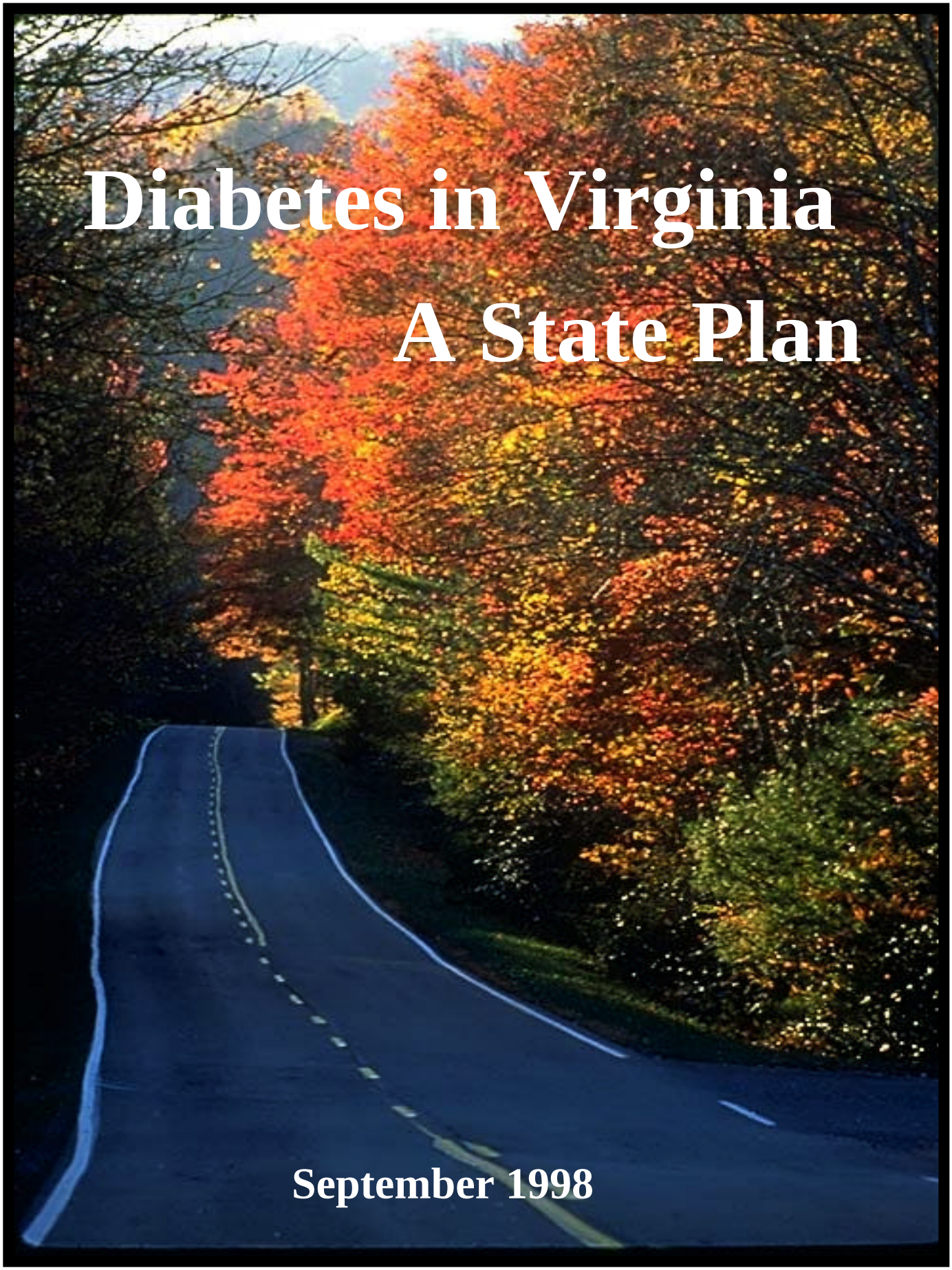
Diabetes in Virginia
A State Plan
September 1998

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Executive Summary

Introduction

Diabetes is a serious disease both in the United States and in the Commonwealth of Virginia. Nationally, approximately ten million people have been diagnosed with diabetes, and at least five million remain undiagnosed. Over 57,000 deaths were attributed to diabetes in 1995, and diabetes contributed to an estimated 187,000 deaths that year. In Virginia, over 220,000 people have been diagnosed with diabetes, and it is estimated that nearly 75,000 people have diabetes but have not been diagnosed. Currently in Virginia, the prevalence of diabetes is 4.5 percent well above the Healthy People 2000 goal of 2.5 percent

Diabetes disproportionately affects certain minority groups, such as African-Americans, Native Americans, and Hispanics. Furthermore, diabetes is a risk factor for many serious illnesses and complications, such as cardiovascular disease, lower extremity amputation, blindness, and end-stage renal disease. These complications lead to increased hospitalizations and decreased productivity. The incidence of diabetes-related complications has increased over the past several years.

Many organizations within the Commonwealth of Virginia have been involved in diabetes education, prevention, and treatment. A description of these organizations can be found on page 8 of this plan.

The Virginia Diabetes Task Force and the State Plan

The Virginia Diabetes Task Force (VDTF) was formed in May 1996 as part of the Virginia Diabetes Control Project (VDCP). The VDTF is an organization of 48 volunteers consisting of individuals and organizations representing various community segments. The purpose of the VDTF is to advise and coordinate statewide efforts aimed at reducing the burden of diabetes in Virginia. A primary goal of the VDTF is to develop a three to five year State Plan.

The VDTF met bi-monthly for two years. Four working committees submitted reports that were used to formulate goals and recommendations for the State Plan. After the development of all recommendations, the VDTF established priorities for the Plan. The Task Force is developing strategies for disseminating the Plan and for implementing the recommendations set forth.

Six broad goals were chosen as first priorities in the State Plan. Associated recommended actions and action steps are outlined in the body of this report. The goals are listed in no particular order.

Goal I: Improve Acquisition and Analysis of Data on Diabetes
Goal II: Educate Stakeholders about Reimbursement for Diabetes Services
Goal III: Educate People with Diabetes about Diabetes and Diabetes Services
Goal IV: Educate General Public about Diabetes and Diabetes Services
Goal V: Educate Health Care Providers about Diabetes and Diabetes Services
Goal VI: Improve Access to Diabetes Services

Other goals and actions that were recommended by the working committees of the Task Force are listed in this section of the State Plan. All of them will be studied for possible implementation.

In order to determine whether the goals and recommendations of the State Plan were executed as designed, a process evaluation will be employed. Process evaluation measures for the priorities are described in the VDTF Priorities section of this report, starting on page 17.

Introduction

Diabetes leads to enormous physical, emotional, social, and economic costs to people in the United States. Approximately ten million people have been diagnosed with diabetes, and it is estimated that at least five million people remain undiagnosed.[1] Diabetes is the seventh leading cause of death in the United States. It is a risk factor for cardiovascular disease, and the leading cause of lower extremity amputation, blindness, and end-stage renal disease. Over 57,000 deaths were attributed to diabetes in 1995, and diabetes contributed to over 187,000 deaths that year.[2] Acute and chronic complications associated with diabetes present a serious burden to society, not only as a cause of death, but also as a source of increased hospitalizations and decreased productivity. Certain minority groups, including African-Americans, Native Americans and Hispanics, are disproportionately affected by this disease and its complications.

Healthy People 2000, which was released in 1990, is a comprehensive prevention agenda for the Nation with objectives organized into 22 priority areas. The overarching goals are to increase years of healthy life, reduce disparities in health among different population groups, and achieve access to preventive health services.[3] As of 1995, when the Healthy People 2000 Midcourse Review and Revisions were published, there had been little progress for most of the objectives that focused on diabetes.[4] The prevalence of diagnosed diabetes was estimated to be 3.1 percent nationally in 1994, which is 10.7 percent higher than the prevalence rate of 2.8 percent in 1987.[5] Increases in prevalence have also been noted for targeted minority groups. In addition, diabetes-related complications have not been reduced on the national level.

The results from the Healthy People 2000 Midcourse Review and the results from surveillance in Virginia underscore the need for increased efforts to help reduce the burden of diabetes. This State Plan, the result of two years of work and the efforts of many people and their organizations, is a tool that Virginia will use to coordinate and prioritize their actions.

---

[1] *Diabetes Facts and Figures*. American Diabetes Association, 1997.
[2] IBID.
[3] Public Health Service. *Healthy People 2000: National, Health Promotion and Disease Prevention Objectives*. Washington, D.C.: U.S. Department of Health and Human Services, 1990.
[4] Public Health Service. *Healthy People 2000: Mid-Course Review*. U.S. Department of Health and Human Services, 1995.
[5] Centers for Disease Control and Prevention. *Diabetes Surveillance, 1997*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 1997.

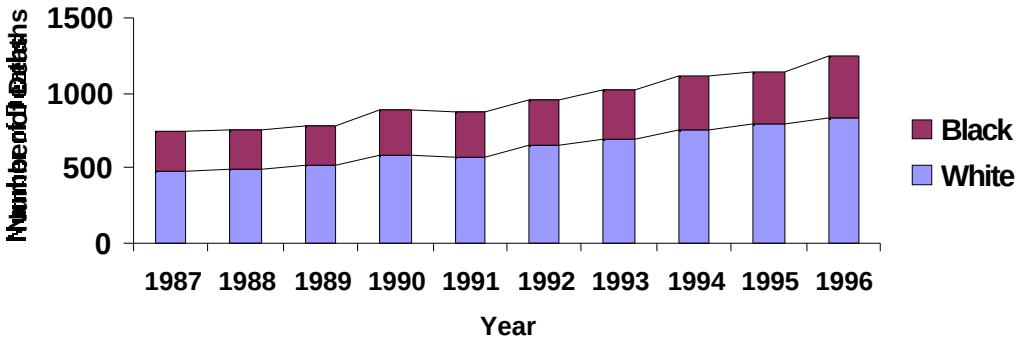
The Burden of Diabetes in Virginia

Diabetes is a common chronic disease that has a great effect on the people in Virginia. Using 1996 population estimates, approximately 220,000 Virginians have diabetes. An additional 75,000 remain undiagnosed.[6] A total of 1,255 residents of the Commonwealth died from diabetes as a primary or underlying cause in 1996, and diabetes contributed to an additional 2,757 deaths that year.[7] However, death is only one measure of the seriousness of this disease. Because of the chronic nature of diabetes and its far reaching complications, the costs to society are enormous. It is estimated that the direct costs of medical care, coupled with the indirect costs of lost productivity and premature mortality in Virginia exceeds $2.8 billion annually.[8]

Mortality

Diabetes has been the seventh leading cause of death in Virginia since 1990. Between 1987 and 1996, the number of deaths due to diabetes increased by 70 percent (740 deaths versus 1,255 deaths, respectively) (Figure 1).

Figure 1: Ten-Year Trend in Deaths Due to Diabetes in Virginia, 1987-1996

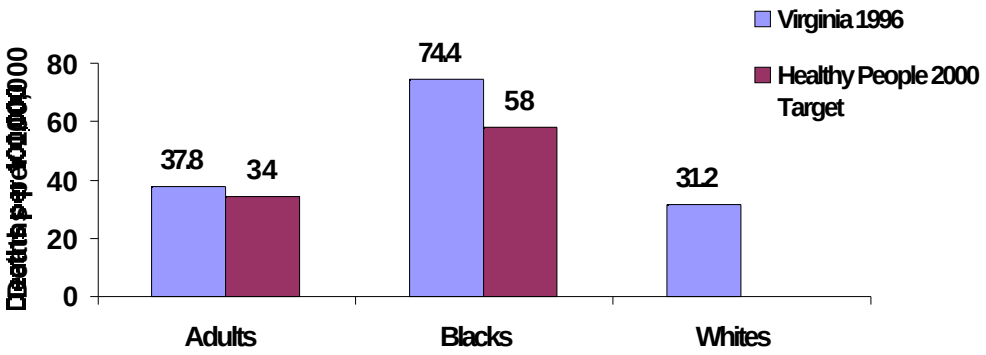


Source: Diabetes Control Project Surveillance, Survey and Evaluation Research Laboratory/Virginia Commonwealth University, 1998

In Virginia in 1996, the age-adjusted death rate for all diabetes-related deaths (diabetes as the underlying or contributing cause of death) was 37.8 per 100,000 persons. The Healthy People 2000 Objective is to reduce diabetes-related deaths to no more than 34 per 100,000 people. In Virginia, the age-adjusted death rate in 1996 for blacks (74.4 per 100,000) was more than double that for whites (31.2 per 100,000) and was significantly higher than the Year 2000 objective (Figure 2). There is currently no Healthy People 2000 target specific to the white population.

[6] *Diabetes Surveillance in Virginia*. Virginia Department of Health, 1998.
[7] *Diabetes Surveillance in Virginia*. Virginia Department of Health, 1998.
[8] IBID.

Figure 2: Age-Adjusted Diabetes-Related Deaths in Virginia, 1996

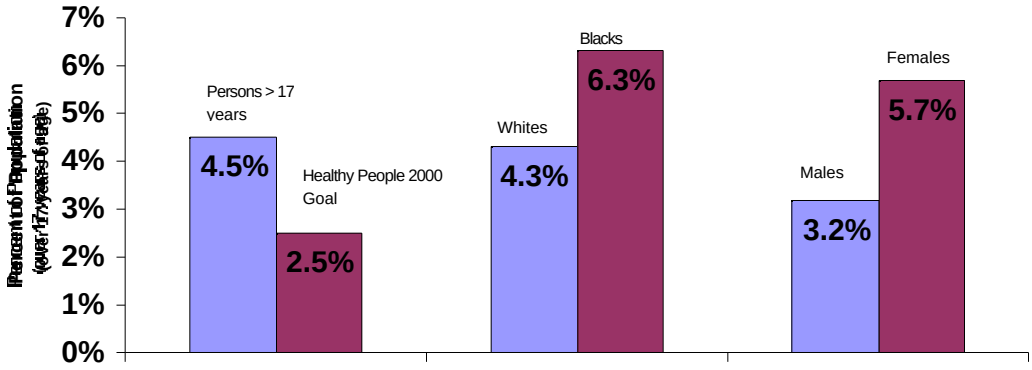


Source: Diabetes Control Project Surveillance, Survey and Evaluation Research Laboratory/Virginia Commonwealth University, 1998

Prevalence

Data from the Behavioral Risk Factor Surveillance System (BRFSS), a telephone survey that has been in existence in Virginia since 1989, are used to estimate the prevalence of health behaviors and health status indicators including, diagnosed diabetes in adults in Virginia. Analysis of the data from 1994 to 1996 estimated the prevalence of diabetes among persons over 17 years of age at 4.5 percent.[9] The prevalence is higher in blacks (6.3 percent) than whites (4.3 percent) and higher in females (5.7 percent) compared to males (3.2 percent). Currently the prevalence of diabetes in Virginia is nearly twice the Healthy People 2000 target (Figure 3).

Figure 3: Prevalence of Diabetes in Virginia, 1996



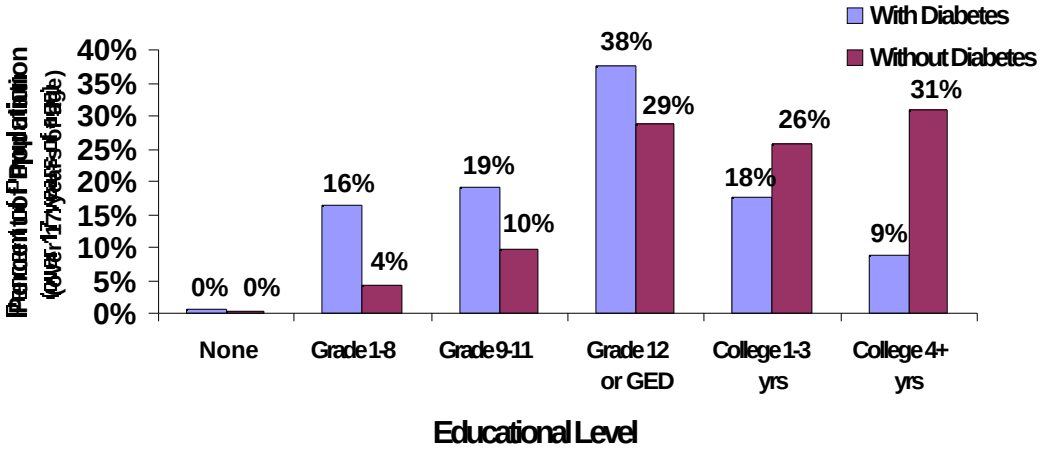
Source: Diabetes Control Project Surveillance, Survey and Evaluation Research Laboratory/Virginia Commonwealth University, 1998

[9] Diabetes Control Project Surveillance, Survey and Evaluation Research Laboratory/Virginia Commonwealth University, 1998.

Demographics

In Virginia, lower levels of income and education are found among people with diabetes compared to people without diabetes (Figures 4 and 5). Lower levels of income and education are associated with less access to health care providers and other health care information and services.

Figure 4: Education Level Among Virginians With and Without Diabetes, 1996



Source: Diabetes Control Project Surveillance, Survey and Evaluation Research Laboratory/Virginia Commonwealth University, 1998

Figure 5: Income Level Among Virginians With and Without Diabetes, 1996

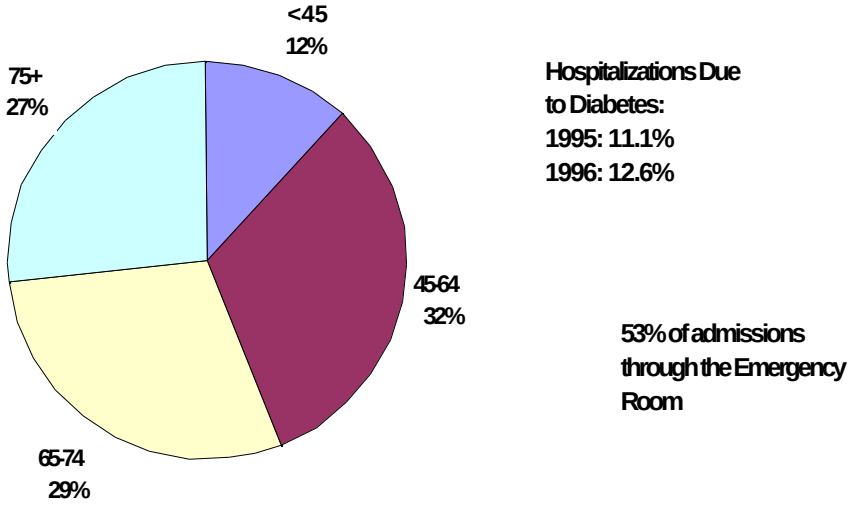
Source: Diabetes Control Project Surveillance, Survey and Evaluation Research Laboratory/Virginia Commonwealth University, 1998

Hospital Admissions

Complications associated with diabetes are also serious problems in Virginia. The percentage of hospitalizations associated with diabetes has risen from 11.1 percent in 1994 to 12.6 percent in 1996. One-third of all hospitalizations associated with diabetes occur in the 45-64 age group (Figure 6). One-third of all hospitalizations for people with diabetes are due to circulatory disorders. Virginia Health Information data for 1996 indicate that 53 percent of all diabetes-related hospital admissions occur through the emergency room, which are more common among persons with no health insurance.

In Virginia in 1996, the average charge per hospital discharge for people with diabetes was $11,876, which is 52 percent greater than the average charge for all other hospital admissions ($7,819). Over $970 million was spent on hospital admissions for people with diabetes in 1996. Medicare paid for 61 percent of these charges, and private insurance covered 24 percent.[10]

Figure 6: Hospital Admissions for People with Diabetes by Age in Virginia, 1996



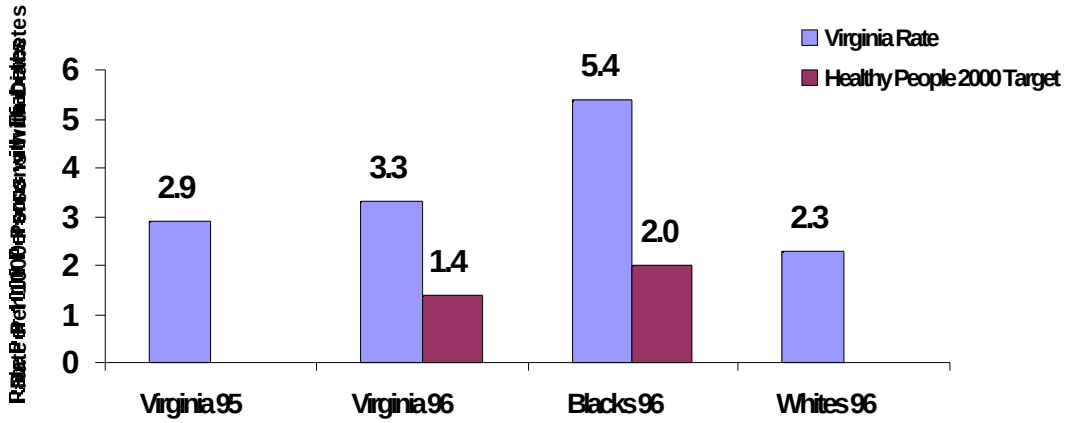
Source: Diabetes Control Project Surveillance, Survey and Evaluation Research Laboratory/Virginia Commonwealth University, 1998

[10] *Diabetes Surveillance in Virginia*. Virginia Department of Health, 1998.

Diabetes-Related Complications

Diabetes-related complications are increasing in all segments of the population. These complications lead to increased hospital admissions and decreased quality of life for the people affected. The incidence rate of end-stage renal disease (ESRD) has increased from 1995 to 1996 (Figure 7).

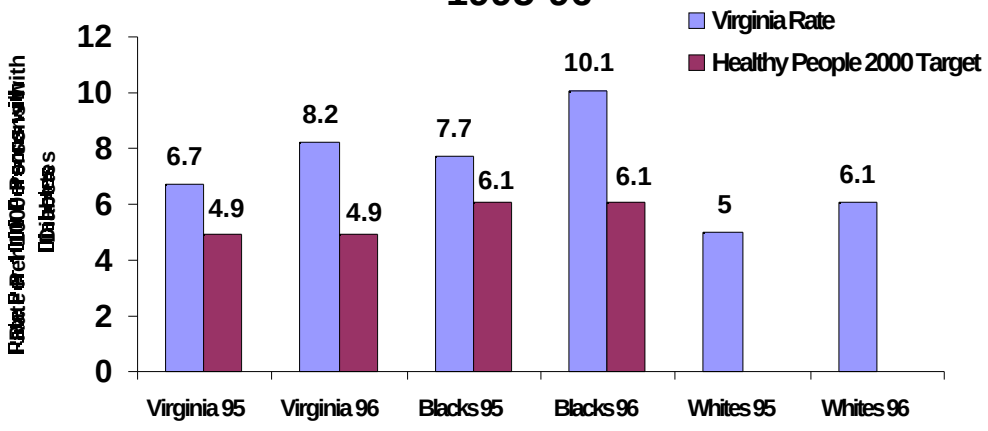
Figure 7: Incidence of End Stage Renal Disease for People with Diabetes in Virginia, 1995-96



Source: Diabetes Control Project Surveillance, Survey and Evaluation Research Laboratory/Virginia Commonwealth University, 1998

The incidence rates of lower extremity amputation also increased from 1995 to 1996. The incidence is significantly higher than the Healthy People 2000 target for both the total population and the black subpopulation (Figure 8). Healthy People targets have not been established for the white subpopulation.

Figure 8: Incidence of Lower Extremity Amputation for People with Diabetes in Virginia, 1995-96



Source: Diabetes Control Project Surveillance, Survey and Evaluation Research Laboratory/Virginia Commonwealth University, 1998

Diabetic retinopathy, a serious eye disease, can also be a complication of diabetes. Diabetes is the leading cause of new cases of blindness in adults 20 to 74 years old. Nationally, between 12,000 and 24,000 new cases of blindness can be attributed to diabetes.[11] On the state level, there are currently no data that can estimate the incidence of this complication because the Department for the Visually Handicapped (DVH) does not record cause of blindness in its statewide registry. The DVH is in the process of updating its blindness registry to include this information.

Beginning in 1995, several questions related to medical care for persons with diabetes were added to the Virginia BRFSS survey. Data showed that persons with diabetes reported seeing a physician or nurse an average of six times during the past year for their diabetes. Among respondents with diabetes, 39 percent reported problems with their vision at least some of the time, and 10 percent indicated problems with their vision all the time. In addition, 39 percent of respondents reported that they did not have their feet checked in the past year.

Summary

Diabetes is a serious disease with many complications. The prevalence rate of diabetes is increasing in the Commonwealth of Virginia. Many people remain undiagnosed, increasing their risk of complications. The data presented in this section indicate a need for better outpatient care, long term disease maintenance and the education of healthcare consumers and providers. The goals and recommendations of this State Plan attempt to remedy some of the challenges associated with diabetes prevention and control in Virginia.

[11] Centers for Disease Control and Prevention. *National Diabetes Fact Sheet: National estimates and general information on diabetes in the United States*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 1997.

State Programs Aimed at Diabetes Education, Prevention, and Treatment

Many organizations within the Commonwealth of Virginia have long been involved in diabetes education, prevention, and treatment. These organizations represent both the public and private sectors, and they are dedicated to improving the lives of persons with diabetes. In this section, descriptions of several programs will be presented. These projects are not under the direction of the VDTF, but work in collaboration with the Task Force to reduce the burden of diabetes in Virginia.

American Diabetes Association (ADA)

The ADA, founded in 1940, is the nation's leading nonprofit health organization providing diabetes research, information, and advocacy. The mission of the ADA is to prevent and cure diabetes. To fulfill this mission, the ADA funds research, publishes scientific findings, provides information and other services to people with diabetes, their families, health care professionals, and the public, and advocates for scientific research and for the rights of people with diabetes. For a listing of the programs in Virginia recognized by ADA for excellence in diabetes education, see Appendix A.

Appalachian Diabetes Coalition (ADC)

This regional project, sponsored by the Centers for Disease Control and Prevention (CDC), began in October 1996. The coalition is composed of representatives from the thirteen states, including Virginia, which contain Appalachian counties as defined by the federal government (See Appendix B for a list of the Appalachian counties in Virginia). The mission of the ADC is to improve the quality of life for persons with diabetes and their communities in the Appalachian region and curb the diabetes-related morbidity and mortality that lead to excess health care costs. The four goals of the Coalition are to:

- Promote an aggressive community-based diabetes prevention and control program for the Appalachian region.
- Determine if the population-based "burden" of diabetes mellitus is different in the Appalachian region verses non-Appalachian regions.
- Promote the provision and utilization of quality care for all people with diabetes in the Appalachian region.
- Promote leadership and partnership throughout the ADC, increase awareness, and enhance resources.

American Association of Diabetes Educators (AADE) and the Virginia Chapters:

- **Capitol Association of Diabetes Educators (Capitol ADE)**
- **Central Virginia Association of Diabetes Educators (CVADE)**
- **Eastern Virginia Association of Diabetes Educators (EVADE)**
- **Mountain Region Association of Diabetes Educators (MRADE)**

The mission of AADE and its associated chapters is "to enhance the competence of health professionals who teach people with diabetes, advancing the specialty practice of diabetes education, and improving the quality of diabetes education and care for all those affected by diabetes." This organization has the following goals:

- To provide educational opportunities for the professional growth and development of diabetes educators.
- To promote and aid the growth and development of quality diabetes education for the person with diabetes.
- To foster communication and cooperation among individuals and organizations involved in diabetes education.

Virginia Center for Diabetes Professional Education (VCDPE)

The mission of the Center, founded in 1987 at the University of Virginia School of Medicine, is to improve the quality and quantity of health care available to persons with diabetes in Virginia through the provision of professional education, assistance in program planning and development, and provision of educational resources relating to diabetes. Goals include:

- To develop and support organizational efforts in Virginia aimed at reducing the burden of diabetes.
- To improve the capabilities of health care systems to deliver high quality diabetes care.
- To improve the knowledge and diabetes care practices of physicians, nurses, dietitians, pharmacists, and other health care providers.

Virginia Department of Health (VDH)

Virginia Diabetes Control Project (DCP)

In 1994, the VDH received funding from the CDC for the "State-Based Programs to Reduce the Burden of Diabetes: Core Capacity for a Health Systems Approach." The mission of this project is to reduce morbidity and mortality associated with diabetes and its complications in Virginia. The primary activities and initiatives of this project are:

1. Develop a Diabetes Surveillance System to Define and Monitor the Burden of Diabetes in Virginia.

Establishing and monitoring a surveillance system to determine the burden of diabetes in Virginia has been a priority of the Virginia DCP during the past four years. Annual surveillance efforts include analysis of data from the following sources: vital statistics data from VDH's Center for Health Statistics; hospital discharge data from Virginia Health Information; and the BRFSS, including the twelve-question diabetes module which was added to Virginia's BRFSS questionnaire in 1995. In addition, data from the Eastern Shore Community and Migrant Health Clinics (CMHCs) are being analyzed to learn more about outpatient care in Virginia. Plans are underway to obtain data from other CMHCs throughout the state.

Early in the project, lower extremity amputation rates were calculated by age group and were used by the two community pilot sites for community planning. End-stage renal disease data have also been acquired from the Mid-Atlantic Renal Network. The data are being analyzed to determine the incidence and prevalence of kidney failure among individuals with diabetes and to look for geographic, racial, gender, and age associations.

A full report of the burden of diabetes in Virginia from 1994 through 1996 is available from the Virginia DCP.

2. Develop New and Effective Approaches Aimed at Reducing the Diabetes Burden in Communities in Virginia.

As a way of bringing knowledge and information about diabetes to those at highest risk, two community diabetes control pilot sites were established through the Virginia DCP, one on the eastern shore of Virginia and one in the southwest corner of the state. These two community pilot sites were selected based on the following criteria: designation as a medically underserved area (MUA); existence of a high percentage of African-American and/or elderly (over 65 years) populations; presence of multiple CMHCs for surveillance and data gathering purposes and the location of an active local ADA chapter.

Both community DCP pilot sites were trained in *Diabetes Today*, a training program for health professionals and lay community members intending to build the skills needed to mobilize communities to develop community-based diabetes prevention and control programs. Both sites conducted local needs assessments and developed strategic plans to address community needs. Both sites are currently implementing targeted strategies to reduce the burden of diabetes in their communities. A summary of each of each community project is highlighted below:

Lenowisco Community-Based Diabetes Control Project (DCP)

In October 1996, Lenowisco, comprised of Lee, Wise, and Scott Counties, and Norton City, established a coalition and became a pilot community project. The coalition is comprised of members from the community which includes health care professionals, community agencies, and persons with diabetes. Three goals of the Lenowisco DCP are:

- To decrease the number of hospital admissions of women who are more than 45 years of age with diabetes, complicated by heart disease.

- To decrease the number of hospital admissions among males less than 65 years of age with diagnosis of a diabetes sentinel event (i.e. primary diagnosis of diabetes, diabetic ketoacidosis, lower extremity amputation).
- To increase metabolic control of children with diabetes type 1.

Eastern Shore Community-Based Diabetes Control Project (DCP)

The Eastern Shore DCP was founded in May 1996. A community coalition was established, comprised of health care professionals, community agencies, industry representatives, and persons with diabetes. They conducted a needs assessment and developed a strategic plan. The objectives of this plan are to:

- Reduce the incidence of diabetes among African-American women over 45 years of age.
- Reduce hospital admissions among women with diabetes and heart disease.

3. Development and Coordination of Diabetes Resources and Educational Opportunities for the Public and Health Professionals.

Public Education

The Virginia DCP has undertaken several educational opportunities for the public. The most significant opportunity for the Virginia DCP was participation in the National Diabetes Satellite Conference, "Diabetes Control is Prevention," held October 31, 1997. A total of 23 sites participated in the satellite conference, reaching over 400 individuals statewide.

An annual educational opportunity of the Virginia DCP includes partnering with the ADA to implement the *Diabetes Sunday* church-based program. The goals of this program are to: (1) create awareness that diabetes is a serious disease. (2) inform the congregation that African-Americans are at high risk of developing diabetes. (3) inform the congregation that early diagnosis and treatment can make a difference and related complications may be delayed.

The Virginia DCP also partners with the ADA annually to plan and coordinate statewide activities for the American *Diabetes Alert*. This one-day "call to action" encourages Virginians to estimate their risk for diabetes using the diabetes risk test questionnaire.

Professional Education

The Virginia DCP has contracted with the Virginia Center for Diabetes Professional Education (VDDPE) to conduct professional education needs assessments targeting health care providers who work with minority, rural, and elderly populations in both community DCP projects and in the Appalachian region of Virginia. The needs assessments serve to target professional education efforts with the goal of improving diabetes standards of care in Virginia. Professional education opportunities have been conducted for the Lenowisco DCP and plans are being currently being developed for several health districts in Appalachia.

4. Establishment, Coordination and Support for the Virginia Diabetes Task Force (VDTF).

The VDTF was established in May 1996 as part of the Virginia DCP. The primary goal of the VDTF was to develop a three to five year state plan and to coordinate statewide efforts for reducing the burden of diabetes in Virginia.

The VDTF currently has 48 members from a wide variety of organizations and agencies. Membership includes representation from public health, hospitals, primary care centers, health and human service state agencies, pharmacy and medical associations, and consumer and diabetes related associations. Four working committees operate under a chair and vice chair: access to care, education, surveillance and reimbursement.

Virginia Health Quality Center (VHQC)

The VHQC is a health care quality improvement organization created in 1984 as the Medicare Peer Review Organization for Virginia. Then known as the Medical Society of Virginia Review Organization, its focus was conducting quality and medical utilization review for Medicare under contract with the Health Care Financing Administration (HCFA) and, later, for the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) under contract with the Department of Defense. The VHQC also has conducted reviews for the Virginia Department of Medical Assistance Services (DMAS).

The VHQC, with headquarters in Richmond, Virginia, now offers its services to a wide range of clients who are interested in assessing and improving the quality of health care for a variety of populations. Several of their diabetes-related projects are described below.

Regional Diabetes Project

This project is designed to enhance the quality of care provided to Medicare beneficiaries with diabetes who are treated in primary care physician offices. This project will focus on methods for implementing the 1998 ADA Standards of Medical Care for Patients with Diabetes Mellitus. This clinical project involves 126 physicians at 39 sites around the state.

Diabetic Retinopathy Project

In order to increase the number of people with diabetes receiving eye examination, Virginia Medicare beneficiaries with diabetes who did not have a dilated eye examination in 1996 were identified using claims data. Virginia counties with the lowest rates of these eye examinations were selected for inclusion in the project as intervention sites or control sites. Beneficiaries in the intervention counties will receive a letter reminding them to schedule an eye examination, a brochure on diabetic eye disease, and a postage-paid postcard. Ophthalmologists, optometrists, pharmacists, and primary care physicians in the intervention counties will be sent a letter informing them of the project and asking for their support.

HMO Diabetes Project

This project is designed to improve the quality of care provided to Medicare beneficiaries with diabetes who are treated in health maintenance organization physician offices. This project will focus on methods for implementing the 1998 ADA Standards of Medical Care for Patients with Diabetes Mellitus. This clinical project involves four physician office practices in an HMO with a large Medicare enrollment.

Introduction to the Virginia Diabetes Task Force and the State Plan

Development of the VDTF

In 1994, the VDH received a grant from the CDC to participate in a multi-state Diabetes Control Project. The VDTF was initiated as part of this Project. The first meeting of the Task Force was held in May 1996.

The VDTF is an organization of volunteers consisting of individuals and organizations from Virginia who are representative of various community segments. The members of the VDTF possess a wide variety of backgrounds, from both the public and private sectors, and including hospitals, district health departments, social service agencies, community health centers, insurance providers, academic institutions, not-for-profit organizations, private foundations, and voluntary health organizations. This breadth of experience is an asset to building consensus within Virginia for the State Plan. Currently the Task Force has 48 members representing over 40 groups.

The purpose of the VDTF is to advise and coordinate statewide efforts aimed at reducing the burden of diabetes in Virginia. A primary goal of the VDTF was to develop a three to five year State Plan that addresses key issues such as reimbursement, cost/benefit issues, health care reform as it relates to diabetes, community and public education, professional practices/quality of care, and access to care.

The Task Force membership was divided into four working committees to better facilitate the process of developing a state plan that could address the needs of all stakeholders. These committees were: access to care, education, reimbursement, and surveillance. Each committee selected a chairperson and a support staff member. The focus of these committees has been to develop and refine individual committee recommendations and to prioritize these recommendations. Meetings were held bi-monthly for two years.

Accomplishments of the VDTF

The VDTF has already completed many projects that have aided in the development of the State Plan. Several examples are listed below.

An article entitled ***"Diabetes Surveillance in Virginia"*** has been published in an issue of the Virginia Epidemiology Bulletin.

A ***list of diabetes stakeholders*** was assembled.

A ***Data Dictionary*** was developed as a guide to the sources of surveillance data which are presently available, as well as the types of information contained in each source, and the advantages and disadvantages of each source (See Appendix C).

A ***Corporate Portfolio*** containing information regarding the cost of diabetes, rationale for diabetes self-management, cost/savings case studies, and outcome data is being developed. This portfolio will be marketed to corporate employees.

A ***survey of the top 25 insurance companies in Virginia*** (identified through the State Corporation Commission) was completed to obtain the level of coverage for people with diabetes.

A ***meeting with the insurance commissioner representative*** to determine other sources of data regarding health benefits coverage of insurance companies in Virginia. Data sources that were provided were investigated.

Identification of several corporate employers and completion of a ***phone survey*** with the benefits specialists in the company to determine which benefits are provided to people with diabetes.

A ***diabetes patient insurance survey*** was disseminated in August 1997 to educators in each of the four diabetes educator centers in Virginia and to diabetes advocates who are members of the American Diabetes Association in Virginia.

Participation on an independent ***legislative coalition*** in May 1997 to pursue passage of diabetes legislation to improve insurance coverage for people in Virginia.

Priority-Setting Process of the VDTF

On March 6, 1998, the full Task Force met to discuss the recommendations from individual committees and attempt to reach consensus about which recommendations would become first priorities for implementation. Using results from a survey sent to Task Force members in advance of the meeting, twenty-three committee recommendations were discussed in-depth. After combining several of the recommendations, consensus was reached on six priority recommendations. All committee recommendations will be presented later in this report.

The Future of the VDTF

The first goal of the VDTF, to develop this State Plan, was completed with the publication of this document. The Task Force will develop strategies for disseminating the State Plan to appropriate audiences across the state and implementing recommendations from the Plan.

Purpose of the State Plan

The purposes of the State Plan are:

- To develop specific recommendations aimed at reducing the burden of diabetes;
- To develop a future-oriented document that contains recommendations for decision makers, policy makers, educators, the medical community, and the general public so that positive changes can be made at the state and local levels;
- To develop an education and priority setting guide for the state;

- To develop a comprehensive approach to reduce the burden of diabetes which is not limited by existing resource allocations; and
- To develop recommendations that span a three to five year period.

Format of the State Plan

The State Plan is organized in the following sections:

1. **VDTF Priorities**, describes the six priority recommendations that resulted from discussions at Task Force meetings.
2. **Goals, Objectives, and Recommended Actions of the VDTF**, sets out the detailed reports from each of the four subcommittees of the Task Force. Recommendations from the subcommittees that are listed in the VDTF Priorities Section are not repeated in this section.
3. An outline for a **Process Evaluation** of the state plan will be presented.

Virginia Diabetes Task Force Priorities

Since this State Plan will be used for at least a three-year period, the Task Force chose to prioritize the goals and recommendations from the various subcommittees in order to focus implementation efforts. What follows are several goals and associated actions that were developed during the prioritizing session of the VDTF. They are combinations of several recommendations from the various subcommittees of the VDTF. In some cases, recommendations from more than one committee were combined to form the resulting statements. **They are presented in no particular order**; the Task Force has deemed all to be equally important first priorities for implementation. Goals and recommendations that were not chosen as first priorities will be investigated for implementation within five years.

For all charts that follow the recommended actions, the following abbreviations and acronyms were used:

AADE = American Association of Diabetes Educators
AARP = American Association of Retired People
ADA = American Diabetes Association and affiliated offices
CDC = Centers for Disease Control and Prevention
DCP = Diabetes Control Project
DMAS = Department of Medical Assistance Services (Medicaid)
DVH = Department of Visually Handicapped
ESDCP = Eastern Shore Diabetes Control Project
Local DCP = Local Diabetes Control Project
HCFA = Health Care Financing Administration
HIAA = Health Insurance Association of America
HMO = Health Maintenance Organization
LDCP = Lenowisco Diabetes Control Project
NDEP = National Diabetes Education Program
NDIC = National Diabetes Information Clearinghouse
UVA = University of Virginia
VDH = Virginia Department of Health
VDTF = Virginia Diabetes Task Force
VHQC = Virginia Health Quality Center

Goal I: Improve Acquisition and Analysis of Data on Diabetes

Task Force Recommended Action:

- Develop additional funding and/or infrastructure as necessary to support the acquisition and analysis of supplemental data sources which will provide a clearer, more complete understanding of the burden of diabetes in Virginia. Possible sources for additional data on diabetes in Virginia can be thought of as falling into two categories: data sources which need to be developed (i.e., the needed data are presently not being collected or not being stored in a way which makes it easy to access for analysis), and access to existing data sources.

Data which need to be gathered (i.e., the needed data are presently not being collected):
- employer data on the economic burden of diabetes in the workplace;
- school survey data to better identify the prevalence of diabetes among children; and
- pharmacy data on diabetes-related drug usage.

Existing data sources include:
- insurance and/or provider data on the cost of outpatient care;
- birth certificate data on mothers with Type 1 or gestational diabetes; and
- ophthalmalogic data on diabetes as a primary cause of blindness.

Action Steps:	Status	Partners	Resources Needed	Evaluation
1. Identify relevant organizational entities/data sources for each category of data.	**Sources identified:** · VDH for birth certificate data · Department of Visually Handicapped (DVH) for ophthalmologic data **Sources not identified:** · Employers · School systems · Pharmacies · Insurance providers	Identified organizational entities/data sources	Funding for personnel	Listing of sources and associated contact names
2. Investigate feasibility of obtaining data with the identified sources, including cost and accessibility.	**Feasibility known:** · VDH data available · DVH data will be available when diabetes data is added to their database **Feasibility unknown:** · Employers · School systems · Pharmacies · Insurance providers	Identified organizational entities/ data sources	Funding for personnel	Notes from meetings with identified sources Report on cost and accessibility for each data source
3. Acquire and review data to determine its usefulness.	Will be accomplished	Identified organizational entities/ data sources	Funding for data acquisition	Documentation of data acquisition
4. Analyze and report data.	Will be accomplished	None	Funding for data analysis and reporting	Final report submitted to Task Force

Goal II: Educate Stakeholders about Reimbursement for Diabetes Services

Task Force Recommended Actions:

· Educate decision makers (i.e. insurance industry, corporate employers, and policy makers) about the value of reimbursement for diabetes self-management education and supplies.

Action Steps:	Partners	Resources Needed	Evaluation
1. Complete and disseminate a reimbursement portfolio that will educate employers about the burden, seriousness, and cost of diabetes to promote improved coverage of diabetes services. · **Finish draft portfolio** · **Pilot test draft portfolio** · **Revision and printing of final version** · **Presentation of portfolio to employer groups in Virginia**	· Industry · Managed Care · VDTF	Funding, volunteer and staff support	Comments on first draft Completed product Survey of employers about portfolio Changes in benefits within industry
2. Host a series of round-table discussions for key decision makers (insurance industry, business leaders, professional organizations, policy makers) to discuss the problem of diabetes in Virginia, diabetes care and education and it's costs, the issues regarding lack of reimbursement, and to reach consensus about potential solutions. · **Contact Virginia HMO Association and Health Insurance Association of America to host panel** · **Target round table discussions to major insurance companies within Virginia, especially Trigon** · **Involve state Medicaid representatives in round-table discussions**	· Insurance industry · HCFA · Virginia Health Quality Center (VHQC) · Policy Makers · VDTF · VDH	Funding, volunteer and staff support	Evaluations from participants of sessions
3. Develop strategies to improve Medicaid coverage for diabetes self-management education. · **Determine current reimbursement status** · **Discuss potential for expanded, more comprehensive coverage for diabetes**	· Department of Medical Assistance Services (DMAS) · VDH · VDTF	Funding, volunteer and staff support	Improved benefit coverage for Medicaid recipients

· Educate health care providers about the importance of self-management education as a health care benefit for improved diabetes control and prevention of complications.

Action Steps:	Partners	Resources Needed	Evaluation
1. Develop a train-the-trainer program to expand ability to communicate information regarding reimbursement and health benefits coverage of diabetes self-management education at regional and local levels.	· AADE chapters · Virginia Dietetic Association · Virginia Pharmacists Association · Virginia Nurses Association · Virginia Association of Nurse Practitioners · Virginia Medical Society · Virginia Academy of Family Physicians	Funding, volunteer and staff time	Finished program (process evaluation of development) Number of training programs Number of health care providers trained

· Educate persons with diabetes about the importance of diabetes self-management education as a health care benefit for improved diabetes control and prevention of complications.

Action Steps:	Partners	Resources Needed	Evaluation

1. Disseminate booklet/ brochure for people with diabetes on information and questions to ask their insurance companies.
· **Identify specific content and create brochure via subcommittee**
· **Disseminate brochure to:**
  · **Pharmacies**
  · **ADA chapters**
  · **AARP groups**
  · **Church groups**
  · **Community organizations**
  · **Diabetes and general health educators**
  · **Managed care organizations**
  · **Health departments**
	· Industry, including insurance groups
	· Consumer groups
	· ADA
	· AADE chapters
		Funding, volunteer, and staff time	Completed brochure
			
			Number of brochures distributed
			
			Targeted surveys to consumers of brochures

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Goal III: Educate People with Diabetes about Diabetes and Diabetes Services

Task Force Recommended Actions:

· Identify strategies to educate and encourage people with diabetes to increase their involvement with health care providers.

Action Steps:	Partners	Resources Needed	Evaluation
1. Provide programs in communities to teach people with diabetes how to be more involved in their care and with their health care providers.	· Stakeholders list (already developed) · List of partners in state diabetes grant proposals	Funding, trainers, materials	Post-program evaluations Consumer survey
2. Develop a diabetes bill of rights focused on the person with diabetes.	· AADE · ADA · Diabetes Control Project community coalitions	Task force to review, prepare, incorporate comments, and disseminate	Pilot test results Distribution list Consumer survey
3. Provide a list of educational materials specific to the beliefs of culturally targeted groups in Virginia.	· National Diabetes Information Clearinghouse · American Dietetic Association · ADA · CDC · Pharmaceutical companies · Appalachian Regional Coalition · Professionals with expertise in culturally targeted education	Task force to review materials, develop list, and disseminate list	Completed list Reviews from experts in cultural education materials

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· Promote self-managed care which includes nutrition, physical activity, eye care, foot care, self-monitoring, and drug therapy in local health departments, community health centers, and free health clinics.

Action Steps:	Partners	Resources Needed	Evaluation
1. Identify health care providers and agencies/care centers that care for large numbers of people with diabetes.	· VDH · Virginia Primary Care Association · Nurse Practitioner groups · AADE chapters in Virginia	Task force to compile information; funding	List of health care providers and agencies
2. Provide self-management materials to these agencies/care centers.		Task force to collect, review, and distribute information	Number of packets disseminated Consumer survey

Goal IV: Educate General Public about Diabetes and Diabetes Services

Task Force Recommended Action:

· Promote preventive diabetes education, which includes information on nutrition, physical activity, and risk factors, in local health departments, free health clinics, educational systems, etc. (churches, community groups).

Action Steps:	Partners	Resources Needed	Evaluation
1. Partner with the National Diabetes Education Program to promote a media campaign · **Written brochures, etc.** · **Video tapes**	· NDEP · CDC · AADE chapters · ADA · American Dietetic Association	Materials from partner organizations; staff time	Number of packets distributed Documented activities in each community
2. Provide programs in communities to teach general public about diabetes.	· Churches/ parish nurse programs · Industry · Liaison with other health care groups · Liaison with other volunteer groups (i.e. Lion's Club, Rotary, Ruritans)	Funding, staff	Number of programs completed Number of people reached Consumer survey Post-program evaluations

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UVA = University of Virginia
VDH = Virginia Department of Health
VDTF = Virginia Diabetes Task Force
VHQC = Virginia Health Quality Center

Goal V: Educate Health Care Providers about Diabetes and Diabetes Services

Task Force Recommended Actions:

· Educate health care providers about diabetes resources. Health care providers include school nurses, physicians, nurses, nurse practitioners, physician assistants, dietitians, and pharmacists.

Action Steps:	Partners	Resources Needed	Evaluation
1. Compile and disseminate a diabetes resource directory, including a comprehensive publications catalog, to list diabetes resources for health care providers who care for people with diabetes.	· National Diabetes Information Clearinghouse · ADA · CDC · Pharmaceutical companies · Internet sites · VDH	Task force to review and compile resource directory, funding	Completed directory Number of directories distributed
2. Investigate the most efficient/effective means of educating health care providers about and distributing the National Diabetes Education Program materials and the "Standards of Medical Care for Patients with Diabetes Mellitus," published by the American Diabetes Association.	· CDC · ADA · AADE · Medical Society of Virginia	Task force, funding	Final plan for distribution
3. Educate about and encourage participation in the American Diabetes Association Provider Recognition Program and Self-Management Education Recognition Program.	· ADA · Medical Society of Virginia · Virginia Nurses Association · Virginia Dietetics Association · Virginia Primary Care Association · Virginia Pharmacists Association	Task force, funding	Number of requests for materials about program Increased number of programs in Virginia receiving recognition under these programs
4. Identify and provide programs for health care providers to teach them client-centered care.	· Professional organizations in Virginia · Professional schools in Virginia	Task force, funding	Number of programs completed Post-program evaluations

· Develop statewide plans for providing diabetes continuing education for health care providers.

Action Steps:	Partners	Resources Needed	Evaluation
1. Provide professional education for health districts in the state, emphasizing priority regions/districts in the state first.	· VDH · Health District Medical Directors and administrative staff	Faculty, curriculum, funding	Number of programs completed Post-program evaluations Morbidity data
2. Investigate possibility of using telemedicine technology for diabetes education purposes.	· VDH · Medical schools with telemedicine technology · Community colleges with satellite down-linking capacity	Task force to obtain information	List of sites that can use technology
3. Encourage state medical schools to provide diabetes continuing education programs annually.	· Three state schools of medicine continuing education programs · ADA	Staff	Number and descriptions of continuing education programs focused on diabetes
4. Develop and update annually a diabetes videotape program to disseminate to health departments, hospitals, and physician offices around the state.	· VDH · UVA · ADA	Task force to plan topics and write scripts, faculty, videotaping equipment	Finished product Documentation of usage
5. Encourage the Boards of Medicine and Nursing to develop a plan for diabetes continuing education for physicians and nurses who care for people with diabetes.	· VDH · Medical Society of Virginia · Virginia Nurses Association · State Board of Medicine · ADA · AADE chapters	Task force	Plans for continuing education focused on diabetes
6. Establish regional collaborative partnerships among diabetes healthcare providers who are sponsoring and providing professional education and ask for assistance in coordinating and developing diabetes resources within their service region.	· VDH · UVA · VCU · ADA · AADE chapters · VDTF	Communication tools (i.e. internet, electronic mail), staff, funding	Signed agreements Number of programs/resources developed

Goal VI: Improve Access to Diabetes Services

Task Force Recommended Action:

- Create a diabetes model of care and implement pilot projects that can be replicated if successful. The goal of the model would be to reduce costs, particularly from hospitalizations and emergency room visits, provide continuity of care, facilitate comprehensive diabetes management, and improve overall health outcomes of people with diabetes. This model of care should:
  - Be comprehensive for overseeing a patient's entire episode of illness (from time of diagnosis), regardless of the pay class or location in which the service is provided.
  - Be organized around a system of interdisciplinary services and resources needed to provide high-quality care in the most cost-effective way.
  - Be coordinated via clinical and financial management of care by a case coordinator.
  - Be evaluated against the ADA criteria for standards of care.
  - Identify and incorporate successful aspects/outcomes of previous Virginia diabetes pilot projects. Previous projects include the Eastern Shore and Lenowisco Diabetes Control pilot projects.

Action Steps:	Partners	Resources Needed	Evaluation
1. Conduct a literature search to identify models of care within Virginia and nationally that could serve as guides.	· ADA · CDC · UVA · VDTF	Staff, office space, computer access, funds	Identification of model programs
2. Analyze the identified models based on the above five criteria.	· VDTF · UVA	Staff, office space, funds	Completion of literature review report
3. Select the top three model of care programs which meet the defined criteria.	· VDTF · UVA	Staff, office space, funds	Identification of three model programs utilizing the five criteria
4. Conduct an intensive review of the top three model of care programs to determine relevant/practical application to Virginia (might include site visits, conference calls with program staff, and reports)	· ADA · CDC · VDTF · VDH	Staff, office space, funds	Summary report presented to VDTF
5. Select components from top three model of care programs; synthesize information to create model for Virginia.	· ADA · UVA · VDTF · VDH	Staff, office space, funds	Development of model of care
6. Identify pilot site, implement program, and modify as needed.	· ADA · Local DCP VDH · VDTF Primary Care Associates	Staff, office space, funds	Implementation of program at pilot site; formative and summative evaluations of pilot program
7. Operationalize/adopt model statewide.	· ADA · VDH · VDTF	Staff, office space, funds, transportation, supplies	Listing of sites adopting model of care; results from satisfaction surveys

Goals, Objectives, and Recommended Actions of the Virginia Diabetes Task Force

Each committee of the VDTF was charged with developing goals and recommendations for the State Plan. Individual committee reports are presented below. The recommendations that were deemed first priorities can be found in the previous section of this report.

Access to Care

Introduction

The intent of this section is to provide initiatives which can be implemented to improve access to primary care, health outcomes, and diabetes services for the uninsured, underinsured, geographically isolated and medically-underserved populations. Access to healthcare refers to the ability to obtain needed care and services, and it can be hampered by many barriers. The Task Force has defined these barriers in the areas of availability, affordability and acknowledgement of services.

During 1995, the Virginia State Health Commissioner's Minority Health Advisory Committee held town hall meetings around the State. An overwhelming majority of participants identified the lack of health education, lack of health insurance, lack of affordable medical service, and lack of accessible and affordable transportation as major barriers within their communities. These views were used in formulating the recommendations related to reimbursement as well as correlating this information to diabetes-related data.

Goals and Recommendations

Goal A-I: To identify the undiagnosed with diabetes in Virginia.

Recommendation: Provide an ADA diabetes risk test during every patient's annual physical to determine a patient's risk, and recommend further testing if needed.

Recommendation: Develop cooperative programs with community organizations (i.e. churches, civic groups, etc.) and other professionals that provide screening, create criteria for diagnosis, and follow-up.

Recommendation: Create a statewide database in which all screening information can be captured to identify potential undiagnosed cases of diabetes.

Goal A-II: To address the provision of cost-effective, comprehensive, continuous and high quality of care for people with diabetes.

Recommendation: Assess people with diabetes to obtain their perceived barriers to services and quality of care.

Goal A-III: Assess and address the needs of the uninsured and underinsured.

Recommendation: Promote preventative diabetes education which includes nutrition, physical activity, and risk factors in local health departments, free health clinics, educational systems, churches, community groups, etc.

Recommendation: Promote self-managed care which includes nutrition, physical activity, eye care, foot care, self-monitoring, and drug therapy in local health departments and free health clinics.

Recommendation: Develop a satellite conference network for healthcare providers in Virginia on the needs of the uninsured and underinsured, offer Continuing Medical Education and other professional education credits.

Recommendation: Create a media campaign to educate people in Virginia about new programs for the indigent, uninsured, and underinsured.

Recommendation: Provide a state-subsidized low cost health insurance program that provides comprehensive primary and preventative care for the uninsured and underinsured.

Goal A-IV: To improve access to health care for people who are geographically and/or medically underserved.

Recommendation: Identify the needs of people with diabetes in rural and urban areas by conducting a statewide assessment in various forms.

Recommendation: Increase the knowledge of healthcare providers through a series of satellite conferences conducted by leading experts, on the latest diabetes medical information.

Recommendation: Develop incentives to increase the number of healthcare providers in diabetes care for medically underserved areas.

Recommendation: Develop mobile diabetes medical teams to take diabetes healthcare in medically underserved areas.

Recommendation: Develop a statewide electronic resource database which is accessible to everyone via website, 1-800 #, etc., for patients and professionals interested in diabetes in the State of Virginia. This database will allow a person to give their zip code and then obtain a referral list of physicians, certified diabetes educators, registered dietitians, and diabetes programs in their area.

Recommendation: Use various sources of information (i.e. Medicaid, Virginia Department of Transportation) to identify the gaps in transportation, and develop opportunities to increase the availability of affordable transportation.

Goal A-V: To improve access to health care for people of various cultural backgrounds.

Recommendation: Develop cultural awareness protocols for healthcare providers and provide statewide regional trainings.

Recommendation: Develop educational materials specific to the beliefs of culturally targeted groups.

Recommendation: Determine options for prevention and self-managed care for diabetes (i.e. nutrition, exercise).

Goal A-VI: Assist the person with diabetes to make appropriate health insurance decisions.

Recommendation: Develop and promote an educational tool to assist the person with diabetes to be able to compare insurance plans in regards to benefits and care.

Education

Introduction

Enhancing the quantity and quality of diabetes education for people with diabetes and their support systems, for health care providers, and for the community-at-large is an essential component of the education plan to reduce the burden of diabetes in Virginia. Proper treatment and self-management of diabetes are critical to preventing and/or delaying the onset of complications and their associated costs.

Studies including the Diabetes Control and Complications Trial have recently confirmed that complications can be significantly reduced by improved diabetes control. Health care providers and people with diabetes need to be educated about the most recent treatments, standards of care, and self-management aspects of diabetes. Working with health care providers and health care delivery systems to adopt state-of-the-art diabetes education and treatment practices will have a great effect on large numbers of people with diabetes.

Early diagnosis and treatment are essential to decreasing complications and costs associated with diabetes. In order to accomplish this, a public awareness campaign must be implemented to deliver messages about the seriousness of diabetes and its associated risk factors. These messages should target the community-at-large in order to reach the undiagnosed and at risk populations, as well as those with diabetes who have not understood the seriousness of the disease.

The goals and recommendations for diabetes education for patients, health care professionals, and the public are listed below.

Goals and Recommendations

General recommendation for all goals:

Make initial contact by letter to professional organizations and the media to introduce them to the VDTF and all committees. The following should be included in the letter:

- A description of the DCP and of the VDTF and its purpose and committees.
- Information on how diabetes specifically pertains to the organization.
- A request that an article describing the DCP and some diabetes epidemiological data be published in their newsletters; preparation of a summary article to send by using article in Epidemiology Bulletin; information about the NDEP implementation.
- Request permission to solicit their assistance in the future to obtain diabetes education needs assessment information from their members.
- An offer to give a DCP update at their annual meetings.

E-I: Goals for Education of People with Diabetes, their Families, and Supportive Others

1. To increase the involvement of people with diabetes, their families, and supportive others in relationships with health care providers who provide diabetes care.
2. To increase the understanding of people with diabetes, their families, and supportive others about diabetes self-care so that they are prepared to improve self-management skills, seek relevant diabetes information from health care providers, and ultimately prevent diabetes complications.
3. To promote the awareness of and continuing education about diabetes over the lifespan of those who have it.

Recommendation: Review and revise annually the data base of state-wide stakeholders in diabetes, diabetes education programs, lay organizations, community groups, and media. A diabetes stakeholder is defined as a person or organization with a specific interest in diabetes.

Recommendation: Use available surveillance data obtained by the Diabetes Control Project epidemiologist to determine priority regions/districts of the state in which to focus diabetes education. A timeline for programs should be developed taking into consideration the changing needs that may occur due to changes in surveillance data. Priority areas should be identified using the following criteria:

- Counties/areas with diabetes admissions at least 25 percent greater than the state average; consider age-specific admissions (e.g., young black men).
- Areas that are medically underserved.
- Counties/areas with diabetes admissions for ketoacidosis, lower extremity amputations, and end stage renal disease at least 25 percent greater than the state average.
- Collaboration opportunities with the Appalachian Diabetes Coalition (a Centers for Disease Control project) which will be identifying needs in Appalachian counties (21 counties in Virginia).

Recommendation: Collect information from stakeholders regarding appropriateness of patient education resources (i.e., cultural appropriateness, literacy levels, and availability) and determine preferred formats for presenting and disseminating information/resources.

- use assessment instruments to obtain information.

Recommendation: Develop and make available a diabetes resource directory for people with diabetes through the VDH, local health departments, and organizations representing at-risk populations. The resource directory should include local diabetes health care professionals' names and addresses, a list of ADA recognized education programs and providers, ADA speakers bureau, publications, and materials such as, ADA resource catalog, AADE resources, Diabetes Clearinghouse resources, and Internet diabetes web sites (such as National Institutes of Health, National Institute of Digestive, Diabetes and Kidney Disorders, CDC, ADA, American Dietetic Association, AADE, and VDH). It should also list free diabetes material from pharmaceutical companies and equipment companies.

Recommendation: Develop a telephone hotline for access to consumer diabetes information; this could be established at the VDH or the ADA, Virginia office.

E-II: Goals for Education of Health Care Providers

Health care providers are defined as physicians, nurses, pharmacists, dietitians, exercise physiologists, physical therapists, physician assistants, health educators, dentists, optometrists, and podiatrists who are providing care to people with diabetes.

1. To increase health care providers' involvement in effective relationships with people who have diabetes through education in counseling, team building and goal setting.
2. To promote the incorporation of current diabetes knowledge into the curricula of programs for students of medicine, nursing, pharmacy, dietetics, nutrition, exercise physiology, physical therapy, physical education/health education, dentistry, optometry, podiatry, public health, and allied health.

Recommendation: Identify professional care provider organizations with an interest in diabetes (e.g., medicine, nursing, dietetics, and pharmacy).

- Collect assessment information via survey.

Recommendation: Identify institutions with programs for students of medicine, nursing, pharmacy, dietetics, nutrition, exercise physiology, physical therapy, physical education/health education, dentistry, optometry, podiatry, and public health.

- Work with curricula development faculty to analyze curricula and incorporate current diabetes knowledge and standards of care if needed.
- Identify physicians from state programs that remain in the state to practice medicine in order to follow-up on diabetes practice patterns (i.e. use of standards of care, how they obtain diabetes continuing education, use of diabetes resources in practice).
- Explore grant proposals to fund additional/more specific diabetes programs for students in the programs described above, for example, one or two day workshops that would enhance curricula content.

Recommendation: Identify and publicize at both state and local levels the physicians, nurses, dietitians, pharmacists, nurse practitioners, and physician assistants with and without Certified Diabetes Educator (CDE) status who care for large numbers of people with diabetes.

- The list will be developed by using the *Directory of Virginia Physicians* (Medical Society of Virginia), AADE Directory, and Medicare & Medicaid information.
- Make this list available at the VDH, local health departments, hospitals, physician offices, local ADA chapters, and insurers.

Recommendation: Conduct an annual needs survey of professional organizations with an interest in diabetes and collect information about continuing education requirements, recommended formats, and dissemination of information; determine from organizations how best to assess health care providers diabetes education needs in order to plan programs for various groups.

E-III: Goals for Education of Community-at-Large

1. To increase public awareness about the symptoms, seriousness, burden of costs, and complications of diabetes.
2. To promote public awareness, involvement and advocacy in addressing the impact of diabetes.

Recommendation: Develop cooperative programs with organizations such as, school boards, churches, American Diabetes Association, Lions Clubs, American Heart Association, Kidney Foundation, Baptist General Convention, "Prevent Blindness Campaign" (Veterans Affairs Medical Centers), media, public TV/radio, and other volunteer organizations.

- Coordinate community education programs with the National Diabetes Education Program plans being sponsored by National Institutes of Health and CDC.
- Analyze health education curricula in public schools and develop programs in conjunction with them to promote diabetes awareness.

Recommendation: Identify ways to share information and educate communities.

- Work with American Diabetes Association chapters, Virginia Department of Health, local health departments, and organizations with at-risk populations to develop programs.
- Increase awareness of American Diabetes Association speakers bureau
- Develop community call to action plans with local church, school, volunteer, and social groups.
- Inform the media of all plans and ask for their assistance.

Reimbursement

Introduction

Diabetes is a common, serious, and costly disease that poses a major public health problem. The cost of diabetes in Virginia is staggering. Most people with diabetes in Virginia have some type of health care coverage: private health insurance, managed or capitated care, a company group plan, or Medicaid or Medicare. Unfortunately, many Virginians with diabetes are not sufficiently or consistently covered for the relatively inexpensive costs of daily self-care: specifically, for self-management training (education) and equipment/supplies (e.g., blood glucose meters, testing strips, and insulin delivery devices). Recent studies have confirmed that self-management training and the use of blood glucose testing equipment/supplies can prevent or delay the costly and burdensome complications of diabetes, such as blindness, heart disease, and kidney failure.[12,13,14]

Only a fraction of outpatient costs is spent on preventive self-care training and supplies. As a result, treatment of diabetes complications accounts for the majority of direct medical costs. A modest increase in spending for diabetes self-care training and supplies would significantly enhance the value of money already invested in outpatient care. This in turn would significantly reduce long-term complications and their associated inpatient costs.

Today managed care organizations and corporations are ideally suited to implement preventive-care programs. Such programs can reap tremendous financial savings which improve the quality of life for persons with diabetes.

The primary goals established for this section were to determine the scope of the problem regarding health care coverage for persons with diabetes in Virginia, to effect public policy, and develop strategies to build appropriate resources for improved diabetes care and control for persons with diabetes in the Commonwealth of Virginia.

The plans which were determined necessary to accomplish the reimbursement goals include:

- Improve the health care benefits packages of the top insurers in Virginia to include diabetes supplies, equipment, and self-management education for persons with diabetes for improved diabetes control and prevention of diabetes complications.
- Impact the scope of diabetes coverage for persons with diabetes covered by Medicaid and Medicare plans.
- Increase the health care benefits provided to persons with diabetes who are employed by the top corporate employers in Virginia.

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[12] The Diabetes Control and Complications Trial Research Group: The effect of intensive treatment of diabetes on the development and progression of long-term complications in insulin-dependent diabetes mellitus. *N Engl J Med*. 329: 977-986, 1993.
[13] Clement S. Diabetes self-management education. *Diabetes Care*. 18:1204-14, 1995.
[14] Rubin RJ, Altman WM, Mendelson DN. Health care expenditures for people with diabetes mellitus, 1992. *J Clin Endocrinol Metab*. 78:809A, 1994.

- Continue to actively support diabetes legislative efforts at both the state and federal level.
- Determine the scope of services for uninsured people with diabetes and develop strategies to meet their needs.

Goals and Recommendations

Goal R-I: Educate decision makers (insurance industry, business leaders, professional organizations, and policy makers) about the value of reimbursing for diabetes self-management education and supplies.

Recommendation: Determine feasibility of establishing a recognition award (at a public event such as the ADA annual dinner/roast) to an insurance company or corporation who is providing diabetes self-management training coverage.

- Develop criteria.
- Talk with other states and partners to determine if this has been done in other states.

Recommendation: Develop home page regarding diabetes reimbursement for the Virginia Diabetes Control Project website, including information specific to decision makers.

Goal R-II: Educate health care providers regarding the importance of diabetes self-management education as a health care benefit for improved diabetes control and prevention of complications.

Recommendation: Involve health care providers in the round-table discussion with key decision makers.

Recommendation: Distribute copies of reimbursement portfolio to health care providers.

Recommendation: Develop home page regarding diabetes reimbursement for the Virginia Diabetes Control Project website, including information specific to health care providers.

Goal R-III: Educate people with diabetes regarding the importance of diabetes self-management education as a health care benefit for improved diabetes control and prevention of complications.

Recommendation: Involve several people with diabetes for the purpose of "personal testimonies" in the round-table discussion with key decision makers.

Recommendation: Disseminate booklet/brochure for people with diabetes on information to know about and questions to ask their insurance company.

- Determine market availability.
- Partner with industry and professional associations to disseminate.

Recommendation: Develop home page regarding diabetes reimbursement for the Virginia Diabetes Control Project website, including information specific to people with diabetes.

Surveillance

Introduction and Current Surveillance Activities

Surveillance is the ongoing and systematic collection of outcome-specific data for analysis, interpretation and dissemination to health professionals to assist in disease control. Surveillance for diabetes in Virginia is designed to determine the burden of diabetes, identify and prioritize major health problems associated with diabetes and describe these problems in terms of age, race, sex and geographic location of patients.

Although surveillance for communicable diseases has been a prominent part of the public health system for almost 100 years, chronic disease surveillance is relatively new. Until 1994, the only surveillance system for a chronic disease in Virginia was the Virginia Cancer Registry (VCR). Communicable disease surveillance and the VCR both depend upon reporting by physicians, hospitals and/or laboratories for their data. The Virginia diabetes surveillance system was modeled after the system used by the CDC, National Center for Chronic Disease Prevention and Health Promotion for chronic disease surveillance nationally. This system relies upon the analysis of various data already being collected.

Sources of Statewide Surveillance Data

The data sources that are being used to determine the burden of diabetes in Virginia are summarized in Table 1. Brief overviews of each source, including advantages and disadvantages, can be found in Appendix C.

Table 1: Overview of Data Sources

Data Source	Type of Data	Current Availability
1. Virginia Department of Health Center for Health Statistics	Vital statistics mortality data	Available
2. Virginia Health Information	Hospital discharge data (inpatient data)	Available
3. Behavioral Risk Factor Surveillance System (BRFSS)	Self-report of having diabetes, diabetes risk factors, diabetes care and diabetes knowledge	Available
4. Community Health Centers	Outpatient data	Available
5. Mid-Atlantic Renal Coalition	Data on patients with ESRD in Virginia	Available
6. Medicare	Inpatient, outpatient, ESRD, and skilled nursing facility data	Expected to be available 1/99
	Physician office visit data	Expected to be available 1/99

Summary of Measures and Sources

Tables 2 and 3 summarize the types of measures which are available from the data sources presently being used for diabetes surveillance in Virginia. Table 2 lists measures which are among those being used nationally to assess quality of diabetes care. Table 3 lists health events ("sentinel events") related to diabetes and its complications which are of concern from a public health perspective.

Table 2: Diabetes Quality of Care Indicators

Process Measures	Data Source
Glycosylated Hemoglobin	Medicare Part B
Ophthalmologic Exam	Medicare Part B
Urinary Microalbumin Screen	Medicare Part B
Annual # Physician Office Visits	Medicare Part B; CHC data

Table 3: Data Sources for Diabetes Sentinel Events

Sentinel Event	Data Source
Lower Extremity Amputation	Medicare Part A & B; Hospital Discharge File
Diabetic Coma/Ketoacidosis	Medicare Part A & B; Hospital Discharge File
Gangrene, Necrotic Ulcers	Medicare Part A & B; Hospital Discharge File
Foot Ulcers	Medicare Part B; CHC data
Nephropathy	Medicare Part A & B; Hospital Discharge File; ESRD data
Dialysis	Medicare Part A & B; Hospital Discharge File; ESRD data
Retinopathy	Medicare Part A & B;
Diabetic Cataract	Medicare Part A & B;
Pregnancy Outcome	Hospital Discharge File; Vital Statistics
Stroke/MI and Diabetes	Medicare Part A & B; Hospital Discharge File
Hospitalization and Diabetes	Medicare Part A; Hospital Discharge File
Readmission for Diabetes	Medicare Part A; Hospital Discharge File
Emergency Room Visits for Diabetes	Hospital discharge data if the visit resulted in admission

Goals and Recommendations

Goal S-1: Improve acquisition and analysis of data on diabetes.

Recommendation: Increase the BRFSS sample size to allow for more reliable estimates of the prevalence of diabetes in individual health districts and to improve the generalizability of the answers to questions in the Diabetes Module (e.g., to contain costs, oversample one health region each year on a rotating basis).

Recommendation: Make regularly updated diabetes surveillance data available on both the VDH and University of Virginia web sites.

Recommendation: Carry out an annual mailing of key diabetes surveillance data for Virginia targeting corporate employers and insurance industry representatives.

Evaluation of Implementation of State Plan

In order to determine whether the goals and recommendations of the State Plan were executed as designed, a process evaluation will be employed. Process evaluation measures for the priorities were described in the Virginia Diabetes Task Force Priorities section of this report, starting on page 17. Some of these evaluation efforts will also measure effectiveness and satisfaction with these activities and assess needs for the future. Diabetes surveillance will continue in the Commonwealth in Virginia. These data will be used to monitor the burden of diabetes (prevalence, mortality, etc.).

Since VDTF will be an integral group in the implementation of these recommendations, they will also participate in the evaluation of the recommendations. At the end of the first year after publication of the State Plan, the VDTF and other interested parties will convene to assess progress in the priority areas. Information from this formative evaluation will be used to focus efforts in areas that need attention and to refine priorities for feasibility.

Concluding Remarks

The VDTF has attempted to present a State Plan that will focus the efforts in Virginia on several priority areas. This Plan has several purposes:

- To develop recommendations of what needs to be accomplished in Virginia to reduce the burden of diabetes.
- To develop a future-oriented document that contains recommendations for decision makers, policy makers, educators, the medical community, and the general public so that positive changes can be made at the state and local levels.
- To develop an education and priority setting guide for the state.
- To develop a comprehensive approach to reduce the burden of diabetes which is not limited by existing resource allocations.
- To develop recommendations that span a three to five year period.

There is substantial support from many organizations to improve diabetes prevention and care in the Virginia. With the help of these organizations, the VDTF hopes to achieve the goals set out in this Plan.

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APPENDIX A:

PROGRAMS IN VIRGINIA RECOGNIZED BY THE AMERICAN DIABETES ASSOCIATION FOR EXCELLENCE IN DIABETES EDUCATION

Programs in Virginia Recognized by The American Diabetes Association for Excellence in Diabetes Education

Diabetes Self-Management Program
Inova Alexandria Hospital
Alexandria, VA

Diabetes Education Program
Danville Regional Medical Center
Danville, VA

Inova Diabetes Center
Inova Health System
Fairfax, VA

The Outpatient Self-Management Programs
Mary Washington Hospital
Fredericksburg, VA

Diabetes Education Program
Dept. of VA Medical Center – Hampton
Hampton, VA

Diabetes Management Program
Loudoun Healthcare, Inc.
Leesburg, VA

The Diabetes Management Program
Cumberland Hospital for Children & Adolescents
New Kent, VA

Riverside Diabetes and Education Services
Riverside Regional Medical Center
Newport News, VA

Outpatient Education Program
Diabetes Institutes
Norfolk, VA

Diabetes Education Program
Reston Hospital Center
Reston, VA

Diabetes Education Program
Children's Hospital
Richmond, VA

Outpatient Self-Management Program at The Diabetes Care Center
Chippenham Medical Center/Johnston-Willis Hospital
Richmond, VA

The Endocrine & Diabetes Management Center
The Endocrine & Diabetes Management Center, Inc.
Richmond, VA

Diabetes Self-Management Center
Roanoke Memorial Hospitals
Roanoke, VA

Diabetes Education Program
Dept. of Veterans Affairs Medical Center
Salem, VA

The Diabetes Learning and Resource Center
Halifax Regional Hospital
South Boston, VA

Diabetes Education Program at the Diabetes Treatment Center
Virginia Beach General Hospital
Virginia Beach, VA

Diabetes Management Education Program
Valley Health Systems
Winchester, VA

Diabetes Self-Management Outpatient Program
Potomac Hospital
Woodbridge, VA

APPENDIX B:

LIST OF THE APPALACHIAN COUNTIES IN VIRGINIA

List of The Appalachian Counties in Virginia

1. Alleghany
2. Bath
3. Bland
4. Botetourt
5. Buchanan
6. Carroll
7. Craig
8. Dickenson
9. Floyd
10. Giles
11. Grayson
12. Highland
13. Lee
14. Pulaski
15. Russell
16. Scott
17. Smyth
18. Tazewell
19. Washington
20. Wise
21. Wythe

APPENDIX C:

DESCRIPTION OF SURVEILLANCE DATA SOURCES
(Data Dictionary)

Description of Surveillance Data Sources
(Data Dictionary)

Virginia Vital Statistics Data

Vital statistics data are data collected by Virginia, as in all states, regarding births, deaths, marriages, and divorces. This information is submitted throughout the year by completion of forms including birth certificates, death certificates, marriages certificates, etc. The categorization of cause of death is based on the International Code of Diseases, 9th Edition (ICD-9-C) coding system and is coded by health department nosologists based on completed death certificates. Birth certificates note the existence of diabetes in the mother, size of the infant and any complications associated with the birth.

Hospital Discharge Data

Virginia Health Information (VHI), a not-for-profit agency, was mandated by the Code of Virginia to collect, compile and distribute all patient-level hospital discharge data for inpatient discharges from Virginia hospitals. The data are stripped of identifiers and 'cleaned' in an attempt to identify and correct errors prior to distribution. VHI began collecting this information in July 1993 and data are available for 1994, 1995 and the first three quarters of 1996. Some hospitals have missing data where they either failed to report, errors were identified or number of discharges were lower than expected. The missing data are a small proportion of the files and are dispersed throughout the state and not concentrated in one region. Therefore racial, gender and age distributions are expected to be relatively accurate, although actual numbers are probably low.

Data maintained by the VHI are similar to other statewide hospital discharge files, and are based on the Uniform Bill from 1992 (UB92). This similarity will permit comparisons with other state discharge data. The data are hospital discharge records that contain up to 9 ICD-9-C diagnostic codes and 6 CPT procedure codes.

Advantages of VHI Data

Because reporting is mandated, all hospital providers submit claims. Therefore these data provide information on inpatient health care utilization not elsewhere available on patients enrolled in HMOs, and persons under age 65 without health insurance (the uninsured).

Limitations of VHI Data

The VHI data capture only inpatient health care utilization. Therefore, the majority of diabetes care, provided as outpatient care, is missed by this system. Additionally, the codes used for diagnoses and procedures are limited in providing information on severity of illness and are not reliable for differentiating Type 1 and 2 diabetes.

Behavioral Risk Factor Surveillance System Data (BRFSS)

The Behavioral Risk Factor Surveillance System (BRFSS) is a yearly random telephone survey of non-institutionalized adults that is carried out in every state of the nation. It is funded

by the Centers for Disease Control and Prevention (CDC), and is designed to monitor trends in behaviors known to affect the health of all persons. The modules included in the survey change somewhat every year but the core remains consistent. Prior to the initiation of the Diabetes Control Project, only one question related specifically to diabetes was asked of Virginia respondents, i.e., "Have you ever been told by a doctor that you have diabetes?" Responses to this question were used by CDC to estimate the prevalence of diabetes in Virginia. Because the number of persons identified with diabetes each year is small, BRFSS data from 1991-1993 were pooled to estimate that approximately 4.7 percent of Virginia's adult population (>17 years of age) have been diagnosed with diabetes. Because of the small sample size in the years 1989 to 1996 (approximately 1,800), estimates of prevalence for small subpopulations (e.g., native Americans), counties, or even regions within the state are unreliable. Beginning in 1997, the sample size has been increased to approximately 3,500 which will improve the validity of the survey and allow for some subgroup analyses.

Beginning in January, 1995, as part of the surveillance activities initiated by the Virginia DCP, a special diabetes module was added to the BRFSS. It contains 12 questions designed to ascertain the following in regards to the respondent: age at diagnosis, characteristics of disease, quality of care received, extent of self-care and knowledge of recommended care. In addition, the response options to the general question about whether the interviewee has diabetes were expanded in 1995 to include a separate response for gestational diabetes.

Advantages of BRFSS Data

The major advantage of BRFSS data is that it yields information on diabetes management, self-care, and symptoms (eyesight problems) which is useful in planning interventions to control diabetes and prevent the development or worsening of complications.

Limitations of BRFSS Data

The primary limitation of the BRFSS data has been the small number of responses which limits the type of analyses possible. This should improve with the increased sample size that began in 1997 and will continue. The reliability of BRFSS data may also be limited due to the fact that it is self-reported information collected over the telephone. Most studies have shown the validity of the self-reports to be good. However, self-reports are available only from individuals who have telephones.

Community Health Centers Data

Community Health Centers (CHC) are a network of 24 health centers, some with multiple locations, that operate in medically underserved, mostly rural, areas of the state. They are all associated with an umbrella organization called Virginia Primary Care Association, Inc. and utilize the same patient-level management system. The centers are staffed with primary care physicians and the patients pay on a sliding scale basis. The outpatient data to be collected will be limited to diabetes patients and an attempt will be made to identify newly identified or incident cases.

One of the criteria for selecting the sites where Community-based Diabetes Control Projects would be located was the presence of one or more CHC. There are centers located in both the

Eastern Shore and the Lenowisco Health Districts. As part of the DCP surveillance activities, data from these sites will be collected and analyzed.

Advantages of CHC Data

A key advantage of CHC data is that it may allow for the tracking of incident (i.e., newly identified) cases, and follow up of what happens over the course of time to patients as they enter and progress through the diabetes care system. The data available from CHCs could also be useful in understanding how process variables such as diabetes patient education or other interventions undertaken by the community-based DCPs relate to cost and outcomes.

Limitations of CHC Data

Because CHC data are derived from a limited sample of patients in selected areas of the state, it does not constitute a representative sample.

ESRD Data

Data on ESRD (end-stage renal disease) are available through the Mid-Atlantic Renal Coalition that gathers information on all persons with ESRD receiving dialysis. Diabetes is currently the primary cause of ESRD and the incidence of cases is increasing yearly. Demographic data and incidence and prevalence data are available on ESRD in Virginia.

Advantages of ESRD Data

An advantage of ESRD data from this source is that information is available on all persons receiving dialysis due to diabetes. These data also provide an indication of the true burden of this severe complication of diabetes.

Limitations of ESRD Data

These data are acquired through reporting by the dialysis units in Virginia. Although efforts are made to maintain current and accurate data on residence and status, some errors are expected.

Medicare Data

Medicare is the federal health insurance system for the elderly and for eligible disabled beneficiaries in the United States. The U.S. is estimated to have spent over 50 billion dollars in direct health care expenditures in 1996. The largest proportion of those dollars are for Medicare. There are over 33 million beneficiaries covered by Medicare. These include nearly 95 percent of the population aged 65 and older. Approximately 10 percent of the Medicare population consists of disabled persons of all ages. All end stage renal disease patients are covered under Medicare.

Medicare maintains claims information on all health care transactions for its beneficiaries. These files are maintained in several categories. The Medicare Provider Analysis and Review File (MEDPAR) contains records for all admissions to hospitals, and skilled nursing facilities. This file has been in existence in its current form since 1984. The National Claims History (NCH) System includes data on both inpatient, outpatient and other health resource utilization and costs. The NCH System has been in existence since 1991. The Part B data of the NCH System are maintained in several files and include all inpatient and outpatient physician claims,

all other services and bills for durable goods. Data on claims related to home health care and hospice care are also available for HCFA.

In addition to information on diagnoses and procedures, Medicare data can be used to determine the "cost" of care. All claims include charges and reimbursement amounts related to that service. Charges vary from provider to provider and can be used with a cost-to-charge ratio to estimate cost of care. In addition, the reimbursement amount which is the amount that HCFA pays for the service represents the cost of care to HCFA, and is frequently used as a proxy for cost.

Advantages of Medicare Data

The Medicare files are longitudinal files available on virtually everyone over age 65. People remain enrolled until death. All covered transactions are available. Although secondary payers may cover some services, Medicare is the primary payer and actions missed are more likely to be outpatient services such as mammography. Reimbursement and charge data are available for calculating costs of care related to diabetes.

Limitations of Medicare Data

Only the elderly and the disabled population are captured. The data do not represent healthy persons under age 65. Data are claims based and have the limitations associated with the ICD-9-C coding system and with reimbursement based reporting.