

Diabetes Initiative of South Carolina



2008 Annual Report

Carolyn H. Jenkins, DrPH, APRN, BC-ADM, CDE
Interim Chair, Board of Directors (Jan – Dec 2008)

Daniel T. Lackland, DrPH
Chair, Board of Directors

Diabetes Initiative of South Carolina (Dec 2008)





January, 2009

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 2008). This report was requested in the Diabetes Initiative of South Carolina Act, Chapter 39, Section 44-39.

**The Diabetes Initiative
Of South Carolina**

96 Jonathan Lucas Street
Suite 816 · CSB
P.O. Box 250624
Charleston · SC 29403

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

Daniel Lackland, DrPH
Chair, DSC Board
Chair, Surveillance Council

David Keisler, M.D.
Vice-Chair, DSC Board

Pamela Arnold, MSN, APRN,
BC-ADM, CDE
Chair, Diabetes Center Council

Carolyn Jenkins, DrPH, R.N., CDE
Chair, Outreach Council

Elizabeth Todd-Heckel, MSW, CDE
USC Site

Since 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 healthcare provider education focused on diabetes prevention and control. Through effective collaboration with the Diabetes Prevention and Control Program of the SC Department of Health and Environmental Control, we have established coalitions throughout the state with current efforts to establish nurse-dietitian teams in underserved and rural areas. 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 findings from the Centers for Disease Control and Prevention.

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, and hospitalizations for heart disease and stroke for people with diabetes, as well as the increase in healthcare providers in underserved and high-risk areas for diabetes.

During 2008, DSC launched an Intensive Management of Diabetes in the Hospital program. Utilizing tools developed and data collected by the MUSC Diabetes Management Service, this program demonstrates that careful management of blood glucose levels reduce mortality, morbidity, infections, and length of hospital stay.

This unique collaborative initiative has enhanced extramural funding opportunities of education programs, clinical care and research focused on diabetes accounting for over \$7 million 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 of this unique Initiative in response to the needs of the people of SC. As indicated in this report, the Diabetes Initiative of South Carolina has been associated with significant improvement in the excess disease burden in the state. Despite evidence showing major reductions in the economic and health burden of diabetes, South Carolina has consistently had an excessive burden of diabetes and diabetes related complications; much remains to be done. We look forward to implementing new strategies and reporting our results.

Carolyn H. Jenkins, DrPH, APRN, BC-ADM, CDE
Interim Chair, Diabetes Initiative of SC (Jan – Dec 2008)

Daniel T. Lackland, DrPH
Chair, Diabetes Initiative of SC (Dec 2008)

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	12
Surveillance Council Annual Report.....	15
Diabetes Initiative of South Carolina/USC Site Annual Report	18
S.C. Diabetes Prevention and Control Program, DHEC Annual Report	20
Board of Directors and Council Members	25

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Major accomplishments were achieved during 2008 by the Diabetes Initiative of South Carolina (DSC). Among with significant improvements:

- Significant decline in the rate of lower extremity amputations for South Carolinians with diabetes.
- Increase in the number of South Carolina health care providers receiving state-of-the-art diabetes treatment regimens.
- 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 maximizing the efficiency of activities and interventions. The collaborations of DSC with SC Department of Health and Environmental Control, American Diabetes Association, and the Centers of Excellence 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 as well as 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 Initiative represents a true statewide partnership that continues to expand. With the medical centers of excellence focused as one of the major efforts, the centers at MUSC and USC welcomed the Greenville Hospital System as a partner. The DSC was pleased to participate in the recognition of John A Colwell, MD, PhD and DSC Board Chair from 1992-2007, with the receipt of the Order of the Palmetto, and the naming of the John A. Colwell Diabetes Research Center at the Medical University of South Carolina.

The partnerships, working through the three Councils (Outreach, Professional Education, and Surveillance), appreciated great successes during 2008.

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 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. The 12th Annual African-American Conference was held in West Columbia. This conference is designed 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 14th Annual Diabetes Fall Symposium for Primary Health Care Professionals was attended by over 250 health professionals. This annual conference offers state-of-the-art presentations of scientific topics of 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 6th Annual Diabetes/Heart Disease & Stroke Winter Symposium, coordinated by the Diabetes Prevention and Control Program, SC DHEC. DSC continues with very successful programs to train more Certified Diabetes Educators in the state of South Carolina, and maintains several web sites, 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, feet examination and eye examination from health professionals. As well, 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. Kidney failure leading

to dialysis is increasing, however. This may partially be due to increased longevity of these patients; however, new preventive measures are expected to reduce this trend in future years. These results have been published in medical journals and also used to direct intervention programs to high risk groups.

The evaluation of the 10-Year Strategic Plan (1998 – 2008) is nearing its completion, and we are currently evaluating our progress in meeting goals. A monograph on progress is under development for the coming year and is being produced by a Writing Committee consisting of all Diabetes Initiative of SC collaborators and partners. One of the more striking improvements over the ten-year period was the decline in lower extremity amputations in individuals with diabetes. The results of this report will be used to develop the Strategic Plan for the next ten years.

Numerous successes were identified in diabetes treatment and control associated with the Professional Education and Outreach activities of the Diabetes Initiative of South Carolina. However, the state residents continue to have a disproportionate burden from diabetes. Thus, while positive trends have been demonstrated from the efforts, additional work remains to be done, to maintain the positive trends demonstrated in 2008. We look forward to presenting the 2009 report.

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

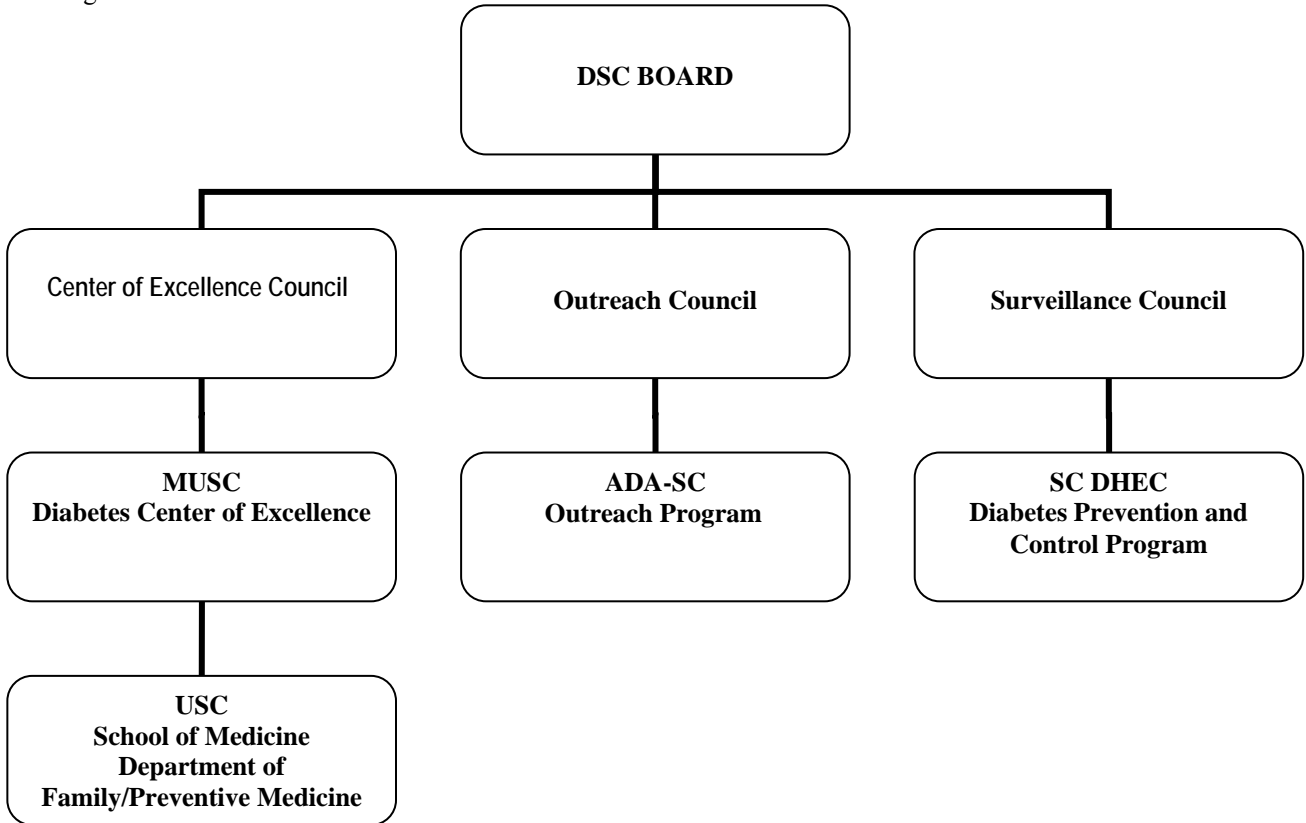
Thus, a serious public health problem of diabetes and its complications was recognized in South Carolina and in the United States. An undersupply of qualified health professionals was on hand to deal with the increasing demands of more intensive education and health care for people with diabetes. Ominous 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:



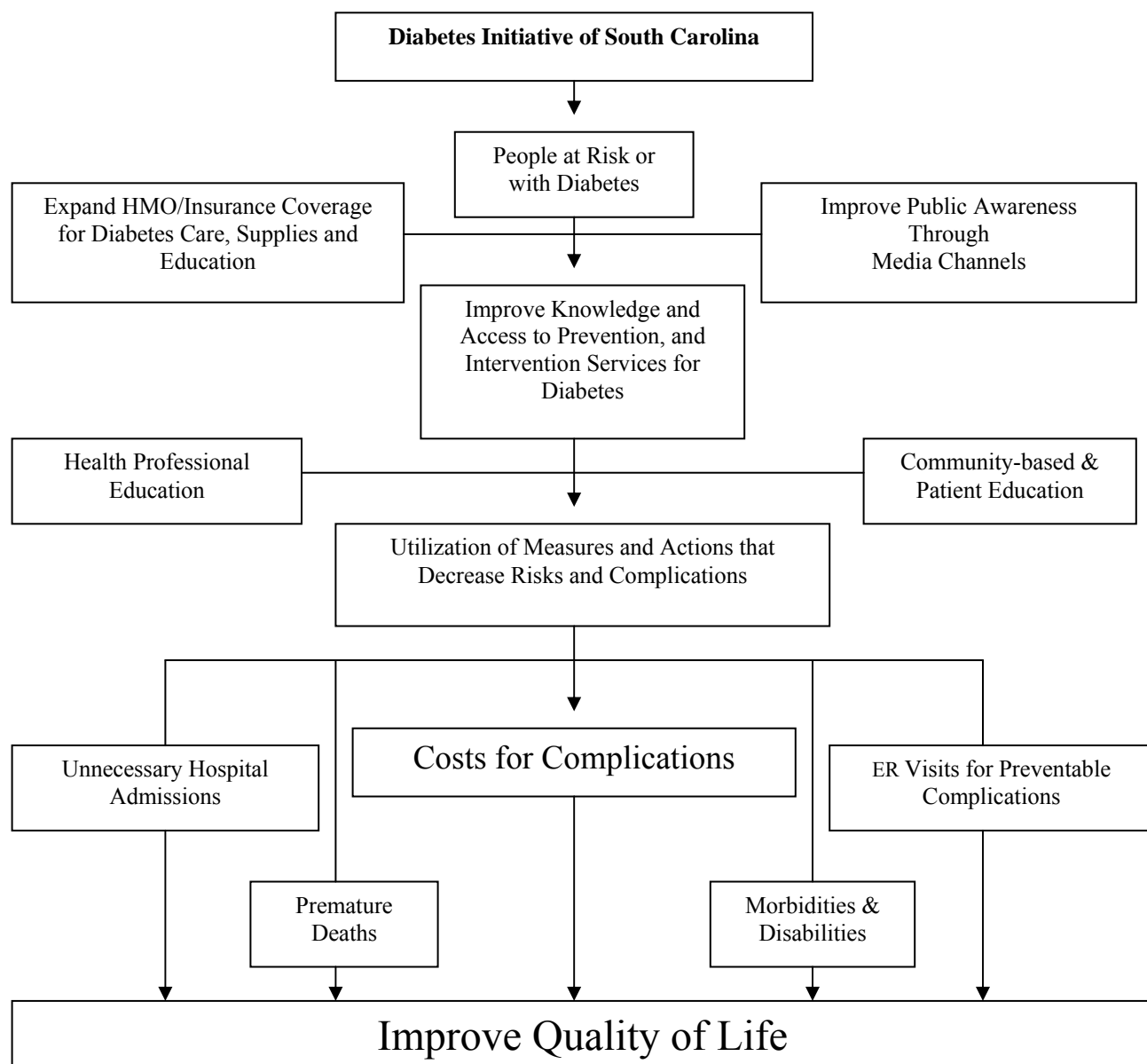
There are three Councils; the Center of Excellence, Outreach, and Surveillance Council. There is a Diabetes Center of Excellence, established in the original legislation, based at the Medical University of South Carolina. This Center is responsible for administering the many activities and programs of 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 2009. 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>99,062</u>
Total Budget	\$ 190,037

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 2008

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: Dr. Michael Byrd, Director, Community Health and Chronic Disease Prevention Bureau
2. The Charleston and Georgetown Diabetes Coalition—Racial and Ethnic Approaches to Community Health (REACH) 2010, is funded by the Centers for Disease Control and Prevention (CDCP). It is working with Charleston and Georgetown counties to reduce disparities of diabetes awareness, health care access, diabetes education, and complications of diabetes complications in African Americans. PI: Dr. Carolyn Jenkins at MUSC.
3. 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: Dr. Richard Davis at USC and project Co-PI: Robert Moran at USC
4. The Diabetes Prevention Program Outcomes Study (DPPOS) is a follow-up to the national controlled clinical trial which demonstrated that intensive lifestyle attention to exercise and diet would lower the risk of developing type 2 diabetes. PI: Robert Moran at USC
5. 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 at USC
6. 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 at USC
7. South Carolina COBRE for Oral Health is funded by the NIH. This grant is to develop a multidisciplinary and interactive oral health program, particularly among African Americans. PI: Dr. Steven London at MUSC
8. 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: Dr. John A. Colwell at MUSC
9. Emergency Department (ED) Use by African Americans with Diabetes is funded by NIH – National Institute for Nursing Research. This qualitative/quantitative study examines non-emergent use of the ED. PI: Dr. Carolyn H. Jenkins at MUSC
10. Lowcountry Diabetes Initiative Exercise Grant is funded by the SC DHEC - Diabetes Prevention and Control Program. This funding was awarded to provide exercise groups in 5 churches and a Health Ministry Training. It also supplements the Med 1 Assistant program which is utilized to help with prescription assistance. PI: Valerie Muehleman, MS, RD, CDE

11. National Kidney Foundation of South Carolina will evaluate whether cooperative medical care between the nephrologist and a team of diabetes experts improves glucose control while slowing down the progression of kidney disease in patients above age 55. It will also evaluate if this intensified team treatment approach leads to improved patient satisfaction. An important aspect of this study is to see if this approach is feasible and practical in community-based medical centers and practices across the state and leads to less complications, better patient satisfaction, and reduce health care costs related to diabetic kidney disease. PI: Dr. Ali A. Rizvi, MD
12. The Effects of Ethnicity and Diabetes in Risk Factor, and Genetic Clustering among Cardiovascular Disease from the American Heart Association Mid-Atlantic Affiliate. The research focuses on racial disparities involved with cardiovascular disease. It is recognized that cardiovascular disease has a significant impact in the United States and is the leading cause of death for African Americans and Caucasians. The higher prevalence of cardiovascular disease and risk factors for cardiovascular disease such as hypertension and diabetes has been demonstrated in African Americans. This study focuses on evaluating long-term risk associated with major cardiovascular disease risk factors and determining if the excess burden of cardiovascular disease among African Americans is attributable to not only higher prevalence of disease risk factors, but also a more significant risk associated with the presence of risk factors among African Americans. PI: William K. Mountford, MS at MUSC.
13. 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: Dr. Kathie L. Hermayer, MD at MUSC
14. REACH US: Center of Excellence for Eliminating Disparities 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: Dr. Carolyn Jenkins at MUSC
15. 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: Angela Liese at USC
16. 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 at USC
17. 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 at USC
18. 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 at USC

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	R. Hill	689,585	4,137,510	2003-2009
2. REACH 2010	C. Jenkins	993,000	6,951,000	1999-2008
3. Telemedicine	R. Davis	195,954	2,413,000	2003-2009
4. DPPOS	E. Mayer-Davis	79,775	552,475	2003-2008
5. LOOK AHEAD	E. Mayer-Davis	57,242	609,298	2002-2013
6. TODAY	E. Mayer-Davis	37,586	284,157	2003-2009
7. Oral Health	S. London	1,450,000	8,700,000	2002-2008
8. EDIC	J. Soule	191,762	1,608,810	2006-2015
9. ED Use	C. Jenkins	109,500	219,000	2006-2008
10. SC DHEC Community	V. Muehleman	14,000	14,000	2007-2008
11. Kidney Foundation	A. Rizvi	16,000	65,400	2007-2008
12. Ethnicity and Diabetes	W. Mountford	20,000	20,000	2007-2008
13. Renal Transplant	K. Hermayer	600,000	1,800,000	2007-2010
14. REACH CEED	C. Jenkins	850,000	4,250,000	2007-2012
15. SEARCH 2 – USC Site	A. Liese	383,913	2,538,938	2006-2010
16. SNAS – USC Site	A. Liese	82,780	236,580	2008-2012
17. Spaital Epi	A. Liese	287,571	876,980	2007-2009
19. Build Environment	A. Liese	<u>222,048</u>	<u>513,648</u>	2008-2011
	TOTAL	\$ 6,280,716	\$ 35,776,796	

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 \$35.7 million, and yearly funding exceeds \$6.2 million. This yearly extramural funding is more than 33 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, 2008 – DECEMBER 31, 2008**

Diabetes Initiative of South Carolina Outreach Council Annual Report January 1, 2008 - December 31, 2008

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.

Outreach Council Meetings

The Outreach Council of the Diabetes Initiative of South Carolina met three (3) times throughout the year. Additionally, the Statewide Coalitions met two (2) times in spring and fall. Many of the Coalitions presented posters at the Annual DSC Primary Care Symposium in the fall.

Prominent 2008 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 these CDC funded grants. The focus of these grants 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. Current funding level is approximately \$850,000 annually. Small grants (3) of about \$28,000 are presented annually to other coalitions that are working to improve diabetes outcomes in African American communities. The SC recipient for 2008 is the Beaufort Jasper Comprehensive Health Center that will work to improve diabetes outcomes in Jasper County.

Other programs networking with Outreach Council during 2008 to address diabetes include:

South Carolina Vocational Rehabilitation Department that provides 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. During 2008, SC Vocational Rehabilitation Department provided services to 538 clients with diabetes.

South Carolina Hypertension Initiative Diabetes Initiative staffed the screening for the Health Screening Day at SC Legislature that was coordinated by the Hypertension Initiative.

South Carolina Truckers Association During the Labor Day long weekend, DSC collaborated with the SC Truckers Association to provide A1c, lipid, and glucose screening and education to truckers using I-26. The Hypertension Initiative provided many of the screening supplies, while DSC staffed the booth and provided the education and screening.

National Partnership to Fight Chronic Disease (PFCH) Coalition

The PFCD is 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 during 2008 was to:

- Challenge policymakers - in particular, the presidential candidates - 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 policymakers, governments, employers, health institutions, and other entities approach chronic disease.

During the national presidential debate, one of the questions was directly related to diabetes. The situation featured Charity Woods and her mother (from the LowCountry).

The PFCH also recognized the accomplishments of one of the SC Coalitions (Charleston and Georgetown Diabetes Coalition) as one of 10 community models that work to decrease the burden of chronic disease (diabetes).

Welvista (formerly known as CommuniCare)

With more than 700,000 South Carolinians uninsured, a major issue is access to medications and supplies. Due to the economy, we are seeing increases in these numbers. Welvista focused on improving access to medications for the uninsured.

Welvista is a nonprofit healthcare network committed to improving health and wellness for the uninsured. Partnering with 12 pharmaceutical companies who donate name brand medications, Welvista offers a single point of access to over 200 medications that treat chronic diseases. These medications are critical in controlling chronic diseases such as diabetes and associated complications of hypertension, cardiovascular disease, stroke, and other chronic diseases. Since 1993, Welvista has dispensed and shipped millions of dollars of donated medications to over 80,000 patients.

In 2008, Welvista served over 12,000 patients by providing 108,872 prescription medications at a value of \$34.5 million. During this same year Welvista provided 15,338 prescriptions for diabetic medications valued at \$3.8 million.

In June 2008, Welvista implemented a Patient Advocate Program, whereby it places patient advocates on-site in hospitals to identify and enroll uninsured patients who qualify for the Welvista medication assistance program. Due to these efforts to make life-saving medications available, their goal is to significantly decrease ER use and in-patient hospitalizations for patients with diabetes, hypertension, and other chronic conditions.

Outreach Grants submitted in 2008

- **REACH SouthEastern African American Center of Excellence to Eliminate Disparities** related to diabetes and its complications. (See above) Funded at \$850,000 for 2008. C. Jenkins, PI
- **Technology Center for Healthy Lifestyles** was submitted to Health Sciences South Carolina and then the SC Commission of Higher Education (Centers of Economic Excellence). This proposal was a collaborative effort of University of South Carolina and Medical University. HSSC approved \$1.6 million in matching funds and we asked CoEE for \$5 million. Unfortunately, due to SC budget cuts, CoEE was unable to complete the review of the request! S. Blair at USC, PI; C. Jenkins, CoPI
- **Improving Chronic Care for Diabetes Prevention and Control** will be submitted to Duke Endowment on December 15, 2008.

For SC Diabetes Prevention and Control Program and DSC at USC, see their reports.

**DIABETES INITIATIVE OF SOUTH CAROLINA
DIABETES CENTER COUNCIL ANNUAL REPORT
JANUARY 1, 2008 – DECEMBER 31, 2008**

Diabetes Center Council
Annual Report
January 1, 2008 - December 31, 2008

Professional Education Activities:

- 14th Annual DSC Symposium for Primary Healthcare Providers; September 11- 12, 2008, N. Charleston Convention Center, SC; #254 Day 1; #201 Day 2
- Preconference ½ day basics September 10, 2008; #146
- Third Year Medical Student Diabetes Project; #150 students 2008-2009
- November 1, 2008 Program; Improving Quality and Saving Lives; Impact of Achieving Glycemic Control in SC Hospitals, Charleston, SC; #44

Professional Presentations:

- CV Course lecture on “Diabetes Management in the Hospital”
- RN Competency Lectures on “Diabetes Concepts”
- “Diabetes in the Hospital” 4 hour course x 2
- 14TH Annual DSC Symposium for Primary Healthcare Providers; “Update on Hospital Diabetes Program” with Kathie Hermayer, MD
- Treating Hypoglycemia/Hyperglycemia: Development and Implementation of Tools”
- November, 1, 2008

Poster Presentation:

- Hermayer KL, Hushion TV, Arnold PC, Wojciechowski B. Improving Hyperglycemia in the Hospital: Outcomes of a Nursing In-Service to Evaluate Acceptance of a Web-Based Insulin Infusion Calculator.
- Weil RP, Hermayer KL, Arnold PC, Cawley PJ, Luttrell LM. Inpatient Glycemic Control. Poster at the University Health System Consortium Quality and Safety Fall Forum, September 17 – 19, 2008.

Meetings:

- University Health Consortium (UHC) Glycemic Control Project
- MUSC Diabetes Advisory Committee for Patient Education
- MUSC Hospital Diabetes Task Force
- Studer Group MUSC Excellence

Projects:

- JC/ADA Disease State Certification for Inpatient Diabetes Care
- Web based program for patient care assistants on “Diabetes Concepts”
- Update of MUSC IVIIC
- Reapplication of MUSC 5-site ADA Outpatient Application
- DSC Inpatient Diabetes Management Program

Clinical:

- MUSC Diabetes Management Service

Publications:

Maria G. Buse, MD, PhD

- Robinson, KA, Buse, MG Mechanisms of high glucose/insulin-mediated desensitization of acute insulin-stimulated glucose transport and Akt activation. *Am. J. Physiol. Endocrinol. Metab.* 294: E870-E881, 2008.

Kathie L. Hermayer, MD

- Hermayer, KL, Hushion, TV, Arnold, PC, Wojciechowski, B. Improving Hyperglycemia in the Hospital: Outcomes of a Nursing In-Service to Evaluate Acceptance of a Web-Based Insulin Infusion Calculator. *Journal of Diabetes Science and Technology*. (Symposium Issue). 2(3): May, 2008: 1-8.
- Hermayer, KL, Neal, DE, Hushion,TV, Irving, MG, Arnold, PC, Kozlowski, L, Stroud, MR, Kratz, JM. Outcomes of a Cardiothoracic Intensive Care IV Insulin Infusion Calculator Study at a Medical University Hospital. www.slidesonline.com. 6/10/08.
- 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.

Richard L. Klein, PhD

- Brock JWC, Jenkins AJ, Lyons TJ, Klein RL, Yim E, Lopes-Virella MF, Carter RE, The DCCT/EDIC Research Group. A pilot study of methionine sulfoxide content in apoAI in Type 1 diabetes. *J Lipid Research*, In Press, 2008
- Jenkins AJ, Lyons TJ, Rothen M, Moller K, Klein RL, Zheng D, McGee D, Thorpe SR, Garvey WT, and The DCCT/EDIC Research Group. Serum C-reactive protein and vascular disease in the DCCT/EDIC cohort. *Diabetic Medicine*, In Press, 2008
- Brock JWC, Jenkins AJ, Lyons TJ, Klein RL, Yim E, Lopes-Virella MF, Carter RE, Thorpe SR, Baynes JW, and the DCCT/EDIC Research Group. A pilot study of methionine sulfoxide content in apoA-I in Type 1 diabetes. *J Lipid Research*, In Press, 2008.
- Klein RL, Gilbert GE, Jenkins AJ, Lyons TJ, Carter RE, Virella G, Lopes-Virella MF. LDL-containing immune complexes in the DCCT/EDIC cohort: Associations with lipoprotein subclasses. *J Lipid Res*, In Press, 2008
- Luo N, Klein RL, Chung BH, Garvey TJ, Fu Y. Reduced lipid accumulation by adiponectin in macrophage foam cells. *J Lipid Res*, In Press, 2008
- Reaven PD, Emanuele N, Moritz T, Klein R, Davis M, Glander K, Duckworth W, Abaira C; Veterans Affairs Diabetes Trial. Proliferative diabetic retinopathy in type 2 diabetes is related to coronary artery calcium in the Veterans Affairs Diabetes Trial (VADT). *Diabetes Care*. May 2008; 31(5):952-7

D. T. Lackland, DrPH

- Carter RE, Lackland DT, Cleary PA, Yim E, Lopes-Virella MF, Gilbert GE, Orchard TJ DCCT/EDIC Research Group. Intensive treatment of diabetes is associated with a reduced rate of peripheral arterial calcification in Diabetes Control and Complications Trial. *Diabetes Care* 30:2646-2648, 2007.
- Mountford WK, Soule JB, Lackland DT. et. Al. Lower extremity amputations rates fall significantly in South Carolina. *Southern Medical Journal* 100:787-190, 2007.
- Mountford WK, Lackland DT, Soule JB, Hunt KJ, Lipsitz SR, Colwell JA. Racial disparities in trends for cardiovascular disease and procedures among hospitalized diabetic patients. *Ethnicity and Disease* 18:131-135, 2008.

L. M. Luttrell, MD, PhD

- Lee M H, El-Shewy HM, Luttrell DK, Luttrell LM. (2008) Role of β -arrestin-mediated desensitization and signaling in the control of angiotensin AT1 α receptor- stimulated transcription. *Journal of Biological Chemistry*. 283(4):2088-97, 2008.
- Lee M H, Klein RL, El-Shewy HM, Luttrell DK, Luttrell LM. (2008) The adiponectin receptors AdipoR1 and AdipoR2 activate ERK1/2 through a Src/Ras-dependent pathway and stimulate cell growth in HEK293. (Submitted for Publication).
- Jaffa, A.A., Usinger, W.R., McHenry, B., Lipsitz, S.R., Tan, Y., Wang, B., Lackland, D.T., Lopes-Virella, M., Luttrell, L.M., and P.W. Wilson. Connective Tissue Growth Factor and susceptibility to vascular disease risk in type 1 diabetes. *J. Clin. Endocrinol. Metab.* 93: 1893-1900, 2008.

Jeremy B. Soule, MD

- Erbe L, Soule JB. Clinical Pearl—how Many Insulin Vials. *Clinical Advisor*. October 2008; 11(9): 8.
- Mountford WK, Lackland DT, Soule JB, Hunt KJ, Colwell JA. Racial Disparities in Trends for Cardiovascular Disease and Procedures among Hospitalized Diabetic Patients. *Ethnicity & Disease*. Spring 2008; 18:131-35

Presentations:**Jyotika Fernandes, MD**

- A genome-wide linkage scan in Gullah-speaking African American families with type 2 diabetes: The Sea Islands Genetic African American Registry (Project SuGAR)
- Michèle M. Sale, Lingyi Lu, Ida J. Spruill, Jyotika K. Fernandes, Kerry H. Lok, Jasmin Divers, Carl D. Langefeld, W. Timothy Garvey. Charlottesville, VA; Winston-Salem, NC; Charleston, SC; Birmingham, AL Submitted Jan 2008 for ADA meeting

Kathie L. Hermayer, MD

- Intensive Review of Family Practice: Osteoporosis-Kiawah Island, SC6/12/08
- Hospital Diabetes/Hyperglycemia-Medical Staff Meeting. Orangeburg, SC6/26/08
Hospital Discharge Planning-Chicago, Illinois11/21/08

Book Chapters:

- El-Shewy, H.M., and **L.M. Luttrell**. Insulin-like growth factor-2 / Mannose-6-Phosphate Receptors. In: *Vitamins & Hormones. Volume 80*. G. Litwack, editor-in-chief. Academic Press/Elsevier, Toluca Lake, CA. In press, 2008.
- **Soule JB**, Egede LE. Point of Care: Gestational Diabetes Monograph in *BMJ Point of Care*. BMJ Publishing Group. Spring 2008.
- Egede LE, **Soule JB**. Diabetes and Acute Metabolic Complications, Infections, and Inflammation in *Diabetes Public Health: From Data to Policy*. CDC; Oxford University Press. Spring 2008

**DIABETES INITIATIVE OF SOUTH CAROLINA
SURVEILLANCE COUNCIL ANNUAL REPORT
JANUARY 1, 2008 – DECEMBER 31, 2008**

Surveillance Council
Annual Report
January 1, 2008 – December 31, 2008

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, epidemiologist, program specialist 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 writing 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 2008 Diabetes Symposium. Eighteen 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 underutilization 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 database, 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 2008 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 2008 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 14. 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 summit was hosted by DHEC in Columbia where numerous investigators and DCS participants reviewed each of the objectives, goals and strategies with the proposed evaluation measures from the 10-year strategic plan. The specific measure and data sources were identified for each objective and goal. A writing team was formed and a writing coordinator hired. The goals of the group are 1) the preparation of the evaluation technical report that will address the detail the evaluation measures and establish a prevalence of diabetes based on clinical diagnosis and 2) the publication of a scientific manuscript that will describe the trends in outcomes measures associated with the DSC first ten-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 draft will be completed December 2008 to be followed by a manuscript in the spring 2009.

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, analyses determined that intensive treatment can indeed reduce the risks of peripheral artery disease among individuals with diabetes. These results were reported in *Diabetes Care*, *Southern Medical Journal* and *Ethnicity and Disease*.

Assessments of hypertension and diabetes identified improvements regarding outcomes among individuals with both hypertension and diabetes. While the combination of both conditions increases the risk 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 database 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 2008. This event continues to increase in numbers and quality of research findings, and functions as a forum for describing diabetes research in South Carolina. In addition, Council members participated in several medical education programs in South Carolina focused on diabetes care. Finally, the DSC 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.

**DIABETES INITIATIVE OF SOUTH CAROLINA SITE ANNUAL REPORT
UNIVERSITY OF SOUTH CAROLINA SCHOOL OF MEDICINE
JANUARY 1, 2008 – DECEMBER 31, 2008**

DSC/University of SC Site Annual Report 2008

Ali Rizvi, MD, CDE; Chairman
Elizabeth Todd Heckel, MSW, CDE; Program Director

Ali Rizvi, MD, CDE – Chairman, USC Governing Committee
Elizabeth Todd Heckel, MSW, CDE - Program Director

Governing Committee Members: Ali Rizvi, MD, CDE (Professor, Department of Internal Medicine);Kathlyn Haddock, PhD (Dorn VA Hospital); Sharm Steadman, PharmD, CDE (Professor, Department of Family/Preventive Medicine); David Keisler, MD (Department of Family/Preventive Medicine); Kay McFarland, MD (Department of Internal Medicine); Al Pakalnis, MD(Department of Ophthalmology); Xiaoyan Bu, PhD, (Department of Nursing); Dero Myers, PhD (Department of Neuropsychiatry); Elizabeth Todd Heckel, MSW, CDE (Department of Family/Preventive Medicine)

Camp Adam Fisher, the Carolinas' largest overnight camp for children 6-16 years with diabetes. Camp was held for the 41st year, July 27-August 2, 2007. 210 campers with 75 volunteer health professionals staffed camp. This is a collaborative venture between the University of SC, School of Medicine and the Medical University of SC. Most campers return year after year. Counselor rank is achieved by demonstrating healthy diabetes management skills. Elizabeth Todd Heckel, MSW, CDE

Prevention Partners, part of the SC Budget and Control Board, Division of Insurance Services recruits health professionals to provide diabetes education to state employees. During the past 10 years over 1,500 state employees have received diabetes education at no additional cost for participating. Sharm Steadman, PharmD, CDE; Elizabeth Todd Heckel, MSW, CDE

Diabetes Strategies for the 21st Century: Preparatory 2 day course held once a year for those preparing to take the Certified Diabetes Educator exam. During the past 10 years number of Certified Diabetes Educators (CDE's) has risen from 25 to over 300. Sharm Steadman, PharmD, CDE; Elizabeth Todd Heckel, MSW, CDE

Diabetes Education Groups/Individuals – Tuesday/Wednesday: 4-10 patients weekly; Sharm Steadman, PharmD, CDE; Elizabeth Todd Heckel, MSW, CDE

Governing Committee Member contributions/collaborations:

3rd Year Medical Student "Experiential Diabetes Workshop"- 3rd Medical Students doing their Family Medicine Rotation learn about the Standards of Care" for people with diabetes; medicines available for treatment and discuss case presentations. The final hour and a half; medical students experience pricking a finger for blood glucose check, taking a saline injection and making healthy food choices. This program has been successfully replicated with Medical Students at MUSC. Sharm Steadman, PharmD, CDE; Elizabeth Todd Heckel, MSW, CDE

"A. T. Chalk endowed chair, diabetes care and research"; Ali Rizvi, MD, CDE

"Teaching Advancement Award, USC School of Medicine, 2008"; Ali Rizvi, MD, CDE

Served as peer reviewer for the following journals in 2008: Ali Rizvi, MD, CDE

Journal of the National Medical Association

Thyroid

Clinical Endocrinology

Diabetic Medicine

Articles: Ali Rizvi, MD, CDE

1. The ONTARGET Investigators. Telmisartan, Ramipril, or both in patients at high risk for Vascular Events. *New Engl J Med* 2008;358:1547-1559.
2. Rizvi AA. 46, XX man with SRY gene translocation: cytogenetic characteristics, clinical features and management. *American Journal of the Medical Sciences* 2008;335(4):307-309.
3. Rizvi AA. Inflammation, Adipocytokines, and Atherosclerosis in the Metabolic Syndrome (invited article) *Anti-Inflammatory and Anti-Allergy Agents in Medicinal Chemistry* 2008;7(3):187-198. Special issue: "Inflammation and Atherosclerosis".

4. Narasimhan K, Rizvi AA. Vitamin D Levels in Patients seen in the Diabetes Unit of an Academic Medical Center. *Southern Medical Journal* 2008;101(10):1069.
5. Rizvi AA. Benefits and Risks of Oral Medications for the Treatment of Type 2 Diabetes in the Elderly. *Geriatrics and Aging* (In Press).
6. 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* 2008, Online First (In Press).
7. Davis RM, Hitch AD, Nichols M, MS, Rizvi A, Salaam M, Elizabeth J. Mayer-Davis. A Collaborative Approach to the Recruitment and Retention of Minority Patients in Rural Health Centers *Contemporary Clinical Trials* 2008 (In Press).

Book Chapters: Ali Rizvi, MD, CDE

1. Nutritional considerations in older persons with diabetes mellitus. In: *Research Trends in Nutrition for the Middle-Aged and Elderly*. Urster JP, Ed. Nova Science Publishers, Inc., Hauppauge, New York, 2008.
2. Rizvi AA. Inflammation in type 2 diabetes and the metabolic syndrome. In: *Inflammation Research Perspectives* Romano GT, Ed. Nova Science Publishers, Inc., Hauppauge, New York, 2008.
3. Rizvi AA. The emerging role of inflammatory markers in the metabolic syndrome. In: *Metabolic Syndrome Research Trends*. Batone TE, Ed. Nova Science Publishers, Inc., Hauppauge, New York, 2008.

Poster Presentations: Ali Rizvi, MD, CDE

1. Kanakasabai Narasimhan, Ali A. Rizvi. Assessment of Vitamin D status in patients seen in a specialty Diabetes Unit (abstract #208). 17th Annual Meeting and Clinical Congress, American Association of Clinical Endocrinologists, Orlando, FL, March 2008.
2. Ali Rizvi, K. Sue Haddock, Elizabeth Mayer-Davis, Angela Hitch, Michele Nichols, Muhammad Salaam, Richard M. Davis. Collaborating with providers in rural, underserved areas for optimizing telemedicine-delivered self-management patient education; lessons from the Diabetes TeleCare Study (DTC) (abstract # 842-P). American Diabetes Association 68th Scientific Sessions, San Francisco, CA, June 2008.
3. Ali Rizvi, K. Sue Haddock, Elizabeth Mayer-Davis, Angela Hitch, Michele Nichols, Muhammad Salaam, Richard M. Davis. Participant Acceptability of a Diabetes Self-Management Education Program delivered through Telemedicine in Rural Underserved Communities (abstract # 857-P). American Diabetes Association 68th Scientific Sessions, San Francisco, CA, June 2008.
4. Muhammad M. Salaam, Angela Hitch, Elizabeth J. Mayer-Davis, Michele Nichols, Ali Rizvi, K. Sue Haddock, Richard M. Davis. Telemedicine-based retinopathy screening among adults with type 2 diabetes in rural, medically under-served areas of South Carolina (abstract # 832-P). American Diabetes Association 68th Scientific Sessions, San Francisco, CA, June 2008.
5. Hari Bhatt, Ali A. Rizvi. Association of Glycemic Control with Length of Hospital Stay and Adverse Clinical Outcomes in Patients admitted with Acute Ischemic Stroke. 14th Annual Diabetes Symposium, Charleston, SC – Sept 11-13, 2008.
6. Sallie Ruth Coleman, Ali A. Rizvi. "Diabetes Distress" in Women and its relation to Glucose Control. 2008 Carolina Women's Health Research Forum, University of South Carolina, Columbia, SC – Oct 3-4, 2008.
7. Ammara H. Tahir, Michelle B. Sanders, Ali A. Rizvi. Use of Continuous Subcutaneous Insulin Infusion in Women treated at a Specialty Diabetes Unit. 2008 Carolina Women's Health Research Forum, University of South Carolina, Columbia, SC – Oct 3-4, 2008.
8. Giselle T. Chandler, Alfredo F. Gei, Stephen A. Fann, Ali A. Rizvi, Anthony R Gregg. Case Series: Primary Hyperparathyroidism in Pregnancy with a Review of the Literature. 2008 Carolina Women's Health Research Forum, University of South Carolina, Columbia, SC – Oct 3-4, 2008.
9. Ijeoma Kene-Ewulu, Kanakasabai Narasimhan, and Ali A. Rizvi. Acute Pancreatitis secondary to Primary Hyperparathyroidism in Pregnancy. Oral Presentation, Abstract Poster Session, ACP South Carolina Chapter Meeting, Hilton Head Island, SC – Oct 16-19, 2008.

Research Grant: Ali Rizvi, MD, CDE

Principal Investigator, Diabetes Control and Kidney Disease (DCK): Aggressive management of diabetes in older adults with stage 3 or 4 kidney disease is a feasible, safe, and replicable model for translational care that improves glycemic control and slows the progression of diabetic nephropathy: 2007 – 2009, (investigator-initiated study funded by the National Kidney Foundation, \$65,400)

**SOUTH CAROLINA DIABETES PREVENTION AND CONTROL PROGRAM
S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
JANUARY 1, 2008 – DECEMBER 31, 2008**

South Carolina Diabetes Prevention and Control Program
SC Department of Health and Environmental Control
Annual Report
January 1, 2008 – December 31, 2008

South Carolina Department of Health and Environmental (SC DHEC) and the South Carolina Diabetes Prevention and Control Program (SC 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 the burden associated with diabetes, as well as eliminate diabetes-related health disparities.

Prominent 2008 Diabetes Related Initiatives That Have Assisted Us in Meeting Our Goals

1. Statewide Diabetes Strategic Planning Focus Groups

On Wednesday, August 27, 2008, the SC DPCP hosted three strategic planning focus groups (community perspective, statewide perspective, and healthcare providers) facilitated by Dr. Carolyn Jenkins, Professor and Ann Darlington Edwards Endowed Chair at the Medical University of South Carolina College of Nursing and the Principal Investigator for the REACH US SEA-CEED grant. There were 38 participants and seven staff members.

The success the state has on the prevention and management of diabetes is dependant on our ability to develop effective partnerships with providers, organizations and community champions that can inform, influence, and implement initiatives to reduce health disparities and the burden of diabetes and related complications on our citizens and systems of care.

The next phase of this endeavor, which will occur by the beginning of February 2009, is to invite each of the participants to complete a computerized SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis. Their participation and responses will be grouped with all the other participants. Based on the input of the participants, the findings of the SWOT analysis will result in the development, dissemination, and implementation of a statewide diabetes community action plan by September 2009.

2. Federal Funding for the Diabetes Prevention and Control Programs

The SCDPCP is completing a cost extension year (year 06) of an original five-year funding cycle from the Center for Disease Control and Prevention's Division of Diabetes Translation that will end on March 30, 2009. The next five-year competitive funding application is due to CDC December 29, 2008 and is a collaborative/integrated chronic disease, health promotion, and surveillance program announcement between four programs: Healthy Communities, Tobacco Control, Diabetes Prevention and Control, and the Behavioral Risk Factor Surveillance System.

3. Diabetes 101 Trainings

Diabetes 101 is a community awareness program targeting the disparate populations of SC through predominately the African American community. It is a curriculum developed by the SC DPCP and SC DHEC's ADA recognized program educators to reach the underserved populations with a consistent message regarding prevention and management of diabetes. The curriculum is set up as a two-prong approach. The first part is a community presentation for people with diabetes or at risk for the disease that want to learn more information. The second part is the train-the-trainer portion where individuals within their community can be trained as presenters of the curriculum. Our goal is to have two trainers for each of the 46 counties and to date there are 157 trainers across the state representing 32 of the 46 counties. Updates have been sent to all trainers and 12 requests have been submitted for re-training. Forty-four trainers have fulfilled their obligation to do at least two presentations in their community. A goal for the next fiscal year is to solicit more trainers especially in the 14 counties where currently there is none.

4. South Carolina African American Conference on Diabetes

The 2008 African American Conference on Diabetes entitled "Healthy Living With Diabetes" was held on Monday, November 10, 2008. The conference was held at the Brookland Baptist Conference Center in West Columbia with 815 participants, exhibits/vendors, staff and volunteers.

Ms. Darci Strickland, an evening anchor from WLTX News, served as the Mistress of Ceremony. Several health care professionals donated their time to talk with conference participants about issues such as self-management, eye care, medication, kidney disease, physical activity, sexuality, diabetes risk factors, and complications as well as administer flu shots. Thirty-four conference attendees received flu, pneumonia, and/or tetanus vaccinations from three friendly DHEC nurses from Region 3. One of the participants characterized the day as a “town hall meeting on health, not just about diabetes but information we need to know about good health care in general”.

The community-based organization, the Diabetes Today Advisory Council (DTAC) was the primary sponsor of the conference along with SC DHEC’s Division of Diabetes Prevention and Control. Eli Lilly Pharmaceuticals joined this year’s sponsorship through the F.A.C.E. Program (Fearless African Americans Connected and Empowered). Eli Lilly stated they were impressed by the number of participants at the conference and were pleased that they were able to be a part of such an empowering day.

5. Local Diabetes Coalitions

The total number of coalitions across South Carolina has grown to thirty-one. Thirteen of the thirty-one coalitions are considered active while the remaining eighteen are experiencing challenges and need guidance and leadership. Focus group preliminary qualitative data analysis shows that the coalitions face barriers such as; lack of leadership, inability to focus, lack of cohesion among members, lack of commitment to coalition work, difficulty recruiting new members, and the lack of movement. Strengths were; members having useful experience and the success of programs they implemented. Follow-up surveys will be implemented with both functioning and non-functioning coalitions. Coalition leaders will be asked to evaluate their coalition using a six-subscale measure adapted from the needs assessment tool developed by Butterfoss (2008). Data collected will be analyzed and reported along with a descriptive summary of the coalitions’ strengths and challenges and will provide a prescription for action.

The SC DPCP continues to provide mini-grants to local coalition chapters in the form of skills building exercises, creative partnering, resource finding, grant writing workshops, and mini-grants. The SC DPCP has funded seven coalitions for FY 08-09. Five with Capacity building funding in the amount of \$3000 and two with basic implementation funding in the amounts ranging from \$9,000 -\$14,000. The funding period began August 25, 2008 and will end March 29, 2009.

An example of outcomes from one of the coalitions that has been funded for the past four years is:

Over the past 3 years, Low Country Diabetes Initiative (LDI) has partnered with fifteen local churches to implement an exercise and nutrition program three times a week for 16-weeks. The program utilizes the “*Get Fit While You Sit*” video to help faith-based organizations lower weight and improve overall health. Pre and post measurements for height, weight, blood pressure, and body mass index were recorded for each participant at the beginning of the program. At the offset of the program, 34.3% of participants reported having high blood pressure. The 16-week exercise program promoted weight loss with participants losing up to 137.2 pounds collectively. Blood pressure improvements were noted, but were minimal. Four of the fifteen churches saw a significant decrease in blood pressure during the 16-weeks.

6. Annual Statewide Coalition Meetings

SC DPCP hosted the **5th Annual Mid-Year Coalition Training** on Wednesday, April 2, 2008. There were representatives from 30 coalitions and other agencies/community organizations including faith based health ministries present. Participants represented Saluda, Aiken, Lancaster, Orangeburg, Columbia, Myrtle Beach, Charleston, Williamsburg, Georgetown, and Beaufort/Jasper counties.

The Statewide Coalition Coordinator presented pertinent information regarding the upcoming mini-grant application process, which included the mini-grant invoice process that will assist the coalitions in submitting their RFA. The Diabetes Program is working to integrate other chronic disease programs into their work with the community so representatives from Obesity, Healthy Aging, Heart Disease and Stroke, and the Tobacco Divisions within the Bureau of Community Health and Chronic Disease Prevention were allotted time to discuss pertinent program information.

During the afternoon session, training on the South Carolina Online Reporting and Evaluation System (SCORES) was conducted. The two-hour training provided the coalitions/faith based ministries with the tools needed to complete the required reports and provided them with a comprehensive reporting mechanism that will decrease or eliminate the use of multiple reporting formats.

The South Carolina Diabetes Prevention and Control Program and the Diabetes Initiative of South Carolina (DSC) sponsored the **Eighth Annual Statewide Diabetes Coalition Meeting** on Wednesday, September 10, 2008 from 12:00 pm - 5:00 pm in Charleston, SC and there were 34 community partners present. The first part of the training provided time for an extensive DPCP update concerning the upcoming five-year competitive funding cycle as well as an overview by Dr. Carolyn Jenkins of two diabetes education prevention and awareness curriculums—Power to Prevent and Choose to Live.

The second part of the meeting focused on how to develop a success story. The training prepared the community partners to capture the accomplishments and best practices their coalition attains over time. In addition to displaying their coalition's progress the success stories can educate policymakers and other stakeholders about their coalition's goals, activities, and successes. The success story presenters were the media specialists from the Bureau of Community Health Chronic Disease and Prevention.

After the meeting, coalition members put up their poster displays to demonstrate their community wide best practices for judging at the 9th Annual Scientific Poster Session. The following coalitions were selected as winners: 1st place Charleston Diabetes Coalition, 2nd place Georgetown Diabetes CORE Group, and 3rd place Horry County Diabetes Coalition. Each received a monetary award and a certificate from DSC.

7. IMARA Woman Partnership (Media Campaign)

DHEC's DPCP and the Office of Minority Health (OMH) have had a collaborative partnership for the past seven years with the IMARA Woman Magazine, Inc., a personal lifestyle and growth magazine, targeting women of color. IMARA, powerful in Swahili, has a mission to empower women of color by being a source of inspiration on issues of health, professional development, education, business and family. The readership of the magazine is over 70,000 statewide as well as in parts of Georgia and North Carolina. IMARA also hosts an annual 3-city *Health* Ministry Empowerment Tour as an educational outreach initiative. This year's tour had a total of 502 participants and was held in Allendale, Greenville, and Georgetown. In addition to all of the workshops and free health screenings, the tour featured Rev. Telley L. Gadson, a pastor and motivational speaker.

At the 2007 Empowerment tour the DPCP developed and distributed surveys to gain a profile of the tour participants that would assist us in determining new topics for the magazine's health related ads and articles to include for 2008 as well as allow us to generalize the readership's overall health status and risk behaviors. There were a total of 347 respondents and the major results of the survey showed the following:

- Ninety-one percent of the respondents identified themselves as African American and the mean age was 52 years with a range of 19 to 87 years.
- Nearly 18% of the respondents subscribed to the magazine and most of them indicated the health articles were most useful.
- The average height of the respondents was 5'4" and average weight was 181 lbs. However, half of the respondents were 5'4" and under while nearly half weighed 180 or more.
- Seventy-one percent of respondents rated their general health as good and very good.
- The vast majority (89%) of respondents had 1 or more physicians. However, in the past 12 months, 21% had needed to see a doctor, but could not to do so because of cost.
- Seventy-five percent of respondents had **not** smoked at least 100 cigarettes in their lifetime.
- Twenty percent of those who responded had been diagnosed with diabetes. The mean age at diagnosis was 43 years. Eleven percent had been diagnosed as having pre-diabetes or borderline diabetes; while 2% of the respondents had been diagnosed with diabetes while pregnant. Three percent of the respondents took insulin and 12% took pills as diabetes medication.
- Nearly half (46%), of respondents had been diagnosed with hypertension and 5% with borderline or pre-hypertension.
- Seventy-four percent of the respondents reported ever having their cholesterol checked while 43% had received a diagnosis of high cholesterol.
- Only 4% responded as having had a diagnosis of heart attack. (myocardial infarction). Likewise for a diagnosis of angina or coronary disease.
- Three percent of respondents reported having a diagnosis of stroke.

The preliminary results from the data indicate the presence of chronic diseases such as diabetes and hypertension as well as high cholesterol among a significant portion of the respondents. Also, the height to weight proportion indicates that about half of those who responded were overweight. While slightly more than one-third of the respondents engaged in the recommended 30 minutes of moderate level physical activity 5 days a week, the consumption of fruits and vegetables were substantially lower than the recommended amounts. As access to health care was cost prohibitive for over 20% of the respondents, continued dissemination of diabetes related health information through venues such as the *Tour* and DPCP initiated activities will be helpful to these individuals.

8. Sixth Annual Diabetes/Heart Disease and Stroke Prevention Winter Symposium

The “6th Annual Diabetes/Heart Disease and Stroke Prevention Winter Symposium: Evidence-Based Management: Improving Diabetes & Cardiovascular Care: Effective Communication to Improve Outcomes, was held at the Crown Reef Hotel in Myrtle Beach on February 22 – 23, 2008. The keynote speaker was Dr. Sherita Hill Golden, an Endocrinologist/Epidemiologist from John Hopkins University Medical School.

A record attendance of 203 health care providers from across the state attended the Symposium, which included 19 MDs, 51 NPs/ RNs, 16 RDs, 20 LPNs, 5 MSWs, 4 Pharm Ds, 5 CHES, 2 PAs, and 81 “Other” disciplines. About 85% (17 of 20) of all the Community Health Centers in the state were represented along with diabetes educators, nurses, dietitians, and health educators from health departments, hospitals and private practice offices. The make up of the symposium attendees is significant because they represent the providers who take care of the majority of indigent and disparate clients who are disproportionately affected by diabetes, heart disease, stroke and other related chronic diseases across the state. Continuing Medical Education credits for physicians and continuing education credits for nurses, dietitians, and health educators were provided. Recipients of the recognition awards were as follows:

- Certified Diabetes Educator of the Year – Ms. Jane S. Maudlin, RN, CDE; AnMed Health Medical Center Diabetes Education Program
- Community Health Center of the Year – CareSouth Carolina
- American Heart Association/American Stroke Association – Get With the Guidelines Hospital of the Year – Medical University of South Carolina
- Power to End Stroke Ambassador of the Year – Carlon J. Mitchell, RN, APRN-BC, MPH

9. SC DHEC State Diabetes and Disparities Program

The SC legislature allocated \$763,804 in recurring funds to DHEC beginning July 2007 to focus on the epidemic of diabetes and its related complications (heart attack, stroke, blindness, and amputations). Targeted counties for the state funding are:

- Rural and very rural counties
- Counties lacking DSME programs
- Counties with higher prevalence of diabetes
- Counties with higher prevalence of African American residents

Twenty-six counties of SC met these criteria. Funding was less than requested so that **five** of our **eight** regions received funding to target **ten** counties for this new program. Orientation began January 2008 for five Registered Nurses and five Registered Dietitians to implement the state program of Diabetes and Disparities.

Program Goals and Outcomes

1. Establishment of Diabetes Self-Management Education (DSME) in areas of the state that do not have access to these services.
 - Five new American Diabetes Association (ADA) recognized DSME sites established in Edgefield, Barnwell, Colleton, Williamsburg, and Hartsville.
 - Rejuvenation of Dillon and Marion ADA DSME sites
 - 190 clients served from March- September 2008

2. Providing community awareness programs regarding risk factors and management for diabetes as well as obesity risk factors of nutrition and physical activity. The faith-based communities are being outreached for this goal.

- 27 Diabetes 101 presentations completed
- Training of volunteer presenters for Diabetes 101 has begun in all areas
- Collaborating with Midlands Hispanic Coalition to pilot tools to reach Hispanic population
- Partnering with SC Medical Association to expand community awareness programs into five additional counties

3. Providing education and resources to doctor's office staff on current standards of care and testing for people with diabetes, cardiometabolic risk factors and obesity.

Diabetes Connect – education for Medical Doctor's (MD) office staff to increase their usage of standards of care

- Established contacts with 92 MD offices in the 10-targeted counties
- Delivering program in 24 MD practices to date.
- Partnering with SC Medical Association to expand into five (5) additional counties
- Partnering with MUSC's Hypertension Initiative (HI) to promote enrollment of these MD offices in the HI program to provide
 - ◇ Tracking data on their treatment patterns and patient outcomes, which will now include diabetes treatments and outcomes.
 - ◇ HI's electronic medical records system to these offices.

4. Providing education and resources to school nurses on current standards of diabetes care in the school as well as identification of children at risk for diabetes.

School Connect- a program with two components

- a. Education for school nurses on diabetes care in the schools
- b. Collaboration with school Wellness Councils on nutrition and physical activity needs in schools
 - ◇ Surveyed 111 school nurses in 12 counties on diabetes care needs
 - ◇ Began educational sessions with 67 school nurses in August 2008 in these 12 counties
 - ◇ Partnering with National Association of School Nurses (NASN) to pilot web-based educational modules on diabetes in the schools. This collaboration will allow SC school nurses FREE access to these programs when they go live on NASN web site.
 - ◇ Assessed school districts in the ten targeted counties to define current usage of School Health Index or activities of their Wellness Councils
 - ◇ Partnered with 34 school Wellness Councils to date
 - ◇ Collaborated with the Alliance for a Healthier Generation Healthy Schools Program. This program, funded by Robert Wood Johnson and present in 34 states, is focused on childhood obesity. Their targeted school districts are those with high minority population, high prevalence of obesity, and chronic disease in adults.

Program Coordinator: Gwen A. Davis RN MN CDE

Staffing:

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, Shu-ling Kuo RD

Region 8- Elba Rivera RN, Sarah Smith RD CDE

**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

Diabetes Center of Excellence, MUSC

Greenville Hospital System

SC Governor's Office

SC American College of Physicians

SC DHHS, Bureau Director

Chair, IMDH Steering Committee

Wm. Jennings Bryan Dorn VA Medical Center

USC/DSC Site, University of SC

Endocrinology, MUSC

SC DHEC – Office of Minority Health

Chair, Outreach Council

College of Nursing, MUSC

SC Academy of Family Physicians

Private Practice, Orangeburg

Internal Medicine, Sumter

USC School of Public Health

Endocrinology, Spartanburg Regional Healthcare System

SC DHEC, Home Health Services

University of SC, Ophthalmology

Internal Medicine/ Endocrinology

USC School of Medicine, Richland Memorial

ADA – Southeastern Division

Welvista, Executive Director

ADA – Southeastern Division

SC DHEC, Deputy Commissioner for Health Services

Pamela Arnold, RN, MSN, CDE

John Bruch, MD

Dawn Clancy, MD, MSCRP, FACP

Melanie Giese, RN

K. Sue Haddock, RN, PhD

Elizabeth Todd Heckel, MSW, CDE

Kathie L. Hermayer, MD, MS

Shauna P. Hicks, MHS, CHES

Carolyn Jenkins, DrPH, APRN, RD, CDE

David Keisler, MD

Arthur Kennedy, MD

Usah Lilavivat, MD

Elizabeth Mayer-Davis, PhD

Ronald Mayfield, MD

Edi McNinch, RN, CDE

Al Pakalnis, MD

William Price, MD

Ali Rizvi, MD

George Rosebrock, MD, CDE

Kenneth Trogon

Hobart O. Trotter, Jr.

Lisa Waddell, MD, MPH

Advisory Members

Edwin Bransome, MD

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

Brent Egan, MD

David Garr, M.D.

Rhonda Hill, PhD, CHES

Bryon Jackson, DPM

John Little, MD

Mark Massing, MD, PhD, MPH

Internal Medicine/Endocrinology, IMDH Task Force

Past DSC Board Chair; Professor Emeritus, MUSC

Hypertension Initiative of SC

SC AHEC

SC DHEC, Diabetes Prevention and Control Program

Diagnostic & Comprehensive Foot Care

Companion, HMO

The Carolinas Center for Medical Excellence

Ex-Officio Members

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

James Edwards, DMD

Ed Owens

Stephen H. Smith

SC DHEC, Diabetes Prevention and Control Program

Past President, MUSC

ADA – Southeastern Division

ADA – Past Board Chair

Diabetes Center Council

Members

Pamela Arnold, MSN, APRN, BC-ADM, CDE (Chair)

Kathie L. Hermayer, MD, MS

Carolyn Jenkins, DrPH, APRN, RD, CDE

Jane Parker, PNP, APRN, BC-ADM, CDE

Diabetes Center of Excellence, MUSC

Endocrinology, MUSC

Chair, Outreach Council

College of Nursing, MUSC

EDIC/IDEAL, MUSC

Advisory Member:

John A. Colwell, MD, PhD, CDE

Past DSC Board Chair;

Professor Emeritus, MUSC

Surveillance Council

Members

Daniel Lackland, DrPH (Chair)	Biometry/Epidemiology, MUSC
Pamela Arnold, MSN, APRN, BC-ADM, CDE	Diabetes Center of Excellence, MUSC
Walter Bailey, MPH	SC Office of Research and Statistics
Yaw Boateng, MS, MPH, RD, LD, CDE	SC DHEC – Diabetes Prevention and Control
Edwin Bransome, MD	Internal Medicine/ Endocrinology, Aiken, SC
John Colwell, MD, PhD, CDE	Past DSC Board Chair; Professor Emeritus, MUSC
Beth Corley, MA	SC Office of Research & Statistics
Gwen A. Davis, MN, RN, CDE	SC DHEC – Diabetes & Disparities
James Ferguson, DrPH	SC DHEC
Susan Frost, MS, RD, LD	SC DHEC – Diabetes Prevention and Control
Tom Gaffney, MD	Internal Medicine, USC School of Medicine
K. Sue Haddock, PhD, RN, CNNA	Wm. Jennings Bryan Dorn VA Medical Center
Kelly Harman	Biometry/Epidemiology, MUSC
Elizabeth Todd Heckel, MSW, CDE	USC/DSC Site, University of SC
Khosrow Heidari, MA, MS, MS	SC DHEC – Chronic Disease Epidemiology
Kelly Hunt, PhD	Biometry/Epidemiology, MUSC
Carolyn Jenkins, DrPH, APRN, RD, CDE	Chair, Outreach Council; College of Nursing, MUSC
Usah Lilavivat, MD	Internal Medicine, Sumter
Elizabeth Mayer-Davis, PhD	USC School of Public Health
Kenne Mountford, BS	Biometry/Epidemiology, MUSC
Patsy Myers, DrPH	SC DHEC – Chronic Disease Epidemiology
Al Pakalnis, MD	Ophthalmology, University of SC
Lanique Stepney	SC DHEC – Diabetes Prevention and Control
Kenneth Trogon	Executive Director, Welvista

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, Diabetes Prevention and Control Program
Shelly-Ann Bowen, PhD, MS(CT), ASCP SC DHEC – Diabetes Prevention and Control Program
Cyclinda Boykin, LPN, BS Blue Choice HealthPlan
Priscilla Brantley, MSN SC Primary Care Association
Xiaoyan Bu, DNS, PNP, RN USC, College of Nursing
Reamer Bushardt, PharmD, PA-C College of Health Professions, MUSC
James Coleman, EdD Margaret J. Weston Community Health Centers
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
Gerry Dukes, EdD Senior Extension Director, Clemson University
Susan Frost, MS, RD, LD SC DHEC – Diabetes Prevention and Control Program
Maria Gibson, MD Family Medicine, MUSC
Isabel Gillespie, MD Greenville Hospital System
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 of Minority Health
Rhonda Hill, PhD, CHES SC DHEC – Diabetes Prevention and Control Program
Angela D'Antonio Hitch USC School of Public Health
Kelly Hunt, PhD MUSC, Dept. of Biostatistics & Epidemiology
Darius Jones, MA, LPCI, NCC The Carolinas Center for Medical Excellence
Diane Kennedy, MS, MT (ASCP)SH Lowcountry AHEC
Freda King SC Vocational Rehabilitation
Daniel Lackland, DrPH MUSC, Dept. of Biostatistics & Epidemiology
Diane McLeod SC DHHS, Program Coordinator
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
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
Jackie Tassone, RN, BSN, MBA, CCM Select Health of SC
Wendy Taylor, RN, CDE Palmetto Community Health Network
Kenneth Trogdon Welvista
Ken Watkins, PhD USC School of Public Health
Karen L. Wright SC DHHS – Program Coordinator, Diabetes Education

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
John E. Heffner, MD	Medical Director's Office, MUSC
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
William F. Price, MD	Endocrinology, Spartanburg
Charles H. Raine, III, MD	Endocrinology, Orangeburg
Ali Rizvi, MD	USC, Department of Internal Medicine
George Rosebrock, MD	Endocrinology, Charleston

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 of Excellence, MUSC
Julie Benke-Bennett	Diabetes Center of Excellence, 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/University of SC Site
Governing Committee**

Members:

Ali Rizvi, MD, CDE (Chair)

Steve Barnette, MD

Xiaoyan Bu, PhD

K. Sue Haddock, PhD

Elizabeth Todd Heckel, MSW, CDE

David Keisler, MD

Kay McFarland, MD

Dero Myers, PhD

Al Pakalnis, MD

Sharm Steadman, PharmD, CDE

Department of Internal Medicine, USC School of Medicine

Department of Nursing, USC School of Nursing

Wm. Jennings Bryan Dorn VA Medical Center

Department of Family/Preventive Medicine, USC

Program Director, Diabetes Initiative of SC/USC Site

Department of Family/Preventive Medicine,

USC School of Medicine

Department of Internal Medicine, USC School of Medicine

Department of Neuropsychiatry, USC School of Medicine

Department of Ophthalmology, USC School of Medicine

Department of Family/Preventive Medicine,

USC School of Medicine

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
Diabetes Self-Management Educator
Lay Health Facilitator
Health Systems Coordinator
Division Director
Statewide Coalition Coordinator
Epidemiologist
Program Assistant