



CCCDP

COORDINATED CHRONIC DISEASE

State Plan **2014-2020**



STATE OF ALABAMA DEPARTMENT OF
PUBLIC HEALTH

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State Health Officer

May 14, 2014

I am pleased to announce the 2014-2020 Alabama Coordinated Chronic Disease (AL CCD) State Plan as produced by the AL CCD Coalition. This plan serves as a guide to reduce chronic disease in Alabama through coordinated efforts among internal and external partners. A coordinated approach is vital since chronic diseases often share similar risk factors of poor nutrition, physical inactivity, obesity, and tobacco use and exposure.

Many Alabamians are living with one or more chronic diseases, and the burden is sustained due to daily behavioral and lifestyle risk factors. In Alabama, out of every four adults, one is a current cigarette smoker, and one is a former smoker. Nearly four in five adults do not consume the daily recommended servings of fruits and vegetables. In addition, 60 percent do not perform enough physical activity to sustain a healthy lifestyle. Given that nearly two in three adults in Alabama are either overweight or obese, lifestyle modifications that include increasing fruit and vegetable consumption and regular physical activity can reduce obesity rates across our state. All of these health risk factors contribute to existence of chronic diseases in Alabama adults, including: high blood pressure (40 percent), high blood cholesterol (42 percent), diabetes (12 percent), and asthma (11 percent).

The AL CCD Coalition is composed of diverse stakeholders with a shared interest in improving the health status of Alabamians. Implementing this plan will require the dedication and hard work of our partners and staff. Addressing strategies to reduce the burden of chronic diseases may seem challenging, but it is worth the fight.

Sincerely

A handwritten signature in blue ink, appearing to read "D. Williamson", written over a horizontal line.

Donald E. Williamson, M.D.
State Health Officer

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I. Introduction

The Alabama Department of Public Health (ADPH) Chronic Disease Division is committed to addressing chronic disease in Alabama in an efficient and cost effective manner. The division has received categorical funding from the Centers for Disease Control and Prevention (CDC) to address cancer, diabetes, heart disease and stroke, arthritis, and asthma. However, in the past, funds targeted disease-specific activities and interventions. Staffing was also established by categorical disease program. Now the division is embedding a new focus in its efforts to reduce disease burden in the state: coordinating interventions and promoting collaboration among staff to impact multiple diseases and risk factors. This is vital since chronic diseases often share the risk factors of poor nutrition, physical inactivity, obesity, and tobacco use and exposure.

In September 2011, ADPH received CDC funding to establish the Alabama Coordinated Chronic Disease Prevention and Health Promotion (AL CCD) program. The purpose of the program is to increase the potential for efficient use of staff, funds, intervention efforts, surveillance, and evaluation among chronic disease programs to improve health outcomes in Alabama. A core staff was identified to work across categorical chronic disease programs. A coalition of partners was established to develop an AL CCD State Plan and to begin implementing plan activities. Activities include evidence-based strategies to improve policies, environments, programs, and infrastructure to reduce chronic disease death and disabilities.

a. Developmental Steps

A formative AL CCD program meeting was held on December 13, 2011, to bring together ADPH leadership and other internal and external chronic disease partners. The meeting was planned to obtain partner buy-in and to begin identifying opportunities for coordination across programs. Each ADPH chronic disease and risk factor program was asked to invite one or two representatives, chair and co-chair, from its state coalition. This limited, but high level, selection of invitees was deemed necessary to obtain engagement of critical stakeholders. The State Health Officer opened the meeting with a review of chronic disease and risk factor trends in Alabama and justified the importance of more efficient and effective interventions in Alabama's current economic climate. A working session followed during which members reviewed ongoing chronic disease and risk factor initiatives and identified opportunities to coordinate activities. A matrix assessment of comprehensiveness, adopted from the *Action Planning Handbook for States and Communities*, was completed (National Association of Chronic Disease Directors, Partnership for Prevention, 2005). Three matrix worksheets were completed for cardiovascular health, diabetes, cancer, arthritis, and asthma. A risk factor worksheet included initiatives related to nutrition, physical activity, tobacco, and obesity. A population worksheet included the sub groups of youth, adults over age 50, women, men, minority, low income, rural, and the general population. The third worksheet focused on service delivery: policy, systems, environment, and health education.

Subsequent meetings and communication among program staff occurred through spring of 2012. By consensus of staff members, the working definition of the chronic disease program coordination is "working across traditional program boundaries to achieve program goals." A consensus among team members also determined that eight principals will guide future coordinated activities among ADPH chronic disease and risk factor programs. These are listed in the table on the next page.

Principals of Program Coordination // Alabama Coordinated Chronic Disease Program

1. Focus on measurable health outcomes
2. Identify mutual benefits and opportunities
3. Engage stakeholders
4. Mobilize leaders
5. Utilize efficiency-oriented processes
6. Include only evidence-based interventions
7. Evaluate coordination outputs and health outcomes
8. Increase the reach and impact of individual chronic disease programs

The initial meeting of the AL CCD Coalition was on June 14, 2012. Representatives were present from ADPH chronic disease programs, risk factor programs, statewide chronic disease coalitions, Office of Minority Health, Alabama Department of Education, Alabama Department of Senior Services, Alabama affiliates of American Heart Association and American Cancer Society, and Alabama Quality Assurance Foundation. After results of the matrix assessment were presented, attendees were asked to identify initiatives that are considered “cross-cutting,” impacting more than one chronic disease.

b. Four Key Domains

Initiatives were organized into four key domains that serve as the framework of the AL CCD State Plan: (1) Epidemiology and surveillance to inform, prioritize, deliver, and monitor programs and population health; (2) Environmental approaches that promote health and support and reinforce healthful behaviors; (3) Health system interventions to improve the effective delivery and use of clinical and other preventive services in order to prevent disease, detect disease early, and reduce or eliminate risk factors or manage conditions; and (4) Strategies to improve community-clinical linkages ensuring that communities support and clinics refer patients to programs that improve management of chronic conditions.

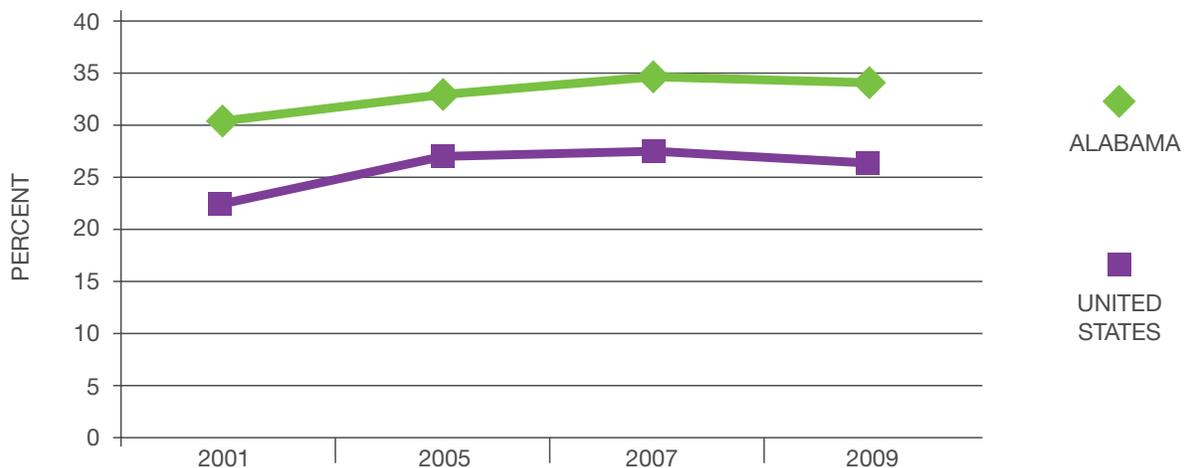
II. Chronic Diseases, Related Risk Factors, Alabama Goals and Objectives

a. Arthritis

Arthritis is defined as joint inflammation and describes more than 100 rheumatic diseases and conditions that affect joints, the tissues that surround joints, and other connective tissues. In addition to the general adult condition known as arthritis, other forms of arthritis are childhood arthritis, fibromyalgia, gout, osteoarthritis, rheumatoid arthritis, and systemic lupus erythematosus. Regardless of the type of arthritis, the common symptoms for all arthritis disorders include varied levels of pain, swelling, joint stiffness, and sometimes a constant ache around joints. Disorders, like lupus and rheumatoid arthritis, can also affect other organs in the body with a variety of symptoms. A diagnosis is made by clinical examination from an appropriate health professional and may be supported by other tests such as radiology and blood tests depending on the type of suspected arthritis. As described below, arthritis impacts a wide variety of people and affects different aspects of everyday life often creating difficulties for individuals with arthritis to be physically active. Many people eventually become home bound.

According to data from the 2009 Alabama Behavioral Risk Factor Surveillance System (BRFSS), an estimated 1,090,000 people or 33.9 percent of adults had been told by a health care professional they had arthritis. Women in Alabama are diagnosed with arthritis at higher rates than men, with 37.8 percent of all women having been diagnosed compared to 29.6 percent of all men. The prevalence of arthritis increased with age. Only 12.8 percent of adults between the ages of 18 and 44 had arthritis, compared to 40.3 percent of adults between the ages of 45 and 64, and 54 percent of adults age 65 and older. Education level also appeared to be related to arthritis. Forty-seven percent of adults with less than a high school education had arthritis, compared to 40.3 percent of adults with a high school education, and 27.5 percent of adults with more than a high school education. Although the overall prevalence rate of arthritis has remained somewhat steady in Alabama since 2003, the prevalence rate of adults reporting limitations due to arthritis has increased dramatically (490,000 in 2003 versus 578,000 in 2009). In 2009, 54.4 percent of persons with arthritis reported activity limitations, 47.6 percent reported work limitations, and 54.8 percent reported social participation restrictions (CDC, 2009).

Percent of Adults with Arthritis in Alabama and the United States



BRFSS, 2001-2009

In Alabama, arthritis is more prevalent among persons with chronic conditions or with risk factors for chronic conditions than in the general population. While 29.9 percent of adults in the general population have arthritis, there is more arthritis among persons with diabetes (58.1 percent), heart disease (59.1 percent), high blood pressure (48.0 percent), and high cholesterol (49.0 percent). Arthritis is more prevalent among persons who are overweight (35 percent), obese (41 percent), inactive (44 percent), and smoke (35 percent). Compared to the general population, persons with arthritis are more obese (39.4 versus 32.0 percent) and overweight (28.9 versus 34.7 percent) (CDC, 2009).

Data is unavailable on arthritis in children in Alabama. However, nationwide arthritis is as prevalent as childhood cancer. Approximately 300,000 children in the United States younger than 18 years of age have childhood arthritis or another rheumatologic condition (CDC, 2007).

Alabama 2020 ARTHRITIS Goal:

Prevent illness and disability related to arthritis and other rheumatic conditions, osteoporosis and chronic back conditions.

Arthritis Objectives

Arthritis Objective 1.

By 2020, reduce the proportion of adults with doctor-diagnosed arthritis from 34.0 percent to 30.6 percent.

- Baseline: 34.0 percent
- Target: 30.6 percent
- Data source: CDC BRFSS

Arthritis Objective 2.

By 2020, reduce the proportion of adults with doctor-diagnosed arthritis who experienced a limitation in activity due to arthritis or joint symptoms from 50.0 percent to 47.5 percent.

- Baseline: 50.0 percent
- Target: 47.5 percent
- Data source: CDC BRFSS

Arthritis Objective 3.

By 2020, reduce the proportion of adults with doctor-diagnosed arthritis who have some work limitation due to arthritis or joint symptoms from 44.0 percent to 41.8 percent.

- Baseline: 44.0 percent
- Target: 41.8 percent
- Data source: CDC BRFSS

Arthritis Objective 4.

By 2020, reduce the proportion of adults with doctor-diagnosed arthritis who have some social participation restriction due to their arthritis from 23.0 percent to 21.9 percent.

- Baseline: 23.0 percent
- Target: 21.9 percent
- Data source: CDC BRFSS

b. Asthma

Asthma is a chronic disease that inflames and constricts the narrow passageways of the lungs causing repeated episodes of wheezing, breathlessness, chest tightness, and nighttime or early morning coughing. Both adults and children have asthma. Persons with asthma have it chronically; however, exacerbations called asthma attacks occur when something irritates the lungs. Asthma is one of the most common chronic diseases of children.

The 2011 BRFSS indicated that 11.9 percent of all Alabamians over the age of 18 had been characterized as having asthma at some point in their lives. The chances of having asthma are not the same for everyone. BRFSS data illustrate the uneven burden of asthma is based on gender, education, and income. The current asthma prevalence rate for adult females in Alabama in 2011 was higher than that for males (9.5 percent vs. 6.2 percent) (BRFSS, 2011).

Adults who completed less than a high school education had the highest prevalence of current asthma at 13.1 percent. Adults who were in higher educational groupings had lower prevalence rates of current asthma. Adults with an annual household income of \$15,000 or less have the highest prevalence of current asthma at 15.9 percent (BRFSS, 2011).

Their current asthma prevalence was much higher than the prevalence rates of higher income groups. The small numbers on which percentages for these groups are based introduce the possibility of greater measurement error and should be treated with caution. However, no matter how asthma is measured, it is a disease that impacts a significant segment of Alabama's population (BRFSS, 2011).

Alabama's relatively youthful population, large minority representation (33.7 percent nonwhite), lower socioeconomic population (16.0 percent below the poverty level), high smoking rate (24.2 percent of all adults), and negative environmental conditions (such as high humidity and mold), place Alabama's population at risk for elevated rates of asthma and associated respiratory diseases (BRFSS, 2009-2010). Because asthma typically begins early in life, during childhood years, this places a burdensome toll on the youthful segment of Alabama's population.

Prevalence data for Alabama children of all ages are from the 2010 Alabama BRFSS. Both lifetime and current asthma outcomes were reported for children under the age of 18. The lifetime prevalence rate of Alabama's children was slightly higher (14.5 percent) than the United States (12.6 percent), which was based on 38 of 50 states. In 2010, adults in Alabama reported a lifetime prevalence rate of 11.8 percent. It is not possible to make any direct inferences concerning trends in childhood asthma as Alabama only has one year of data to make summary statements.

Tobacco is a trigger for many persons with asthma. The 2010 Alabama Youth Tobacco Survey (ALYTS) asked public middle and high school students, "During the past 12 months have you had an episode of asthma or asthma attack?" Students in grades 6 through 8 reported having an episode 13.6 percent of the time, while students in grades 9 through 12 reported an episode 9.5 percent of the time. The rate for both middle and high school females was higher than males. Data also indicated that most episodes occurred in Hispanic/Latino populations (16.9 percent) (ALYTS, 2010). Previous year ALYTS rates showed students in grades 8 and 10 in middle and high school, respectively, having the most episodes; but this was no longer the case for middle school students in 2010. Seventh graders reported having the most asthma episodes (15.0 percent) (ALYTS, 2010).

Alabama 2020 ASTHMA Goal:

Reduce the disease and economic burden of asthma and improve the quality of life for all persons who have asthma.

Asthma Objectives

Asthma Objective 1.

By 2020, reduce asthma deaths from 3.0 deaths per 100,000 to 2.7 deaths per 100,000.

- Baseline: 3.0 deaths per 100,000
- Target: 2.7 deaths per 100,000
- Data Source: Alabama Center for Health Statistics

Asthma Objective 2.

By 2020, reduce hospitalizations for asthma by 10 percent.

- Baseline: to be determined
- Target: to be determined
- Data Source: Alabama Asthma Surveillance System

Asthma Objective 3.

By 2020, increase the proportion of persons with current asthma who have ever taken a course or class on how to manage their asthma from 10.7 percent to 11.8 percent.

- Baseline: 10.7 percent
- Target: 11.8 percent
- Data Source: CDC BRFSS

c. Cancer

Cancer is a group of diseases characterized by uncontrolled growth and spread of abnormal cells to other body tissues. It is the second leading cause of death in Alabama, exceeded only by heart disease. Breast, colorectal, lung and bronchus, and prostate cancers are the most commonly diagnosed cancers accounting for more than 56 percent of all new cases in Alabama.

More Alabamians die from lung cancer than from breast, colorectal, and prostate cancers combined. The lung cancer mortality rate in Alabama exceeds the national rate (62.6 versus 53.1 per 100,000). Among men in Alabama, deaths from lung cancer are greatest, followed by deaths from prostate and colorectal cancer. Among women, deaths from lung cancer are also greatest, followed by deaths from breast and colorectal cancer (Alabama Statewide Cancer Registry [ASCR], 2011).

Deaths from breast cancer are significant in the state. Alabama's mortality rate from female breast cancer (24.7 per 100,000) approximates the national rate (24.5 per 100,000). Although white women in Alabama have a slightly higher breast cancer incidence rate than African American women, African American women have a higher breast cancer mortality rate (22.8 deaths versus 31.3 deaths per 100,000) (ASCR, 2011). This difference can be attributed in part to later stage of diagnosis and higher case fatality rates. Tumor prognostic factors may also contribute to poorer survival among African American women.

Socioeconomic status, including educational attainment, appears related to the five year relative survival rate. Women with higher socioeconomic status are more likely to survive. This disparity may be explained by barriers women with lower socioeconomic status face, such as lack of access to health care and preventive services.

The incidence rate of colorectal cancer in Alabama is slightly higher than the national rate (50.3 and 47.7 per 100,000). Rates are considerably higher in Alabama among African Americans than whites (60.0 and 47.9 per 100,000). African American females have a higher incidence rate than white females (51.6 versus 39.6 per 100,000), and African American males have a higher rate than white males (73.2 versus 58.0 per 100,000). African American males and females both have higher mortality rates for colorectal cancer than their white counterparts (ASCR, 2011).

Prostate cancer incidence rates in Alabama exceed national rates – 160.5 versus 152.9 per 100,000. In Alabama, prostate cancer is far more common in African American men than white men (243.3 versus 137.6 per 100,000). Mortality rates for prostate cancer in Alabama also exceed national rates, and mortality among African American men far exceeds mortality rates for white men (72.1 versus 23.5 per 100,000) (ASCR, 2011). The American Cancer Society’s 2012 projections for new cases of cancer and cancer deaths in Alabama for these four cancers are in the following table.

American Cancer Society Estimates for Cancer in Alabama, 2012*		
Cancer Type	Estimated Number of New Cases	Estimated Number of Deaths
All Sites	26,440	10,290
Lung	4,440	3,240
Female Breast	3,450	710
Colorectal	2,540	980
Prostate	3,860	560

*American Cancer Society, Inc. 2012

Efforts to reduce cancer deaths and disability should focus on public policy, preventive services in health care settings, and healthy lifestyles among citizens. Eliminating tobacco use and eliminating exposure to second hand smoke could greatly reduce the incidence and mortality from lung cancer. For breast, prostate, and colorectal cancers, there are effective screening tests which can diagnose cancers at an early stage when treatments are more effective. In addition, healthy lifestyle habits, such as being physically active and consuming a healthy diet, can contribute to successful cancer prevention efforts.

Alabama 2020 CANCER Goal:

Reduce the number of new cancer cases, as well as the illness, disability, and death caused by cancer.

Cancer Objectives

UV Light Exposure

Cancer Objective 1.

By 2020, increase the proportion of Alabama youth in grades 9 through 12 who follow UV light protection guidelines to reduce skin cancer risks from 25.0 percent to 28.0 percent.

- Baseline: 25.0 percent
- Target: 28.0 percent
- Data source: Youth Risk Behavior Surveillance System (YRBSS), Pride survey

Human Papilloma Virus (HPV) Vaccines

Cancer Objective 2.

By 2020, increase initiation of HPV vaccine series for Alabama adolescents as recommended by the Advisory Committee on Immunization Practices from 49.0 percent to 75.0 percent.

- Baseline: 49.0 percent
- Target: 75.0 percent
- Data source: National Immunization Survey (NIS) Teen

Breast and Cervical Cancer

Cancer Objective 3.

By 2020, increase the proportion of Alabama's breast cancer cases that are diagnosed as in situ or localized disease from 65.9 percent to 70.0 percent.

- Baseline: 65.9 percent
- Target: 70.0 percent
- Data source: ASCR

Cancer Objective 4.

By 2020, increase the portion of Alabama's cervical cancer cases that are diagnosed at early stage (localized disease) from 51.7 percent to 55.0 percent.

- Baseline: 51.7 percent
- Target: 55.0 percent
- Data source: ASCR

Colorectal Cancer

Cancer Objective 5.

By 2020, increase the proportion of Alabama's colorectal cases diagnosed as early state (in situ or localized) disease from 49.0 percent to 55.0 percent.

- Baseline: 49.0 percent
- Target: 55.0 percent
- Data source: ASCR

Prostate Cancer

Cancer Objective 6.

By 2020, reduce prostate cancer deaths in Alabama from 31.6 per 100,000 to 30.0 per 100,000.

- Baseline: 31.6 per 100,000
- Target: 30.0 per 100,000
- Data Source: ASCR

d. Cardiovascular Disease

Cardiovascular disease (CVD) refers to a variety of heart and blood vessel diseases, including ischemic heart disease, hypertension, stroke, and rheumatic heart disease. Heart disease, the most common form of CVD, is the single leading cause of death in Alabama. Heart disease death rates in Alabama have shown to be consistently higher than national rates since 1999. In 2010, heart disease accounted for 12,035 deaths in the state. Men continue to have a higher age-adjusted heart disease mortality rate than women. Stroke is the third leading cause of death in Alabama following heart disease and cancer. In 2010, stroke accounted for 2,601 deaths in the state. Men are about 50 percent more likely to die from stroke than women, and African Americans have significantly higher age-adjusted stroke mortality rates when compared to whites.

Some risk factors for heart disease are not modifiable, such as gender, age, and family history. However, others are and these include:

- High blood pressure
- High blood cholesterol
- Diabetes
- Overweight and obesity
- Smoking
- Physical inactivity
- Inadequate fruit and vegetable consumption

Alabama has high prevalence rates of these modifiable risk factors as shown by Alabama BRFSS data (BRFSS, 2009-2011):

- 40.0 percent of Alabama adults reported being affected by high blood pressure
- 41.6 percent of Alabama adults were diagnosed with high blood cholesterol
- 11.7 percent of Alabama adults have diabetes
- 66.7 percent of Alabama adults are obese or overweight
- 24.2 percent of Alabama adults are smokers
- 31.2 percent of Alabama adults indicated they were physically inactive
- 80.4 percent of Alabama adults do not consume adequate fruits and vegetables

Alabama 2020 **CARDIOVASCULAR** Goal:

Improve cardiovascular morbidity and mortality through prevention, detection, and treatment of leading modifiable risk factors for heart attack and stroke.

CVD Objectives

CVD Objective 1.

By 2020, reduce CVD deaths in Alabama from 231.5 per 100,000 to 208.4 per 100,000.

- Baseline: 231.5 per 100,000
- Target: 208.4 per 100,000
- Data source: CDC Wide-ranging Online Data for Epidemiologic Research (WONDER)

CVD Objective 2.

By 2020, reduce stroke deaths in Alabama from 51.9 per 100,000 to 46.7 per 100,000.

- Baseline: 51.9 per 100,000
- Target: 46.7 per 100,000
- Data source: CDC WONDER

CVD Objective 3.

By 2020, decrease the prevalence of high blood cholesterol in Alabama from 41.6 percent to 37.9 percent.

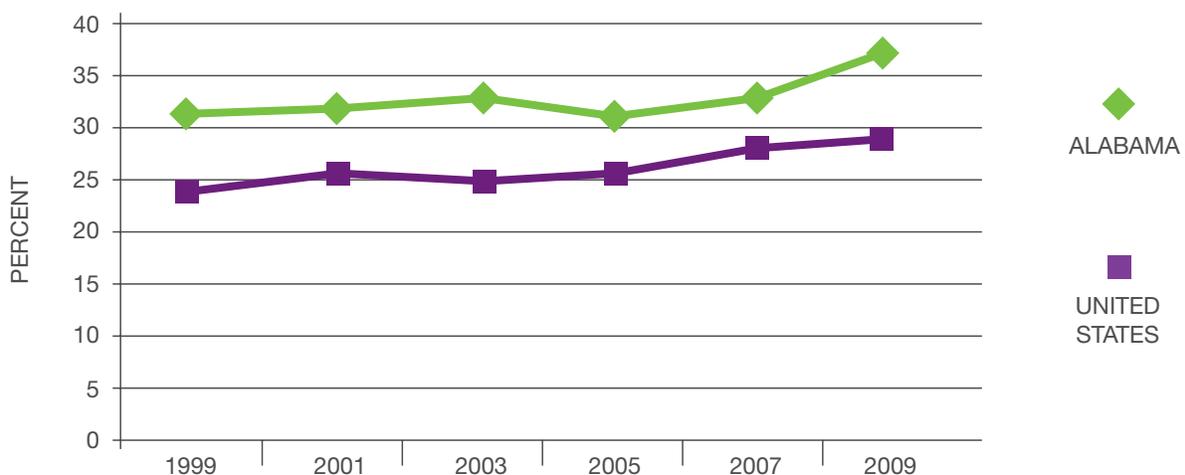
- Baseline: 41.6 percent
- Target: 37.9 percent
- Data source: CDC BRFSS

CVD Objective 4.

By 2020, decrease the rate of high blood pressure in Alabama from 37.1 to 35.3 percent.

- Baseline: 37.1 percent
- Target: 35.3 percent
- Data source: CDC BRFSS

Percent of High Blood Pressure in Alabama and the United States

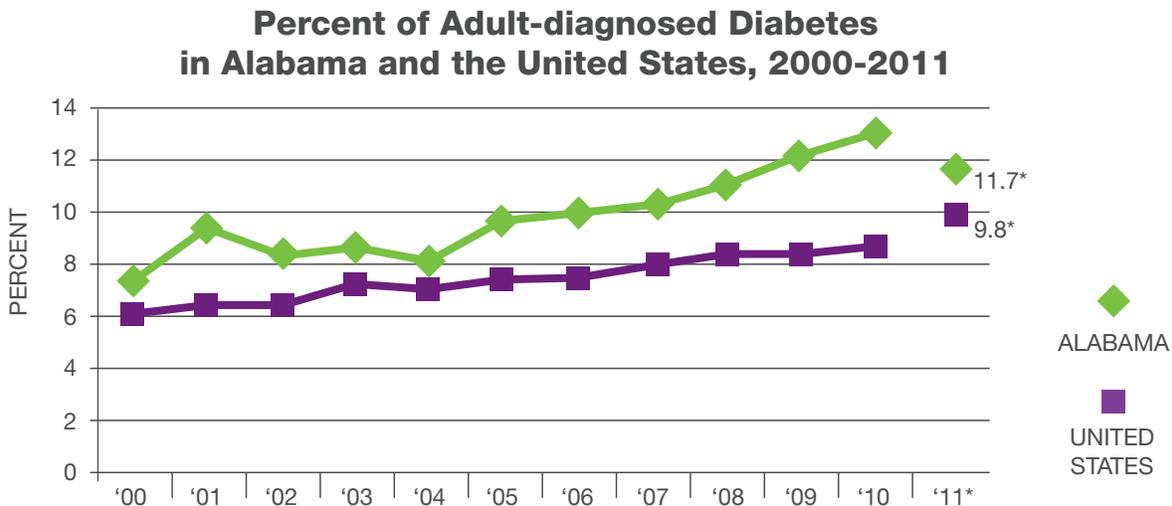


BRFSS, 1999-2009

e. Diabetes

Diabetes is a disease in which blood glucose levels are above normal because the body does not produce enough insulin or the body cannot use its own insulin as well as needed. There are several types of diabetes: Type 1 diabetes, Type 2 diabetes, gestational diabetes, and pre-diabetes. According to the CDC, one out of ten persons with diabetes has Type 1 diabetes. These people usually find out they have diabetes as children or young adults. They must inject insulin daily because their pancreas produces little or no insulin. More persons have Type 2 diabetes. The pancreas of people with Type 2 diabetes keeps producing insulin for some time, but the body cannot use it very well. It is usually diagnosed after age 30 or 40. Risk factors for Type 2 diabetes include a family history of the disease, overweight and obesity, physical inactivity, and being of African American, American Indian, Alaskan Native, Hispanic/Latino, or Asian/Pacific Islander heritage. All forms of diabetes can cause serious health complications such as heart disease, blindness, kidney failure, and lower-extremity amputations. In the United States, diabetes is the seventh leading cause of death. Alabama is ranked third in the United States and its territories for percentage of adults who have diabetes. It is the seventh leading cause of death in Alabama.

Approximately 428,800 Alabama adults (11.7 percent) have been diagnosed with diabetes (BRFSS, 2011). CDC estimates that as many as 200,000 additional adults in Alabama have the condition, but are unaware of it. While the national prevalence rate of diabetes has begun to level out, Alabama's prevalence rate increased from 10.3 percent in 2007, 11.2 percent in 2008, and 12.3 percent in 2009. A particular concern is the disparity that exists in diabetes mortality in Alabama by race. This is even more evident when stratified by gender. In both males and females, the diabetes mortality rate is significantly higher among African Americans than whites. African American females exhibited the highest mortality rate of 43.4 per 100,000 persons. The overall mortality rate for Alabama was 29.6 per 100,000 (ADPH, 2010).



* The BRFSS 2011 prevalence data are not directly comparable to previous years of BRFSS data because of changes in weighting methodology and the addition of the cell phone sampling frame.

BRFSS, 2000-2011

The prevention of diabetes ultimately depends on the reduction of risk factors in individuals and in the population as a whole. Modifiable risk factors can be classified as obesity, physical activity, poor diet, and smoking. Non-modifiable risk factors include those attributes that are inherent to the individual and are not able to be changed. These include age, sex, race, and family history of disease.

The prevention of complications from diabetes depends upon rigorous self-management of the condition. It requires daily self-monitoring of blood glucose and regular visits to health care professionals for A1C measures (a blood test that measures average blood glucose levels over the last three months), eye care, foot care, and influenza and pneumococcal vaccinations. Careful monitoring of blood pressure, blood cholesterol, and kidney function are also critical.

Diabetes is one of the most common chronic diseases among children in the United States. When diabetes occurs during childhood, it is routinely assumed to be Type 1 or juvenile-onset diabetes. However, in the last two decades, Type 2 diabetes has been increasing among United States children and adolescents. CDC estimates about 215,000 people younger than 20 years have diabetes (Type 1 or Type 2), or about 0.26 percent of all people in this age group (CDC, 2010). Data is unavailable for prevalence of diabetes in Alabama youth.

Alabama 2020 DIABETES Goal:

Reduce the disease and economic burden of diabetes and improve the quality of life for all persons who have, or are at risk for diabetes.

Diabetes Objectives

Diabetes Objective 1.

By 2020, reduce the number of deaths from diabetes from 24.2 per 100,000 to 21.8 per 100,000.

- Baseline: 24.2 per 100,000
- Target: 21.8 per 100,000
- Data Source: Alabama Center for Health Statistics

Diabetes Objective 2.

By 2020, increase the proportion of persons with diagnosed diabetes who receive formal diabetes education from 56.5 percent to 59.6 percent.

- Baseline: 56.5 percent
- Target: 59.6 percent
- Data source: CDC BRFSS

Diabetes Objective 3.

By 2020, decrease the proportion of persons with pre-diabetes from 7.9 percent to 7.1 percent.

- Baseline: 7.9 percent
- Target: 7.1 percent
- Data source: CDC BRFSS

Diabetes Objective 4.

By 2020, increase the proportion of persons with diabetes that have had their A1C checked by a health care professional within the past 12 months from 75.6 percent to 79.4 percent.

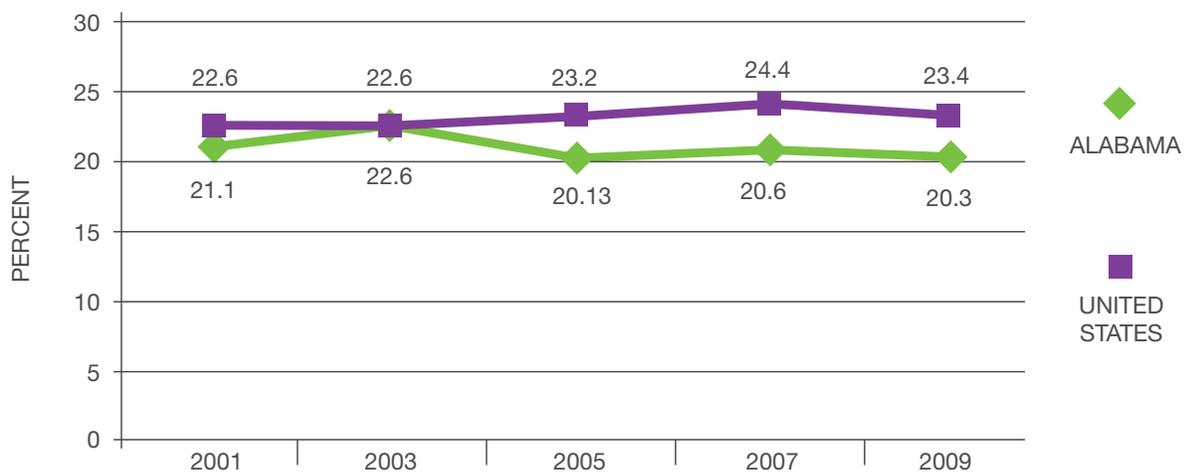
- Baseline: 75.6 percent
- Target: 79.4 percent
- Data source: CDC BRFSS

f. Nutrition and Physical Activity

Physical inactivity and unhealthy eating contributes to obesity and a number of chronic diseases, including some cancers, cardiovascular disease, and diabetes. National guidelines have been established for both nutrition and physical activity, and a majority of Alabama citizens do not meet recommendations. The Dietary Guidelines for Americans, 2010, emphasize three major goals for Americans: (1) Balance calories with physical activity to manage weight; (2) Consume more of certain foods and nutrients such as fruits, vegetables, whole grains, fat-free and low fat dairy products, and seafood; and (3) Consume fewer foods with sodium, saturated fats, trans fats, cholesterol, added sugars, and refined grains. Current federal physical activity guidelines suggest that adults should engage in aerobic physical activity of at least moderate intensity for at least 150 minutes per week, or 75 minutes per week of vigorous intensity, or an equivalent combination. The suggested activity levels for adolescents in grades 9 through 12 are one hour or more of moderate or vigorous intensity physical activity daily.

In Alabama, only 20.3 percent of adults report consuming at least five servings of fruits and vegetables a day, compared to 23.4 percent of adults nationally (CDC 2009). Among youth in grades 9 through 12, data from the 2009 YRBSS show only 16.3 percent reported consuming fruits and vegetables at least five times a day during the past seven days as compared to 22.3 percent nationally.

Adults in Alabama and United States Who Consume Five or More Fruits and Vegetables per Day, 2001-2009



BRFSS, 2001-2009

Alabama is among the most inactive states in the nation. According to 2009 Alabama BRFSS data, only 41.1 percent of the adult population is engaged in recommended amounts of physical activity (CDC 2009): regular, preferably daily, moderate intensity physical activity for at least 30 minutes per day. Only 64.8 percent of high school students in Alabama attend daily physical education. In addition, only 71.6 percent of youth reported doing any kind of physical activity that increased their heart rate during the seven days before the survey (CDC, 2011).

Regular physical activity can improve the health and quality of life of Alabamians of all ages, regardless of the presence of a chronic disease or disability. Regular physical activity has been associated with enhanced health and reduced risk of mortality and has many health benefits. Among adults and older adults, physical activity can lower the risk of:

- Early death
- Coronary heart disease
- Stroke
- High blood pressure
- Type 2 diabetes
- Breast and colon cancer
- Falls
- Depression

Among children and adolescents, physical activity can:

- Improve bone health
- Improve cardio respiratory and muscular fitness
- Decrease levels of body fat
- Reduce symptoms of depression
- Improve academic achievement
- Impact cognitive skills, attitudes, academic performance, concentration, attention, and classroom behavior

Alabama 2020 NUTRITION and PHYSICAL ACTIVITY Goal:

Improve health, fitness, and quality of life through consumption of a healthy diet and daily physical activity.

Nutrition Objectives

Adults

Nutrition Objective 1.

By 2020, increase the proportion of Alabama adults age 18 and older who consume fruits and vegetables five or more times per day.

- Baseline: 30.3 percent
- Target: 33.0 percent
- Data source: CDC BRFSS

Youth

Nutrition Objective 2.

By 2020, increase the proportion of Alabama youth in grades 9 through 12 who consume fruits and vegetables five or more times per day.

- Baseline: 16.3 percent
- Target: 18 percent
- Data Source: YRBSS

Physical Activity Objectives**Adults**

Physical Activity Objective 1.

By 2020, increase the proportion of Alabama adults age 18 and older who perform any physical activity from 41.1 percent to 45.0 percent.

- Baseline: 41.1 percent
- Target: 45.0 percent
- Data source: CDC BRFSS

Youth

Physical Activity Objective 2.

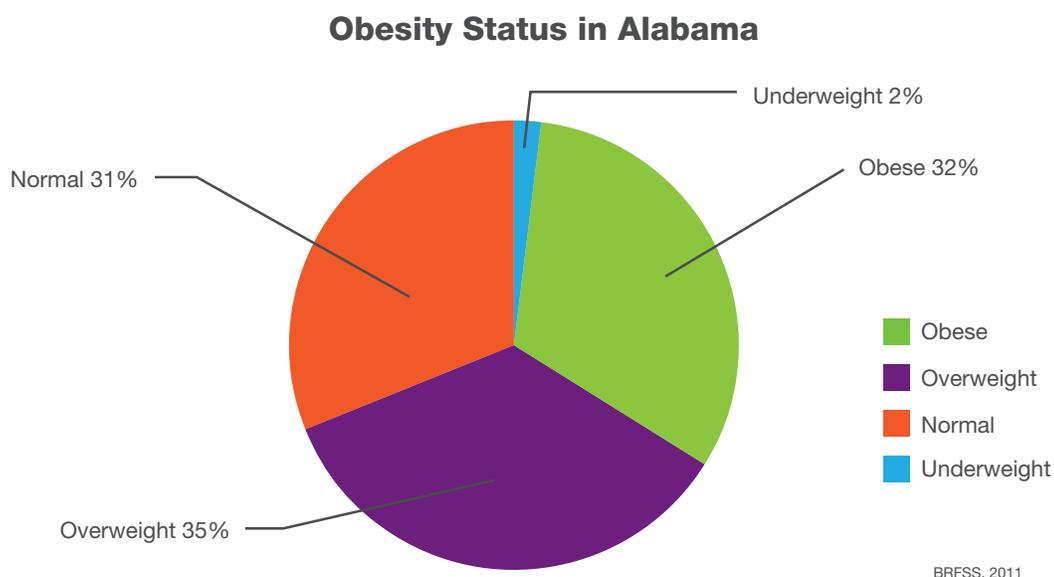
By 2020, increase the proportion of Alabama youth in grades 9 through 12 who report being physically active at least 60 minutes per day on five or more days a week from 19.0 percent to 25.0 percent.

- Baseline: 19.0 percent
- Target: 25.0 percent
- Data source: YRBSS

g. Obesity

Obesity is defined as an excessively high amount of body fat or adipose tissue in relation to lean body mass. Body Mass Index (BMI) is a common measure expressing the relationship (or ratio) of weight-to-height. BMI is more highly correlated with body fat than any other indicator of height and weight. Individuals with a BMI of 25 to 29.9 are considered overweight and are approximately 20 pounds above appropriate weight for height. Individuals with a BMI of 30 or more are considered obese and are 30 or more pounds over appropriate weight for height.

During the past 20 years, there has been a dramatic increase in obesity in the United States. In 1991, four states had obesity prevalence rates of 15 to 19 percent and no states had rates at or above 20 percent. In 2004, seven states had obesity prevalence rates of 15 to 19 percent; 33 states had rates of 20 to 24 percent; and nine states had rates more than 25 percent (no data was available for one state). Adult obesity rates increased in 16 states in the past year and did not decline in any state (Trust for America's Health, 2011). The obesity epidemic is dramatic in the south, which includes nine of the ten states with the highest adult obesity rates.



In 2011, Alabama's obesity prevalence rate was 32.0 percent, third highest in the nation. An additional 34.7 percent was overweight. Combined, 66.7 percent of Alabama adults were either overweight or obese. This is markedly higher than in 2000 when it was 60.4 percent. More males were obese (32.3 percent) than females (31.8 percent), and more males were overweight (39.0 percent) than females (30.5 percent). Other factors also appeared to be related to obesity (CDC, 2010):

- 40.1 percent of African Americans were obese compared to 29.8 percent of whites
- 33.6 percent of adults who did not graduate high school were obese compared with 26.4 percent of adults who graduated from college or a technical college
- 38.5 percent of adults who earned less than \$15,000 per year were obese compared with 33.9 percent of adults who earned \$50,000 or more per year

Alabama youth similarly show alarming rates of overweight and obesity. Data from the 2011 Alabama YRBSS show that among youth in grades 9 through 12, 15.7 percent were overweight and 17.0 percent were obese. This rate of obesity was significantly greater than the YRBSS finding for all states (13.0 percent). There was no difference among Alabama male and female students in overweight, but males were more likely to be obese than females (19.7 percent versus 14.3 percent, respectively). Among African American students, 16.5 percent were overweight and 19.6 percent were obese. Among white students, 15.1 percent were overweight and 15.1 percent were obese (CDC, 2011).

Alabama 2020 NUTRITION and OBESITY Goal:

Promote health and reduce chronic disease risk through the consumption of healthful diets and achievement and maintenance of healthy body weights.

Obesity Objectives

Adults

Obesity Objective 1.

By 2020, decrease the proportion of Alabama adults age 18 and older who report being overweight based on BMI from 34.7 percent to 34.0 percent.

- Baseline: 34.7 percent
- Target: 34.0 percent
- Data source: CDC BRFSS

Obesity Objective 2.

By 2020, decrease the proportion of Alabama adults age 18 and older who report being obese based on BMI from 32.0 percent to 30.0 percent.

- Baseline: 32.0 percent
- Target: 30.0 percent
- Data source: CDC BRFSS

Youth

Obesity Objective 3.

By 2020, decrease the proportion of Alabama youths in grades 9 through 12 who report being overweight from 17.5 percent to 12.0 percent.

- Baseline: 17.5 percent
- Target: 12.0 percent
- Data source: YRBSS

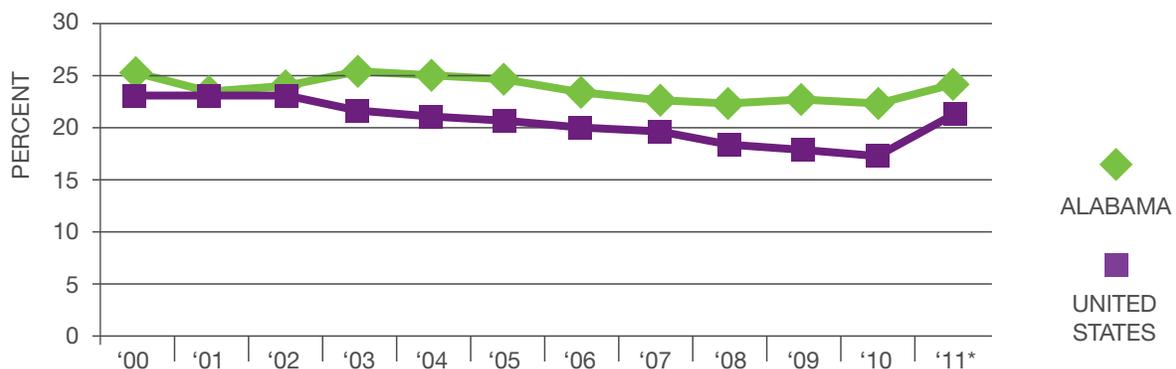
h. Tobacco

Tobacco use is the leading preventable cause of death in Alabama and the nation. Tobacco accounts for 8,685 smoking related deaths in the state (Fosson and McCallum, 2011). In addition to the many health risks that smokers face, evidence clearly demonstrates serious health consequences related to a person's exposure to secondhand smoke. Secondhand smoke has been shown to cause cancer and heart disease in non-smoking adults, respiratory infections, chronic ear infections, and asthma in children and adolescents.

According to the American Cancer Society, most smokers become addicted to tobacco before they are legally old enough to buy cigarettes. Addiction develops rapidly in adolescents who experiment with tobacco; and most adolescents who become regular smokers continue to smoke into adulthood (American Cancer Society, 2012). Over the past ten years, the smoking prevalence rate among youth in Alabama began to decline significantly. From 2000 to 2010, the prevalence of smoking decreased by 38 percent (from 30.2 percent to 18.6 percent) among high school students and by 63 percent (from 19.1 percent to 7 percent) among middle school students (Fosson and McCallum, 2011). However, recent data shows this decline may be changing perhaps due to heavy tobacco marketing that targets youth.

Although 50.9 percent of Alabama adults reported having never smoked a cigarette in 2011, the current reported smoking prevalence rate is 24.2 percent. This exceeds the national rate of 21.2 percent. More males in Alabama smoke (28.0 percent) than females (21.0 percent), and more whites smoke (25 percent) than African Americans (20.8). Smoking rates among Hispanics and other racial ethnic groups are not known. The overall prevalence of smoking in Alabama appears to decrease when either educational attainment or income increases (CDC BRFSS, 2011).

Cigarette Smoking Among Adults in Alabama and the United States



BRFSS, 2000-2011

Approximately 11 percent of pregnant women in Alabama are current smokers (Fosson and McCallum, 2011). Indirect smoking related deaths from cigarettes contribute to higher mortality rates among infants before the age of one.

Involuntary exposure to secondhand smoke is also causally linked to premature deaths and disease. It is estimated that in Alabama, exposure to secondhand smoke accounts for roughly 52 lung cancer deaths and 706 ischemic heart disease deaths each year (Fosson and McCallum, 2011). Data from the 2010 Alabama Adult Tobacco Survey (ATS) showed that 33.0 percent of adults reported breathing tobacco smoke from someone else in an indoor or outdoor public place. Further, 21.4 percent reported breathing tobacco smoke from someone else either inside or outside their workplace. While smoking and tobacco usage is proven to have life threatening impacts, there is currently no statewide law effectively protecting people in Alabama from secondhand smoke exposure.

Alabama 2020 TOBACCO Goal:

Reduce prevalence rate of illnesses, disabilities, and deaths related to tobacco use and secondhand smoke exposure for both youth and adults.

Tobacco Objectives

Tobacco Objective 1.

By 2020, reduce adult cigarette smoking from 24.2 percent to 18.0 percent.

- Adult Baseline: 24.2 percent.
- Adult Target: 18.0 percent
- Data source: CDC BRFSS

Tobacco Objective 2.

By 2020, reduce cigarette smoking among youth in grades 9 through 12 in the past 30 days from 18.6 percent to 12.0 percent.

- Youth Baseline: 18.6 percent
- Youth Target: 12.0 percent
- Data source: ATS

Tobacco Objective 3.

By 2020, reduce the proportion of nonsmokers exposed to secondhand smoke from 34.8 percent to 31.3 percent.

- Baseline: 34.8 percent
- Target: 31.3 percent
- Data source: ATS

III. Evidence-Based Strategies

a. Environmental approaches that promote health and support and reinforce healthful behaviors (statewide, in schools, work sites, and communities)

Asthma Program

Promote integrated pest management policy in schools to reduce asthma triggers.

Promote the Alabama Air Quality Flag Program in schools which helps children, parents, school personnel, and the community be aware of daily air quality conditions using flags of different colors to indicate pollution levels.

Promote and provide technical assistance on the Alabama Tools for Schools program that provides schools information on best practices, industry guidelines, sample policies, and a sample indoor air quality management plan to improve school air at little or no cost.

Promote and provide technical assistance on the Alabama No Idling program in schools which creates idling-free zones on school campuses to reduce exposure to bus and car exhaust which are asthma triggers for many children.

Promote the national Safe Routes to School program and assist Alabama schools to apply for funding to make walking and bicycling to school safer and more appealing, and to facilitate the planning, development, and implementation of projects that will improve highway safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools.

Cancer Program

Educate citizens and community leaders on restricting tanning bed use by minors (cancer).

Diabetes Program

Facilitate establishment of Diabetes Today Sites to increase accessibility of community programs for persons with diabetes to reduce diabetes complications.

Cardiovascular Program

Facilitate establishment of work site wellness programs that include policies and environmental supports for improving employee health, such as the availability of healthy foods, opportunities for physical activity, tobacco cessation education, and health screenings.

Nutrition and Physical Activity Program

Promote and provide technical assistance to the Alabama Good Choice Vending program which is a policy-based intervention to maintain nutritional standards of foods and beverages in vending machines in schools, colleges and universities, work sites, health care sites, and other community-based institutions.

Educate school personnel on quality school physical education policy that was approved by the Alabama State Board of Education in 2012.

As appropriate in community-based initiatives, educate citizens on school wellness policies which include nutrition education and nutrition standards for foods and beverages available in schools to reinforce practices at home.

Increase access to safe and accessible places for physical activity in Alabama communities by organizing local coalitions and leveraging funds to enhance existing spaces or create new spaces.

Increase access to fruits and vegetables in Alabama communities by organizing local coalitions to enhance existing retail spaces or create new retail spaces such as farmers markets.

Facilitate establishment of Scale Back Alabama sites throughout Alabama to increase citizen access to this statewide annual campaign that assists Alabamians to get healthier by eating better, being physically active, and losing weight.

Tobacco Program

Educate citizens and community leaders on clean indoor air policy to reduce tobacco use and exposure.

Educate citizens and community leaders on policy that restricts tobacco sales to minors.

Educate citizens and community leaders about policy that establishes tobacco-free outdoor areas where children play, such as parks, playgrounds, ball fields, and school grounds.

Educate the public and community leaders on the impact of increasing the unit price of tobacco products on tobacco prevalence rates and health.

b. Health system interventions to improve the delivery and use of clinical and other preventive services in order to prevent disease, detect diseases early, and reduce or eliminate risk factors and mitigate or manage complications

Asthma Program

Provide training for asthma health care providers (physicians, physician assistants, nurses, respiratory therapists, pharmacists, and clinical staff) on disease management consistent with the National Heart, Lung, and Blood Institute, Expert Panel Report 3 (EPR3) Guidelines for the Diagnosis and Management of Asthma.

Cancer Program

Educate health care providers on colorectal cancer screening according to guidelines from the U.S. Preventive Services Task Force and on the fecal immunochemical test (FIT).

Promote adoption of quality indicators to monitor performance in colorectal, breast, and cervical cancers.

Cardiovascular Program

Provide technical assistance to local health departments utilizing nurse practitioners in family planning clinics to educate patients on blood pressure and birth control, ABCS of heart disease and stroke, and the Million Hearts stroke prevention campaign.

Provide technical assistance to health care providers to encourage use of electronic health records or prevention-oriented protocol to ensure patients receive preventive screenings related to all chronic diseases and related conditions.

Collaborate with ADPH, Alabama Regional Extension Center, and Alabama Learning Action Network to provide technical assistance to health care sites on the electronic health records to improve patient access to preventive health services.

Provide technical assistance to health care sites on the Get with the Guidelines Program to ensure consistent application of the American Heart Association/American Stroke Association scientific guidelines for patient treatment in the areas of heart failure, stroke, and resuscitation as well as outpatient practices.

Tobacco Program

Educate health care providers on implementing the Tobacco Quitline fax referral process in practices.

c. Community clinical linkages ensuring that communities support and clinics refer patients to programs that improve management of chronic conditions

Cancer Program

Provide materials to facilitate communication between providers and patients regarding regular mammograms, human papillomavirus vaccinations, and colorectal screening options, such as reminder cards and cell phone text messages.

Cardiovascular Program

Collaborate with ADPH Patient First program to enhance chronic disease case management that includes comprehensive assessment, planning, facilitation, and advocacy for options and services to meet an individual's health and social care needs.

Facilitate the use of parish nurses (congregational nursing or faith community nursing) as agents of chronic disease programs and educational activities in accordance with their identified and trained roles as community leaders.

Establish a sustainable network of community health advisers promoting chronic preventive health screening and chronic disease self-management education throughout the state.

Facilitate the use of telehealth as a delivery system for health-related services and information, allowing smaller hospitals in Alabama to assess patients' health and treat emergency situations with providers at larger, better equipped hospitals.

Diabetes Program

Facilitate referrals of patients by health care providers to community-based Chronic Disease Self-Management Program (CDSMP) classes.

Collaborate with Alabama Medicaid to establish systems for CDSMP referrals and classes in Medicaid networks throughout the state.

Facilitate referrals by physicians of patients with diabetes for diabetes self-management education and training taught by registered dietitians and certified diabetes educators in Medicaid networks and other community settings throughout the state.

Facilitate establishment of community-based sites of the National Diabetes Prevention Program and Road to Health (RTH) programs throughout the state for persons at risk for Type 2 diabetes.

Facilitate referrals of patients by health care providers to community-based sites of the National Diabetes Prevention Program and RTH programs.

Nutrition and Physical Activity Program

Facilitate referrals of overweight and obese patients by health care providers to Scale Back Alabama, the annual statewide weight loss and exercise program of ADPH and the Alabama Hospital Association.

Tobacco Program

Facilitate referrals of patients by health care providers to the Alabama Tobacco Quitline and online counseling services that offer tobacco cessation counseling and free nicotine replacement therapy patches.

Facilitate referrals of patients by health care providers to New Leaf Healthy Choices programs that support healthy eating behavior, increased physical activity, tobacco avoidance, and healthy weight.

IV. Epidemiology and Surveillance

The AL CCD program includes a team of epidemiologists from an array of traditionally categorical chronic disease programs. The chronic disease epidemiologists will work together across traditional program boundaries to monitor and investigate chronic disease in Alabama.

Existing datasets will be used to monitor the incidence, prevalence, and mortality of chronic disease in Alabama. Chronic disease risk factors will be monitored using three primary datasets: (1) BRFSS, which surveys adults on a variety of chronic disease health-related behaviors; (2) YRBSS, which provides risk factor data for high school youth; and (3) ALYTS, which surveys Alabama middle and high school youth regarding tobacco exposure, beliefs, and influences. These survey data will be used to identify modifiable risk factors, which will lead to the development of targeted interventions.

An additional well-established resource to be utilized is ASCR. ASCR collects data on all cancer cases diagnosed or treated in Alabama. ASCR will be used to monitor trends in cancer incidence, and to identify Alabama populations at high risk for cancer.

Mortality due to chronic disease will be identified using two existing sources: (1) the Alabama Center for Health Statistics, Statistical Analysis Division, which will provide mortality data used for public health policy and surveillance; and (2) CDC WONDER, which will provide chronic disease mortality data both at the state and county level. The ability to examine mortality data at the county level enables deployment of area-specific targeted interventions.

All datasets will be examined on a regular basis to detect the burden of chronic diseases, monitor behavioral risk factors, and identify health disparities. The data will be used routinely to inform the general public, key stakeholders, and policy makers of chronic disease and associated risk factors in Alabama. Further, the data will support the development of effective health interventions, and will be used to perform evaluations of existing programs. AL CCD will strive to identify new datasets useful in the monitoring of chronic disease trends in Alabama. The following data sources, among numerous others, will be utilized by the program.

- BRFSS is used to monitor risk factor data. It will provide risk factor data by age, race, gender, income, and educational status. In addition, BRFSS data will provide a robust analysis of health disparities at the state level and by public health area levels. Alabama has 11 public health areas. Two are individual counties and the remaining nine are clusters of contiguous counties.
- YRBSS provides risk factor data at the state level for youth in grades 9 through 12 by grade, race, and gender. The data monitors four types of health-risk behaviors among youth relevant to chronic disease: tobacco, unhealthy dietary behaviors, physical inactivity, and obesity.
- CDC WONDER is used for mortality data on heart disease and stroke, diabetes, and cancer. This data will be at the state and county levels and permit national and regional comparisons. Data from CDC WONDER is used to determine counties of the state with the highest mortality rates, and interventions identified in the AL CCD State Plan will be focused on communities within these counties.
- ASCR is a population-based cancer registry that will provide data on cancer burden. It is an information system designed for the collection, management, and analysis of cancer data. The purpose of the registry is to disseminate cancer data to public health and medical professionals, community groups, volunteer agencies, and others interested in cancer prevention and control.
- The Alabama Center for Health Statistics, Statistical Analysis Division, provides analysis of mortality data for public health policy and surveillance.
- ALYTS is an anonymous, self-administered survey of youth in middle schools and in grades 9 through 12 that includes questions about access to tobacco, secondhand smoke, tobacco-related beliefs, attitudes and behaviors, and exposures to pro and anti-tobacco influences.

V. Promotion and Communication Efforts for the Alabama Coordinated Chronic Disease State Plan

The purpose of promoting the AL CCD State Plan on a continuous basis through multiple communication channels is threefold. First, it will increase awareness among state leaders, chronic disease stakeholders, and other partners of the heavy burden of chronic disease in Alabama. Second, it will highlight ongoing evidence-based strategies impacting one or more chronic diseases or related conditions across the state. Third, it will sustain a consistent message to state, regional, and local level entities that while existing resources are being effectively utilized, additional funds and initiatives are needed.

The AL CCD State Plan will be published by ADPH. It will initially be released at a meeting of the AL CCD Coalition. Members will be asked to disseminate the plan at their respective work sites. An online version will be maintained on the ADPH website (www.adph.org/chronicdisease). AL CCD program staff will work with ADPH Division of Health Marketing, Digital Media Branch to add updates, success stories, and notices of scheduled events on the department's social media networks – Facebook, Twitter, YouTube, and Wikipedia.

VI. Alabama Coordinated Chronic Disease Coalition

The AL CCD includes stakeholders from a broad base of governmental agencies and not-for-profit organizations.

- ADPH Asthma Program
- ADPH Behavioral Health Division, including the Statewide Tobacco Control Branch and the Community Tobacco Branch
- ADPH Cancer Prevention and Control Division
- ADPH Cardiovascular Program
- ADPH Coordinated Chronic Disease Prevention and Health Promotion Program
- ADPH Diabetes Program
- ADPH Nursing Division
- ADPH Nutrition and Physical Activity Division
- ADPH Office of Primary Care and Rural Health
- ADPH Office of Women's Health
- ADPH Strategic Alliance for Health Program
- ADPH Statewide Tobacco Control Branch
- Alabama Arthritis Foundation
- Alabama Asthma Coalition
- Alabama Cardiovascular Coalition
- Alabama Cooperative Extension System
- Alabama Diabetes Network
- Alabama Department of Senior Services
- Alabama Obesity Task Force
- Alabama Quality Assurance Foundation
- Alabama State Department of Education
- American Cancer Society
- American Heart Association

References

- Alabama Center for Health Statistics (ACHSa). (2010). Heart disease deaths and death rates by age group, race, and sex, Alabama. Retrieved from <http://adph.org/healthstats/index.asp?id=1455>
- Alabama Center for Health Statistics (ACHSb). (2010). Cerebrovascular disease deaths and death rates by age group, race, and sex, Alabama. Retrieved from <http://adph.org/healthstats/index.asp?id=1460>
- Alabama Department of Public Health (ADPH). (2010). Diabetes in Alabama. Montgomery, AL: Alabama Department of Public Health.
- Alabama Department of Public Health (ADPH). (2009). Alabama asthma burden document. Montgomery, AL: Alabama Department of Public Health.
- Alabama Statewide Cancer Registry (ASCR). (2011). Alabama cancer facts and figures. Retrieved from http://adph.org/cancer_registry/assets/2011FactsFigures.pdf
- Alabama Adult Tobacco Survey, 2009-2010. (2011). Montgomery, AL: Alabama Department of Public Health.
- Alabama Youth Tobacco Survey, 2010. (2011). Montgomery, AL: Alabama Department of Public Health.
- American Cancer Society. (2012). Estimated numbers of deaths for selected cancers by state, US, 2012. Retrieved from <http://www.cancer.org/acs/groups/content/@epidemiologysurveillance/documents/document/acspc-031941.pdf>
- American Cancer Society. (2012). Cancer prevention & early detection facts & figures, 2012. Atlanta, GA: American Cancer Society.
- Centers for Disease Control and Prevention (CDC). (2007). Childhood arthritis. Retrieved from <http://www.cdc.gov/arthritis/basics/childhood.htm>
- Centers for Disease Control and Prevention (CDC). (2009-2011). Behavioral risk factor surveillance system data. Retrieved from <http://www.cdc.gov/brfss>
- Centers for Disease Control and Prevention (CDC). (2011). Youth risk behavior surveillance system data. Retrieved from <http://http://apps.nccd.cdc.gov/youthonline/App/Results.aspx?LID=AL>
- Centers for Disease Control and Prevention (CDC). (2011). 2011 National Diabetes Fact Sheet. Retrieved from: <http://www.cdc.gov/diabetes/pubs/estimates11.htm>
- Fosson, G. H., & McCallum, D. M. (2011). The burden of tobacco in Alabama. Tuscaloosa, AL: Institute for Social Science Research, The University of Alabama.
- National Association of Chronic Disease Directors. (2005). Partnership for prevention: Action planning handbook for states and communities. Retrieved from http://www.prevent.org/data/files/topics/chronicdiseasepreventionaction_planning_handbook.pdf
- Trust for America's Health. (2011). F as in fat: How obesity threatens America's future. Retrieved from <http://www.healthyamericans.org/report/88>



This publication was supported through a Cooperative Agreement with the Centers for Disease Control and Prevention (CDC).

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