IOWA

Comprehensive Heart Disease and Stroke Plan

2010-2014

Iowa Comprehensive Heart Disease and Stroke Health Plan
2010 – 2014

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CHESTER J. CULVER
GOVERNOR

OFFICE OF THE GOVERNOR

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March 22, 2010

My fellow Iowan:

Heart disease, stroke and other cardiovascular diseases (CVD) are a major source of illness and the leading cause of death for Iowans. While the impact of these diseases has decreased significantly in the last 20 years, more must be done to reduce the burden on our residents.

Research and experience indicate that we can successfully address important risk factors. The *Iowa Comprehensive Heart Disease and Stroke Plan 2010-2014* promises a substantial investment in Iowa's ongoing efforts to combat CVD. Developed by a broad-based task force of 45 Iowans representing industry, healthcare, and local and state governmental agencies, this plan identifies high leverage, high impact objectives and action steps that will decrease this burden.

Most importantly, the strategies outlined in this plan will require engagement of the entire community of public health and all healthcare providers, as well as businesses, schools, and other community-based organizations. Partnership of these organizations is vital for the successful implementation of the strategies in this plan. These cooperative efforts will ensure a broad focus on education, public communication, prevention and care improvement.

I encourage Iowa's citizens and all Iowa-based organizations to use this plan as a resource in bringing about an improvement of cardiovascular health indicators. The burden of these devastating diseases affects all Iowans, and it is only with broad, community-based efforts that we can hope to achieve improvements in health for all Iowans.

Sincerely,

Chester J. Culver
Governor of Iowa

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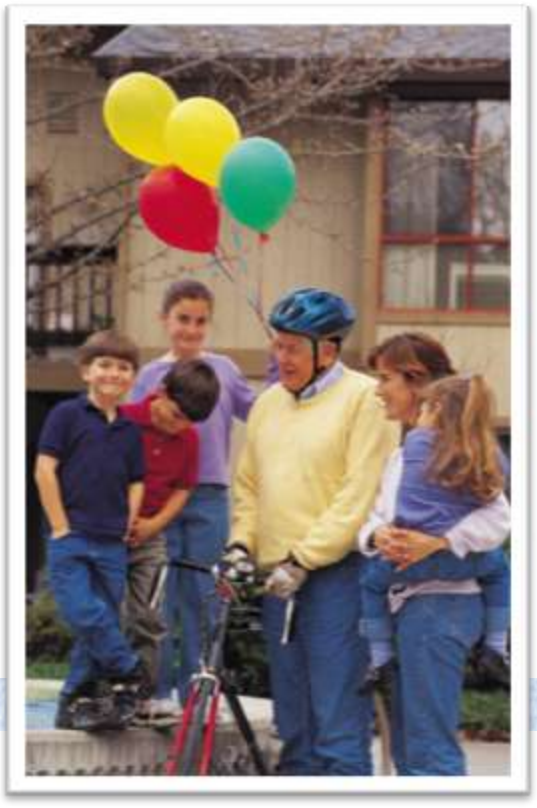
Executive Summary



Iowa Comprehensive Heart Disease and Stroke State Plan 2010-2014

Executive Summary

Heart disease is the number one cause of death for both men and women nationally as well as in the state of Iowa, while stroke is the third leading cause of death. These two diseases are often grouped together under the broader term "cardiovascular disease" (CVD), which accounts for one-third of all deaths within the state. Ongoing efforts to increase prevention of, and improve care for, those who experience CVD have resulted in a decline in the number of deaths in Iowa caused by these conditions. In 1991, the death rate as a result of cardiovascular disease was 344.9 per 100,000 people; by 2006, that number had fallen to 239.9. Deaths as a result of stroke have also dropped, from 74.7 in 1991 to 57.4 in 2006.[1] Although progress has been made; these illnesses are still major causes of death and serious disability for many Iowans.

The Mission of the Iowa Comprehensive Heart Disease and Stroke Plan 2010-2014 is to increase the quality and years of healthy life for Iowans through the reduction of the morbidity and mortality of cardiovascular disease.

Despite the fact that some progress has been made through past efforts, current data show that the journey must continue to achieve the long, quality-filled lives that Iowans deserve, free of chronic disease. Up to this point, there has been a lack of involvement by stakeholders against heart disease and stroke in Iowa. Causes of CVD are largely known and preventable, and more must be done to educate and spread this information throughout the state. This comprehensive statewide plan is a call to action to improve prevention, treatment, and management of heart disease and stroke in Iowa. Through the commitment and collaborative efforts of many, the *Iowa Comprehensive Heart Disease and Stroke Plan 2010-2014* provides a guide to improve the health status of all Iowans.

The people of Iowa have a long history of working together to do the right thing. We must rise to the challenge of lowering the incidence of heart disease and stroke through early and ongoing education that stresses prevention and healthy lifestyle choices, medical services that provide evidence-based, effective treatment and long term care management without disparity, and environmental policies that support the prevention of heart disease and stroke in our schools, work sites, and communities. This strategic plan is a guide to improving cardiovascular health in Iowa through 2014.

Purpose

The purpose of the *Iowa Comprehensive Heart Disease and Stroke Plan 2010-2014* is to provide a framework to reduce the risk factors related to heart disease and stroke, decrease its impact on individuals and families, and increase quality and years of healthy life. In order to create the plan, a Cardiovascular Task Force was convened, consisting of members from various stakeholder organizations within the state. The Cardiovascular Work Group, an affiliate of the Iowa Healthcare Collaborative, was designated as the oversight group for the plan's development.

Goals and Objectives

The Centers for Disease Control and Prevention (CDC), Division of Heart Disease and Stroke Prevention (DHDSP), identified six priorities as the focus for all state programs.[2] The following goals and objectives for the *Iowa Comprehensive Heart Disease and Stroke Plan 2010-2014* were derived using these focus areas.

Goal 1: Control High Blood Pressure

1-1 By 2014, reduce the prevalence of high blood pressure in Iowans from 26.8% to 20.0%.

1-2 By 2012, promote an easily understandable and effective food labeling system at retail stores.

1-3 By 2012, develop and initiate an awareness campaign on the amount of salt contained in processed foods and the impact on health.

Goal 2: Control High Blood Cholesterol

2-1 By 2014, raise awareness of personal blood cholesterol levels among Iowans age 35 and over from 84.7% to 90% of this target group.

2-2 By 2014, raise awareness of personal blood cholesterol levels among Iowan households with less than $35,000 in annual income from 64.9% to 75%.

2-3 Increase education and dissemination of information on improving personal blood cholesterol levels, living successfully with high blood cholesterol, and how to avoid complications.

2-4 By 2014, support public policy changes that encourage the reduction of blood cholesterol levels among Iowans with a focus is on employer incentives, publicly funded programs, and community-based programs.

Goal 3: Improve Emergency Response

3-1 By 2014, develop a statewide, time-sensitive system for cardiovascular events, focusing on assessment and transport to a facility that provides comprehensive care. Ensure every Iowan has access to evidence-based cardiovascular intervention, regardless of geographic location.

3-2 By 2014, standardize an evidence-based hospital treatment plan/protocol for time-sensitive cardiac events.

3-3 By 2014, standardize an evidence-based hospital treatment plan/protocol for time-sensitive stroke events.

Goal 4: Improve the Quality of Care

4-1 By 2011, develop and deploy a hospital-specific, statewide cardiovascular data measure set.

4-2 By 2014, promote improved transitions of care from acute care to the community setting.

4-3 By 2014, define and deploy a set of common principles for evidence-based, effective cardiovascular self-management.

4-4 By 2014, train 50 primary care settings in Iowa on the medical home concept, including data collection and health coaching.

4-5 Establish a statewide database and reporting mechanism.

Goal 5: Increase Awareness of Signs and Symptoms of Heart Attack and Stroke and the Need to Call 911

5-1 By 2014, expand the availability of cardiopulmonary resuscitation (CPR) education in Iowa to include middle schools.

5-2 By 2014, increase public awareness of signs and symptoms of heart attack from 34.3% to 45.0%.

5-3 By 2014, increase public awareness of signs and symptoms of stroke from 41.3% to 50.0%.

5-4 By 2014, increase awareness of public access to defibrillation to reduce emergency response time and prevent cardiac arrest with the goal of meeting nationally recognized guidelines regarding time lapse from cardiac event to treatment.

Goal 6: Eliminate Disparities

6-1 By 2014, increase the number of lives served by telehealth services for cardiovascular conditions.

6-2 By 2014, increase the number of critical access hospitals with connectivity, provider to provider and ER to ER, via telemedicine for acute care services.

6-3 By 2012, develop strategies to increase the number of rural Iowans served by health care delivery organizations.

6-4 By 2011, expand the education of the medical community on the culturally specific differences of Hispanic, African American, and Asian populations.

6-5 By 2014, increase the education of diverse and desperate populations on cardiovascular wellness, prevention, and intervention.

Introduction

Introduction

What is Cardiovascular Disease?

"Cardiovascular disease" (CVD) refers to any or all of the many disorders that can affect the heart and blood vessels. CVD most commonly referred to as heart disease, heart failure, and stroke, taken together, are the circulatory system conditions of greatest public health concern in the United States today. "Heart disease" most often refers to coronary heart disease, heart attack, or heart failure, while "stroke" is a shortage of blood flow to the brain ("brain attack"). Heart disease and stroke are mainly results of clogged arteries (atherosclerosis) and high blood pressure (hypertension).[3]

Since 1900, CVD has been the number one killer in the United States every year except 1918. Nearly 2,400 Americans die of CVD each day, an average of one death every 36 seconds. Heart disease and stroke are the most common cardiovascular diseases and are the first and third leading causes of death for both men and women in the United States, accounting for nearly 40 percent of all annual deaths. The situation is similar in Iowa, where CVD is accountable for 34 percent of all deaths in the state. According to the Centers for Disease Control and Prevention (CDC), life expectancy would increase by almost seven years if all forms of major CVD were eliminated.[4]

Heart disease is a leading cause of early, permanent disability in the United States. Stroke alone accounts for disability in nearly 1 million Americans and is a leading cause of serious, long-term disability in the U.S. Each year, about 700,000 people have a new or recurrent stroke, or once every 45 seconds. Fifteen to 30 percent of stroke survivors are permanently disabled.[3]

One out of every three Americans currently lives with one or more types of cardiovascular disease, totaling more than 80 million overall. In Iowa, almost a quarter (23%) of the population lives with cardiovascular disease.[24] More than 7 million hospitalizations occur each year due to cardiovascular diseases, placing a major burden on the nation's health care system.[4] Here in Iowa, over 50,000 hospital admissions occur annually due to cardiovascular disease, which accounts for one out of every six admissions.[19] The financial impact of cardiovascular diseases on our nation's health care system will only continue to grow as the population ages. The total cost of heart disease and stroke in the United States, including health care spending and lost productivity from deaths and disability, is expected to be more than $475 billion in 2009.[4]

Heart disease and stroke are among the most widespread and costly health care problems facing our nation today and yet are among the most preventable. A person's risk of developing heart disease and stroke is greatly reduced simply by leading a healthy lifestyle through not using tobacco products, being physically active and eating healthy foods. The prevention and control of high blood pressure and high cholesterol can also have a significant impact on cardiovascular health. A comprehensive approach to tackling the burden of cardiovascular disease is crucial in order to provide the necessary mechanism to drive positive change.

Plan Development

The development of the statewide heart disease and stroke plan began with a capacity-building grant from CDC awarded to the Iowa Department of Public Health (IDPH). This plan is a result of numerous stakeholder input to identify new approaches to improve heart disease and stroke care within Iowa.

Some of the objectives found in the *Iowa Comprehensive Heart Disease and Stroke Plan 2010-2014* are based on the national health objectives outlined in *Healthy People 2010* (CDC) as well as state-specific objectives found in *Healthy Iowans 2010* (IDPH). Many of the strategies identified in this plan also align with the National Priorities and Goals identified by the National Priorities Partnership.[5] The plan builds upon these goals and expands to include acute care. Committee members evaluated existing programs and suggested strategies that fill gaps in these programs. Additionally, the plan provides opportunities for improving the health of Iowa residents beyond the year 2010.

This plan is the result of efforts to encourage and support collaboration, partnerships, and capacity building among communities, worksites, and healthcare organizations as well as to improve cardiovascular disease prevention and management through education, policy, and systems and environmental change. The plan aligns prevention efforts with acute and chronic care management, providing a continuum of cardiovascular care from birth until death to increase quality and patient safety while at the same time reducing cost. With a vision of a healthy future for Iowans, the work defined in the plan is ambitious, yet achievable.

Stakeholder Involvement

The *Iowa Comprehensive Heart Disease and Stroke Plan 2010-2014* was developed through the collaboration of over 40 Iowa organizations known as the Cardiovascular Task Force (Task Force). The Task Force included specialists from health care, public health professionals at both state and local levels, wellness and prevention, education, employers, food services, and patients/survivors. Six program priorities were identified as the cornerstones of the improvement plan and separate subcommittees were created to address each. Subcommittees developed objectives and strategies to achieve the goals of the plan. Health literacy was integrated as a cross-cutting priority to improve quality and safety due to the impact of low health literacy on health knowledge, behaviors, outcomes, and costs. A list of contributing organizations can be found in Appendix A.

Socio-Ecological Model

To address the basic causes of cardiovascular disease, focus must be on the social and environmental forces that impact health and not just on the individual. Reducing the risk of cardiovascular disease needs a combined strategy which includes[3]:

1) Lifestyle behavior change: weight management; increased physical activity; no tobacco use; a low-fat, low-cholesterol diet with moderate sodium, sugar, and alcohol intake; and control of high blood cholesterol, elevated blood pressure, and diabetes;

2) Community environmental support, such as population screening to identify individuals with high blood cholesterol, blood pressure, blood glucose, and other individuals at risk for heart disease; interventions that teach the skills needed for behavior change that make living a healthier life easier (e.g., building and maintaining bicycle trails for public use); and

3) Development of public policies that encourage healthy lifestyle behaviors such as smoke-free worksites, which may be implemented in the form of laws, regulations, standards, or guidelines that help in setting these and other social and environmental conditions.

Strategies to be implemented in the *Iowa Comprehensive Heart Disease and Stroke Plan 2010-2014* use a multi-level framework referred to as the *Socio-Ecological Model*, which illustrates the importance of approaching public health issues at multiple levels and the value of interaction and integration of factors and efforts both within and across levels.[6] Responsibility for lifestyle choices related to health lie with the individual, yet behavior is primarily determined by one's environment, including socioeconomic status, interpersonal and community relationships, and larger public policies. A combination of efforts at all levels is required to promote effective healthy ways of living.

Figure 1. The Socio-Ecological Model

Cardiovascular Resources in Iowa

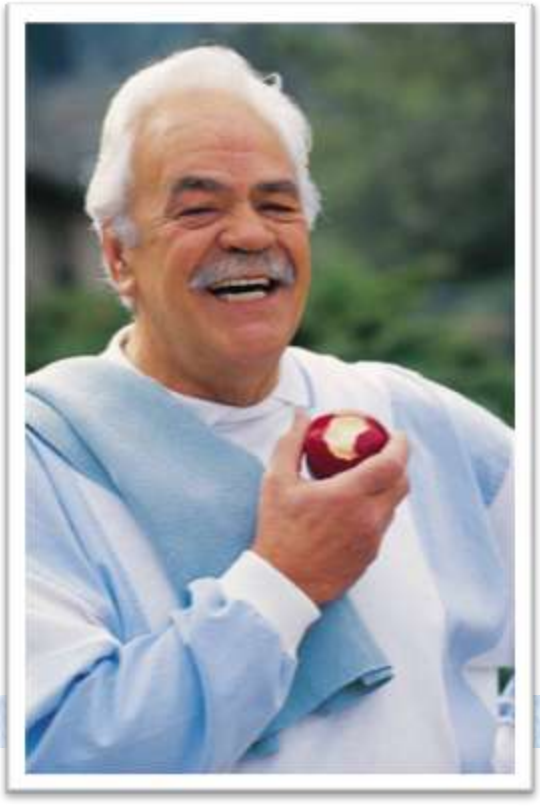
The *Iowa Comprehensive Heart Disease and Stroke Plan 2010-2014* is written in support of existing cardiovascular programs and initiatives within the state. A listing of known resources can be found in Appendix D.

Policies and Environmental Strategies in Iowa

In addition to the activities currently being undertaken by health care delivery systems and other organizations, improvement in the areas of policy and environmental strategies are necessary for the success of prevention and treatment of cardiovascular disease in Iowa. A handful of policies that impact cardiovascular health were signed by Governor Culver in 2008 and stand out as major accomplishments for advancing the health of Iowans and achieving the goals of *Healthy Iowans 2010*, the state's master plan for preventing disease and promoting health.[7] A summary of the legislation can be found in Appendix B.

As policies develop and changes in the environment occur, identification and dissemination of successful policies and environmental strategies will be an important ongoing effort of the plan. Knowledge of the effect of policies and environmental strategies on individual health has increased, and policies need to be developed to support ongoing improvement of cardiovascular health.[8] Additional data collection and analysis will be necessary to identify priority areas regarding the development of policies and environmental strategies.

The Burden of Cardiovascular Disease in Iowa



The Burden of Cardiovascular Disease in Iowa

Measuring the Burden of Cardiovascular Disease

Data regarding heart disease and stroke mortality in Iowa are taken from death certificates, including information about primary and associated causes of death for each resident. The Iowa Department of Public Health, Center for Health Statistics collects and provides data on these vital statistics.[9]

The Behavioral Risk Factor Surveillance System (BRFSS) survey is the main source of data for statewide estimates of cardiovascular disease risk factor prevalence in Iowa. The BRFSS surveys adults 18 years and older on self-reported health behaviors. Questions in the survey relate to nutrition, physical activity, tobacco use, hypertension, blood cholesterol, alcohol use, inadequate preventive health care, and other risk factors. In addition, this survey provides data on how many adults are being screened for high blood pressure and high blood cholesterol. Each month a random sample of structured telephone interviews are done, and a report is generated annually. The BRFSS survey is administered by the Iowa Department of Public Health.

Current Interventions

Efforts have been made in the past to reduce heart disease and stroke prevalence, as well as decrease the presence of risk factors in Iowa. From 1990 through 2006, heart disease and stroke activities were funded by a block grant from the Centers for Disease Control and Prevention (CDC). The Iowa Department of Public Health (IDPH) then awarded grants to communities that focused on lowering blood pressure and cholesterol, reducing smoking, and decreasing overweight/obesity. Legislation was passed in 1999 to create an independent Division of Tobacco Use Prevention and Control within IDPH using master Settlement Agreement funding. Division activities include the youth movement called Just Eliminate Lies (JEL) and Quitline Iowa, as well as ongoing statewide efforts to decrease tobacco use. Iowa also received Well-Integrated Screening and Evaluation for Women Across the Nation (WISEWOMAN) research funding from 2000 through 2007, which provided funds for heart disease and stroke risk factor screening and health care referrals for up to 1,900 participants in the Iowa Breast and Cervical Cancer Early Detection Program (BCCEDP) per year. The Iowa *Care for Yourself* WISEWOMAN Program now screens and provides nutrition and physical activity information to 2,200 women per year statewide. As a result of these efforts, some progress has been made to reduce the burden of cardiovascular disease within the state of Iowa.

In 2008, IDPH received CDC funding to build a statewide Heart Disease and Stroke Prevention (HDSP) Program. The program focuses on finding and treating heart disease and stroke, monitoring risk factors, and preventing heart attacks and strokes.

IDPH formed the Health Promotion Unit to administer state, federal, and private funding used to conduct and combine nutrition, physical activity, and chronic disease prevention activities. With CDC funding, the *Iowans Fit for Life* program promotes nutrition and physical activity throughout the state. The *Iowans Fit for Life Partnership* guides and supports policy and systems changes to reduce the state's obesity epidemic and promotes Chronic Disease Self-

Management Program (CDSMP) peer leader training in collaboration with the Department on Aging.

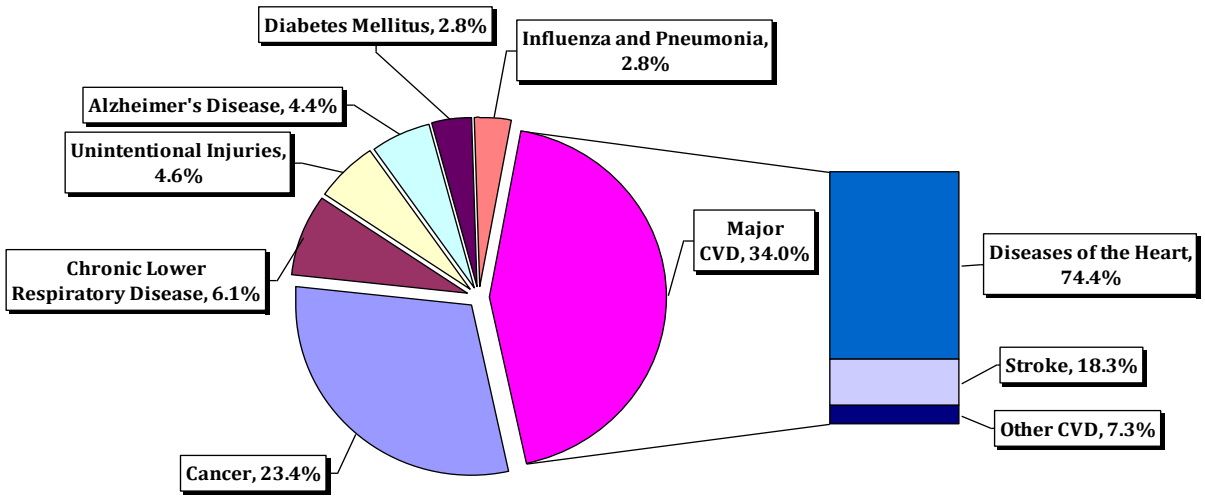
The Iowa Nutrition Network assures that nutrition and physical activity programs address the needs of Iowa's diverse and disparate populations, while the Community Wellness Grant Program provides funding and direction to improve nutrition, increase physical activity, reduce and prevent tobacco use, and promote mental well being, oral health care, and chronic disease prevention. While many interventions have been implemented, there is still more work to be done to coordinate efforts and improve the cardiovascular health of Iowans.

The Current State of Cardiovascular Disease

Mortality

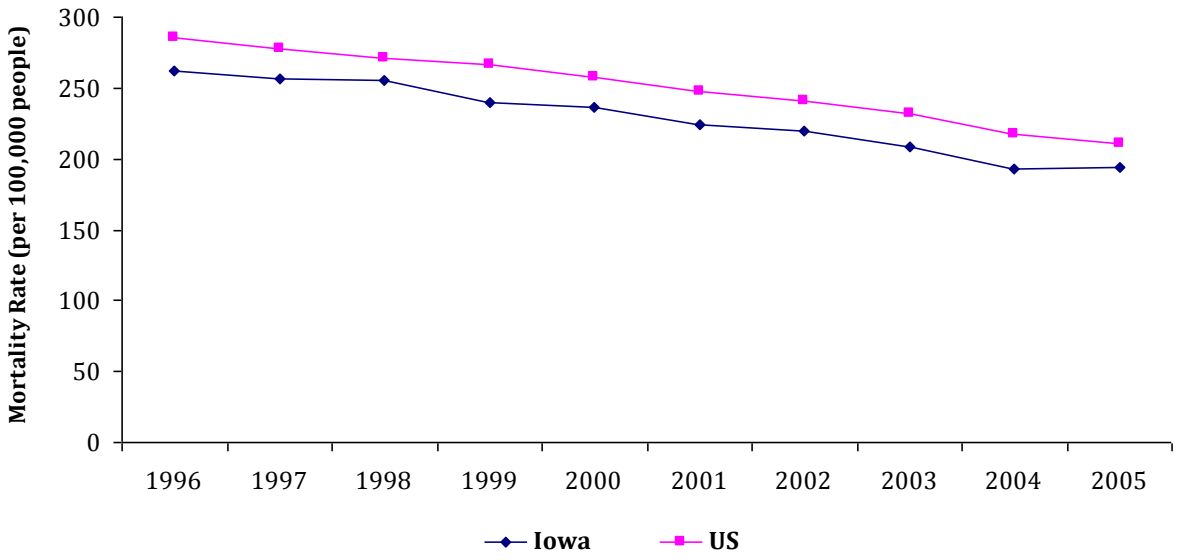
In 2007, 9,200 of the 27,126 total deaths in Iowa (34.0%) were due to major cardiovascular disease, or one out of every three deaths; of these, 6,843 deaths were attributed to heart disease and 1,680 to stroke.[9]

Figure 1. Leading Causes of Death in Iowa, 2007



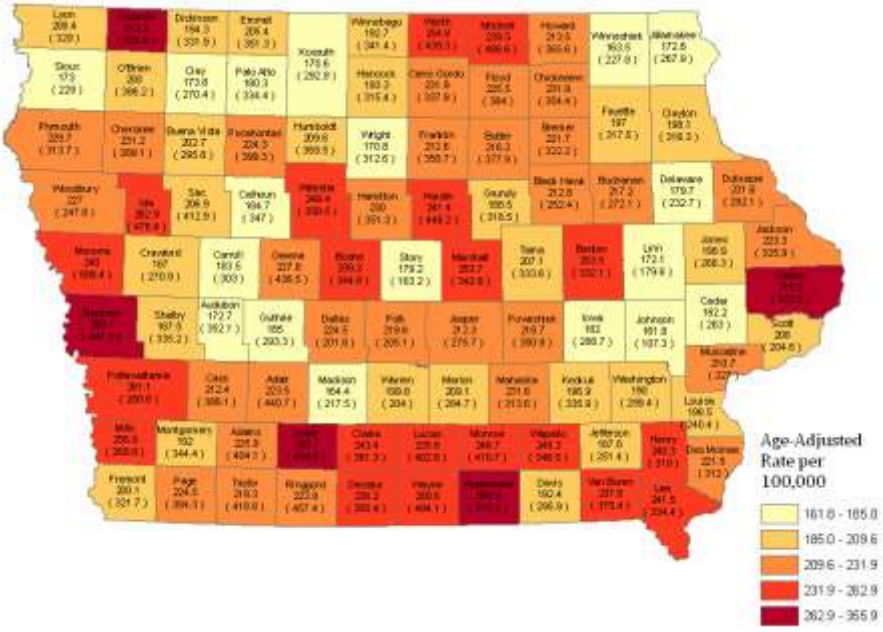
Source: Iowa Department of Public Health Vital Statistics, 2007

Figure 2. Age-adjusted heart disease mortality rates in Iowa and the United States, 1996-2005



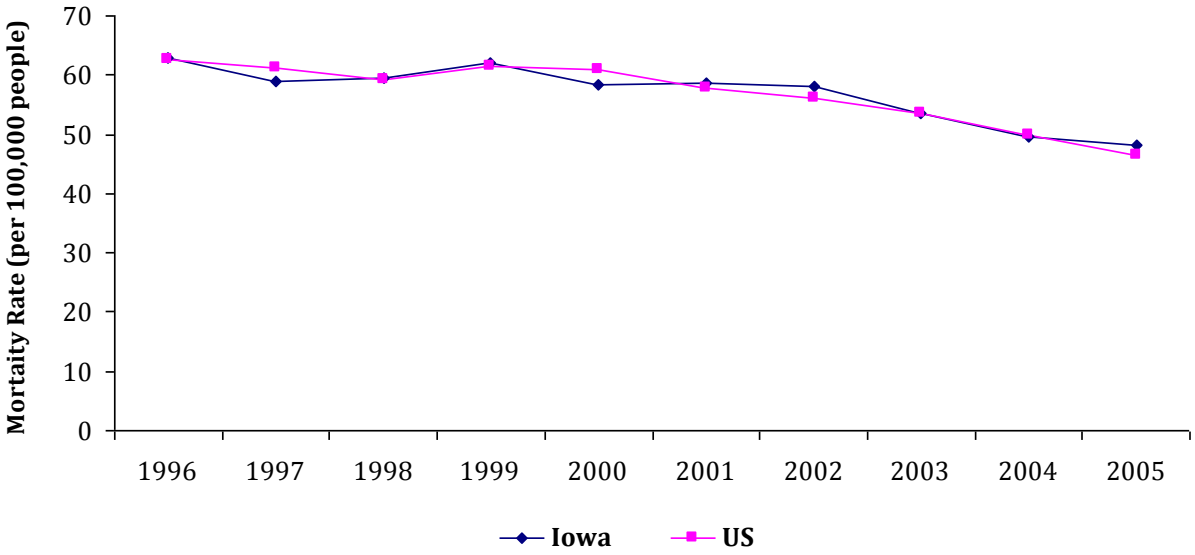
Source: Centers for Disease Control and Prevention, National Center for Health Statistics, CDC Wonder

Figure 3. Heart disease mortality rate by county, Iowa, 2001-2005



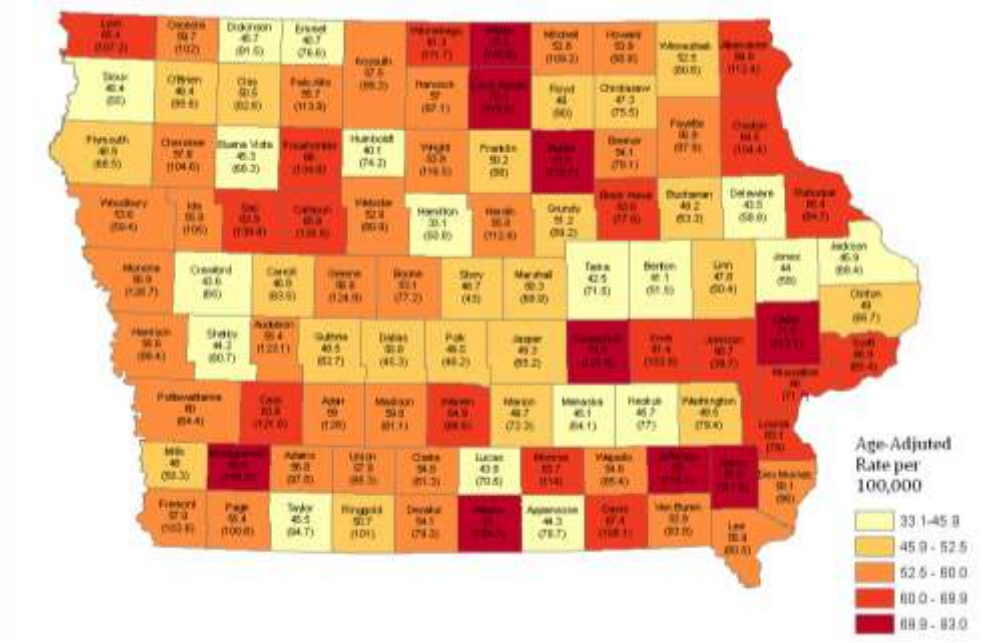
Source: Centers for Disease Control and Prevention, National Center for Health Statistics, CDC Wonder

Figure 4. Age-adjusted stroke mortality rates in Iowa and the United States, 1996-2005



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, CDC Wonder

Figure 5. Stroke mortality rate by county, Iowa, 2001-2005



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, CDC Wonder

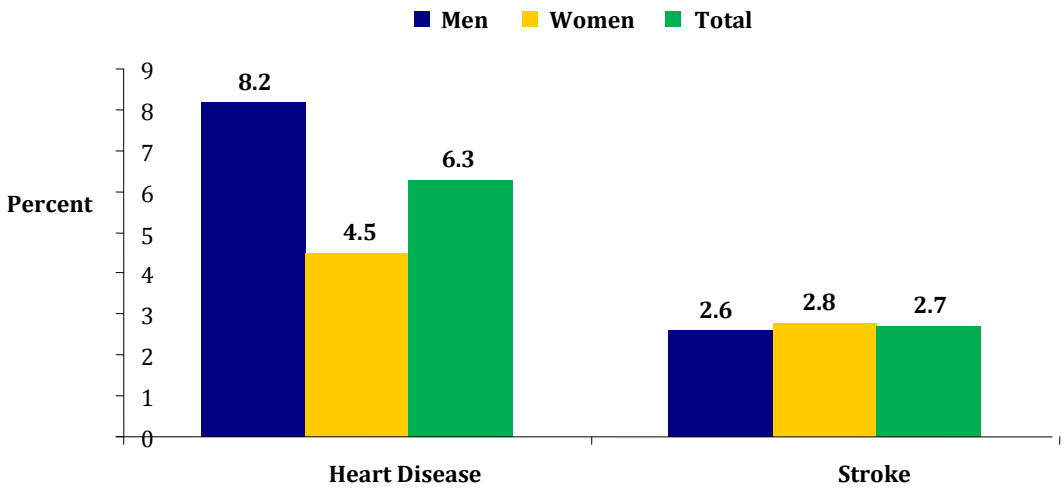
Note: Cause of death defined by the following ICD-9 and ICD-10 codes:

Disease	ICD-9 (1982-1999)	ICD-10 (1999-2005)
Diseases of the Heart (Heart Disease)	390-398, 402, 404, 410-429	I00-I09, I11, I13, I20-I51
Cerebrovascular Disease (Stroke)	430-434, 436-438	I60-I69

Prevalence

Data gathered through the BRFSS in 2007 revealed that approximately 90,000 Iowans have experienced a heart attack or coronary heart disease, and over 60,000 had experienced a stroke. In Iowa, heart disease is more common in men (8.2%) than women (4.5%). However, the data are nearly identical for the occurrence of stroke (2.6% and 2.8%).[3]

Figure 6. The prevalence of heart disease and stroke by gender in Iowa, 2007

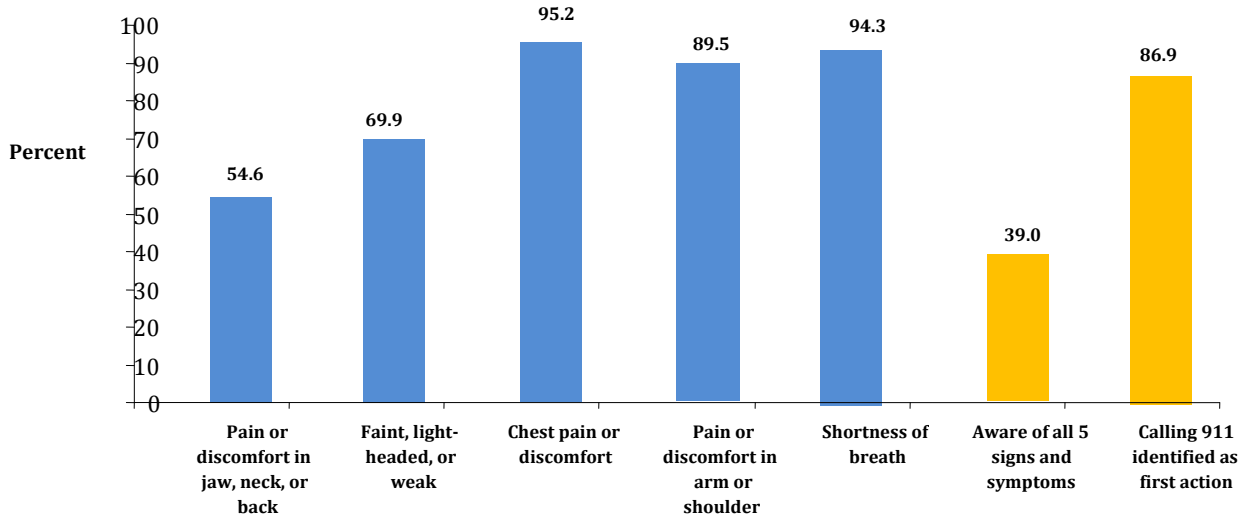


Source: 2007 Iowa BRFSS

Awareness

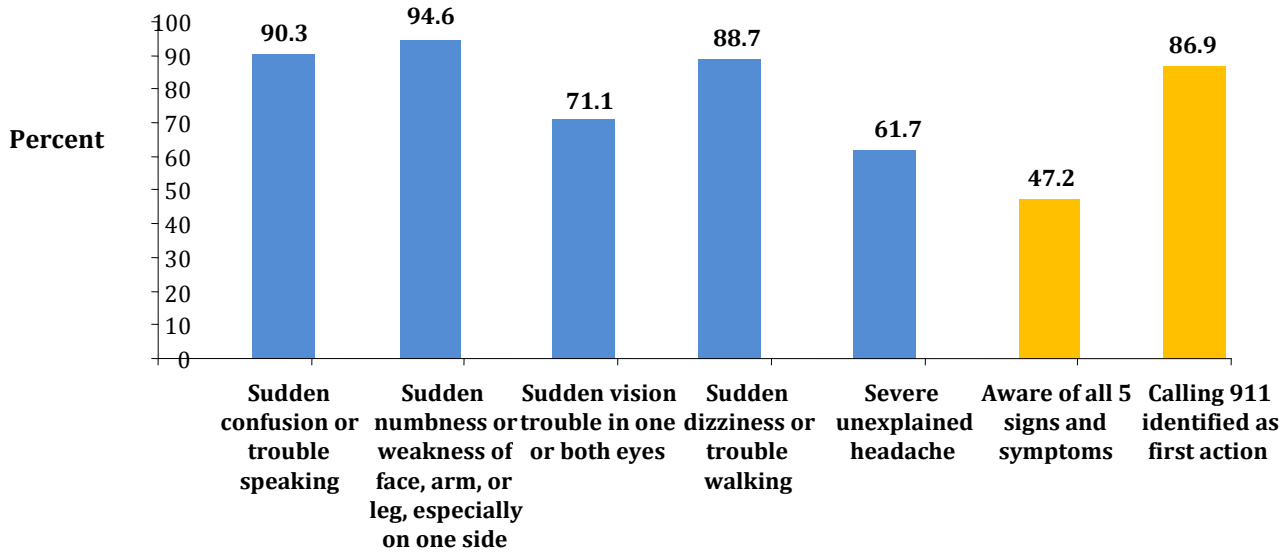
In 2005, only 39.0 percent of BRFSS respondents were aware of all five signs and symptoms of heart attack, while only 47.2 percent were aware of all five signs and symptoms of a stroke. In both cases, though, a higher number of people identified dialing 911 as the first course of action (86.9%). Efforts to increase public knowledge of the signs and symptoms of heart attack and stoke need to be made, as a rapid response is crucial to creating positive outcomes.[10]

Figure 7. Age-adjusted percentage of respondents aware of heart attack signs and symptoms in Iowa, 2005



Source: Centers for Disease Control and Prevention, Morbidity and Mortality Weekly Report 2/22/08

Figure 8. Age-adjusted percentage of respondents aware of stroke signs and symptoms in Iowa, 2005



Source: Centers for Disease Control and Prevention, Morbidity and Mortality Weekly Report 5/9/08

Note: Age-adjustment based on United States year 2000 standard population

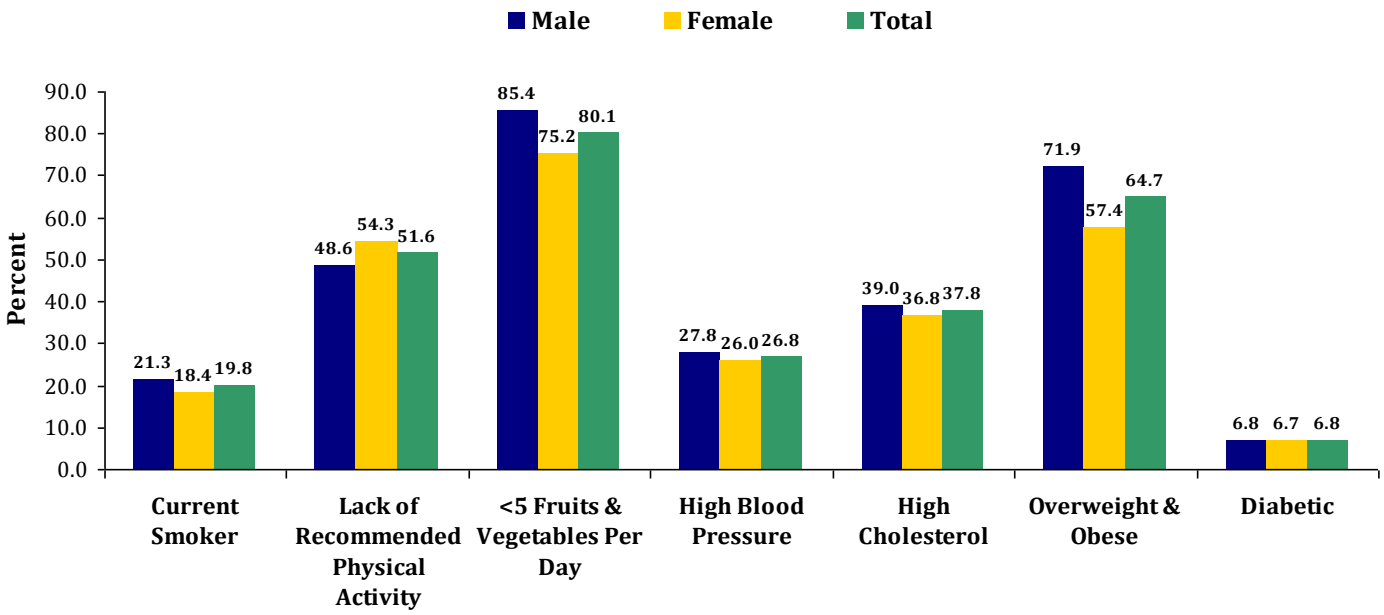
Modifiable Risk Factors for Cardiovascular Disease

It has long been recognized that several modifiable or changeable lifestyle factors increase the risk of cardiovascular disease. These behaviors include cigarette smoking, physical inactivity, and a poor diet. In addition, conditions strongly associated with cardiovascular disease include obesity, high blood pressure, high blood cholesterol, and diabetes, which carry with them a whole host of health problems. These risk factors can often be modified by changes such as increased physical activity and healthier diet, but in many cases may only be changed through medical treatment in addition to healthy living changes.[12]

In 2007, of Iowa's adult residents ages 18 and older[3]:

- 19.8% were current cigarette smokers;
- 51.6% lacked the recommended amount of physical activity;
- 80.1% ate less than five servings of fruits and vegetables per day;
- 26.8% had high blood pressure;
- 37.8% had high blood cholesterol;
- 54.7% were overweight or obese; and
- 6.8% had diabetes.

Figure 7. Behavioral risk factor incidence by gender, 2007



Source: 2007 Iowa BRFSS

High Blood Pressure

Blood pressure is the force that blood pushes against the walls of arteries. Normally, blood pressure rises and falls throughout the day. High blood pressure, also known as hypertension, develops when the blood pressure stays high over time, creating a major workload for the heart and increasing the risk of heart disease, kidney failure, and stroke. Unfortunately, high blood pressure often has no signs or symptoms and therefore goes undetected and untreated. According to the American Heart Association (AHA), 30 percent of Americans who do have high blood pressure are unaware that they have it, and an additional 25 percent do take medication but do not have their high blood pressure under control.[13]

In 2007, 26.8 percent of those people responding to the BRFSS reported ever being told they had high blood pressure. This is a sizable increase from 2005, where the reported figure was 24.5 percent. Age had the greatest impact on the number of people reporting high blood pressure, with the highest occurrence among those that are 75 and older (59.2%); the lowest incidence was found in the 18 to 24 age group (4.3%). Iowa's prevalence of hypertension, 26.8 percent, was slightly better than the national median, 27.5 percent. Of those reporting high blood pressure, 81.1 percent were currently taking medication for their condition, with females being more likely to adhere to their prescription than males (86.5% versus 75.8%).

High Blood Cholesterol

Cholesterol is a soft, fat-like waxy material found in cell membranes and carried through the bloodstream. Although a necessary substance for cell activity, too much cholesterol can build up in the walls of the arteries, causing them to become narrow and slowing blood flow to the heart. If the blood supply to a part of the heart is completely blocked, a heart attack will result. As blood cholesterol levels rise, the chance for developing heart disease or having a heart attack also increases. For this reason, high blood cholesterol is considered one of the major risk factors for heart disease.[3]

Although keeping healthy levels of blood cholesterol is important for every person, many people often do not know that their cholesterol level is too high because high blood cholesterol itself does not cause any signs or symptoms. Every individual aged 20 and older should have their cholesterol measured at least once every 5 years.[3]

In 2007, the percentage of Iowans reporting ever having their blood cholesterol checked was 76.5 percent. Of these individuals, 37.8 percent reported that at some point they had been told by a health care provider that their blood cholesterol level was high. Over the past several years, the trend of high blood cholesterol has been steadily rising.

Diabetes

Diabetes is a disease in which the body does not produce or properly use insulin, a hormone that is needed for changing blood glucose into energy. Diabetes can lead to some disabling and life-threatening complications. Most people with diabetes have health problems – or risk factors – such as high blood pressure and cholesterol levels that increase one's risk for heart disease and stroke.[3] Diabetics are prone to heart attacks at younger ages, and these events are often fatal. Over 65 percent of individuals with diabetes ultimately die from heart disease or stroke.[15]

Research studies have found that positive lifestyle changes can prevent or delay the onset of Type 2 diabetes among high risk adults. However, misunderstandings about the disease among many low-income adults in Iowa's diverse and disparate populations could affect its management.[14]

In 2007, 6.8 percent of BRFSS respondents reported that they had ever been told by a provider that they had diabetes, excluding women told only during pregnancy. This figure is lower than the 7.3 percent found in 2006 and well below the national median prevalence of diagnosed diabetes of 8.1 percent.

Lack of Physical Activity

The CDC and the National Institutes of Health (NIH) recommend at least a total of 30 minutes of moderately intense physical activity on most days of the week. According to the American Heart Association, physically inactive people are nearly twice as likely to develop heart disease as those who engage in regular physical activity. Studies have shown that regular physical activity can also reduce the risk for depression, diabetes, hypertension, and obesity by helping individuals to live longer, have a positive mental attitude, and build and maintain healthy bones, muscles, and joints. Of equal importance is evidence that strengthening exercises can reduce the risk of falls and bone fractures among older adults and improve their ability to live independently.[16]

Results of the 2007 BRFSS indicated that the proportion of adults in Iowa who do not engage in leisure physical activity is 22.1 percent, slightly below the national median of 23 percent. However, the percent of respondents that engaged in the CDC-recommended amount of physical activity was only 48.4 percent. Physical activity amounts decreased with age; to reduce the risk of heart disease and stroke, it is necessary to develop healthy ways of living at an early age, including daily physical activity.

Tobacco Use

Tobacco use is a primary risk factor for cardiovascular disease and the leading cause of preventable death in the United States. The Surgeon General referred to tobacco use as "the most important of the known modifiable risk factors for coronary heart disease in the United States". According to the Heart, Lung, and Blood Institute, cigarette smokers of any age have a 70 percent greater death rate caused by heart disease than non-smokers and are twice as likely to suffer a heart attack and stroke.[17]

In 2007, the prevalence of current cigarette use among adult Iowans was 19.8 percent, down from 21.4 percent in 2006. Among young adults (ages 18-24), 26.6 percent reported themselves as current smokers, and 48 percent of current smokers had one or more children living in the household. Among current cigarette smokers, 32 percent said they smoke fewer cigarettes now than they did before Iowa raised the cigarette tax in March 2007.[18]

Poor Diet and Nutrition

Diets high in fat and calories and low in fiber contribute to elevated cholesterol levels, obesity, and diabetes, and thus are leading contributors to heart disease and stroke. Eating more fruits and vegetables by people over age two is a practical and important way to improve nutrition,

reduce disease risk and improve health. The *2005 Dietary Guidelines for Americans* recommends 3.5 to 6.5 cups of fruits and vegetables each day for adults based on age, sex, and physical activity.[20] According to the Mortality and Morbidity Weekly Report published by the CDC, Americans over age 20 should also limit the amount of salt they eat every day to 1,500 milligrams to prevent or reduce high blood pressure.

The percentage of Iowans who eat five or more servings of fruits and vegetables per day was 19.7 percent in 2007. The age group most likely to eat five or more fruit and vegetable portions a day were those 75 years and older (31.4%), while those least likely were ages 18 to 24 years old (14.3%).[3]

Overweight and Obesity

Overweight and obesity have reached epidemic levels in the United States, and are probably the most serious health problems in America today. Obesity as a risk factor is linked to heart disease, cancer, and stroke (the first, second, and third leading causes of death). Obesity is considered to be a body mass index (BMI) greater than or equal to 30.[22] In adults, overweight is considered to be BMI between 25 and 29.9.

BRFSS data show that in 2007, 37 percent of Iowans were overweight; 27.7 percent were obese. The combined percentage of individuals who are overweight or obese is 64.7 percent, increasing from 63.0 percent in 2006. Childhood obesity prevalence is also putting the next generation at great risk for developing other long term diseases earlier in life. According to the CDC, given current trends in overweight or obesity, one in three children will develop diabetes over their lifetime.[22]

Overweight and obesity are also major factors in rising health care costs, with an annual estimate of over $75 billion in medical expenses alone in the United States, and $783 million in the state of Iowa.[23] When considering the indirect costs (e.g., lost productivity) of obesity, the cost within the state jumps to $3.4 billion.

Note: Data regarding heart disease and stroke mortality in Iowa are obtained from the Centers for Disease Control and Prevention Wonder. The Behavioral Risk Factor Surveillance System (BRFSS) survey is the source for statewide estimates of adult cardiovascular disease risk factor prevalence.

Health Disparities

The promotion of health equity for all Iowans is a main goal of the plan. Health disparity challenges in Iowa come from a combination of factors that include an aging population, medically underserved rural communities, a growing minority population, gender inequalities related to detection and treatment, and vast differences in health status for insured and uninsured populations. Despite increased spending, disparities among demographic groups persist, especially for low-income Americans and racial and ethnic minorities. With rising unemployment, disparities that are already present among these groups will continue to increase.

Race / Ethnicity

In 2007, 94.4 percent of Iowans were white, 4.0 percent were Hispanic or Latino, 2.6 percent were African-American, and 1.6 percent was Asian.[25] Due to the arrival of immigrant workers, refugees and other newcomers, changes are being seen in the racial and ethnic makeup of Iowa.

African Americans, both men and women, develop heart failure at an average age of 39 in the United States.[26] Iowa's African-American population has higher heart disease and stroke death rates than Iowa's Caucasian population.[3] These data emphasize the need to specifically address risk factors within the African-American community that can lead to heart failure.

Hispanics represent a rapidly growing proportion of Iowa's population. Between 2000 and 2005, the proportion of Hispanics in Iowa grew 75.7 percent, representing 66 percent of Iowa's total population growth. By 2030, the Latino population is projected to grow to 269,830, or 10 percent of the state's total population.

Hispanics have much higher rates of high blood pressure and obesity than do whites. For minorities, language barriers, adequate transportation, underserved areas, and cultural differences all contribute to creating a barrier to accessing adequate and appropriate health care. Furthermore, 20.2 percent of Hispanics live at or below the federal poverty level, additionally burdening this group. Hispanics are also much more likely to be uninsured.[27]

The **Asian** population sometimes has better health than whites, but has great diversity in disease rates by ethnic group. Many Asian immigrants are not comfortable using western medical care, and prefer to be seen by healers from their own culture. Similar to Hispanic populations, language can present major barriers to care for Asian Americans. Culture can also become a barrier to care when the minority patient cannot be seen by providers familiar with their own ethnic background or sensitive to their needs.[27]

Gender

For years, major heart disease and stroke studies were done on men. Yet heart disease is also the leading cause of death among women aged 65 years and older (17% of women in Iowa). Heart disease is also the second leading cause of death among women aged 45-64 years, and the third leading cause of death among women aged 25-44 years of age.[28] Women are more likely than men to have **less common** signs of a heart attack including heartburn, loss of appetite, feeling tired or weak, coughing, heart flutters.[29] Women need to gain a greater awareness of the signs and symptoms of heart attack and stroke, as well as an understanding of the risk factors for cardiovascular disease.

Age

Heart disease and stroke prevalence, hospitalizations, and deaths are much more common in older Iowans, especially for individuals over the age of 65. Over 14 percent of Iowans are within this particular age range, and 62 percent reside in rural areas where access to care can be a barrier to receiving appropriate health services. Furthermore, an aging Iowan population will continue to increase the incidence of heart disease and stroke in the state.[1]

Socioeconomic Status

Social and economic disparities within the community affect the health of Iowans. Socioeconomic status (SES) is a measure that combines economic and social factors such as income level, occupation, and education. SES is generally broken into three categories: high, middle, and low SES. Studies have shown that people of low SES report a higher prevalence of heart disease and stroke, and poorer health overall, than those with high SES. Those with low SES are also much more likely to be without health insurance.[38] For those who lack health insurance, it may be impossible to get adequate health care, which not only includes expensive surgery and hospitalizations, but also preventive care, management of chronic disorders such as diabetes and hypertension, and emergency treatment.[31] Due to the high cost of health care, people without health insurance may not get necessary care. This lack of access to care allows easily treatable conditions to become major health problems for many individuals.[32] Nationally, 14.5 percent of the population is without health care insurance; in Iowa, that number is slightly lower (10.7%).[30]

The current state and federal financial climate has resulted in lost jobs, loss of health insurance, and significantly fewer resources to dedicate to health care, wellness, and prevention. However, without efforts to improve cardiovascular health, the quality of lives and healthy years of Iowans will continue to decrease.

Location

Geographically speaking, Iowa is a rural state. Iowa's total population was 2,939,450 in 2006, of which 1,260,380 (43%) live in rural areas. Eighty-nine of the 99 counties in Iowa are rural; however, within some areas of the nine remaining urbanized counties are farms, small towns, low access roadways, and a rural culture and way of life. Fourteen percent of Iowa's rural population (inclusive of all ages) lives in poverty.[34]

Iowa's rural counties fare worse on many health measures when compared to the state average. Rural Iowans experience higher rates of chronic disease and mortality along with lower rates of physician availability than their urban counterparts.[33]

Sufficient access to care is necessary for disease prevention and illness detection through screening, treatment, and disease management. Nine of Iowa's 99 counties do not have a hospital, and 58 have at least one certified rural health clinic, 148 clinics in all. A rural health clinic is located in an area designated as a shortage area for personal health services and/or primary medical care. Iowa also has eight community health centers that provide primary health, dental, and mental health services, along with prevention, education, and case management. These health centers act as safety net providers that primarily serve indigent, medically-underserved, and under-insured populations.[30] Adults who have an ongoing source of care are much more likely to use the traditional health care system to obtain needed services.

Geographically, high levels of heart disease and stroke deaths were found in all areas of the state except the northeast. The majority of Iowa's counties are rural, and some residents live up to 35 miles from health care facility that can provide adequate emergency medical care.

Health Literacy

Health literacy is defined as the ability to "obtain, process, and understand basic health information and services needed to make appropriate health decisions".[35] Health literacy involves not only the patient, but the provider as well through interaction and understanding. While general literacy does indeed affect health literacy, they are not the same thing; a person may be able to read and write but still have limited health literacy.

Research on this topic has shown the unfavorable effects of low health literacy on health behaviors, use of preventative services, preventable hospital visits and admissions, management of chronic conditions, health outcomes, and costs. The impact of low health literacy is most heavily felt by populations that include the elderly, diverse and disparate populations, those with limited education, and non-native English speakers.[35]

Health literacy has become a concern not only in the state of Iowa but also nationwide. The 2003 National Assessment of Adult Literacy (NAAL) found that only 12 percent of the 19,000 adults surveyed demonstrated proficiency in health literacy. In Iowa, 38 percent of adults read below high school level, and the proportion of populations where low health literacy is common are increasing.

Health literacy is widely recognized as a cross-cutting priority to improve quality and patient safety in health care. There is a need to increase the use of best practices guidelines to improve communication between health care providers and their patients, thereby improving individual care and outcomes. By incorporating tools such as Ask Me 3,[37] patients can be empowered to get answers to their questions from their health care providers. Stakeholders within the health care arena have an interest in improving health literacy.[36]

Goals, Objectives, and Suggested Strategies

Goals, Objectives, and Suggested Strategies

The *Iowa Comprehensive Heart Disease and Stroke Plan 2010-2014* was developed using the six program priorities identified by the Centers for Disease Control and Prevention as the plan infrastructure. Several objectives were identified for each goal. The following contains each goal's objectives followed by suggested strategies for success.

Goal 1: Control High Blood Pressure

Objective 1-1. By 2014, reduce the prevalence of high blood pressure in Iowans from 26.8% to 20.0%.

- Develop regional health/wellness councils that collaborate with existing initiatives to increase awareness and educate Iowans.
- Encourage communities to implement community-based environmental changes that improve population health status, such as green spaces, parks, trails, and wellness centers.
- Support legislation to provide incentives to small businesses (2-100 employees) for providing worksite wellness opportunities.
- Develop partnerships to assist small- and medium-sized employers in implementing wellness programs and health risk assessments (HRAs) for employees.
- Partner with pharmacies to identify solutions for medication compliance issues.
- Integrate and support the goals and objectives of the Iowa Department of Public Health, Division of Tobacco Use Prevention and Control.

Objective 1-2. By 2012, promote an easily understandable and effective food labeling system at retail stores.

- Educate and engage policymakers regarding the need for a food labeling system.
- Partner with retailers who have implemented labeling system and promote efforts to expand such systems.

Objective 1-3. By 2012, develop and initiate an awareness campaign on the amount of salt contained in processed foods and the impact on health.

- Increase the awareness of policymakers on the amount of salt in processed foods and the impact on the health of Iowans.
- Organize a salt reduction task force to address the impact of excessive salt on the health and wellness of Iowans.

Goal 2: Control High Blood Cholesterol

Objective 2-1. By 2014, raise awareness of personal blood cholesterol levels among Iowans age 35 and over from 84.7% to 90% of this target group.

- Target counties with high non-white populations for educational efforts focused on raising awareness of prevention and treatment.
- Target counties with significant low income for educational efforts focused at raising awareness of high blood cholesterol.
- Provide tobacco user outreach to inform on the specific risks of smoking and compounding risks of high cholesterol.
- Engage Iowa Department of Public Health, Bureau of Tobacco Use Prevention and Control in highlighting cholesterol risks in existing anti-smoking efforts.
- Increase provider (physician, pharmacists, nurse, nurse practitioner) awareness of demographic risk factors related to high blood cholesterol and to encourage screening.
- Develop a provider toolkit for high blood cholesterol.

Objective 2-2. By 2014, raise awareness of personal blood cholesterol levels among Iowan households with less than $35,000 in annual income from 64.9% to 75%.

- Target counties with high non-white populations for educational efforts focused on raising awareness of prevention and treatment.
- Target counties with significant low income for educational efforts focused at raising awareness of high blood cholesterol.
- Provide tobacco user outreach to inform on the specific risks of smoking and compounding risks of high cholesterol.
- Engage Iowa Department of Public Health, Bureau of Tobacco Use Prevention and Control in highlighting cholesterol risks in existing anti-smoking efforts.
- Increase provider (physician, pharmacists, nurse, nurse practitioner) awareness of demographic risk factors related to high blood cholesterol and to encourage screening.
- Develop a provider toolkit for high blood cholesterol.

Objective 2-3. Increase education and dissemination of information on improving personal blood cholesterol levels, living successfully with high blood cholesterol, and how to avoid complications.

- Engage employers in educational efforts for employees.
- Target congregate meal sites to both provide education and to ensure healthy meal options for seniors are available.
- Identify partners to join in communication efforts for this objective, including providers, insurers, employers, private partners, policymakers.
- Identify barriers to patient nonconformity in regards to healthy lifestyle choices, determine levels of compliance with suggested healthy behaviors, and develop a plan to address this matter.

Objective 2-4. By 2014, support public policy changes that encourage the reduction of blood cholesterol levels among Iowans with a focus on employer incentives, publicly funded programs, and community-based programs.

- Support a Medicaid requirement to screen for high blood cholesterol.
- Encourage employers to provide risk assessments to employees.
- Encourage community-based wellness and prevention programs.
- Require health impact statements for public policy changes to isolate unintended consequences resulting from a change in public policy.
- Collaborate with and support the work of the Iowa Healthcare Collaborative Medical Home Learning Community.

Goal 3: Improve Emergency Response

Objective 3-1. By 2014, develop a statewide, time-sensitive system for cardiovascular events, focusing on assessment and transport to a facility that provides definitive care. Ensure every Iowan has access to evidence-based cardiovascular intervention, regardless of geographic location.

- Engage all Iowa hospitals for the purpose of the development of a standardized protocol and sharing of data.
- Use evidence-based best practices to identify protocol specifics (e.g., acute cardiac event, ischemic stroke, acute aortic aneurysm).
- Use the Iowa State STEMI Task Force and the Iowa State Stroke Task Force to develop standardized protocols.

Objective 3-2. By 2014, standardize an evidence-based hospital treatment plan/protocol for time-sensitive cardiac events.

- Engage all Iowa hospitals and Emergency Medical Services (EMS) in the use of a standardized treatment plan/protocol in collaboration with the Iowa State STEMI Task Force.
- Develop a plan to ensure a communication loop among acute cardiac capable hospitals, Critical Access Hospitals, and EMS on patient-specific outcomes.
- Standardize processes and data elements for the transfer of cardiac patients.
- Create a simple, concise measurement tool to evaluate the effectiveness of treatment plans/protocols and outcomes using established, evidence-based national measures.

Objective 3-3. By 2014, standardize an evidence-based hospital treatment plan/protocol for time-sensitive stroke events.

- Engage all Iowa hospitals in the use of a standardized treatment plan/protocol in collaboration with the Iowa State Stroke Task Force.
- Develop a plan to ensure a communication loop among acute stroke capable hospitals, Critical Access hospitals, and EMS on patient specific outcomes.
- Use nationally accepted, evidence-based definitions for stroke data collection.
- Create a simple, concise measurement tool to evaluate the effectiveness of treatment plans/protocols and outcomes using established, evidence-based national measures.

Goal 4: Improve the Quality of Care

Objective 4-1. By 2011, develop and deploy a hospital-specific, statewide cardiovascular data measure set.

- Identify existing data sets.
- Convene a Cardiovascular Data Task Force to select a subset of existing cardiovascular measures and determine a mechanism for data collection, review, analysis, and dispersion.
- Approval by the statewide IHC Data Committee of a measure set.

Objective 4-2. By 2014, promote improved transitions of care from acute care to the community setting.

- Define "transition" to promote statewide consistency.
- Define and deploy a common best practice model of transition for heart failure, heart attack, and stroke.
- Develop a Web-based transition of care toolkit for stroke.
- Increase provider (physicians, nurses, discharge planners, case managers) awareness of patient transition of care resources.

Objective 4-3. By 2014, define and deploy a set of common principles for evidence-based, effective cardiovascular self-management.

- Develop a common statewide definition for effective chronic heart failure self-management.
- Identify existing self-management models.
- Support the work of projects such that use evidence-based chronic disease self-management programs.
- Train primary care and hospital health care professionals about the teach-back technique in patient education.
- Support development of a statewide database that collects multiple risk factor data elements, such as cholesterol and blood pressure values.

Objective 4-4. By 2014, train 50 primary care settings in Iowa on the medical home concept, including data collection and health coaching.

- Educate and present the business case to health leaders and health systems on the value of the medical home concept.
- Provide education to the general public on the intent and value of medical home.
- Collaborate with and support the recommendations of the Iowa Department of Public Health Prevention and Chronic Care Advisory Council for developing a statewide chronic disease database.
- Collaborate with and support the work of the Iowa Healthcare Collaborative Medical Home Learning Community.

Goal 5: Increase Awareness of Signs and Symptoms of Heart Attack and Stroke and the Need to Call 911

Objective 5-1. By 2014, expand the availability of cardiopulmonary resuscitation (CPR) education in Iowa to include middle school students.

- Educate policymakers on the importance of CPR education for middle school students.
- Expand the Iowa Healthy Kids Act of 2008 to include CPR education as part of the health curriculum in middle schools and high schools.
- Establish a baseline measure of schools with CPR education in collaboration with the Iowa Department of Education.

Objective 5-2. By 2014, increase public awareness of the five signs and symptoms of heart attack and the need to call 911 from 34.3% to 45.0%.

- Develop and initiate a statewide interactive social media campaign to increase awareness of the signs and symptoms of heart attack and the importance of calling 911 to activate the emergency response system; include high technology venues to disseminate information.
- Use best practice guidelines for reader-friendly materials development and health literacy.
- Include access to reader-friendly materials in multicultural languages.

Objective 5-3. By 2014, increase public awareness of the five signs and symptoms of stroke and the need to call 911 from 41.3% to 50.0%.

- Develop and initiate a statewide interactive social media campaign to increase awareness of the signs and symptoms of stroke and the importance of calling 911 to activate the emergency response system; include high use technology venues to disseminate information.
- Use best practice guidelines for reader-friendly materials development and health literacy.
- Include access to reader-friendly materials in multicultural languages.

Objective 5-4. By 2014, increase awareness of public access to defibrillation to reduce emergency response time and prevent cardiac arrest with the goal of meeting nationally recognized guidelines regarding time lapse from cardiac event to treatment.

- Educate policymakers on the need for automated external defibrillators (AEDs) in public locations, as well as funding requirements for AEDs.
- Equip 90% of malls and convention centers in Iowa with AEDs.
- Establish a mechanism to identify AED locations in response to emergency 911 calls.
- Provide public information on the use and access of AEDs.

Goal 6: Eliminate Disparities

Objective 6-1. By 2014, increase the number of covered lives encountered by telehealth services for cardiovascular conditions.

- Identify and promote existing telehealth services provided in Iowa.
- Increase awareness and engage policymakers on the need for funding of telehealth services.
- Support aligned incentives for the use of telehealth technology.

Objective 6-2. By 2014, increase the number of critical access hospitals with connectivity, provider to provider and ER to ER, via telemedicine for acute care services.

- Identify current connectivity.
- Increase awareness and engage policymakers on the need for a statewide telemedicine network.
- Partner with organizations awarded the FCC grant to build telemedicine networks.
- Identify best practices in telemedicine as a model (i.e., Medical College of Georgia).

Objective 6-3. By 2012, develop strategies to increase the number of rural Iowans served and rides provided to health care delivery organizations.

- Support ongoing initiatives of the Iowa Department of Public Health (IDPH) and the Iowa Department of Transportation (DOT) as described in Healthy Iowans 2010, Access Chapter, Goal 1-10.
- Develop strategies to increase the number served and the number of rides provided for increased access to health care.
- Advocate for legislative funding to provide affordable rural transportation.
- Expand the awareness of increased transportation services available to rural Iowans.

Objective 6-4. By 2011, expand the education of the medical community on the culturally specific differences of Hispanic, African American, and Asian populations.

- Integrate cultural competency training for health care professionals into the curricula of state credentialed health professional programs and continuing education unit (CEU) venues.
- Support the recommendations of the Iowa Prevention and Chronic Care Management Advisory Council in expanding health care professional curriculums.
- Integrate cultural sensitivity awareness and training opportunities for ancillary and support staff at medical facilities.
- Engage the Minority Health Council as a resource on cultural variances.

Objective 6-5: By 2014, increase the education of diverse and disparate populations on cardiovascular wellness, disease prevention, and intervention.

- Develop culturally specific approaches to increase the education of Hispanic, African American, and Asian populations.
- Provide access to literature in multicultural languages.

Measurement and Evaluation

Measurement and Evaluation

Measurement and evaluation activities described in this section involve and correlate to the implementation of the *Iowa Comprehensive Heart Disease and Stroke Plan 2010-2014***.** Data collection and analysis of both processes and outcomes will be conducted for a comprehensive evaluation of the impact of the plan. Lead organizations were identified by the Cardiovascular Task Force as having the most potential impact upon each strategy and therefore most appropriate to direct implementation. Through their efforts and the efforts of additional partnerships, the lead organization will take the responsibility of collecting and reporting data to verify the processes and outcomes of intervention strategies. However, the identification of an organization here does not, at this time, imply accountability to that organization for implementation of the plan.

The impact of intervention strategies at multiple levels will also be evaluated to determine changes among individuals, in organizations, and in communities. It is not expected that adequate resources will be available to evaluate every intervention activity listed in this document, and therefore certain evaluation activities will be limited. A close working relationship is needed between program evaluators and partners implementing the strategies to ensure proper implementation and evaluation of the strategy, as well as to provide guidance should the strategy need to be updated.

The following strategies, measurements, and partner organizations were identified and developed by all six groups that comprised the Cardiovascular Task Force for the *Iowa Comprehensive Heart Disease and Stroke Health Plan 2010-2014*.

Goal 1: Control High Blood Pressure

To improve the health and quality of life of Iowans, the first goal of the *Iowa Comprehensive Heart Disease and Stroke Health Plan 2010-2014* is to control high blood pressure (hypertension). Strategies for this goal focus on prevention and treatment, including reducing the percentage of undiagnosed hypertensive people, decreasing the percentage of pre-hypertensive people, increasing the percentage of people with controlled hypertension, and enhancing medication compliance by individuals. Action steps are outlined to support and educate Iowans on healthy lifestyles through physical activity and nutrition.

Objective 1-1. By 2014, reduce the prevalence of high blood pressure in Iowans from 26.8% to 20.0%.

Data Measurement and Evaluation

- Behavioral Risk Factor Surveillance System (BRFSS) data pertaining to hypertension
- State Inpatient Database (SID) information regarding hypertension admission rates
- Establish baseline and track the number of businesses offering worksite wellness opportunities
- Record of legislation that provides incentives for worksite wellness programs
- Documentation of solutions for medication compliance issues

Lead Organization: Iowa Department of Public Health

Objective 1-2. By 2012, promote an easily understandable, effective food labeling system at retail stores.

Data Measurement and Evaluation

- Documentation of conversations with policymakers in regard to food labeling
- Establish baseline measure
- Track consumer spending in food stores in relation to the labeling system

Lead Organization: Iowa Department of Public Health

Objective 1-3. By 2012, develop and initiate an awareness campaign on the amount of salt contained in processed foods the impact on health.

Date Measurement and Evaluation

- Documentation of conversations with policymakers in regard to salt in processed foods
- Establishment of a Salt Reduction Task Force

Lead Organization: Iowa Department of Public Health

Goal 2: Control High Blood Cholesterol

Because of its impact on cardiovascular disease, the second goal of the Iowa Comprehensive Heart Disease and Stroke Health Plan 2010-2014 outlines objectives that address high blood cholesterol levels. The objectives focus on prevention and risk reduction of blood cholesterol and identification of multiple risk factors, particularly for certain populations.

Objective 2-1. By 2014, raise awareness of personal blood cholesterol levels among Iowans age 35 and over from 84.7% to 90% of this target group.

Data Measurement and Evaluation

- Five-year awareness of personal blood cholesterol levels among 35-54 year olds and ages 54+ (BRFSS)
- Documentation of tobacco user outreach in community settings
- Establishment of a provider toolkit for high blood cholesterol

Lead Organization: Iowa Department of Public Health

Objective 2-2. By 2014, raise awareness of personal blood cholesterol levels among Iowan households with less than $35,000 in annual income from 64.9% to 75%.

Data Measurement and Evaluation

- Five-year awareness of personal blood cholesterol levels among households under $35,000 in annual income (BRFSS)
- Documentation of tobacco user outreach in community settings
- Establishment of a provider toolkit for high blood cholesterol

Lead Organization: Iowa Department of Public Health

Objective 2-3. Increase education and dissemination of information on improving personal blood cholesterol levels, living successfully with high blood cholesterol, and how to avoid complications.

Data Measurement and Evaluation

- Baseline to be determined
- Documentation of conversation with employers regarding educational efforts for their employees
- Documentation of education and healthy menu options at congregate meal sites
- Use database information pertaining to cholesterol levels and behavioral risk factors

Lead Organization: American Heart Association

Objective 2-4. By 2014, support public policy changes that encourage the reduction of blood cholesterol levels among Iowans with a focus is on employer incentives, publicly funded programs, and community-based programs.

Data Measurement and Evaluation

- Track the number of recommended policy changes implemented
- Documentation of risk assessments provided to employees
- Documentation of legislative impact
- Establishment of a database of community wellness programs

Lead Organization: Iowa Department of Public Health

Goal 3: Improve Emergency Response

To ensure optimal care and improve patient outcomes for every Iowan, the Iowa Comprehensive Heart Disease and Stroke Health Plan 2010-2014 addresses issues related to emergency response and identifies potential areas and strategies for improvement. Some strategies, for example, work to ensure timely and appropriate use of thrombolytic therapy to improve patient outcomes.

Objective 3-1. By 2014, develop a statewide, time-sensitive system for cardiovascular events, focusing on assessment and transport to a facility that provides comprehensive care. Ensure every Iowan has access to evidence-based cardiovascular intervention, regardless of geographic location.

Data Measurement and Evaluation

- Baseline to be determined
- Emergency Medical Service (EMS) data related to pre-hospital cardiac disease and stroke
- Established measures of:
    - The Agency for Health Research and Quality (AHRQ)
    - Centers for Medicare and Medicaid (CMS)
    - The Iowa Report, produced by the Iowa Healthcare Collaborative (IHC)

- University of Iowa College of Public Health – Injury Prevention Resource Center data related to heart attack and stroke
- Establishment of defined triage & transfer protocols for acute heart attack/ stroke capable and Critical Access hospitals.
- Establishment of a mechanism for sharing statewide acute heart attack/ stroke capable data

Lead Organization: Iowa Healthcare Collaborative

Objective 3-2. By 2014, standardize an evidence-based hospital treatment plan/protocol for time-sensitive cardiac events.

Data Measurement and Evaluation

- Establishment of a standardized treatment plan/protocol
- Track the number of hospitals using the standardized treatment plan/protocol
- Development of an effectiveness measurement tool
- Emergency Medical Service (EMS) data related to pre-hospital cardiac disease and stroke
- Established measures of:
    - The Agency for Health Research and Quality (AHRQ)
    - Centers for Medicare and Medicaid (CMS)
    - The Iowa Report, produced by the Iowa Healthcare Collaborative (IHC)
- University of Iowa College of Public Health – Injury Prevention Resource Center data related to heart attack and stoke
- Establishment of a mechanism for sharing statewide acute heart attack/ stroke capable data

Lead Organization: Iowa Hospital Association

Objective 3-3. By 2014, standardize an evidence-based hospital treatment plan/protocol for time-sensitive stroke events.

Data Measurement and Evaluation

- Establishment of a standardized treatment plan/protocol
- Track the number of hospitals using the standardized treatment plan/protocol
- Creation of an effectiveness measurement tool
- Emergency Medical Service (EMS) data related to pre-hospital cardiac disease and stroke
- Established measures of:
    - The Agency for Health Research and Quality (AHRQ)
    - Centers for Medicare and Medicaid (CMS)
    - The Iowa Report, produced by the Iowa Healthcare Collaborative (IHC)
- University of Iowa College of Public Health – Injury Prevention Resource Center data related to heart attack and stroke
- Establishment of a mechanism for sharing statewide acute stroke capable data

Lead Organization: Iowa Hospital Association

Goal 4: Improve the Quality of Care

Strategies outlined in Goal 4 of the Iowa Comprehensive Heart Disease and Stroke Health Plan 2010-2014 are intended to improve the quality of care through data collection and benchmarking. The dissemination of information regarding best practices gathered from these data will enhance quality, safety, effectiveness, and efficiency for heart attack, heart failure, and stroke.

Objective 4-1. By 2011, develop and deploy a hospital-specific, statewide cardiovascular data measure set.

Data Measurement and Evaluation

- Baseline to be determined
- Established measures of:
    - The Agency for Health Research and Quality (AHRQ)
    - Centers for Medicare and Medicaid (CMS)
    - The Iowa Report, produced by the Iowa Healthcare Collaborative (IHC)
- Determine the percent of hospitals voluntarily reporting cardiovascular data by 2014.

Lead Organization: Iowa Healthcare Collaborative

Objective 4-2. By 2014, promote improved transitions of care from acute care to the community setting.

Data Measurement and Evaluation

- Documentation of a common definition and model for heart failure, heart attack, and stroke transition
- Development of a Web-based transition of care toolkit for stroke
- Percent of hospitals implementing the transition toolkits
- Determine baseline and track hospital readmission rates

Lead Organization: Iowa Healthcare Collaborative

Objective 4-3. By 2014, define and deploy a set of common principles for evidence-based, effective cardiovascular self-management.

Data Measurement and Evaluation

- Approved set of principles by the Iowa Healthcare Collaborative (IHC) Cardiovascular Work Group
- Determine baseline and track hospital readmission rates

Lead Organization: Iowa Healthcare Collaborative

Objective 4-4. By 2014, train 50 primary care settings in Iowa on the medical home concept, including data collection and health coaching.

Data Measurement and Evaluation

- Annually report the number of primary care settings trained through the Iowa Healthcare Collaborative (IHC) Medical Home Learning Community
- Development of a statewide chronic disease database
- Track the number of National Committee for Quality Assurance (NCQA)-certified medical homes
- Use of a data collection tool

Lead Organization: Iowa Healthcare Collaborative

Goal 5: Increase Awareness of the Signs and Symptoms of Heart Attack and Stroke and the need to call 911

The fifth goal of the Iowa Comprehensive Heart Disease and Stroke Health Plan 2010-2014 involves increasing the awareness of the need for emergency response. It is crucial that the public be made aware of the signs and symptoms of heart attack and stroke in order to ensure timely access for patients to evidence-based medical care. Outcomes can be vastly improved when timely, appropriate medical care is given in the event of a cardiac episode.

Objective 5-1. By 2014, expand the availability of cardiopulmonary resuscitation (CPR) education in Iowa to include middle schools.

Data Measurement and Evaluation

- Documentation of communication with policymakers to provide CPR education in middle schools
- Baseline measurement established

Lead Organizations: Iowa Department of Education/ American Heart Association

Objective 5-2. By 2014, increase public awareness of signs and symptoms of heart attack and the need to call 911 from 34.3% to 45.0%.

Data Measurement and Evaluation

- Baseline: 39.0 percent of adults know all five heart attack signs and symptoms (2005 BRFSS)

Lead Organizations: American Heart Association/ Iowa Department of Public Health

Objective 5-3. By 2014, increase public awareness of signs and symptoms of stroke and the need to call 911 from 41.3% to 50.0%.

Data Measurement and Evaluation

- Baseline: 47.2 percent of adults know all five stroke signs and symptoms (2005 BRFSS).

Lead Organizations: American Stroke Association/ Iowa Department of Public Health

Objective 5-4. By 2014, increase awareness of public access to defibrillation to reduce emergency response time and prevent cardiac arrest with the goal of meeting nationally recognized guidelines regarding time lapse from cardiac event to treatment.

Data Measurement and Evaluation

- Documentation of communication with policymakers in regards to automated external defibrillators (AEDs)
- Establish baseline and track malls and convention centers equipped with AEDs
- Documentation of processes necessary to implement a mechanism to identify AED locations

Lead Organization: Iowa Department of Public Health

Goal 6: Eliminate Disparities

The final goal of the Iowa Comprehensive Heart Disease and Stroke Health Plan 2010-2014 focuses on eliminating disparities by targeting specific populations. The objectives outlined here support the needs of patients with limited English language skills, as well as those who live in rural areas.

Objective 6-1. By 2014, increase the number of lives served by telehealth services for cardiovascular conditions.

Data Measurement and Evaluation

- Baseline to be determined
- Documentation of communication with policymakers in regards to telehealth services

Lead Organization: Iowa Department of Public Health

Objective 6-2. By 2014, increase the number of critical access hospitals with connectivity, provider to provider and ER to ER, via telemedicine for acute care services.

Data Measurement and Evaluation

- Baseline to be determined
- Documentation of communication with policymakers in regards to telemedicine services
- Adoption of a telemedicine best practice model

Lead Organization: Iowa Hospital Association

Objective 6-3. By 2012, develop strategies to increase the number of rural Iowans served and the number of rides provided to health care delivery organizations.

Data Measurement and Evaluation

- Establish a baseline on the number of people served through coordinated transportation systems, especially rural
- Documentation of communication with policymakers in regards to telehealth/telemedicine services
- Documentation of demonstrated need for rides

Lead Organization: Iowa Department of Transportation

Objective 6-4. By 2011, expand the education of the medical community on the culturally specific differences of Hispanic, African American, and Asian populations.

Data Measurement and Evaluation

- Implementation of cultural competency training into the curricula of state accredited health professional programs
- Track continuing education unit (CEU) hours for cultural sensitivity training for medical and non-medical staff
- Input from the Minority Health Council

Lead Organization: Iowa Department of Public Health

Objective 6-5. By 2014, increase the education of minority populations on cardiovascular wellness, disease prevention, and intervention.

Data Measurement and Evaluation

- Baseline to be determined
- Documentation of contacts with target populations

Lead Organization: Iowa Department of Public Health

Ongoing Evaluation

Ongoing evaluation of the *Iowa Comprehensive Heart Disease and Stroke Plan 2010-2014* includes a systematic approach to data collection, analysis, and interpretation. The tracking of risk factor prevalence as well as disease outcomes is particularly important to successfully combat cardiovascular disease.

Data sources identified in this plan may be used to further evaluate the plan's impact on cardiovascular disease in Iowa. Mortality data collected from death certificates have information regarding cause of death and are analyzed by the IDPH. The annual statewide BRFSS survey of risk factors, screening prevalence, and awareness of signs and symptoms of heart attack and stroke is conducted by the IDPH.

In addition, some measures from the Health Plan Employer Data and Information Set (HEDIS) are used to indicate quality of treatment for conditions such as hypertension and high cholesterol in certain patient populations. HEDIS was developed to assist purchasers of health care in evaluating the amount and quality of clinical care provided to health maintenance organization members. HEDIS measures are collected annually from the administrative records, medical records or patient charts, and surveys from health plans, and are reported to the IDPH.

During this decade, Healthy People 2010 has served as a guide for nearly every planning process from the National Institutes of Health and other federal grant programs to state and local planning efforts. Because of its major impact, considerable attention has been given to the framework for the next set of objectives and goals in Healthy People 2020. At its October meeting, the Health and Human Services Secretary's Advisory Committee on Health Promotion and Disease Prevention made its final recommendations on an action model adapted from the Institute of Medicine (IOM). This model addresses environmental factors contributing to our collective health and illness by calling for healthy places and supportive public policies. The

main focus of Healthy People 2020 will be on determinants of health, with health care as a secondary emphasis. This model can also be used to evaluate and achieve the goals of the *Iowa Comprehensive Heart Disease and Stroke Plan 2010-2014.*

Some of the objectives of the *Iowa Comprehensive Heart Disease and Stroke Plan 2010-2014* were created using the objectives of Healthy Iowans 2010, the state plan based off of Healthy People 2010, produced by the Centers for Disease Control and Prevention (CDC). The following is a short list of goals found in Healthy Iowans 2010, the 2010 target, and the data found by in 2007 by the BRFSS report and vital statistics of Iowa. For comparison, the goals of this plan are compared to those of Healthy Iowans 2010. Further information pertaining to cardiovascular disease not addressed in this state plan can be found in both Healthy Iowans 2010 as well as the BRFSS report.

Healthy Iowans 2010 Goal	Baseline (2003)	2010 Target	2007	Plan Goal
Reduce by 13% heart disease deaths among all Iowans (Goal 9-1)	266 deaths per 100,000 pop.	232 deaths per 100,000 pop.	229.0	N/A
Increase from 350,000 to 500,000 per year the number of people over age 16 who are aware of the early warning signs and symptoms of a heart attack and the importance of rapid emergency care by calling 911 (Goal 9, Action Step 1.1)	350,000	500,000	34.3%	45%
Reduce by 16% stroke deaths among Iowans (Goal 9-2)	70.4 deaths per 100,000 pop.	59 deaths per 100,000 pop.	56.2	N/A
Reduce the prevalence of high blood pressure (Goal 9-3)	25.1%	14.9%	26.8%	20.0%
Reduce the prevalence of high blood cholesterol (Goal 9-4)	31.7%	21.7%	37.8%	30.0%
Establish a baseline on the number of people served through coordinated transportation systems, especially rural, and develop strategies to increase the number served and the number of rides provided for increased access to health care and other services in Iowa (Goal 1-10)	TBD	-	-	TBD
Develop a strategic plan to assess and employ telehealth and telemedicine that can increase access to quality health services in Iowa (Goal 1-12)	TBD	-	-	TBD

Next Steps

The goal of the *Iowa Comprehensive Heart Disease and Stroke Plan 2010-2014* is for all Iowans to become active participants in the implementation of the outlined strategies. The IDPH, with its partners, will publicize and promote the plan throughout the entire state. The plan will be available to all Iowans on the Iowa Department of Public Health Web site.

The Heart Disease and Stroke Prevention Program will guide the implementation steps developed by each subcommittee. The CDC identifies the next steps to effective implementation as:

1. Take action – Put present knowledge to work; act on what is already known to be effective.
2. Strengthen the capacity – Transform public health agencies, strengthen their competencies and resources; develop new partnerships and expand existing ones.
3. Evaluate impact – Monitor and evaluate the impact of interventions to identify and implement those most effective.
4. Advance policy – Identify the most critical policy issues, support the issues with research and evidence, and expedite policy development.
5. Engage in regional partnerships – Develop and expand relationships, building on the knowledge of others throughout our state who are addressing same or similar challenges.

Collaboration among stakeholders and partners will be necessary to promote expansion of capacity and expertise to better serve the goals of improving individual and population health. [1] Implementation and sustainability of the plan will be dependent upon resource availability for the selected intervention strategies. This plan will only be successful through the commitment and support of multiple partnerships across the state of Iowa.

Appendices

Appendix A: Iowa Comprehensive Heart Disease and Stroke Health Plan 2010-2014 Partners

This list demonstrates the variety of stakeholders involved in completing the planning process. It does not imply accountability or endorsement of the plan.

American Heart Association	Overland Park, KS
Alegent Health System – Mercy Hospital	Council Bluffs, IA
Audubon County Public Health	Audubon, IA
AED Access for All	Ankeny, IA
Des Moines University	Des Moines, IA
Genesis Medical Center	Davenport, IA
Harrison County Public Health	Logan, IA
Independent Insurance Agents of Iowa	West Des Moines, IA
Iowa Center on Health Disparities	Cedar Falls, IA
Iowa Chronic Care Consortium	Des Moines, IA
Iowa Department of Administrative Services	Des Moines, IA
Iowa Department of Elder Affairs	Des Moines, IA
Iowa Department of Human Rights, Division of Latino Affairs	Des Moines, IA
Iowa Department of Human Rights, Division of Status on African Americans	Des Moines, IA
Iowa Department of Public Health, Bureau of Chronic Disease Prevention and Management	Des Moines, IA
Iowa Department of Public Health, Bureau of EMS	Des Moines, IA
Iowa Department of Public Health, Bureau of Nutrition and Health Promotion	Des Moines, IA
Iowa City Heart Center	Iowa City, IA
Iowa Healthcare Collaborative	Des Moines, IA
Iowa Health System	Des Moines, IA
Iowa Heart Center	West Des Moines, IA
Iowa/Nebraska Primary Care Association	Urbandale, IA
Iowans for Wellness and Prevention	West Des Moines, IA
Lee County Board of Health	Fort Madison, IA
Mercy Home Health Services	Des Moines, IA
Mercy Iowa City	Iowa City, IA
Mercy Medical Center	Des Moines, IA
Mercy Medical Center	Centerville, IA
Mercy Medical Center	Sioux City, IA
Mercy Medical Center–North Iowa	Mason City, IA
Pella Corporation	Pella, IA
Polk County Health Department	Des Moines, IA
Regional Medical Center	Manchester, IA
Ringgold County Public Health	Mount Ayr, IA
SODEXO Food Service	Des Moines, IA

Siouxland District Health Department	Sioux City ,IA
St. Luke's Hospital	Cedar Rapids, IA
University of Iowa College of Public Health	Iowa City, IA
Van Buren County Public Health	Keosauqua, IA
Wellness Council of Iowa	Des Moines, IA

Appendix B: Pertinent Legislation for the Iowa Comprehensive Heart Disease and Stroke Health Plan 2010-2014

Several legislative bills have recently been passed that are of benefit to the health of Iowans and are described with their effective date below.

HF 2212: Smokefree Air Act

Statewide smoke-free bill with a few exceptions, making Iowa the 24th state to pass a statewide smoke-free places law

Effective Date: July 1, 2008

HF 2539: Health Care Reform

Includes a $900,000 appropriation for wellness grants to communities as well as tax credits to businesses establishing qualified wellness programs

Creates Healthy Communities Initiatives, a grant program to promote healthy lifestyles

Effective Date: July 1, 2008

HF 2700: FY 2009 Standings and Salary Bill

Dedicates $1 million to maintain existing tobacco use prevention and control programming

Effective Date: July 1, 2008

SF 505: AED Good Samaritan Protections

Provides immunity protections for persons who render emergency care or assistance in good faith in response to sudden cardiac arrest when using an automated external defibrillator (AED), and requires the Iowa Department of Public Health (IDPH) to develop maintenance standards for AEDs

Effective Date: July 1, 2008

SF 2417: FY 2009 Healthy Iowans Tobacco Trust Appropriations

Provides funding for various health-related programs, including the IDPH Division of Tobacco Use Prevention and Control

Eliminates $40,000 for the rural AED grant program

Effective Date: Varies

SF 2425: FY 2009 Health and Human Services Appropriations bill

Includes establishment of the *Healthy Kids Act*, of which key provisions consist of: 1) the adoption of rules establishing nutritional content standards for food and beverages sold or provided on school grounds; 2) a nutrition advisory panel to review research on pediatric nutrition and to make recommendations on school food to the State Board of Education; 3) a requirement that students in kindergarten through 5th grade engage in 30 minutes of physical activity per day and students in grades 6 through 12 have 120 minutes of physical activity per week; and 4) requires students to complete a CPR course prior to graduating high school.

Includes a $1.5 million provision for tobacco use prevention and control programs
Effective Date: July 1, 2009

HF 907: FY 2008 Healthy Iowans Tobacco Trust Appropriations Bill
Provides FY 2008 funding from the Healthy Iowans Tobacco Trust for various health-related programs
Eliminates a $75,000 appropriation for cessation services to free clinics and a cut of $310,000 in the state rural AED grant program
Effective Date: May 23, 2007

SF 128: Cigarette Tax and Health Care Trust Fund
Increases the tax on cigarettes from $0.36 to $1.36 and on tobacco products from 22 percent to 55 percent of the wholesale price
Effective Date: March 15, 2007

HF 2743: FY 2007 Healthy Iowans Tobacco Trust Appropriations
Increase of $917,000 for tobacco use prevention and control
Includes a $100,000 increase for the State Rural AED Grant Program
Effective Date: Varies

SF 2124: Wellness Grant
Authorizes a Nutrition and Physical Activity Community Obesity Prevention Grant, to be implemented in six communities if funding is available
Effective Date: upon funding received

HR 136 / SR 129: Heart Health Month Resolution
Designates May as Iowa Heart Health Month and urges people to have their cholesterol checked
Effective Date: N/A

Source: IDPH, Healthy Iowans 2010 Legislation

Appendix C: Signs and Symptoms of Heart Attack and Stroke

The Chain of Survival

Heart Attack Warning Signs

Some heart attacks are sudden and intense — the "movie heart attack," where no one doubts what's happening. But most heart attacks start slowly, with mild pain or discomfort. Often people affected aren't sure what's wrong and wait too long before getting help. Here are signs that can mean a heart attack is happening:

- **Chest discomfort.** Most heart attacks involve discomfort in the center of the chest that lasts more than a few minutes, or that goes away and comes back. It can feel like uncomfortable pressure, squeezing, fullness or pain.
- **Discomfort in other areas of the upper body.** Symptoms can include pain or discomfort in one or both arms, the back, neck, jaw or stomach.
- **Shortness of breath** with or without chest discomfort.
- **Feeling faint, light-headed, or weak.**

As with men, women's most common heart attack symptom is chest pain or discomfort. But women are somewhat more likely than men to experience some of the other common symptoms, particularly shortness of breath, nausea/vomiting, and back or jaw pain.

Stroke Warning Signs

- Sudden **numbness or weakness** of the face, arm or leg, especially on one side of the body
- Sudden **confusion, trouble speaking** or **understanding**
- Sudden **trouble seeing** in one or both eyes
- Sudden **trouble walking**, dizziness, loss of balance or coordination
- Sudden, **severe headache** with no known cause

Appendix D: Cardiovascular Resources

Publications

Healthy Iowans 2010:
Healthy Iowans 2010 serves as a road map for improving the health of Iowans. The Healthy Iowans 2010 database spreadsheet, containing core data for measuring goals in the state health plan, can serve as a convenient source of information on chapter goals. The chapter goals are broken down by health indicators, age, race, and gender groups, baseline, numerator, denominator, measure of frequency, crude/adjusted rates, periodicity of collection/calculation, county level data, and cross references to goals in other chapters.
http://www.idph.state.ia.us/adper/common/pdf/healthy_iowans_2010_chapters/Healthy_Iowans_2010_Complete.pdf

Healthy People 2010:
Healthy People 2010 challenges individuals, communities, and professionals, indeed all of us to take specific steps to ensure that good health, as well as long life, are enjoyed by all.
http://www.healthypeople.gov/

2007 BRFSS Report:
The BRFSS is an Iowa-specific surveillance system that surveys adults 18 years and older on self-reported health behaviors. Each month, a random sample of structured telephone interviews is done. Questions in the survey relate to nutrition, physical activity, tobacco use, hypertension, blood cholesterol, alcohol use, inadequate preventive health care, and other risk factors. An annual BRFSS report is published. Because the survey is conducted on an annual basis, the continuous use of this system allows analysis of trends over time.
http://www.idph.state.ia.us/brfss/common/pdf/2007BRFSSannual.pdf

Vital Statistics of Iowa 2007:
http://www.idph.state.ia.us/apl/common/pdf/health_statistics/2007/vital_stats_2007.pdf

National Institutions

Agency for Health Research and Quality (AHRQ)
As 1 of 12 agencies within the Department of Health and Human Services (HHS), the Agency for Healthcare Research and Quality (AHRQ) supports health services research initiatives that seek to improve the quality of health care in America. AHRQ's mission is to improve the quality, safety, efficiency, effectiveness, and cost-effectiveness of health care for all Americans. Information regarding diseases and conditions, as well as ways to stay healthy, is available at the website.
http://www.ahrq.gov/consumer/

American Heart Association
Headquartered in Dallas, TX, the American Heart Association (AHA) is a non-profit organization that fosters appropriate cardiac care in an effort to reduce disability and deaths caused by cardiovascular disease and stroke. It is a national voluntary health agency whose mission is: "Building healthier lives, free of cardiovascular diseases and stroke."

The American Heart Association publishes a standard for providing basic and advanced life support, including standards for proper performance of cardiopulmonary resuscitation (CPR). An abundance of resources for patients, providers, researchers, and professionals are available at the website.
http://www.americanheart.org

American Stroke Association
An affiliation of the American Heart Association, the American Stroke Association focuses on the prevention, care, and research of strokes. Information related to stroke detection, prevention, and care can be found at the website.
http://www.strokeassociation.org

Health Resources and Services Administration (HRSA)
The Health Resources and Services Administration (HRSA), an Agency of the U.S. Department of Health and Human Services, is the principal Federal Agency charged with increasing access to health care for those who are medically underserved. HRSA provides national leadership, program resources and services needed to improve access to culturally competent, quality health care. Information is available regarding health literacy, along with easy-to-read brochures and information in multiple languages.
http://www.hrsa.gov/healthliteracy/

National Heart, Lung, and Blood Institute
A department of Health and Human Services and a division of the National Institutes of Health, the National Heart, Lung, and Blood Institute is a resource for information on heart and vascular diseases, fact sheets, health assessment tools, education materials, and much more.
http://www.nhlbi.nih.gov/

National Institute for Literacy
The National Institute for Literacy, a federal agency, provides leadership on literacy issues, including the improvement of reading instruction for children, youth, and adults. In consultation with the U.S. Departments of Education, Labor, and Health and Human Services, the Institute serves as a national resource on current, comprehensive literacy research, practice, and policy.
http://www.nifl.gov

Iowa Department of Public Health

Heart Disease and Stroke Prevention (HD&SP) Program
The Heart Disease and Stroke Prevention program conducts activities such as partnership development, definition of burden, development of a state plan and pilot interventions that focus on detection and treatment of risk factors, early identification and treatment of heart attack and stroke, and prevention of recurrent cardiovascular events.
For more information, contact the program manager at 515-281-5675.
http://www.idph.state.ia.us/hpcdp/cardiovascular_health.asp

Iowa Nutrition Network
The Iowa Nutrition Network provides community-based nutrition education to individuals and families for food stamps benefits. The Network serves young families through Food Stamp Nutrition Education in 27 communities through education programs offered in over 100 low-income schools. Older women who participate in the Congregate Meal Program can participate in Chef Charles, an older adult nutrition education program offered at meal sites in over 90 communities throughout Iowa.
For more information, contact the program manager at: 515-281-7359.
http://www.idph.state.ia.us/pickabettersnack
http://www.idph.state.ia.us/nutritionnetwork.chef_charles.asp

Quitline Iowa
The Iowa Department of Public Health, Division of Tobacco Use and Control currently contracts with 47 community partners covering 96 Iowa counties to conduct local tobacco prevention and cessation education, promote local policy change, and organize youth activities with the goal of reduce adult smoking prevalence from the 2008 baseline of 14% to 10% by 2015. Legislative efforts such as the 2007 statewide cigarette tax increase of $1.00 and the 2008 Smoke-Free Air Act, which prohibits smoking in most indoor public places, reflect greater commitment on the part of Iowans to reduce the prevalence of smoking and improve public health. In addition, funding and support for smoking cessation programs provide counseling and nicotine replacement therapy to smokers in Iowa. Quitline Iowa is also available to assist tobacco users who want to break free from the addiction of nicotine. A toll-free, statewide smoking cessation telephone counseling hotline, Quitline Iowa provides trained counselors to assist current smokers in creating an individualized stop smoking plan as well as ongoing support through optional follow-up phone calls.
1-800-QUIT-NOW or **http://www.quitlineiowa.org**

Just Eliminate Lies (JEL)
JEL provides peer-to-peer education to youth across the state, promotes leadership at the local level, and implements events and activities across the state to engage youth in the fight against tobacco. The goals of JEL are to change the general social attitude towards tobacco use, raise awareness through education, create effective counter-marketing, protect the rights of all Iowans from secondhand smoke, and support cessation among the young tobacco user so they quit and encourage youth to never begin using tobacco.
http://www.jeliowa.org/start

WISEWOMAN Program (Well-Integrated Screening and Evaluation for Women Across the Nation)
Participants in the WISEWOMAN program receive blood pressure, blood cholesterol, blood glucose, and height and weight screenings at 27 program sites across the state. Participants also receive individualized nutrition and physical activity counseling and education.
For more information, contact the program manager at:
515-281-4909 or **sryan@idph.state.ia.us**
http://www.idph.state.ia.us/hpcdp/chronic_disease_prevention_management.asp

Iowa Diabetes Prevention and Control Program
This program has certified 90 community-based programs, with the goal of reducing the impact diabetes on Iowans.
For more information, contact the program coordinator at 515-242-6204.
http://www.idph.state.ia.us/hpcdp/diabetes.asp

Iowans Fit for Life, Active and Eating Smart
This project is a comprehensive state plan to address nutrition and physical activity for Iowans of all ages. The plan addresses current efforts, environmental conditions, barriers, and resources. The plan includes strategies for educational settings, early childhood, older Iowans, business and agriculture, health care, and the community.
For more information, contact the program manager at 515-281-7501.
http://www.idph.state.ia.us/iowansfitforlife/default.asp

Office of Multicultural Health
The mission of the IDPH Office of Multicultural Health is to reduce health disparities experienced by Iowa minorities, migrants, immigrants, and refugees and their families. It also strives to assure an appropriate and effective infrastructure exists to address health care needs and build public, professional, and policymaker support for all multicultural health programs.
For more information, contact the program manager at: 515-281-4904.
http://www.idph.state.ia.us/hpcdp/multicultural_health.asp

Academic Institutions

The University of Iowa Hospitals and Clinics & the Carver College of Medicine

As the major academic medical center in Iowa, the University of Iowa has historically been a leader in medical research and innovation. The University of Iowa Hospitals and Clinics and the Carver College of Medicine continue to lead in research, prevention, and treatment of cardiovascular diseases. The following a few programs that are being conducted by the University of Iowa.

mini Medical School
University of Iowa Carver College of Medicine Mini Medical School programs are designed for science educators, health consumers, students interested in careers in health and basic science, retirees interested in continuing education and anyone else wishing to take a scientific

exploration of health and disease. You do not need a medical background to participate in Mini Medical School programs.
http://www.medicine.uiowa.edu/minimedicalschool/index.html

The Cardiovascular Center
A Cardiovascular Center was established in 1975 by the Dean of the College of Medicine under the direction of Dr. Francois Abboud. The purpose is to coordinate the cardiovascular programs of the College into a more cohesive unit to permit us to 1) utilize our cardiovascular resources optimally, 2) intensify, expand and integrate basic and clinical research programs in areas related to cardiovascular research, and 3) evaluate the role of new measures for prevention, diagnosis and treatment of cardiovascular disease.
http://www.int-med.uiowa.edu/research/CVCenter/

CHAMPS (Cardiovascular Health, Assessment, Management, and Prevention Service)
Several cardiovascular health programs are available through CHAMPS, including prevention, outpatient, maintenance, personal training, lipid management, and education.
http://www.uihealthcare.com/depts/champs/index.html

Des Moines University

Iowa Chronic Care Consortium (ICCC)
The Iowa Chronic Care Consortium is a voluntary collaboration of public, private, academic and government organizations whose purpose is to develop capacity for the state of Iowa to effectively manage the most prevalent chronic diseases affecting Iowans. Through effective health promotion and chronic care management strategies, ICCC strives to improve the health and productivity of individuals where they live and work. ICCC is a not-for-profit partnership coordinated by Des Moines University.
http://www.iowaccc.com/

University of Northern Iowa

Iowa Center on Health Disparities
The Iowa Center provides statewide academic leadership in addressing and reducing health disparities among minority, immigrant, and medically underserved populations in Iowa. The Iowa Center works with other innovative and highly successful programs at the University of Northern Iowa, including the Iowa Center for Immigrant Leadership and Integration, and Cultural Connections. Together, these agencies already have extensive ties with many minority and rural populations in the state, and have an outstanding record of conducting innovative research. The Iowa Center provides a number of services including: applied research community education and outreach programs with diverse and underserved populations; and trainings and workshops on health disparities and culturally competent health care for educators and providers.
www.Iowahealthdisparities.org

State Resources

Iowa Healthcare Collaborative (IHC)
The Iowa Healthcare Collaborative (IHC) is a provider-led and patient-focused nonprofit organization dedicated to promoting a culture of continuous improvement in healthcare. IHC plays a unique role in putting healthcare providers (doctors, nurses and hospital executives) in a leadership position to drive clinical improvements and accelerate change.

Proactively created in 2004 through a partnership between the Iowa Hospital Association (IHA) and the Iowa Medical Society (IMS), IHC uses a "multi-stakeholder" approach to bring together and engage physicians, hospitals, insurers, employers, consumers and other community partners to share data and rapidly deploy best practices. IHC's focus is to be supportive and complementary to the other national quality and patient safety initiatives and works closely with national organizations like the Institute for Healthcare Improvement (IHI), the National Patient Safety Foundation (NPSF), the American Hospital Association (AHA), the American Medical Association (AMA), the federal Agency for Healthcare Research and Quality (AHRQ), the National Quality Forum (NQF), the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO), and others. Toolkits on medical homes and stroke are available at the website.
http://www.ihconline.org/

Iowa Heart Foundation
The Iowa Heart Foundation promotes cardiovascular health with a goal of increasing awareness, providing access to information, and assisting those in need through charitable healthcare services, professional education, and community service.
http://www.iowaheartfoundation.org/about.aspx

Live Healthy Iowa
Created by the Iowa Sports Foundation (ISF), Live Healthy Iowa seeks to create awareness, emphasize, and educate Iowans concerning the numerous benefits of good health, physical fitness, good character, and competition. Through Live Healthy Iowa, the ISF continues to lead the way in encouraging Iowans to become healthier by increasing physical activity and developing positive eating habits. Wellness success stories, recipes, and workouts can be found on the website.
http://www.livehealthyiowa.org/default.aspx

Iowa Healthy Links
The Department of Elder Affairs, with its full partner, the Iowa Department of Public Health are implementing Stanford University's Chronic Disease Self-Management Program and Enhance Fitness Program through a grant from the Administration on Aging, administered by the National Council on Aging. These workshops are being sponsored by three
area agencies on aging, their partner county health departments, and key stakeholders.
The workshops are designed for older Iowans with chronic diseases, such as, arthritis,
heart disease, stroke, asthma, lung disease, diabetes, osteoporosis, or stroke.
http://iowahealthylinks.org/

Stanford Chronic Disease Self-Management Program
The Chronic Disease Self-Management Program is a workshop given two and a half hours, once a week, for six weeks, in community settings such as senior centers, churches, libraries and hospitals. People with different chronic health problems attend together. Workshops are facilitated by two trained leaders, one or both of whom are non-health professionals with a chronic diseases themselves. Subjects covered include: 1) techniques to deal with problems such as frustration, fatigue, pain and isolation, 2) appropriate exercise for maintaining and improving strength, flexibility, and endurance, 3) appropriate use of medications, 4) communicating effectively with family, friends, and health professionals, 5) nutrition, and, 6) how to evaluate new treatments.
http://patienteducation.stanford.edu/programs/cdsmp.html

Iowa Safe and Mobile Seniors
The Iowa Safe and Mobile Seniors website is a guide to transportation for older Iowans, their families, caregivers, and health care professionals. A collaborative effort of the Iowa Department of Transportation and the Iowa Traffic Safety Alliance Mobility Team, the web site includes available transit rides and volunteer transportation.
Iowasafeandmobileseniors.org

Appendix E: Glossary of Acronyms and Terms

AED	**Automated External Defibrillator**
BMI	**Body Mass Index**
CDC	**Centers for Disease Control and Prevention**
CDSMP	**Chronic Disease Self-Management Program**
CPR	**Cardiopulmonary Resuscitation**
CVD	**Cardiovascular disease**
DOT	**Department of Transportation**
EMS	**Emergency Medical Services**
HRA	**Health Risk Assessment**
IDPH	**Iowa Department of Public Health**
IHC	**Iowa Healthcare Collaborative**
NCQA	**National Committee for Quality Assurance**
PCI	**Percutaneous Coronary Intervention**
STEMI	**ST Elevated Myocardial Infarction**

Acute Stroke Capable: hospital is not currently a certified Primary Stroke Center but is following national guidelines and standards to care for stroke patients

AED: a portable electronic device that can recognize a life threatening heart rhythm in a person and can treat it by delivering an electrical shot to the heart, stopping the arrhythmia

BMI: a statistical measurement which compares a person's weight and height; though it does not actually measure percentage of body fat, it is a useful tool to estimate a healthy body weight based on how tall a person is

Capacity: the ability to identify, organize and use assets and resources such as organizations and businesses

Cardiovascular: pertaining to the heart and blood vessels

Cardiovascular Task Force: a multi- stakeholder group convened for the purpose of developing the objectives and strategies for the *Iowa Comprehensive Heart Disease and Stroke Health Plan 2010-2014*

CPR: a combination of rescue breathing and chest compressions delivered to victims thought to be in cardiac arrest.

Congregate Meal Site: a nutrition program authorized in 1972 by the Older American Act to promote health, provide nutritious meals, decrease social isolation, and link older adults to other social and health programs, thus helping them to remain at home in the community. Meals are offered at social and community centers such as senior centers, churches and schools.

Data: a collection of factual information or measurements from which conclusions may be made

Disease Registry: a system to collect clinical data on patients with specific diseases or medical conditions e.g. diabetes, asthma, heart failure, hypertension, etc.

Evidence-based: the use of agreed-upon standards of evidence in making clinical decisions for treating individual patients or categories of patients

EMS: services provided to the sick or injured by specifically trained people and specially trained facilities

Frequency: the number of times an event occurs within a stated period of time

Get With the Guidelines (GWTG): a heart and stroke quality improvement program for hospitals developed by the American Heart Association

Health Coach: a health professional who assists individual patients to achieve a health-related goal or goals or improvement self-management skills

Health Disparities: differences in the burden and impact of disease among different populations, defined, for example, by sex, race or ethnicity, disability, education or income.

Health Literacy: the degree to which individuals can obtain, process and understand basic health information and services needed to make appropriate health decisions

Incidence: the number of new cases of a disease that occur during a specific period of time in a population at risk for developing the disease

Iowa Department of Public Health: A department within the Iowa state government infrastructure that partners with local public health, policymakers, health care providers, business and others to promote and protect the health of Iowans.

Iowa Department of Transportation: A department within the Iowa state government infrastructure that provides for safe and modern transportation systems and services to those who travel in Iowa. The three strategic goals are accessibility, responsiveness, and accountability.

Ischemic Stroke: a blood vessel that carries oxygen to the brain is blocked and can cause damage or death to brain tissue.

Medical Home: a team approach to providing health care that originates in a primary setting, supports a partnerships among the patient, personal provider, other health care professionals and, where appropriate, the patient's family; the principles of a medical home include: 1) personal provider; 2) provider-directed medical practice; 3) whole person orientation; 4) coordinated, integrated care; 5) quality and safety; 6) enhanced access; 7) payment

Minority: a group of people who differ racially or politically from a larger group of which it is a part

Modifiable Risk Factors: factors related to cardiovascular disease that are changeable such as diet, physical activity, smoking, in contrast to those that are not changeable by an individual such as age, race, sex, genetic traits.

Mortality: rate of death shown as the number of deaths occurring in a population of a given size within a specified time period

Myocardial Infarction ("heart attack"): occurs when blood vessels that supply blood to the heart are blocked, preventing enough oxygen from getting to the heart and the heart muscle become permanently damaged or dies.

NCQA: a private, not-for-profit organization dedicated to improving health care quality

Obesity: usually defined in terms of body mass index (BMI), which is calculated as body weight in kilograms (1kg = 2.2 lbs) divided by the height in meters (1 m = 39.37 in0 squared; adults with a BMI of 30.0 or more are considered "obese", and those with a BMI of 25-29.9 are considered "overweight". In children, overweight is defined as BMI greater than the 95th percentile value for the same age and sex group

PCI: the group of medical procedures that uses a "mechanical" means to treat patients with partially or completely restricted blood flow through an artery of the heart

PCI Capable: a hospital that has the equipment, expertise and facilities to administer percutaneous coronary intervention (PCI), a mechanical means of treating heart attack patients

Prevalence: the number of cases, old and new, existing at a point in time, divided by the population at that specified

Policy and environmental change: an intervention approach to reducing the strain of chronic diseases that focuses on making effective policies (e.g. laws, regulations, rules) or promoting environmental change (e.g. changes to economic, social or physical environments)

STEMI: a severe heart attack caused by a prolonged period of blocked blood supply that affects a large area of the heart; these attacks carry a substantial risk of death and disability and call for a quick response by many individuals and systems

STEMI Task Force: a collaboration of many groups throughout Iowa who are working to improve care of heart attack patients with an ST-segment elevation in Iowa.

Stroke Task Force: a collaboration of many groups throughout Iowa who are working to improve care of stroke patients in Iowa

Teach-Back: a technique to ensure that patients understand what has been told to them; it involves asking patients to explain or demonstrate what they have been told.

Telehealth: the delivery and/or exchange of health-related services and information using telecommunication technologies

Telemedicine: the use of telecommunications to facilitate medical diagnosis, patient care, and/or medical learning

Toolkit: a collection of information, resources and materials.

Thrombolytic Therapy: using drugs to break up or dissolve blood clots, which are the main cause of both heart attacks and strokes.

Transition of Care: the movement of patients between different settings as their condition and care needs during the course of an acute or chronic illness, with a focus on a coordinated and comprehensive plan of care

Appendix F: Additional Partnerships

The following organizations were identified by the task force as potential partnerships that may be utilized in implementation of the plan.

AARP	Des Moines, IA
American Civil Liberties Union of Iowa	Des Moines, IA
American Hospital Association	Chicago, IL
American Stroke Association	Overland Park, KS
Federation of Iowa Insurers	Des Moines, IA
HyVee Corporation	West Des Moines, IA
Iowa Association of Business and Industry	Des Moines, IA
Iowa Association for Home Care	Des Moines, IA
Iowa Academy of Family Physicians	Des Moines, IA
Iowa Board of Nursing	Des Moines, IA
Iowa Business Council	Des Moines, IA
Iowa Center on Health Disparities	Cedar Falls, IA
Iowa Chamber Alliance	Des Moines, IA
Iowa Chapter of the American College of Cardiology	Washington, IA
Iowa Department of Human Services	Des Moines, IA
Iowa Department of Public Health, Bureau of Emergency Medical Services	Des Moines, IA
Iowa Department on Aging	Des Moines, IA
Iowa Dietetic Association	Clarksville, IA
Iowa Emergency Medical Services Association	West Des Moines, IA
Iowa Foundation for Medical Care	West Des Moines, IA
Iowa Grocery Industry Association	Des Moines, IA
Iowa Health System	Des Moines, IA
Iowa Medicaid Enterprise	Des Moines, IA
Iowa Medical Society	West Des Moines, IA
Iowa Nurses Association	West Des Moines, IA
Iowa Osteopathic Medical Association	Des Moines, IA
Iowa Rural Health Association	Des Moines, IA
National Federation of Independent Businesses	Des Moines, IA
Mercy Health Networks	Statewide
Pharmaceutical Research and Manufactures of America (PhRMA)	Washington, DC
Principal Financial Group	Des Moines, IA
State of Iowa, Division of Community Action Agencies	Des Moines, IA
Wellmark Blue Cross Blue Shield of Iowa	Des Moines, IA
U.S. Food and Drug Administration	Silver Spring, MD

Additional statewide resources:

Community Health Centers
County Health DepartmentsIowa State STEMI Task force
Iowa State Stroke Coordinators Consortium
Iowa State Stroke Task Force
NAACP

Appendix G: References

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