Diabetes Initiative of South Carolina

1997 Annual Report

John A. Colwell, MD, PhD
Chairman, Board of Directors
Diabetes Initiative of South Carolina

January 1, 1997 - December 31, 1997 (Year 03)
To Governor David Beasley and the General Assembly: 

December, 1997

On behalf of the Board of Directors of the Diabetes Initiative of South Carolina, I am pleased to present our third annual report. This report was requested in Chapter 39, Section 44-39-30 of the Diabetes Initiative of South Carolina Act.

In accordance with the provisions of the act, we have established the Diabetes Initiative of South Carolina Board and the Diabetes Center, Outreach and Surveillance Councils. Close liaisons have been developed between our Initiative and the Diabetes Control Program of the Department of Health and Environmental Control and the American Diabetes Association, South Carolina Affiliate.

In 1996, we jointly issued a report “The Burden of Diabetes in South Carolina”. This report established that South Carolina ranks second in the U.S. in the prevalence of diabetes. Over 310,000 of our citizens have diabetes, but only 50% have been diagnosed. Major complications of diabetes (heart attacks, amputations, end stage renal disease, visual complications) are increasing at rates of 52-100%/year over the past decade. Total cost of diabetes exceeds $1 billion in SC each year.

Based upon these baseline statistics, the DSC Board has developed a long range Strategic Plan, which defines 9 major goals and specific steps to be taken to combat this devastating disease. Ongoing surveillance will document the impact of the many programs we have developed. We recognize that specific risk markers and guidelines for care are now in place, and that a statewide program should result in measurable outcomes which will eventually reduce costs of care and result in improved quality of life for people with diabetes in our state.

We are enthusiastic that the Diabetes Initiative of South Carolina will be successful in combating this serious disease by its innovative programs of community outreach, education, and surveillance. We wish to thank the General Assembly for establishing this Initiative and sincerely hope that you will find that this report is responding to the needs of the people of South Carolina.

John A. Colwell, MD, PhD
Chair, Diabetes Initiative of South Carolina Board

"An equal opportunity employer"
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EXECUTIVE SUMMARY
Executive Summary

Diabetes mellitus affects over 310,000 people in South Carolina, 50% of whom are not diagnosed. Our state ranks number 2 in the US in the prevalence of diabetes. Costs are in excess of $1 billion yearly, and the major complications which lead to these high costs are increasing at rates of 50-80% over the past decade. The rate of progression of these complications can be slowed markedly (or prevented) by proper patient education, simple testing, and access to health care professionals with modern training in diabetic management.

Since the original legislation which established the Diabetes Initiative of South Carolina (Chapter 39, Section 44-39-30 of the Diabetes Initiative of South Carolina Act, June, 1994), we have successfully established a system with many innovative programs to address these issues. Specific programs are fully described in this Year 03 report, and were presented originally in our Year 01 and 02 reports in 1995 and 1996.

The major accomplishment of the Diabetes Initiative of South Carolina in its third year has been the development of a Long Range Strategic Plan which squarely addresses major barriers to care, implements procedures to improve care, and measures the outcomes of this coordinated program.

We are enthusiastic that under the guidance of the DSC Board, with the collaboration of the Diabetes Control Program of SC- DHEC, the American Diabetes Association, Southern Region, and other organizations which regularly deal with diabetes and its complications, that we can make a measurable impact upon this devastating disease in South Carolina in future years.
BUDGET AND SUPPLEMENTAL SUPPORT
### Budget

<table>
<thead>
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<th>Fiscal Year</th>
<th>96-97</th>
<th>97-98</th>
<th>98-99</th>
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<tr>
<td>State Appropriation</td>
<td>$232,000</td>
<td>$396,000</td>
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<tr>
<td>DHEC</td>
<td>-</td>
<td>$125,000</td>
<td>$ 15,000</td>
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<tr>
<td>HHS</td>
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<td>-</td>
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<tr>
<td>Total</td>
<td>$232,000</td>
<td>$521,000</td>
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### Supplemental Support

The establishment of the Diabetes Initiative of South Carolina contained a commitment to obtain matching funds, as a supplement to the core state support. We have successfully accomplished this each year, through a combination of extramural support through the Diabetes Control Program of SC DHEC, community grants, major research support for clinical research in diabetes at MUSC, and registration fees and corporate donations of our education programs.

### Education and Care

1. Diabetes Control Program (DHEC)

   This is a 5 year grant from the Centers for Disease Control and Prevention (CDCP) to DHEC for a statewide diabetes control program. Its goals and objectives were developed so as to integrate and complement the Diabetes Initiative of South Carolina. Oversight is provided by the DSC Board of Directors. This program is funded at $250,000 yearly, from 1994-1999. Total = $1,250,000.

2. Hypertension and Diabetes Management and Education Program: Charleston’s Enterprise Community.

   In July, 1997, we were informed that DSC had received funding of $652,697 from the MUSC Healthy South Carolina Initiative for 7/1/97 - 6/30/00. Funding for Year 1 is $229,270. Total funding for 3 years is $652,697. The program will offer community-based education and linkages with ongoing care, medication management, foot care, eye screening, and case management for those with high resource utilization. Successful components will be replicated in other communities.

   This new source of funding is supplemented by $36,000 from US-HUD to train community volunteers to address priority health problems.

3. Partners in Wellness: A collaborative program of SC’s Historically Black Colleges and Universities, AHEC, and MUSC to document and reduce risks for hypertension and diabetes through student research, teaching, and service to communities was funded by MUSC’s Healthy South Carolina Initiative for $178,500 for Year 1 and
total funding for 3 years is $466,500. The program goals are to reduce risks and recruit African Americans into careers in health by engaging undergraduate students in a course that involves research, teaching, and service for students enrolled at SC State University, Claflin College, Voorhees College, Morris College, and Benedict College.

Total yearly support:
- $250,000 (DCP)
- $265,270 (Enterprise)
- $178,500 (HBCU Partners)
- $693,770

Total: Education and care:
- $252,000 (Enterprise)
- $1,250,000 (DCP)
- $652,697 (Enterprise Diabetes and Hypertension)
- $466,500 (HBCU Partners)
- $2,620,197

Clinical Research (MUSC)

MUSC has nationally recognized basic and clinical research programs which address diabetes mellitus from a variety of perspectives. Clinical research is most likely to lead to early translation into efforts by the Diabetes Initiative. Only the major programs in this are reported (Direct costs):

1. “Markers and Mechanisms of Macrovascular Disease in IDDM.” P.I. - W. T. Garvey, MD. $669,778/year 1, 9/1/96-8/31/01. Total award $3,619,851. This major award combines the research expertise of 20 members of the MUSC and USC faculty under one program. These investigators will study mechanisms which may cause accelerated vascular disease in patients with type 1 diabetes. The patients are long term participants in the Diabetes Control and Complications Trials (DCCT).

2. “Genetic Markers for NIDDM and Pathogenic Metabolic Traits”. P.I. - W. T. Garvey, MD. $160,000/year 1, 9/1/93-8/31/98. Total award $800,000. This program studies genetic markers for NIDDM, with concentration on the Gullah population of the South Carolina sea islands.

3. “Epidemiology of Diabetes Intervention and Complications”. P.I.’s - J. Colwell and R. Mayfield. $77,373 year 1, 4/8/96-3/28/01. Total award $423,853. This study is a follow-up study of the course of patients enrolled in the DCCT in Charleston. Along with patients from 27 other centers, this group of type 1 diabetic patients provide a patient group for study in program no. 1, above.

Total, clinical research: $907,151/year

Professional Education Programs

Professional education programs are supported by registration fees and by corporate donations. Our balance for Year 03 in this account is:
Net income: 46,973  
Net expenses: 34,733  
Balance: 12,240

**Summary**

<table>
<thead>
<tr>
<th>FY 97-98</th>
<th>FY 98-99</th>
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<tbody>
<tr>
<td>State and agency funding, DSC</td>
<td>521,000</td>
</tr>
<tr>
<td>Supplemental Funding</td>
<td></td>
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<tr>
<td>Education and Care</td>
<td>693,770</td>
</tr>
<tr>
<td>Clinical Research</td>
<td>907,151</td>
</tr>
<tr>
<td>Professional Ed. Programs</td>
<td>12,240</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$ 1,613,161</strong></td>
</tr>
</tbody>
</table>
The South Carolina Department of Health and Environmental Control (SC-DHEC) and the Diabetes Initiative of South Carolina (DSC) have recently collaborated in a thorough study of the scope, costs, and impact of diabetes mellitus in our state. South Carolina ranks number two in the U.S. in the prevalence of diabetes. Over 310,000 of our citizens have the disease, and 50% do not know it. Annual costs exceed $1 billion yearly, and over the past decade we have experienced a significant increase in hospitalizations for the major complications of diabetes: heart attacks (+68%), amputations (+61%), end stage renal disease (+85%), disease of leg vessels (+100%), and eye complications (+52%). All of these late stage complications can be prevented or their progression slowed down by early recognition and institution of intensive, well defined, preventive strategies.

However, three separate surveys in our state have now indicated that such preventive practices are not being fully utilized. Thus, less that 50% of people with diabetes receive self-management education. Inadequate reimbursement for patient education is the leading cause. There are simple and relatively inexpensive laboratory and physical examinations which will trigger preventive or remediable therapy. These include annual examinations of the feet and eyes, urinalysis for protein, lipid profile, and quarterly measurement of blood sugar control by a blood test: Hemoglobin A1c. Yet, extensive office based surveys by Carolina Medical Review have shown that these simple procedures are followed in less than 50% of people who are known to have diabetes in SC.

The DSC Board has recognized these issues and has developed a Long Range Strategic Plan to address them. The Plan has nine major goals.

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.

For each goal, we have defined the major issues that are presently recognized, and have indicated major quantifiable objectives. Specific tasks and programs of the DSC Outreach, Diabetes Center of Excellence, and Surveillance Councils are defined, and integration of the programs with the Diabetes Control Program of South Carolina Department of Health and Environmental Control, and with the activities of the American Diabetes Association, South Carolina Affiliate is described. Oversight is provided by the Diabetes Initiative of South Carolina Board. The diagram describes the major goals of the Strategic Plan.
Diabetes Initiative of South Carolina

People At Risk or with Diabetes

Expand HMO/Insurance Coverage for Diabetes Care, Supplies and Education

Improve Knowledge and Access to Prevention, and Intervention Services for Diabetes

Health Professional Education

Community-based and Patient Education

Improve Public Awareness Through Media Channels

Utilization of Measures and Actions that Decrease Risks and Complications

↓ Costs for Complications

↓ ER Visits for Preventable Problems

↓ Hospital Admissions

↓ Morbidity and Disabilities

↓ Premature Deaths

Improved Quality of Life
Diabetes Initiative of South Carolina

Organizational Chart

DSC Board

Center of Excellence Council

MUSC Center of Excellence

Outreach Council

ADA-SC Outreach Program

Surveillance Council

S.C. DHEC Diabetes Control Project
DIABETES INITIATIVE OF SOUTH CAROLINA
OUTREACH COUNCIL ANNUAL REPORT
JANUARY 1, 1997 - DECEMBER 31, 1997 (YEAR 03)
Diabetes Initiative of South Carolina
Outreach Council Annual Report
January 1, 1997 - December 31, 1997 (Year 03)

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:

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

Outreach Council Staff (as of 12/1/97):

- Elizabeth Todd, M.S.W. 0.75 FTE *
  Director of Professional Development
  American Diabetes Association, South Carolina Affiliate
  *DSC funds

Major Accomplishments (related to promoting adherence to national standards of education and care):

- Development of the Model Diabetes Patient Education program by the MUSC Diabetes Center to assist hospitals, clinics, and home health agencies in meeting national standards for patient education. (See Diabetes Center Report for specifics)

- Utilization of findings from surveys, record audits, interviews, and focus groups to improve adherence to national standards of education and care, factors affecting care and continuing education needs.

- In collaboration with the Diabetes Control Program of SC DHEC, we provided Office-based educational programs for primary care to approximately 310 Primary Care Providers and 1125 staff.

- At the Third Annual DSC Symposium for Primary Care Providers (held on September 25 - 26, 1997 and sponsored by the MUSC Diabetes Center), we focused on reducing risk factors for diabetes through improved office-based care and treatment of risks for complications. (See
Diabetes Center Report)

- By establishing the Internet Home Page with Q & A section for Primary Care Providers, we assisted providers in communicating with the Diabetes Center about difficult patient management. There have been an estimated 11,777 "hits" or persons accessing information in 1997. (See Surveillance Council Report)

- Medical records audit of 11 practices involving 53 physicians by the staff of Carolina Medical Review to determine adherence to national standards during a 19-month period revealed that compliance is inadequate:
  - 9.7% had at least one micro albumin
  - 14.8% had documented referral for dilated eye exam
  - 17.7% had referral for diabetes education
  - 30% of visits had foot exam
  - 57.5% had at least 1 glycosylated hemoglobin

- Collaborations with AHEC to promote adherence to national standards of education and care included the following activities:
  - A seminar for health professionals and health professional students with emphasis on improving the implementation of guidelines for care.
  - Focus groups with Low Country health professionals to identify priorities for action. The priorities identified the need for a health team approach to improve care and the need for a flow sheet for tracking ongoing care.
  - Development and testing of flow sheet for tracking diabetes care. After testing, a debriefing session revealed that several of the providers were concerned about the legal ramifications of using the flow sheet. Some providers expressed concerns that they were more vulnerable to "lawsuits" if they used the flow sheet and omitted one or more of the recommended tests. Consultation with attorneys specializing in legal issues related to health revealed that all were held accountable to national guidelines.
  - Submission of two grant requests to improve diabetes care in Low Country. Selected as finalist in Pfizer Community Health Ventures and currently awaiting notification of funding status.

- Provided Rural Health Center Assessments and Consultation for several rural health clinics including the J. Verne Smith Center in Greer and Harrison Peeples Health Center in Hampton.

**Major Accomplishments (for ongoing assessment of patient care costs/reimbursement/education issues for persons with diabetes):**
A grant was submitted and funded by Healthy South Carolina to establish a Hypertension and Diabetes Management and Education program for Charleston's Enterprise Community. An interdisciplinary team will provide education and case management. Amount of grant: $652,697 for 7/1/97 through 6/30/00. Additionally, $60,000 was received from US-HUD for FY 97 to train community volunteers to address priority health problems--Diabetes was one of the top two priorities identified by area residents.

S.C. Affiliate - American Diabetes Association maintained D.I.A.L. (Diabetes Information and Action Line) a toll-free (800) number for information and resources about diabetes. More than 500 calls were logged in 1997. For each logged call, staff estimate that they receive 2-3 calls that are not documented. Major concerns and needs included:

- Assistance with obtaining care for diabetes
- Costs of medications, supplies, and monitoring
- Information on healthy eating and nutrition for diabetes management

Conducted diabetes screening, assessment, and/or education programs in:

- Charleston's Enterprise communities (11 programs with more than 375 patient encounters for diabetes screening, assessment, and education). The major problems related to general diabetes education, medication management and/or obtaining medications, foot problems, and complications of diabetes. More than 25% of the participants were referred for additional care.
- Oconee County/ Seneca
- Williamsburg County/ Kingstree
- Marlboro County/ Cheraw
- Beaufort County
  Approximately 100 persons participated in the various programs.
- Carolina Family Care Network (8 programs with more than 300 persons who attended one or more of the programs).

Collaboration with South Carolina Department of Vocational Rehabilitation continued to expand in 1997. Diabetes management/care/ education services were provided to 1617 persons with diabetes in the first 10 months of FY 1997. An update on diabetes care was held for 45 S.C. Vocational Rehabilitation Counselors in Fall 97.

African American Diabetes Program continued to expand in 1997. Approximately 100 persons participated in Diabetes Today training and community-based programs have been established in 6 communities. (See DHEC-DCP Report)
• Education programs and support groups sponsored by S.C. Affiliate, American Diabetes Association Outreach staff reached more than 4,000 persons in 1997, including 125 youth with diabetes who attended Camp Adam Fisher.

• The Diabetes Center and DHEC DCP staff provided consultation and community-based training for the Catawba Indian Nation. A grant was submitted to Healthy South Carolina for expanding health promotion and educational programs related to disease prevention and health promotion. One of the components is diabetes education and prevention of complications related to diabetes management.
DIABETES INITIATIVE OF SOUTH CAROLINA
DIABETES CENTER COUNCIL ANNUAL REPORT
JANUARY 1, 1997 - DECEMBER 31, 1997 (YEAR 03)
Diabetes Initiative of South Carolina
Diabetes Center Council Annual Report
January 1, 1997 - December 31, 1997 (Year 03)

Functions:

Section 44-39-40. (A) A Diabetes Center of Excellence is established at the Medical University of South Carolina. The center shall develop and implement programs of professional education, specialized care, and clinical research in diabetes and its complications, in accordance with priorities established by the Diabetes Initiative of South Carolina Board.

The activities of the center are overseen and directed by the Center of Excellence Advisory Council. The Council consists of members appointed by the president of the Medical University of South Carolina. The Council’s purpose is to:

- Review programs in professional education, specialized care, and clinical research developed by the Center.
- Assist in the development of proposals for grant funding for the center’s activities.
- Prepare an annual report and budget proposal for submission to the Diabetes Initiative of South Carolina Board.
- MUSC Diabetes Center of Excellence is run by a core staff comprised of the following:

  Pamela Arnold  1.0 FTE  Clinical Director
  Teresa Byars  1.0 FTE  Administrative Assistant
  Carolyn Jenkins  0.40 FTE  Outreach Director

Dr. John Colwell serves as Medical Director.

Major Accomplishments

- Established the following professional education programs:

<table>
<thead>
<tr>
<th>No. Courses</th>
<th>No. Attendees</th>
</tr>
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<tbody>
<tr>
<td>1. Third Annual Diabetes Symposium</td>
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<tr>
<td>2. Certified Diabetes Educator Programs</td>
<td>2</td>
</tr>
<tr>
<td>3. Foot Care courses for nurses</td>
<td>10</td>
</tr>
<tr>
<td>4. Formal course on diabetes for practicing pharmacists (with academic credit)</td>
<td>1</td>
</tr>
<tr>
<td>5. Clinical Practice Recommendations for PA’s &amp; NP’s</td>
<td>2 sites</td>
</tr>
<tr>
<td>6. EMS Diabetes Training</td>
<td>2 sites</td>
</tr>
</tbody>
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Established the following materials for professional education:

1. Primary Care Physician's Office Based Program
2. Critical Care Course Diabetes Curriculum
3. EMS Diabetes Curriculum
4. School Nurse Program
5. Diabetes Curriculum Dietetic Interns
6. Diabetes Curriculum for BSN RN Students
7. Clinical Practice Recommendations and cases for senior PA's and NP's.

Established the following programs in specialized patient education and care:

1. Intensive Diabetes Education, Awareness, and Lifestyle (IDEAL) Program: Type I and Type II patients
3. Developed the Model Diabetes Patient Education Program to assist hospitals, clinics, and home health agencies in meeting national standards for patient education. Anderson Area Medical Center (Tommy Johnson, RPH, Coordinator) and SC-DHEC Home Health-Trident District (Debbie Sprouse, RN, Coordinator) were recognized as model programs. Fourteen sites continue to work toward recognition and four new sites began the process in 1997. DCP State Committee formed to evaluate and make recommendations to DSC Board.

Participated in the following clinical research proposals:

3. "Genetic Markers for NIDDM and Pathogenic Metabolic Traits". P.I. - W. T. Garvey, MD. $160,000/year 1, 9/1/93-8/31/98. Total award $800,000. This program studies genetic markers for NIDDM, with concentration on the Gullah population of the South Carolina sea islands.

Presented the Diabetes Initiative of South Carolina at professional meetings.
• Developed or assisted in the development of six proposals for grant funding to assist with outreach activities.

• Enterprise Community Grant. Diabetes, Hypertension Management and Education. The PI of this grant is Carolyn Jenkins ($652,000). Awarded.

• Partners in Wellness: A Collaborative Program of S.C.'s Historically Black Colleges and Universities, S.C. Area Health Consortium, and the Medical University of South Carolina to Document and Reduce Risks for Hypertension and Diabetes through Student Research, Teaching, & Service to Communities. Carolyn Jenkins is a Co-PI of this grant ($466,500). Awarded.

• Eli Lilly and Company: Pharmacy Diabetes Disease State Management Program. $5000 awarded.

• Bayer Pharmaceuticals: Pharmacy Diabetes Disease State Management Program. $3000 awarded.

• Hoechst Marion Roussel, Inc: Pharmacy Diabetes Disease State Management Program. $1500 awarded.

• Bayer Pharmaceuticals: Primary Care Physicians Office Based Programs. Awarded $15,000.

• Medicaid Contract State Health and Human Services Finance Commission with MUSC Diabetes Center for $75,000 for 1997-1998.

• National Certification Board for Diabetes Educators Board granted CDE examination site in Columbia for the state of South Carolina to begin in 1998.

• Long Range Plan - see special section.

Awards

• John A. Colwell, MUSC Distinguished Faculty Award, 1997

• Pamela Arnold, Finalist, Diabetes Educator of the Year, AADE, 1997.
Functions:

The Surveillance Council was organized 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 intervention and control programs. The Council consists of diabetes professionals in South Carolina and is staffed by data specialists from the South Carolina Department of Health and Environmental Control. The group operates with formal meetings and communications.

The Council consists of a geographic diverse group representing the leaders in diabetes research, clinical practice and public health. The major objectives of the Council are:

- To 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.

- To evaluate patient and professional education programs.

- To 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.

- To develop, establish and maintain a registry of blind South Carolinians which identify diabetic individuals.

- To analyze the effects of co-morbidities with diabetes.

- To establish and maintain a system of analysis for Medicaid and Medicare beneficiaries in South Carolina.

- To establish and maintain an ongoing evaluation of the role of insurance and managed care companies in control of diabetes.

- To function as a central unit composed of multiple organizations and disciplines involved in the surveillance of diabetes in South Carolina.

- To function as a data and information resource for DSC and other organizations involved in diabetes control.
**Major Accomplishments**

- Organized a diverse and comprehensive group of investigators and clinicians to plan and implement a diabetes surveillance system in South Carolina.

- Conducted four formal meetings of the full council and seven meetings of smaller workgroups.

- Hired research associate to analyze and coordinate surveillance databases.

- Completed assessments and reports on diabetes mortality in South Carolina.

- Initiated analyses of re-admissions for primary and secondary hospital discharges for diabetes.

- Initiated analyses of emergency room usage for diabetes. Included in the analyses is an assessment of transport to Emergency Room and disposition from Emergency Room (used as an indicator of control distinguishing routine care vs. emergency).

- Completed preliminary analyses of end-stage renal disease database in South Carolina identifying diabetes related ESRD. Trends geographic patterns were assessed.

- Initiated plans to assess transplant patients with diabetes regarding post-transplant glycemic control.

- Established a collaborative arrangement with Carolina Medical Review to evaluate patient compliance with diabetes treatment, as well as provider practices in diagnosis and treatment.

- Established a plan to analyze the South Carolina Medicaid database, with particular focus on outcomes, costs, and “appropriate” care.

- Established a process to incorporate Medicare Part A and Part B in the surveillance effort.

- Established a sub committee to implement a blindness database for diabetes. This “registry” will utilize multiple existing administrative databases.

- Made formal presentations at the Diabetes Symposium as well as several professional and lay groups on the burden of diabetes in South Carolina.
DIABETES INITIATIVE OF SOUTH CAROLINA
SUMMARY OF TASK GROUPS AND PROGRAMS
Diabetes Initiative of South Carolina
Summary of Task Groups and Programs

Task Groups and Programs currently implemented or under development that address the aims are listed according to Councils that provide oversight for activities:

Diabetes Initiative of South Carolina Board (in collaboration with ADA-SC):

- Insurance and Managed Care Task Force
- Media Task Force

DSC Outreach Council:

- Model Diabetes Education Programs
- Diabetes Head to Toe Patient Education Program
- Diabetes Today: Columbia, Orangeburg, Anderson, Myrtle Beach, Catawba Nation
- Diabetes Information and Action Line (D.I.A.L.)
- Enterprise Hypertension and Diabetes Management and Education
- Diabetes Alert
- Diabetes Sundays
- ADA Camp Fisher for children with diabetes
- African American Initiative
- Historically Black Colleges and Universities (HBCU) program
- Catawba Indian Program
- Low Country AHEC Community-Oriented Primary Care Program
- “Closing the Gap” Initiative

DSC Diabetes Center of Excellence Council:

- Health Professional Education:
  Certified Diabetes Educators
  Pharmacists Diabetes Disease Management Program
  Nursing Students (graduate and undergraduate)
  Medical Students
  Rural Interdisciplinary Program (SCRIPT)
  Diabetes Advanced Practice Nurses
  Dietetic Intern Program
  Foot Care Course for Nurses
  Emergency Medical Technicians
  Eye Care Specialists
- Annual Symposium for Primary Care Health Professionals
- Office-Based Primary Care Diabetes Education and Evaluation Program
• Health Professional Education in Community Health Centers
• Health Professional Education in Companion Health Care
• Quality Improvement Program: Ambulatory Care in Diabetes
• Newsletter: Initiative News

**DSC Surveillance Council:**

• Behavioral Risk Factor Survey Supplement for Diabetes
• Quality Improvement Program: Ambulatory Care in Diabetes
• Secondary Analysis of Databases
• DSC Internet Home Page
• Analysis of Medicaid Utilization and Costs
• Burden of Diabetes in South Carolina
Task Group and Program Descriptions

Most task groups and programs are collaborative efforts of the many partners involved with the Diabetes Initiative of South Carolina. The lead agency for each program is listed.

**Diabetes Initiative of South Carolina Board (in collaboration with ADA-SC):**

**Insurance and Managed Care Task Force**

The Insurance and Managed Care Task Force is a group appointed by DSC and ADA-SC Boards to work with insurance and managed care groups to improve services and coverage for diabetes care, supplies, and education.

**Media Task Force**

The Media Task Force is a group appointed by DSC and ADA-SC Boards to improve public awareness related to diabetes risk factors, complications, and the tremendous burden of diabetes for South Carolinians. The goal of the group is to improve outcomes related to diabetes.

**DSC Outreach Council:**

**Model Diabetes Education Program**

This program aids hospitals, centers, and other diabetes units to become certified for their patient education programs in diabetes. It includes a comprehensive manual to assist in implementing the model program, along with site visits, consultation, support and feedback throughout the process. Outcomes are tracked throughout the program. Completion of the process assists those hospitals, centers, and other diabetes units to apply for recognition of their Patient Education Program by the American Diabetes Association. The program is supported by an Advisory Committee and is co-sponsored by DSC and the DHEC Diabetes Control Program.

**Diabetes Head to Toe Patient Education Program**

This program is a community-based diabetes education program that focuses on underserved areas of South Carolina and is coordinated by the MUSC Diabetes Center. A group of certified diabetes educators use the same curriculum about diabetes, its causes, treatment, and complications, along with audiovisual aids to provide education to interested lay groups throughout the state.
Diabetes Today

Diabetes Today is coordinated by the DHEC Diabetes Control Program and is a CDC approved interactive program designed to educate community leaders to plan and implement community-based health programs on diabetes. The program is community-based and community-owned.

Diabetes Information and Action Line (D.I.A.L.)

D.I.A.L. is an American Diabetes Association Signature program and is a telephone helpline and referral system. Callers can receive up-to-date information on diabetes or be referred to a healthcare professional in South Carolina by dialing 1-800-DIABETES or 799-4246 (in Columbia). A trained staff and volunteers answer questions, mail current information, and serve as a guide to community resources.

Enterprise Hypertension and Diabetes Management and Education

The Enterprise Hypertension and Diabetes Management and Education Program was developed by the MUSC Diabetes Center and the College of Nursing in response to identified community needs. The Enterprise program was initially funded by USHUD and is presently funded by an MUSC program: Healthy South Carolina to address diabetes and hypertension education and management for the inner city of Charleston and North Charleston. The program provides community-based diabetes education and case management, along with feet care and eye screening, to reduce complications and improve outcomes for diabetes and hypertension.

Diabetes Alert

Diabetes Alert Day is a signature program of the American Diabetes Association. It is held on the last Tuesday in March with a nationwide call to take the risk test and know the score. Of the 16 million with diabetes in the US, and about one-third do not know they have it. In South Carolina, an estimated 312,000 people have diabetes and the emphasis is on identifying those with increased risks and encouraging them to request screening for diabetes from their primary care provider.

Diabetes Sundays

Diabetes Sundays is program sponsored by the American Diabetes Association and expanded by the Diabetes Initiative. The focus is on disseminating information about diabetes through local churches during February.
ADA Camp Fisher for children with diabetes

Camp Adam Fisher is a program sponsored by the American Diabetes Association, South Carolina Affiliate, and is a week long camping experience for children and adolescents 7-17 years old with diabetes. The camp is held at the Cooper 4-H Leadership Center in Summerton, South Carolina. Camp provides young people with an organized environment to practice healthy management skills and interact with others with diabetes. Volunteers and health professionals with expertise in diabetes function as camp counselors.

African American Initiative

The African American Initiative is a combined effort of the American Diabetes Association’s African American Program, DHEC’s Diabetes Control Program and the Diabetes Initiative of South Carolina to educate African Americans that DIABETES IS A SERIOUS DISEASE THAT CAN BE CONTROLLED. The focus is on raising awareness about risk factors and ways to avoid or delay complications, and improving outcomes for diabetes for African Americans. The program focuses on providing education and improving care and education services.

Several activities and programs are linked to the Initiative and include:

- Historically Black Colleges and Universities (HBCU) program which supports South Carolina State University in establishing a center for improving diabetes prevention, screening, and care on HBCU campuses and African American communities throughout the state.

- “Closing the Gap” is a five county health initiative designed to reduce the disparities in African-American health risks through improving education, prevention, and treatment. The initiative will be implemented in a contiguous area of Fairfield, Kershaw, Lee, Richland and Sumter counties, and links African-American agencies, organizations, programs, and businesses to address specific health problems including diabetes.

Catawba Indian Program

The Catawba Indian Program is a program to assist Native American residents of the Catawba Tribe in Rock Hill improve diabetes prevention, screening, care through educational activities. DHEC Diabetes Control Program has conducted “Diabetes Today” and MUSC Faculty are working collaboratively to establish links for improving health related to diabetes.
Low Country AHEC Community-Oriented Primary Care Program

Through collaboration with Low Country AHEC, DSC is working with PRO-Hampton and AHEC to create community-based programs to improve diabetes care. The focus is on continuing education programs for health professionals, assistance with training community members to link people with diabetes to needed services, and obtaining funds for creating a diabetes interdisciplinary team to provide continuous improvement in services and outcomes related to diabetes.

DSC Diabetes Center of Excellence Council:

Health Professional Education Programs

Certified Diabetes Educators: Certified Diabetes Educator (CDE) Course (2 days) are given twice yearly in rotating geographic sites in South Carolina. Faculty review key advances in pathophysiology, care, complication, and education for people with diabetes. The course is designed to prepare health care professionals for testing for certification as diabetes educators.

Pharmacists Diabetes Disease Management Program: This course is conducted twice yearly, under the direction of the College of Pharmacy, Medical University of South Carolina. This course includes 2 days of lectures on all aspects of diabetes, a six-week practical experience with case studies, evaluation of the case studies, and a concluding series of discussions/workshops/lectures over an eight-week period. Credit may be applied toward a Pharm. D. degree.

Nursing Students (graduate and undergraduate):

Medical Students:

Dietetic Intern Program:

Emergency Medical Technicians:

Eye Care Specialists:

Educational presentations are provided for students enrolled in the listed programs. Members of the MUSC Diabetes Center give the presentations and the focus is on improving care for persons with diabetes.

Foot Care Course for Nurses

Foot care courses are held 6-8 times yearly in Charleston. These courses are designed to completely cover all aspects of food care for people with diabetes and other disorders.
Annual Symposium for Primary Care Health Professionals

The Annual Symposium for Primary Health Care Providers is held each Fall in Charleston. Nationally recognized experts present the latest advances in diabetes management, and a review of ongoing Diabetes Initiative activities is presented to participating health professionals.

Office-Based Primary Care Diabetes Education and Evaluation Program

The Diabetes Center offers office-based education and evaluation, as well as consultation and "hands-on" education to primary care providers. A manual to update guidelines and strategies for diabetes care is currently under development and will be distributed to all primary care providers in South Carolina. The goal is to assist providers in establishing quality diabetes care that is tailored to the individual provider needs while instituting those surrogate measures and care that are known to decrease complications.

DCP Office-Based Provider Education Program

This program provides office-based education to primary care providers and their staff as well as updates on the latest recommended diabetes care activities. Specific providers are approached to receive the class through agreements with Companion Health Care and the South Carolina Primary Care Association. Future contract will also include Rural Health Centers. It is expected that at least half of the primary care providers and 75% of the primary care center providers/sites in the state can be reached.

Quality Improvement Program: Ambulatory Care in Diabetes

The Quality Improvement Program: Ambulatory Care in Diabetes in a program of the Carolina Medical Review and the information is used by DSC and the Diabetes Center of Excellence Council as a basis for improving care provided to persons with diabetes.

Newsletter: Initiative News

The Diabetes Initiative publishes Initiative News, a newsletter for primary care providers. The goal is to provide the latest advances in diabetes care, along with practical tips for improving diabetes care and education. The Newsletter is distributed to all primary care providers and those who have attended one or more diabetes education seminars sponsored by DSC.
DSC Surveillance Council:

The DSC Surveillance Council obtains data from multiple sources to monitor the burden of diabetes for South Carolinians and the quality of care. Some of the sources include:

- Behavioral Risk Factor Survey Supplement for Diabetes
- Secondary Analysis of Databases

DSC Internet Home Page

The Diabetes Initiative maintains a Home Page on the Internet that provides a listing of activities of DSC, the latest guidelines for diabetes care and education, and statistics related to the burden of diabetes in South Carolina. The Home Page is available through the MUSC home page or http://www.musc.edu/diabetes/

Analysis of Medicaid Utilization

The Surveillance Council is currently examining the Medicaid database to determine types of services, continuity of care and other information related to diabetes.

Burden of Diabetes in South Carolina

The Burden of Diabetes in South Carolina was released in November, 1996 and systematic updates of available information will be compiled and released. The report is a collaborative effort among DHEC-DCP, DSC, and ADA-SC. The first report was written by Sandra Carnesale, M.D., M.P.H, Director of Medical Services for the Palmetto Health District. Many persons provided help and assistance with the report. The Office of Research and Statistics of the South Carolina Budget and Control Board provided hospital discharge and emergency room visit data.
South Carolina Diabetes Control Program Annual Report
Division of Community Health
Department of Health and Environmental Control
January 1, 1997 - December 31, 1997 (Year 03)

The South Carolina Diabetes Control Program (SCDCP) is run by the South Carolina Department of Health and Environmental Control (DHEC), Division of Community Health, Cardiovascular Health Branch. The Program is administered by a core staff comprising a program Director, Coordinator, Epidemiologist, Community Educator, Professional Educator, and a Secretary. It is part of the Centers for Disease Control and Prevention’s (CDC) National Diabetes Control Program.

Core Staff:

Director  Max Learner, Ph.D.
Coordinator  Yaw Boateng, M.S., M.P.H., R.D.
Community Educator  Lisa Ellis, M.P.H.
Provider Educator  Ellen Babb, M.P.H., R.D.
Epidemiologist  Deyi Zheng, M.B., Ph.D.

The goal of the program is to reduce the burden of diabetes in South Carolina. The objectives include:

1. Defining and monitoring the burden of diabetes in SC (Surveillance)
2. Developing new approaches to reduce the burden of diabetes
3. Implementing specific approaches to reduce the burden
4. Coordinating and integrating efforts to reduce the burden.

Major Accomplishments

- Signed a contract with the Medical University of South Carolina (MUSC) to provide various services including maintaining the Diabetes Initiative of South Carolina (DSC) Board and its committees, providing technical assistance, consultation, and training for institutions and organizations that provide diabetes patient education.

- Released the report “The Burden of Diabetes in South Carolina.”

- Signed two Memoranda of Agreement (MOA); one with Companion HealthCare (CHC), a 114,000 member statewide HMO, and one with the South Carolina Primary
Care Association (SCPCA) to provide office-based provider diabetes education to their providers. The office-based provider education for CHC started in December, 1995, and with SCPCA providers in early 1997, and as of October, 1997, a total of approximately 1125 provider office staff, 310 primary care providers (including approximately 257 physicians, 43 nurse practitioners and 10 physician assistants) had been directly reached with new information on guidelines for care for people with diabetes.

- The SCDCP/DSC Model Diabetes Patient Education Program, under the auspices of the DSC, made tremendous progress this year. The project’s Recognition Committee drafted criteria for maintenance of recognition, and will have a final document early next year. Anderson Area Medical Center and DHEC Home Health Services Trident district met requirements and were formally recognized as institutions providing the state-of-art diabetes education at the Annual Diabetes Symposium for Primary Health Care Providers with all SCDCP staff and some DSC Board and Recognition Committee members attending the ceremony.

- Diabetes Today is a CDC signature program designed to equip community leaders/representatives with skills to conduct community-based programs about diabetes. The program is designed to be community-based and community-owned. A total of 77 community leaders and representatives, representing 13 of the 46 counties in the state participated in Diabetes Today Trainings. Nine of the 22 communities in these counties identified goals and objectives for their community diabetes program activities. The nine communities are located in Anderson, Georgetown, Orangeburg, Richland, and York counties. Ongoing technical assistance is provided to these community groups.

- The SCDCP collaborated with SC American Diabetes Association and Providence Hospital in Columbia, SC, as part of the African American Diabetes Initiative, to organize a statewide conference on diabetes for Diabetes Today Program participants, caretakers, people with diabetes and other interested community groups. The goal of the conference was to educate African Americans about the seriousness of diabetes and how it can be managed and controlled to reduce its burden on people who are living with the disease and their significant others. Approximately 194 people attended this one-day conference. It is expected that this will become an annual activity.

- The SCDCP coordinated the CDC’s First National Diabetes Satellite Broadcast on October 30, 1997. The theme of this national video conference was “Diabetes Control is Prevention.” Seventeen communities and organizations/institutions statewide were mobilized to establish link sites to view the program.
• As part of the Community Diabetes Program activities with the Catawba Indian Nation, and to promote prevention of lower extremity amputations, two health professionals from the reservation were sponsored to participate in the MUSC two-day foot care course in Charleston, SC. About 3000 Indians reside on the reservation located in York County, and the prevalence of diabetes is estimated to be much higher than the national average.


Publications:

The following were published and/or presented at national scientific meetings during this reporting year:

• A manuscript entitled, “Meeting Diabetes Standards of Care Requires More Than Just Information and Education: Results of Community Health Center Survey,” was presented as a poster presentation at the APHA annual meeting in November, 1997. Authors were Deyi Zheng, Fran C. Wheeler, James E. Ferguson, Yaw Boateng, and Sally P. Temple, all of DHEC, Carol A. Macera of USC, and Linda G. Toomer of SCPCA. The Community Health Centers survey was conducted to ascertain the needs of the centers with respect to diabetes control and management.

• A manuscript entitled, “Preventive Care Among People with Diabetes in Biracial Population”, was published in the December, 1997, edition of The Journal of the South Carolina Medical Association, Volume 93, Number 12. Deyi Zheng co-authored the manuscript with Max Learner, Fran C. Wheeler, Caroline A. Macera (USC), Yaw Boateng, Dennis M. Shepard, John A. Colwell (MUSC). The topic was presented at the CDC BRFSS 14th Annual Meeting held in Tampa, Florida during May, 1997, and also at the USC School of Medicine Department of Family and Preventive Medicine on September 12, 1997.

• Following the 1996 publication of the report, “The Burden of Diabetes in South Carolina,” a manuscript entitled, “The Burden of Diabetes in South Carolina: Program and Policy Perspective”, was prepared. Co-authors of the manuscript were Carolyn Jenkins, Esther Forti, Deyi Zheng, Sandra Carnesale, John Colwell, Nelson Gunter, Pete Bailey, Beth Corley, David Keisler, and Daniel Lackland.

• A report entitled “Preventive Care among People with Diabetes Using an Information Service,” was prepared, using the results of a study of health needs and preventive practices among people in South Carolina who called the American Diabetes Association’s Information and Action Line.
- SCDCP staff completed a manuscript entitled "Self Reported Prevalence of Diabetes and Preventive Health Care Practices Among People with Diabetes in South Carolina." Co-authors were Deyi Zheng, James E. Ferguson, Yaw Boateng, Sally Temple, and Fran Wheeler all of SCHEC, and Caroline A. Macera of the USC. This manuscript was published in the Journal of the South Carolina Medical Association.

- A manuscript entitled, "Prevalence and Mortality of Diabetes Mellitus in South Carolina: What Do They Indicate?" was authored by Deyi Zheng, Patricia J. Jones, James E. Ferguson, and Fran C. Wheeler of DHEC, and Pamela A. Meyer of CDC, and Caroline A. Macera of USC.

- SCDCP staff completed a manuscript entitled "Barriers and Needs in Providing Standards of Diabetes Care in Community Health Centers." Co-authors were Deyi Zheng, Caroline A. Macera, Fran C. Wheeler, James E. Ferguson, Yaw Boateng, Sally Temple of DHEC, and Linda Toomer of South Carolina Primary Care Association.

- An abstract entitled "Meeting the Standards of Care among People with Diabetes in South Carolina", based on a published manuscript "Self Reported Prevalence of Diabetes and Preventive Health Care Practices Among People with Diabetes in South Carolina," was presented at the CDC DDT Annual Conference in San Diego, California. Authors were Deyi Zheng, James Ferguson, Caroline Macera, Yaw Boateng, Sally Temple, and Fran Wheeler.

- An abstract entitled "Diabetes and Hospital Expenditures," was accepted for presentation at the Centers for Disease Control and Prevention, Division of Diabetes Translations (CDC DDT) Annual Conference to be held in April, 1998 in Tampa, Florida. Co-authors were D Zheng, CA Macera, CL Addy, FC Wheeler, BE Ainsworth, Y Boateng, RM Learner, and JA Colwell.

- An abstract entitled, "Primary Care Provider Diabetes Education in South Carolina" was presented at the CDC DDT Conference in San Diego in March, 1997. Co-authors were E. Babb, Y. Boateng, S. Temple, M. Learner, F. Wheeler, J. DuMont, J. Colwell, P. Arnold, and M. Nolff.

- An abstract entitled, "Office-based Diabetes Education for Primary Care Providers," was accepted for presentation at the CDC DDT Annual Conference to be held in Tampa, FL, in April, 1998. Co-authors were E. Babb, Y. Boateng, J. DuMont, M. Nolff, M. Learner, P. Arnold, and J. Colwell.

- An abstract entitled, "Evaluation of Diabetes Professional Education," was accepted for presentation at the CDC DDT Annual Conference to be held in Tampa, FL, in April, 1998. Co-authors were E. Babb, Y. Boateng, D. Zheng, M. Learner, F. Wheeler, and J. Colwell.
Reports

- **Barriers to Diabetes Care and Management.** This is a report of 18 focus groups conducted throughout the state in 1996 that describes the availability of resources for and barriers encountered by people living with diabetes in South Carolina.

- **Patient Education for Persons with Insulin Dependent Diabetes by Primary Care Physicians: A Survey Report.** This report describes the level of patient education provided by Primary Care Physicians, barriers to physician provision of patient education, physician characteristics affecting diabetic care patterns, and education materials available for patients consumption.

- **Pharmacy Practice and Type 2 Diabetes in South Carolina: A Survey Report of Registered Pharmacists.** This report documents patient education behaviors as reported by pharmacists, barriers they face when contemplating patient education, and their interest in expanding their role in the care of persons with diabetes.

Manuals

- **Model Diabetes Management Program** This manual outlines a step by step approach to “the how to” of setting up a diabetes management program in any institution.

- **Camp Adam Fisher: a Unique Training Experience** This is a training manual for professionals interested in the state-of-the-art management of diabetes using a diabetes camp as a training site.

- **Provider Education in Diabetes Management** This is a manual of procedures and handouts for providing diabetes management training for primary care physicians and their staff.
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