC DHEC – Wise Woman Program, Sumter
SC DHEC – Diabetes Prevention and Control Program
Internal Medicine/ Endocrinology, Aiken, SC
Past DSC Board Chair; Professor Emeritus, MUSC
SC DHEC – Diabetes & Disparities
SC DHEC
SC DHEC – Diabetes Prevention and Control
Internal Medicine, USC School of Medicine
Wm. Jennings Bryan Dorn VA Medical Center
DSC Midlands Site, University of SC
SC DHEC – Chronic Disease Epidemiology
Biometry/Epidemiology, MUSC
Chair, Outreach Council; College of Nursing, MUSC
Biometry/Epidemiology, MUSC
SC DHEC – Chronic Disease Epidemiology
Ophthalmology, University of SC
SC DHEC – Diabetes Prevention and Control
Executive Director, Welvista
Director, Office of CME, MUSC
Graduate Assistant, WJB Dorn VA Medical Center

Outreach Council

Members

Carolyn Jenkins, DrPH, APRN, RD, CDE (Chair)	College of Nursing, MUSC
Pamela Arnold, MSN, APRN, BC-ADM, CDE	Diabetes Center of Excellence, MUSC
Yaw Boateng, MS, MPH, RD, LD, CDE	SC DHEC, Wise Woman Program, Sumter
Shelly-Ann Bowen, PhD, MS(CT), ASCP	SC DHEC – Diabetes Prevention and Control Program
Cyglinda Boykin, LPN, BS	Blue Choice HealthPlan
Priscilla Brantley, MSN	SC Primary Care Association
Xiaoyan Bu, DNS, PNP, RN	USC, Women’s & Gender Studies
Andrea Cantey	SC DHHS, Office of Minority Health
James Coleman, EdD	CDC, Division of Adult & Community Health
John Colwell, MD, PhD, CDE	Past DSC Board Chair; Professor Emeritus, MUSC
Gwen A. Davis, MN, RN, CDE	SC DHEC – Diabetes & Disparities
Barbara Wright Downs	SC DHEC – Diabetes Prevention and Control Program
Susan Frost, MS, RD, LD	SC DHEC – Diabetes Prevention and Control Program
Maria Gibson, MD	Family Medicine, MUSC
K. Sue Haddock, PhD	Wm. Jennings Bryan Dorn VA Medical Center
Elizabeth Todd Heckel, MSW, CDE	USC/DSC Site, University of SC
Khosrow Heidari, MA, MS, MS	SC DHEC, Chronic Disease Epidemiology
Shauna Hicks, MHS, CHES	SC DHEC, Director, Office of Minority Health
Rhonda Hill, PhD, CHES	SC DHEC – Diabetes Prevention and Control Program
Angela D’Antonio Hitch	USC, Epidemiology & Biostatistics, School of Public Health
Kelly Hunt, PhD	MUSC, Dept. of Biostatistics & Epidemiology
Tommy Johnson, PharmD, BC-ADM, CDE	Presbyterian College, School of Pharmacy
Darius Jones, MA, LPCI, NCC	The Carolinas Center for Medical Excellence
Diane Kennedy, MS, MT (ASCP)SH	Lowcountry AHEC
Freda King, MA	Director of Client & Commun. Relations, SC Voc. Rehab.
Daniel Lackland, DrPH	MUSC, Dept. of Biostatistics & Epidemiology
Edi McNinch, RN, CDE	SC DHEC, Home Health Services
Michelle Moody, BA	SC DHEC – Diabetes Prevention and Control Program
Valerie Muehleman, MS, RD, CDE	BJH Comprehensive Health Services
Patsy Myers, DrPH, RD, MS	SC DHEC, Chronic Disease Epidemiology
Maria Riley	SC DHHS
Ali Rizvi, MD, CDE	USC School of Medicine, Internal Medicine
Carmen Santiago	Chair, SC Hispanic/Latino Outreach
Lanique Stepney	SC DHEC, Office of Minority Health
Wendy Taylor, RN, CDE	Palmetto Community Health Network
Jessica Tillman, MPH, BSN, RN	SC Primary Health Care Association
Kenneth Trogdon	Welvista
Hon K. Yuen, PhD	College of Health Professions, MUSC

Intensive Management of Hospitalized Diabetic Patients Task Force

Members

Edwin Bransome, Jr., MD (Chair)	Endocrinology, Aiken
Pamela C. Arnold, MSN, APRN, BC-ADM, CDE	Diabetes Center of Excellence, MUSC
John Bruch, MD	Medical Associates, Greenville
Patrick J. Cawley, MD	Hospitalist, MUSC
John Culleton, MD	Endocrinology, Florence
Gene Dickerson, MD, FACS	Carolina Diabetes & Kidney Center, Sumter
David R. Garr, MD	Executive Director, SC AHEC
K. Sue Haddock, RN, Ph.D., CNAA	Wm. Jennings Bryan Dorn VA Medical Center
Kathie L. Hermayer, MD	Endocrinology, MUSC
Daniel T. Lackland, Dr.PH	Biometry and Epidemiology, MUSC
Usah Lilavivat, MD (Vice Chair)	Carolina Diabetes & Kidney Center, Sumter
Ronald K. Mayfield, MD	Endocrinology, Spartanburg
Charles H. Raine, III, MD	Endocrinology, Orangeburg
Ali Rizvi, MD	USC, Department of Internal Medicine

Advisory Member:

John A. Colwell, MD, Ph.D.	Past DSC Board Chair; Professor Emeritus, MUSC
----------------------------	--

IMDH Steering Committee Members:

K. Sue Haddock, RN, PhD, CNAA (Chair)	Wm. Jennings Bryan Dorn VA Medical Center
Pamela Arnold, MSN, APRN	Diabetes Center Council, MUSC
Julie Benke-Bennett	Diabetes Initiative of SC, MUSC
Elizabeth Todd Heckel, MSW, CDE	USC/DSC Site, Columbia
Usah Lilavivat, MD	Carolina Diabetes & Kidney Center, Sumter
Ali Rizvi, MD	USC, Department of Internal Medicine
Sharm Steadman, PharmD	USC, Family & Preventive Medicine
Kathie Hermayer, MD	Endocrinology, MUSC

Advisory Members:

Edwin Bransome, Jr., MD	Endocrinology, Aiken
John Colwell, MD, PhD	Past Chair, Diabetes Initiative of SC; Professor Emeritus, MUSC

DSC/Midlands Site Governing Committee

Members:

Ali Rizvi, MD, CDE (Chair)
Steve Barnette, MD
K. Sue Haddock, PhD
Elizabeth Todd Heckel, MSW, CDE

Constance Hopkins, BSN, MN, CDE
David Keisler, MD

Kay McFarland, MD
Anwar Merchant, ScD, MPH, DO
Dero Myers, PhD
Al Pakalnis, MD
Sharm Steadman, PharmD, CDE

Rebecca Wrenn, MS, RD, LD

Department of Internal Medicine, USC School of Medicine

Wm. Jennings Bryan Dorn VA Medical Center
Department of Family/Preventive Medicine, USC
Program Director, Diabetes Initiative of SC/Midlands Site

In-patient Diabetes Education, Palmetto Health Richland

Department of Family/Preventive Medicine,
USC School of Medicine

Department of Internal Medicine, USC School of Medicine

Department of Epidemiology & Biostatistics, USC

Department of Neuropsychiatry, USC School of Medicine

Department of Ophthalmology, USC School of Medicine

Department of Family/Preventive Medicine,
USC School of Medicine

Program Coordinator, SC DHEC, Office of Public Health Nutrition
Dietetic Internship & Supplemental Nutrition

SC DHEC
Diabetes Prevention and Control Program (DPCP) Staff

Shelly Ann Bowen, PhD, MS(CT)
Gwen A. Davis, MN, RN, CDE
Barbara Wright Downs
Susan Frost, MS, RD, LD
Rhonda L. Hill, PhD, CHES
Michelle Moody, BA, MPH, CHES
Patsy Myers, DrPH
Lanique Stepney

Program Evaluator
State Nurse Consultant
Diabetes Community Education Coordinator
Health Systems Coordinator
Division Director
Community Partnership Coordinator
Epidemiologist
Program Assistant