

HEART DISEASE AND STROKE PREVENTION



Rhode Island State Plan 2009



Department of Health

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June 18, 2009

Dear Rhode Islanders,

I am pleased to present to you the Rhode Island Heart Disease and Stroke Prevention State Plan 2009 (RI HDSP State Plan). The RI HDSP State Plan provides a detailed strategy for reducing the burden of heart disease and stroke in Rhode Island by 2012. Like other chronic diseases, heart disease and stroke can result in reduced quality of life and even death if not properly managed. In 2007, Rhode Island's average inpatient hospital charges for a primary diagnosis of heart disease or stroke were \$36,202 and \$28,716, respectively. Because heart disease and stroke do not affect all groups equally, the RI HDSP State Plan articulates strategies for addressing the prevention and management of these conditions among the priority populations most affected by them, such as racial and ethnic minority groups and low-income populations.

No single agency or organization alone can meet the challenges posed by heart disease and stroke. Therefore, an Integrated Chronic Care Health Systems Approach was used in developing the RI HDSP State Plan to ensure inclusion and collaboration among all of the systems that play a vital role in preventing and managing heart disease and stroke.

The RI HDSP State Plan is the result of a collaborative process involving the Rhode Island Department of Health (HEALTH) and a large and diverse group of community partners. HEALTH provides the RI HDSP State Plan in the hopes that the commitment that led to its development will continue. Together, the partners are committed to implementing the action plans and achieving the data-driven goals and objectives, thus reducing the burden of heart disease and stroke on the residents of our state.

Sincerely,

A handwritten signature in black ink, appearing to read "David R. Gifford".

David R. Gifford, MD, MPH
Director of Health

A publication of the Rhode Island Heart Disease and Stroke Prevention Steering Committee. An electronic version of this plan is available at www.health.ri.gov

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Executive Summary

The Rhode Island Heart Disease and Stroke Prevention State Plan 2009 (RI HDSP State Plan) offers a road map for reducing the burden of heart disease and stroke in the state. The RI HDSP State Plan was developed by the RI HDSP Steering Committee, a collaboration of more than 60 organizations and individuals, whose mission is to guide, promote and participate in a strategic planning process, develop the RI HDSP State Plan, and assist in its implementation.

In response to state-specific data about the impact of heart disease and stroke and associated risk factors, the RI HDSP Steering Committee developed six goals and accompanying SMART (specific, measurable, achievable, relevant, time-bound) objectives. Among the objectives are those that are specifically designed to address socioeconomic and racial and ethnic disparities within the goal areas.

Next, five work groups (Community, Emergency Medical Services, Health Care Systems, Stroke/Rhode Island Stroke Task Force, and Worksites) developed action plans for each objective and worked with the RI HDSP Program Epidemiologist to identify data sources to be used in evaluating progress.

The RI HDSP State Plan is organized around the six goal areas, which address modifiable risk factors, emergency response, treatment and capacity building in Rhode Island. The RI HDSP State Plan employs the Integrated Chronic Care Health Systems Approach, which calls for improvements in five inter-connected systems (health communication, environmental health, health care, community and surveillance/ evaluation) that must work together to reduce the burden of chronic disease. A brief summary of the RI HDSP State Plan is provided by goal area:

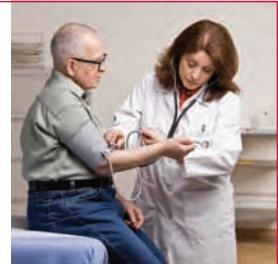
Goal 1: Reduce the impact of heart disease and stroke on hospitalizations and mortality in Rhode Island.

Cardiovascular disease, which includes heart attack and stroke, is the leading cause of death in Rhode Island and nationally. In 2007, 27 out of every 10,000 Rhode Island residents died from heart disease and 4 out of every 10,000 Rhode Island residents died from stroke. In that year, 121 of every 10,000 residents were hospitalized for heart disease and 28 of every 10,000 residents were hospitalized for stroke. In 2007, Rhode Island's average inpatient hospital charges for a primary diagnosis of heart disease and stroke were \$36,202 and \$28,716, respectively. To ultimately reduce hospitalizations and mortality from heart disease and stroke, the RI HDSP State Plan employs a number of objectives and activities aimed at preventing heart disease and stroke and improving the health of those already affected by these two diseases.

Goal 2: Reduce heart disease and stroke risk through changes in behavior, policies and environment that promote healthy lifestyles.

Smoking, obesity and physical inactivity are all risk factors for heart disease and stroke. Goal 2 and its associated objectives and activities focus on reducing smoking and obesity through partnerships with the Rhode Island Department of Health's (HEALTH) Tobacco Control Program and Initiative for a Healthy Weight. By coordinating efforts with the state plans of these two programs, the RI HDSP State Plan will support activities to reduce the impact of smoking and encourage physical activity and healthy eating.

This plan was developed by the Rhode Island Heart Disease and Stroke Prevention (RI HDSP) Steering Committee, whose mission is to guide, promote and participate in the RI HDSP strategic planning process, develop the RI HDSP State Plan, and assist in its implementation.



Goal 3: Reduce heart disease and stroke risk through early identification and early and appropriate treatment and management of hypertension, blood cholesterol and diabetes. The prevalence of high blood pressure in Rhode Island is on the rise from an estimated 25% in 2001 to 28% in 2007. In 2001, an estimated 33% of Rhode Island adults reported that they had high cholesterol. That rate climbed to 38% in 2007. Diabetes is a significant risk factor for developing heart disease and stroke. According to the American Diabetes Association, more than 65% of deaths in diabetes patients are attributed to heart disease and stroke. Goal 3 and its associated objectives and activities focus on improving early identification of high blood pressure, high cholesterol and diabetes and ensuring that those affected by any one or more of these three conditions receives timely and appropriate treatment to manage them.

Goal 4: Ensure early detection of and early and appropriate response to heart attack and stroke.

Roughly half of heart attack deaths occur within one hour of onset. Recognition of the signs and symptoms of heart attack and stroke and timely emergency response are critical to survival. Goal 4 and its associated objectives and activities focus on increasing awareness of the signs and symptoms of heart attack and stroke and the importance of calling 9-1-1. In addition, this goal also addresses improving the system for immediate response to heart attack and stroke, including its capacity to serve non-English speaking patients.

Goal 5: Ensure that those with cardiovascular disease receive appropriate treatment to prevent the progression of disease, subsequent events (e.g., heart attack and stroke), associated complications, disabilities and mortality. Reducing the impact of cardiovascular disease among Rhode Islanders who have already experienced heart attack and stroke is critical to improving their quality of life and ultimately reducing hospitalizations and mortality in the state. Goal 5 and its associated objectives and activities focus on improving post-cardiac event and post-stroke care through improvements in the health care system.

Goal 6: Develop a statewide infrastructure and capacity to prevent heart disease and stroke and improve systems of cardiovascular care. Goal 6 and its associated objectives and activities focus on creating diverse and active partnerships. These partners will work together to develop and successfully implement the RI HDSP State Plan, develop the capacity to monitor the burden of heart disease and stroke and evaluate the RI HDSP State Plan, and strengthen the RI HDSP Program at HEALTH. All of these infrastructure improvements are critical to comprehensive planning, implementation and evaluation of the RI HDSP State Plan, which holds promise for reducing the impact of heart disease and stroke in Rhode Island.

Background

The overarching goal of the Rhode Island Heart Disease and Stroke Prevention State Plan (RI HDSP State Plan) is to provide a comprehensive approach to heart disease and stroke that includes:

- » Having broad-based investment across diverse stakeholders.
- » Recognizing the serious consequences of heart disease and stroke and offer strategies for effective prevention, response, treatment and management.
- » Creating sustainable population-based change through improvements in knowledge, policies and systems while also remembering that a person's risk for heart disease and stroke is compounded by other health conditions and chronic diseases, socioeconomic status and access to quality health care.

Each of these elements was integral to the development of the RI HDSP State Plan.

The RI HDSP Steering Committee

The RI HDSP State Plan is the result of extensive collaboration among multiple programs at the Rhode Island Department of Health (HEALTH) and community partners who are represented on the RI HDSP Steering Committee (see list of member organization on page 38). The mission of the RI HDSP Steering Committee is to guide, promote and participate in the RI HDSP strategic planning process, develop the RI HDSP State Plan, and assist in its implementation.

The RI HDSP Steering Committee reviewed the available heart disease and stroke burden data and developed data-driven goals and objectives for the RI HDSP State Plan. Five work groups with expertise in community, emergency medical services, health care systems, stroke and worksites then developed activities to achieve these objectives. With help from the RI HDSP Program Epidemiologist, the RI HDSP Steering Committee developed an evaluation strategy by identifying appropriate data sources to measure progress on each objective.

RI HDSP State Plan Organization

The RI HDSP State Plan is organized around six goal areas that focus on: (1) hospitalizations and mortality; (2) healthy lifestyle promotion; (3) early identification and appropriate treatment of risk factors; (4) early detection and appropriate response to heart attack and stroke; (5) prevention of subsequent events, complications and disabilities; and (6) improvement of the statewide infrastructure and capacity necessary to effectively combat heart disease and stroke in Rhode Island. Each goal area includes SMART (Specific, Measurable, Achievable, Relevant, Time-bound) objectives. Each objective is followed by a label to identify its type:

- » I (Impact) = an objective that will result in measurable change in service utilization or a particular health indicator;
- » D (Developmental) = an objective for which baseline data are not yet available and which is, therefore developmental in nature; and
- » P (Process) = an objective that will lead to increased access or involvement of key stakeholders/organizations or result in a new or improved process or product that is necessary to support measurable impact on other objectives.

Each objective is followed by an action plan that will support successful achievement of the objective and a data source that will allow the tracking of progress.

Rhode Island is currently funded by the Centers for Disease Control and Prevention (CDC) for capacity-building through 2012. Several of the proposed activities in the RI HDSP State Plan build upon the ongoing work of partners and will take place during the capacity-building phase, whereas others must occur in the next phase of funding when additional resources would become available to support larger systems change efforts. The SMART objectives in the RI HDSP State Plan are time-bound and tied to the end of the capacity-building phase (2012). Although progress will be made toward many objectives before 2012, activities will extend into the implementation phase (after 2012). Highlighted features throughout the RI HDSP State Plan describe some of the projects being implemented during the capacity-building phase.

The Integrated Chronic Care Health Systems Approach

The RI HDSP State Plan's activities will lead to improvements in five inter-connected systems (health communication, environmental health, health care, community and surveillance and evaluation) that must work together to reduce the burden of chronic diseases. Therefore, the activities in the RI HDSP State Plan will increase public knowledge about risk reduction and health improvement strategies; improve systems and policies to ensure effective response to and treatment and management of heart disease and stroke; and build and strengthen the infrastructure statewide to ensure successful implementation and measurement of the RI HDSP State Plan.

Disparities

The RI HDSP State Plan recognizes that particular populations are disproportionately affected by heart disease and stroke, its risk factors, and issues that impede access to timely and appropriate response and care. Rather than cluster objectives related to these disparately-affected populations in a single goal area, the RI HDSP State Plan embeds them throughout the plan, making it

easier to track progress with these groups against progress in the general population. Objectives that address disparities are labeled with a (Disp) for easy identification. At-risk groups are listed with associated baseline and targets measures (if available) for each objective. Because of the population demographics in Rhode Island, the majority of disparities-related objectives focus on income and education rather than racial and ethnic minority groups. Low-income is defined as a household income of less than \$25,000 per year and low education is defined as someone with less than a high school diploma. A household income of less than \$25,000 was used as a marker of low income because many social services in Rhode Island use a cut-off point of \$25,000 in annual household income as a measure of need. In some cases, aggregated data over several years have allowed racial and ethnic disparities to be identified and addressed in the RI HDSP State Plan.

Measuring Progress

In constructing the RI HDSP State Plan, a range of data sources have been identified to measure progress, evaluate the impact of developmental objectives, and produce data-driven progress reports and other documentation for process objectives. Behavioral Risk Factor Surveillance System (BRFSS) data are weighted to be representative of the state population. Hospital Discharge Data and Vital Record Data are event-level data that represent those who have been hospitalized or who have died. In most cases, 2005 data have been used to establish baselines for the RI HDSP State Plan, as data from 2005 were collected 1.5 years prior to the CDC grant funding for Rhode Island's capacity-building program. Finally, an effort has been made to integrate a number of newly-recommended hypertension indicators. These indicators are marked with end notes throughout the document.

With the commitment of a large and diverse set of partners and a truly comprehensive RI HDSP State Plan, Rhode Island is positioned to make significant and sustainable strides toward reducing the burden of heart disease and stroke on the state.

The Burden of Heart Disease and Stroke in Rhode Island

The impact or “burden” that heart disease and stroke places on Rhode Island is felt in terms of health and economic consequences. The summary below describes this burden using the most recent data available.

Heart Disease and Stroke in Rhode Island

Heart disease and stroke are two of a range of diseases affecting a person’s heart or blood vessels known as cardiovascular disease. Cardiovascular disease is the number one cause of death in Rhode Island and in the nation. The estimated direct and indirect cost of cardiovascular disease for 2008 in the United States was \$448.5 billion. Approximately 80% of heart disease and stroke is preventable.

Mortality rates stemming from heart disease and stroke have declined in recent years both in Rhode Island and in the nation. This decrease is most likely due to improved prevention methods, advances in medicine, and increased public awareness of the risk factors for developing heart disease and stroke. However, the increase in risk factors (e.g., high blood cholesterol or diabetes), socioeconomic disparities, and barriers to timely and effective response and health care threaten the future of the state’s cardiovascular health.

Recent mortality data from the CDC show that between 1999 and 2005, coronary heart disease and stroke mortality rates decreased by 25.8% and 24.4%, respectively.¹ As encouraging as these statistics may be, heart disease and stroke remain the leading cause of death in Rhode Island and nationally, and there are striking differences in cardiovascular mortality rates by age groups, race and ethnicity and socioeconomic status. Additionally, the decline in mortality from cardiovascular diseases has not been seen for cardiovascular disease risk factors such as high blood pressure, high cholesterol, obesity or type 2 diabetes.²

Below, the prevalence of cardiovascular disease and its impact on Rhode Island are described, setting the stage for the RI HDSP State Plan.

Prevalence of Cardiovascular Disease in Rhode Island

Heart disease and stroke affects the lives of many in Rhode Island. In 2008, an estimated 8% of adults had one or more cardiovascular diseases. Cardiovascular diseases include coronary heart disease, heart attacks and strokes. The prevalence of heart disease and stroke in Rhode Island mirrors national prevalence statistics for these two diseases. In 2008:

- » 4.5% of Rhode Island adults had coronary heart disease.
- » 4.0% of Rhode Island adults have had a heart attack.
- » 2.3% of Rhode Island adults have had a stroke.

Hospitalization

In 2007, 121 out of every 10,000 Rhode Island residents were hospitalized for heart disease and 28 out of every 10,000 Rhode Island residents were hospitalized for stroke (Figure 1).

Mortality

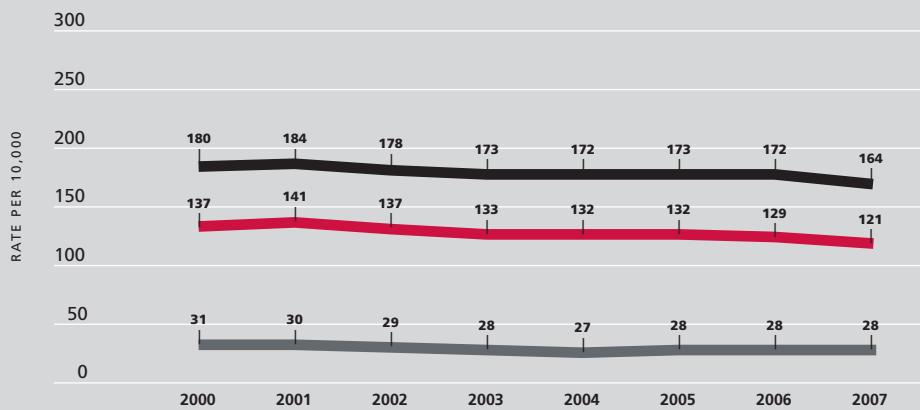
In 2005, the age-adjusted mortality rate for cardiovascular diseases in the United States was 28.9 per 10,000.³ As shown in Figure 2, the age-adjusted mortality rate for cardiovascular disease in Rhode Island was higher in 2005 (38 per 10,000) than the national average. Although Rhode Island’s age-adjusted mortality rate for cardiovascular disease showed a modest decline in 2006 and 2007, Rhode Island’s mortality rate for cardiovascular disease remains above the 2005 national cardiovascular disease mortality rate.

FIGURE 1.

Age-adjusted¹ annual hospitalization rates² for all cardiovascular disease (CVD),³ heart disease⁴ and stroke⁵

Rhode Island Hospital Discharge Data, 2000–2007

■ CVD ■ Heart ■ Stroke



1 Data are age-adjusted to the 2000 U.S. Standard Population.

2 All rates are per 10,000 population.

3 Primary diagnosis of cardiovascular disease (ICD-9-CM 390–448) includes diseases of the heart (ICD-9-CM 390–398, 402, 404–429), stroke (ICD-9-CM 430–438) and other cardiovascular diseases (ICD-9-CM 403, 439–459).

4 Primary diagnosis of heart disease includes coronary heart disease (ICD-9-CM 410–414) and congestive heart failure (ICD-9-CM 428). Hypertensive kidney disease (ICD-9-CM 403) is not reported here.

5 Primary diagnosis of stroke includes hemorrhagic (ICD-9-CM 430–431), ischemic (ICD-9-CM 434, 436) and transient ischemic attack (ICD-9-CM 435). Other stroke types are not reported here.

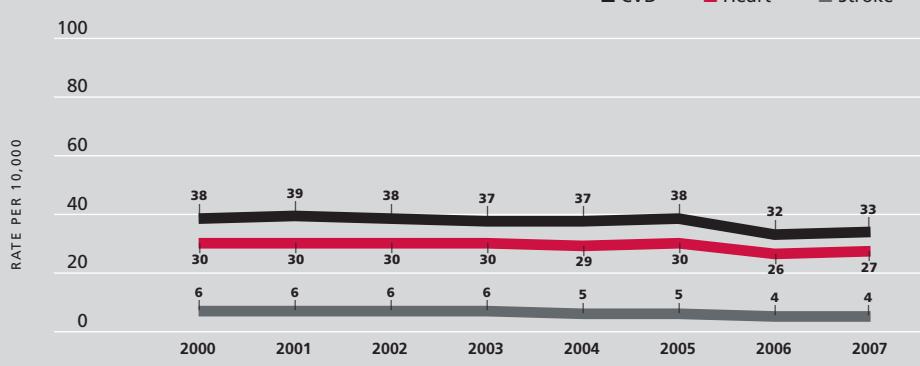
Data Source: 2000–2007 Rhode Island Hospital Discharge Data, HEALTH's Center for Health Data and Analysis.

FIGURE 2.

Age-adjusted¹ annual mortality rates² for all cardiovascular disease (CVD),³ heart disease⁴ and stroke⁵

Rhode Island Vital Records Data, 2000–2007

■ CVD ■ Heart ■ Stroke



1 Data are age-adjusted to the 2000 U.S. Standard Population.

2 All rates are per 10,000 population.

3 Underlying cause of death due to cardiovascular disease (ICD-10-CM I00–I99).

4 Underlying cause of death due to heart disease (ICD-10-CM I00–I09, I11, I13, I20–I51).

5 Underlying cause of death due to stroke (ICD-10-CM I60–I69).

Data Source: 2000–2007 Rhode Island Vital Records, HEALTH's Center for Health Data and Analysis.

Costs

In 2007, Rhode Island's average inpatient hospital charges for a primary diagnosis of heart disease or stroke was \$36,202 and \$28,716, respectively. This figure does not include the considerable costs associated with non-hospital care, such as rehabilitation and physical therapy, for individuals with heart disease and stroke.

Risk Factors

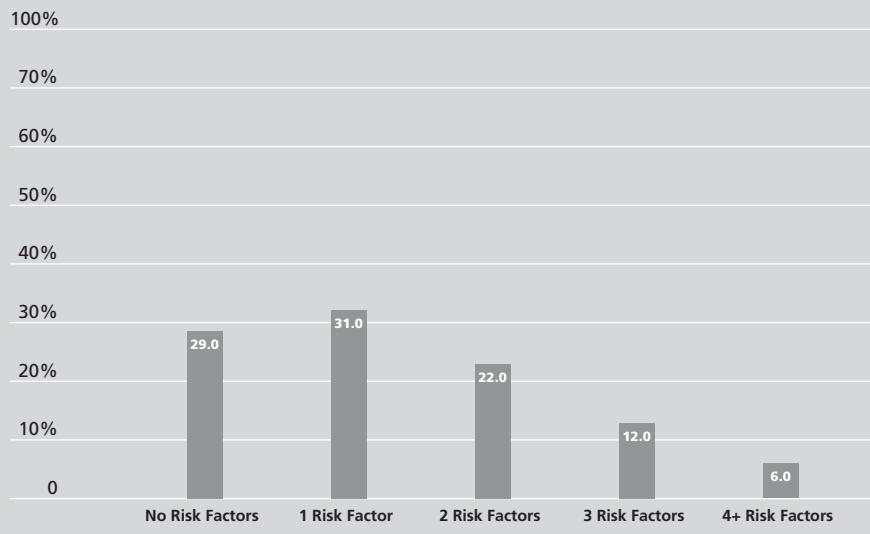
There are many risk factors, both non-modifiable and modifiable, that have been shown to increase the risk of developing cardiovascular disease. Non-modifiable risk factors are factors that cannot be changed. Modifiable risk factors are factors that an individual can alter by changing his or her lifestyle.

NON-MODIFIABLE RISK FACTORS:

- » Gender: Men have a greater risk of heart attack than women do. Men also have heart attacks earlier in life than women.
- » Age: 80% of people who die from heart disease and stroke are older than age 65. Men are at greater risk of heart disease and stroke at age 55 and older, whereas women have greater risks for these diseases at age 65 and older.
- » Genetics: Individuals with a family history of heart disease and stroke are at increased risk.

FIGURE 3.
Percentage of adults with cardiovascular disease risk factors

Rhode Island Behavioral Risk Factor Surveillance System, 2005, 2007



Data Source: 2005 and 2007 BRFSS combined file, HEALTH's Center for Health Data and Analysis.

MODIFIABLE RISK FACTORS:

- » **Smoking:** Smoking is a major cause of cardiovascular disease. Smoking has declined in Rhode Island, from 24% in 2001 to 17% in 2007. In fact, the prevalence of smoking in Rhode Island is 3% lower than the national average.
- » **Obesity:** The prevalence of obesity among adults continues to rise in Rhode Island—from 18% in 2001 to 22% in 2007.
- » **Physical inactivity:** In Rhode Island, 23% of adults in 2007 identified themselves as inactive (not engaging in any leisure time physical activity in the past month). According to the World Health Organization, exercise, in conjunction with proper diet, can help prevent 80% of premature cases of heart disease and stroke.
- » **High blood pressure:** High blood pressure directly increases the risk of heart disease and stroke. The prevalence of high blood pressure in Rhode Island is increasing. In 2001, an estimated 25% of Rhode Island adults had high blood pressure, which increased to 28% by 2007.
- » **High cholesterol:** High cholesterol increases a person's risk for heart disease and stroke. In 2001, an estimated 33% of Rhode Island adults reported having high cholesterol—a percentage that increased to 38% by 2007.
- » **Diabetes:** The percentage of Rhode Island adults that have ever been told that they have diabetes has remained fairly constant between 2001 and 2007 at between 6 and 8%. However, diabetes is a significant risk factor for developing heart disease and stroke. According to the American Diabetes Association, more than 65% of deaths in diabetes patients are attributed to heart disease and stroke.

Data for 2005 and 2007 show that 31% of Rhode Island adults had one cardiovascular disease risk factor and 40% reported having two or more risk factors (Figure 3). The most common cardiovascular risk factors among Rhode Island adults with one or more risk factors for heart disease and stroke were high cholesterol and high blood pressure.

Disparities

There are large disparities in the prevalence of heart disease and stroke hospitalization and mortality rates. By identifying those who are at highest risk for heart disease and stroke, interventions can focus on those that are disproportionately affected by these diseases.

- » **Education level:** The prevalence of heart disease and stroke among Rhode Island residents with less than 12 years of education is nearly double that of residents with 12 or more years of education (15% vs. 7%, respectively). Additionally, the prevalence of two or more modifiable risk factors for heart disease and stroke is higher among those with less than 12 years of education (61%) than those with 12 or more years of education (39%).
- » **Income level:** The prevalence of heart disease and stroke among adults with an annual household income less than \$25,000 is more than double that of adults with higher household incomes (14% vs. 6%, respectively). Additionally, 60% of the lower income group has two or more modifiable risk factors for heart disease and stroke versus 36% of the higher income group.

By identifying those who are at highest risk for heart disease and stroke, interventions can focus on those that are disproportionately affected by these diseases.



- » Race: In Rhode Island, non-Hispanic Whites older than age 65 are more likely to die of heart disease than non-Hispanic Blacks and Hispanics in the same age group, regardless of gender. However, between 2000 and 2007, the age-adjusted hospitalization rate for heart disease and stroke was higher among non-Hispanic Blacks than those of non-Hispanic White or Hispanic descent. This may be due to differences in access to care or early detection of heart disease and stroke, which result in hospitalization at a later point in time. Non-Hispanic Blacks are more likely to have two or more risk factors for heart disease and stroke than those of non-Hispanic White or Hispanic descent.
- » Sex: The prevalence of cardiovascular disease is significantly higher in men (9.1%) than in women (7%). Age-adjusted hospitalization rates are consistently higher for men than women.
- » Age: The prevalence of cardiovascular disease is six times higher for Rhode Island adults aged 65 and older than for Rhode Island adults aged 18–64 (24% vs. 4%). Further, those older than age 65 are more likely to have two or more modifiable risk factors (59%) than adults aged 18–64 (35%).

Cardiovascular Disease Warning Signs and Symptoms and Emergency Response

Approximately 50% of heart attack deaths occur within one hour of the onset of the heart attack. The potential for surviving a heart attack or stroke depends on the recognition of warning signs and symptoms and timely emergency response.

In a study done in 14 states (not including Rhode Island), 86% of respondents stated that they would call 9-1-1 if they thought someone was having a heart attack or stroke. Unfortunately, recognition of the warning signs

for heart attack and stroke was quite low. In fact, only 31% of respondents were aware of all five warning signs of a heart attack: (1) pain or discomfort in the jaw, neck or back; (2) feeling weak, lightheaded or faint; (3) chest pain or discomfort; (4) pain or discomfort in the arms or shoulders; and (5) shortness of breath. Differences in the percentage of respondents that knew the correct warning signs were observed by race and ethnicity, sex, and education level.

Rhode Island currently does not track data on public knowledge regarding the signs and symptoms of heart attack and stroke. However, beginning in 2009, BRFSS will include questions on signs and symptoms of heart attack and stroke so that state-specific data will be available in 2010.

Infrastructure

Rhode Island is in the early stages of building a comprehensive infrastructure to reduce the prevalence of heart disease and stroke within its population. The state currently tracks the burden of heart attack and stroke, has formulated a state plan, and has worked to develop partnerships to implement prevention activities across the state.

Rhode Island faces significant obstacles related to reducing the burden of heart disease and stroke on its residents, including: high rates of overweight and obesity, high cholesterol, hypertension and diabetes; systems of response and care that require improvements (e.g., emergency medical services, the health care system); and infrastructure improvements necessary to improve and track trends in heart disease and stroke. The availability of burden data have allowed the RI HDSP Steering Committee to develop a well-informed, targeted and comprehensive approach to heart disease and stroke prevention in Rhode Island.



Goals and Objectives for the Prevention of Heart Disease and Stroke

GOAL 1

REDUCE THE IMPACT OF HEART DISEASE AND STROKE ON HOSPITALIZATIONS AND MORTALITY IN RHODE ISLAND.

HOSPITALIZATION OBJECTIVES

1A. By 2012, reduce the age-adjusted hospitalization rate for heart disease from 132 discharges per 10,000 Rhode Island adults to 127 hospital discharges per 10,000 Rhode Island adults. (I)⁴

1B. By 2012, reduce the age-adjusted hospitalization rate for stroke from 28 hospital discharges per 10,000 Rhode Island adults to 23 hospital discharges per 10,000 Rhode Island adults. (I)⁵

1C. By 2012, reduce the proportion of Rhode Island adults hospitalized with a principal diagnosis of heart disease inclusive of primary hypertension (ICD-9-CM 401.9) and hypertensive heart disease (ICD-9-CM 402) that have a primary diagnosis of hypertension from 2.5% to 1.5%. (I)

1D. By 2012, reduce the age-adjusted hospitalization rate for cardiovascular disease in at-risk groups from their respective baselines to their respective targets. (I&Disp)

At-risk groups baselines and targets:

- » Non-Hispanic Blacks: 221 per 10,000 to 210 per 10,000
- » Hispanics: Baseline: 112 per 10,000 to 106 per 10,000

MORTALITY OBJECTIVES

1E. By 2012, reduce the age-adjusted mortality rate for coronary heart disease from 189.5 deaths per 100,000 Rhode Island adults to the Healthy People 2010 goal of 162 deaths per 100,000 Rhode Island adults. (I)

1F. By 2012, reduce the age-adjusted mortality rate for stroke from 39.5 deaths per 100,000 Rhode Island adults to 34 deaths per 100,000 Rhode Island adults. (I)

1G. By 2012, reduce the age-adjusted mortality rate for cardiovascular disease in at-risk groups from their respective baselines to their respective targets (D&Disp: At-risk groups and respective baselines and targets to be identified).

ACTION PLAN

The hospitalization and mortality objectives serve as “over-arching” objectives by which progress in heart disease and stroke prevention can be measured.

Accomplishing the hospitalization and mortality objectives involves a comprehensive strategy. This strategy includes statewide infrastructure development and policy and environmental changes in the areas of prevention, screening and detection, response, treatment and follow-up care. The remaining sections of the RI HDSP State Plan provide objectives, measures and action steps and detail how improvements in infrastructure and policy and environmental change will be accomplished. As progress is made toward the objectives under Goals 2–6, measurable differences will be made in Objectives 1A–1G.

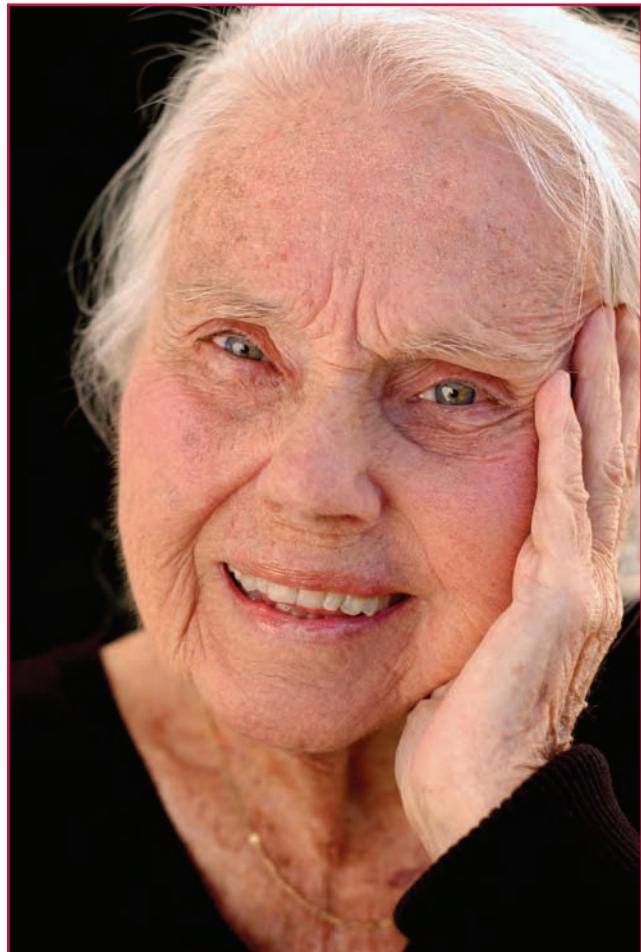
Throughout the RI HDSP State Plan, activities are described that target specific at-risk groups. Through the success of these disparities-related activities, Objectives 1D and 1G will be achieved.

DATA SOURCE

Objectives 1A–1D: Baseline data were derived from 2005 Rhode Island Hospital Discharge Data. Success at meeting the targets will be measured using 2012 Rhode Island Hospital Discharge Data.⁶

Objectives 1E and 1F: Baseline data and data for measuring success were/will be derived from the American Heart Association.⁷

Objective 1G: Baseline and target data will be derived from Rhode Island Vital Records Data.



Objectives

I (Impact-oriented): An objective that will result in a measurable change in service utilization or a particular health indicator.

D (Developmental): An objective for which baseline data are not yet available and which is, therefore, developmental in nature.

P (Process-oriented): An objective that will lead to increased access or involvement of key stakeholders/organizations or result in a new or improved process or product that is necessary to support measurable impact on other objectives.

GOAL 2

REDUCE HEART DISEASE AND STROKE RISK THROUGH CHANGES IN BEHAVIOR, POLICIES AND ENVIRONMENT THAT PROMOTE HEALTHY LIFESTYLES.

TOBACCO OBJECTIVES

2A. By 2012, reduce smoking prevalence in Rhode Island adults from 19.8% to 15%. (I)

2B. By 2012, reduce the proportion of Rhode Island adults in at-risk groups that have been exposed to smoking in the home in the past 7 days. (I&Disp)

At-risk group baseline and target:

» Non-Hispanic Black Adults: 33% to 25%

ACTION PLAN

The tobacco-related prevention objectives will be accomplished in partnership with HEALTH's Tobacco Control Program and in coordination with the Tobacco Control State Plan and Tobacco Disparities Strategic Plan. The activities that will lead to measurable improvements in objectives 2A and 2B are:

- » Promote strategies as outlined in the Rhode Island Tobacco Control Program Annual Action Plan 2008–2009 and 2006 Strategic Plan for Eliminating Tobacco-Related Health Disparities in Rhode Island.
- » Discourage the sale of tobacco products by increasing sales tax.
- » Continue to raise public awareness about the health hazards of tobacco and promote quitting.
- » Increase funding for state prevention and cessation initiatives, including smoking cessation support services.
- » Identify and promote strategies to decrease disparities among populations at high risk for tobacco use.

For more information, visit www.health.ri.gov/tobacco

DATA SOURCE

Objective 2A: 2001–2007 and 2011 BRFSS

Objective 2B: 2003, 2007 and 2011 BRFSS

NUTRITION OBJECTIVE

2C. By 2012, increase the proportion of Rhode Island adults that eat five or more servings of fruits and vegetables per day from 27% to 35%. (I)

ACTION PLAN

The nutrition-related prevention objectives will be accomplished in partnership with HEALTH's Initiative for a Healthy Weight and in coordination with Rhode Island's Plan for Healthy Eating & Active Living 2006–2012. The activities that will lead to measurable improvements in objective 2C are:

- » Support the strategies of Rhode Island's Plan for Healthy Eating & Active Living 2006–2012.
- » Increase options for obtaining healthy foods in low-income communities, targeting Warwick, Central Falls and Newport.
- » Promote the development of and increased use of Farmers' Markets in all communities.
- » Increase the number of communities that have community garden programs.
- » Provide training for food service providers at worksites regarding how to determine and post key nutrient information.

For more information, visit
www.health.ri.gov/healthyweight

DATA SOURCE

Objective 2C: 2003, 2005, 2007 and 2011 BRFSS

PHYSICAL ACTIVITY OBJECTIVE

2D. By 2012, increase the proportion of Rhode Island adults aged 18 and older that engage in 150 minutes per week of moderate physical activity from 49% to 60%. (I)

ACTION PLAN

The prevention objectives related to physical activity will be accomplished in partnership with HEALTH's Initiative for a Healthy Weight and in coordination with Rhode Island's Plan for Healthy Eating & Active Living 2006–2012. The activities that will lead to measurable improvements in objective 2D are:

- » Support the strategies to increase physical activity as outlined in Rhode Island's Plan for Healthy Eating & Active Living 2006–2012.
- » Educate employers about the positive aspects of offering benefits that reduce the cost of physical activity (e.g., reduced sick time).
- » Educate the public on the importance of weight maintenance and physical activity and their role in heart disease and stroke prevention.
- » Develop and disseminate a worksite physical activity toolkit.
- » Encourage communities to provide free or low-cost opportunities for structured physical activity.
- » Advocate for communities to have land management systems that support physical activity.

For more information, visit
www.health.ri.gov/healthyweight

DATA SOURCE

Objective 2D: 2001–2007 and 2011 BRFSS



GOAL 3

REDUCE HEART DISEASE AND STROKE RISK THROUGH EARLY IDENTIFICATION AND EARLY AND APPROPRIATE TREATMENT AND MANAGEMENT OF HYPERTENSION, BLOOD CHOLESTEROL AND DIABETES.

HYPERTENSION OBJECTIVES

3A. By 2012, reduce the proportion of Rhode Island adults aged 18 and older with diagnosed high blood pressure from 28% to 23%. (I)

3A1. By 2012, reduce the proportion of Rhode Island adults aged 18 and older in at-risk groups that have diagnosed high blood pressure by 5% from their respective baselines. (I&Disp)

At-risk groups baselines and targets:

- » Less than High School Diploma: 38% to 33%
- » Income <\$25,000: 38% to 33%

3B. By 2012, increase the proportion of Rhode Island adults aged 18 and older with diagnosed high blood pressure that have their blood pressure under control from 35–36% to 40%. (D)

3B1. By 2012, increase the proportion of Rhode Island adults aged 18 and older in at-risk groups with diagnosed high blood pressure that have their blood pressure under control by 5% from baseline. (D&Disp)

At-risk group baseline and target:

- » Income <\$25,000 or Less than High School Diploma: Baseline: 25–30%; Target: 30–35%

ACTION PLAN

The Health Care System Work Group will implement two activities to accomplish objectives 3A, 3A1, 3B and 3C.

- » The work group will provide standards of care for hypertension to Primary Care Physicians (PCPs) in the state, which will include identifying standards of care, drafting a letter to PCPs, identifying a mailing list of PCPs and disseminating the letter to PCPs.
- » The work group will create a high blood pressure social marketing campaign, which will involve the creation of a work group, the identification of messages and development of a communications plan, the development of strategies to reach at-risk groups, the identification of resources to support the implementation and evaluation of the campaign.

DATA SOURCE

Objective 3A: 2003, 2005 BRFSS aggregated data weighted and 2009 and 2011 (end of study) BRFSS

Objective 3A1: 2003, 2005 BRFSS aggregated data weighted and 2009 and 2011 BRFSS

Objectives 3B, 3B1 and 3C: Currently, there are no baseline data available for these objectives. Therefore estimates for baselines associated with objectives 3B and 3B1 are based on data from the National Health and Nutrition Examination Survey. Healthy People 2010 was also used to estimate the targets. The indicator associated with 3B, 3B1 and 3C will be added to the BRFSS Module 6 and will first be available in 2009.

Rhode Island Chronic Care Collaborative

The Rhode Island Chronic Care Collaborative (RICCC), formed in 2002, is comprised of teams of health care providers, representatives from HEALTH and numerous outside partners. The RICCC works to re-engineer care delivery using a team approach, quality improvement methods, and electronic patient tracking.

In 2008, the RI HDSP Program was awarded a 3-year grant providing funding for select RICCC sites to re-engineer care for patients at risk for or diagnosed with heart disease. The RICCC will implement this component in nine of the 26 RICCC sites.

In February 2009, contracts were awarded to an initial four RICCC sites to set up electronic registries to monitor patients at risk for or diagnosed with heart disease, to provide a team approach to clinical management, and to provide self-management education and counseling to these patients. Over a 3-year period, funded RICCC sites will populate their newly established cardiovascular disease registry with 188 new cardiovascular disease patients. Patients in the registry will meet with an RICCC Diabetes/Cardiovascular Disease Educator to learn self-management skills to control modifiable risk factors for heart disease. Recruitment of the additional 5 RICCC cardiovascular disease sites is scheduled for Years 2 and 3 of funding.



GENERAL CHOLESTEROL OBJECTIVES

3D. By 2012, reduce the proportion of Rhode Island adults aged 18 and older that report they have never had a cholesterol check from 16% to 11%. (I)

3D1. By 2012, reduce the proportion of Rhode Island adults aged 18 and older in at-risk groups that report they have never had a cholesterol check from their respective baselines to their respective targets. (I&Disp)

At-risk groups baselines and targets:

- » Hispanics: 44% to 39%
- » Non-Hispanic Blacks: 27% to 22%
- » Income <\$25,000: 25% to 22%
- » Less than High School Diploma: 29% to 22%

ACTION PLAN

The Worksites Work Group proposes statewide implementation of annual cholesterol screening at worksites. Successful implementation of worksite screening will involve engaging business owners and educating them about the benefits of worksite wellness initiatives. These initiatives will include providing employers and employees with educational materials on heart disease and stroke prevention, including wellness tool kits addressing cholesterol, glucose and blood pressure, and potentially offering on-site screenings. The Worksites Work Group will identify and recruit partners critical to the success of the planned initiative, specifically seeking employers in racially and ethnically-diverse communities and whose employees tend to have less than a high school diploma.

DATA SOURCE

Objective 3D: 2003, 2005, 2009 and 2011 BRFSS

Objective 3D1: 2003, 2005, 2009 and 2011 BRFSS aggregated data weighted

HIGH CHOLESTEROL OBJECTIVES

3E. By 2012, reduce the proportion of Rhode Island adults aged 18 and older with diagnosed high cholesterol from 34% to 29%. (I)

3E1. By 2012, reduce the proportion of Rhode Island adults aged 18 and older in at-risk groups with diagnosed high cholesterol from their respective baselines to 35%. (I&Disp)

At-risk groups baselines and targets:

- » Income <\$25,000: 40% to 35%
- » Less than High School Diploma: 40% to 35%

ACTION PLAN

Objectives 3E and 3E1 are being addressed by the RICCC (see description on page 19). Patients receiving care through the RICCC have been diagnosed with a chronic disease and their treatment is based on standards of care associated with their particular chronic disease. The RICCC is targeting cardiovascular disease in nine clinics by 2011 (3 year “optional” heart disease and stroke prevention funding through the CDC) in an effort to improve the control of high cholesterol and hypertension among patients with heart disease. These nine RICCC sites are funded to re-engineer care for patients at risk for or who have heart disease at health centers in low-income communities.

DATA SOURCE

Objective 3E: 2003, 2005, 2009, 2011 BRFSS

Objective 3E1: 2003, 2005, 2009 and 2011 BRFSS aggregated data weighted

DIABETES OBJECTIVES

3F. By 2012, increase the proportion of Rhode Island adults screened for diabetes from 52% to 57%. (I)

ACTION PLAN

Working with HEALTH's Diabetes Prevention and Control Program, the Worksites Work Group proposes statewide implementation of annual diabetes screening at worksites. Similar to the Action Plan for Objectives 3D and 3D1, successful implementation of worksite screening will involve engaging business owners and educating them about the benefits of worksite wellness initiatives; providing employers and employees with educational materials on heart disease and stroke prevention, including wellness tool kits addressing cholesterol, glucose and blood pressure; and offering on-site screenings. The Worksites Work Group will identify and reach out to partners critical to the success of this planned activity.

DATA SOURCE

Objective 3F: 2007 and 2011 BRFSS

3G. By 2012, reduce the proportion of Rhode Island adults in at-risk groups who have doctor diagnosed diabetes from 12% each to 6%. (I&Disp)

At-risk groups baselines and targets:

- » Less than High School Diploma: 12% to 6%
- » Income <\$25,000: 12% to 6%

ACTION PLAN

The two following initiatives will support objective 3G:

The RICCC serves low-income patients who have been diagnosed with a chronic disease at its current 26 participating sites. Those patients diagnosed with diabetes are treated according to the American Diabetes Association standards of care. Two RICCC sites are currently funded to participate in the Diabetes Primary Prevention Initiative (DPPI) to identify patients at risk for diabetes and provide patient education and support to address their individual risk factors for diabetes. This year, HEALTH's Diabetes Prevention and Control Program and the Initiative for a Healthy Weight will partner to fund at least two additional RICCC sites to become part of the DPPI.

HEALTH's chronic care and obesity social marketing campaign will include general public education about the impact of obesity on chronic diseases, including diabetes. The campaign will also target health care providers and supply them with tool kits to assist their patients who are at-risk for diabetes and other chronic diseases.

DATA SOURCE

Objective 3G: 2005, 2007 and 2011 BRFSS

3H. By 2012, reduce the proportion of Rhode Island adults aged 18 and older with diagnosed diabetes that have diagnosed high blood pressure from 67% to 62%. (I)

3H1. By 2012, reduce the proportion of Rhode Island adults aged 18 and older in at-risk groups with diagnosed diabetes that have diagnosed high blood pressure from 74% to 69%. (I&Disp)

At-risk group baseline and target:

- » Income <\$25,000: 74% to 69%

ACTION PLAN

The RICCC will work to achieve objectives 3H and 3H1 by following American Diabetes Association standards of care for its patients diagnosed with diabetes, which include routine screening for and treatment of high blood pressure. Because RICCC sites care for low-income populations, the RICCC will have an impact on those disproportionately affected by diabetes and hypertension.

DATA SOURCE

Objective 3H: 2003, 2005, and 2011 BRFSS aggregated data weighted

Objective 3H1: 2003, 2005 and 2011 BRFSS

DIABETES OBJECTIVES (CONTINUED)

3I. By 2012, reduce the proportion of Rhode Island adults aged 18 and older with diagnosed diabetes that have diagnosed high cholesterol from 59% to 54%. (I)

ACTION PLAN

The RICCC will work to achieve objective 3I by following American Diabetes Association standards of care for its patients diagnosed with diabetes, which include routine screening for and treatment of high cholesterol.

DATA SOURCE

Objective 3I: 2003 and 2005 BRFSS aggregated data weighted for baseline and 2011 BRFSS for target.³

3J. By 2012, reduce the proportion of Rhode Island adults aged 18 and older with diagnosed diabetes with any of three risk factors (obesity, no regular physical activity, smoking) that have diagnosed high blood pressure from 70% to 65%. (I)

ACTION PLAN

The RICCC follows the American Diabetes Association standards of care in treating patients with diabetes. Such patients are routinely screened for a range of modifiable risk factors. These data are entered into an electronic database. Providers can track patient risk factors and changes in their diabetes and educate patients about the importance of healthy weight, exercise and not smoking.

DATA SOURCE

Objective 3J: 2003 and 2005 BRFSS aggregated data weighted for baseline and 2011 BRFSS for target



3K. By 2012, reduce the proportion of Rhode Island adults aged 18 and older with diagnosed diabetes, obesity and no regular physical activity that have diagnosed high blood cholesterol from 60% to 55%. (I)

ACTION PLAN

The RICCC follows the American Diabetes Association standards of care in treating patients with diabetes. Such patients are routinely screened for a range of risk factors. These data are entered into an electronic database. Providers can track patient risk factors and changes in their diabetes and educate patients about the importance of healthy weight and exercise. By educating patients about the importance of healthy weight and exercise, RICCC providers will work toward reducing risk factors for high cholesterol.

DATA SOURCE

Objective 3K: 2003 and 2005 BRFSS aggregated data weighted for baseline and 2011 BRFSS for target

3L. By 2012, increase the proportion of Rhode Island adults at RICCC and Chronic Sustainability Initiative (CSI) health care facilities with diagnosed diabetes whose LDL cholesterol is less than 100 mg/dL from 57.9% to 61.9%. (I)

ACTION PLAN

The five CSI sites (see description at right) and nine of the 26 RICCC sites are working with their patients who have diagnosed diabetes to identify, track and address risk factors for heart disease and stroke. By following national standards of care for diabetes and screening and treating high cholesterol, the CSI and RICCC sites are helping to achieve the objective.

DATA SOURCE

Objective 3L: Reports from the RICCC and CSI

3M. By 2012, increase the proportion of Rhode Island adults with diagnosed heart disease in RICCC and CSI health care facilities whose LDL cholesterol is less than 100 mg/dL from 23.8% to 27.8%. (I)

ACTION PLAN

The five CSI sites and nine of the 26 RICCC sites are working with their patients who have diagnosed heart disease to identify, track and address risk factors for heart disease and stroke. By following national standards of care for heart disease and screening and treating high cholesterol, the CSI and RICCC sites are helping to achieve the objective.

DATA SOURCE

Objective 3M: Reports from RICCC and CSI.

3N. By 2012, increase the number of certified Diabetes Educators that are trained to provide cardiovascular and diabetes education from zero to 50. (I)

ACTION PLAN

The Health Care System Work Group will collaborate with HEALTH's Diabetes Prevention and Control Program to train and certify diabetes educators to provide cardiovascular and diabetes education.

DATA SOURCE

Objective 3N: Reports from the Diabetes Outpatient Education Board and Rhode Island Diabetes Prevention and Control Program.

Chronic Care Sustainability Initiative (CSI)

As part of the RICCC, the RI HDSP Program is working on the Chronic Care Sustainability Initiative (CSI), to establish a patient-centered medical home model for patients with coronary artery disease, diabetes and depression.

The RI HDSP Program serves as part of the RICCC Planning Team to provide the educational components in the Chronic Care Model and the Model for Improvement (see descriptions below) to five practices. These practices include 28 physicians and 28,000 patients. This innovative model is supported by a large stakeholder group with funding to the participating teams from the three major health insurers.

The RICCC serves as a training arm for the CSI, and has implemented the CSI in five sites—four private practices and one community health center.

» *Chronic Care Model identifies the essential elements of a health care system that encourages high quality chronic disease care. These elements are the community, the health system, self management support, delivery system design, decision support and clinical information systems. Evidence-based change concepts under each element, in combination, foster productive interactions between informed patients who take an active part in their care and providers with resources and expertise.*

» *The Model for Improvement is a process with small changes in each step that can be tested to determine if the change improves the process. Collaborative teams accelerate change in their organizations by using the fast change cycle to test the small changes. For each change that is tested, the team proposes a PLAN, listing expected outcomes of the change and methods for measuring the outcomes. They DO what they have proposed. They STUDY the outcomes to determine if the outcomes met the expectation for the change. Finally, they ACT on their conclusions by either retesting the change or moving on to test another change in the next step of the process, using a method to adapt, implement and spread changes.*

GOAL 4

ENSURE EARLY DETECTION OF AND EARLY AND APPROPRIATE RESPONSE TO HEART ATTACK AND STROKE.

AWARENESS/SIGNS AND SYMPTOMS OBJECTIVES

4A. By 2012, 25% of Rhode Island adults aged 18 and older will know all 5 heart attack warning signs and symptoms and the importance of calling 9-1-1. (D)

4A1. By 2012, 18% of Rhode Island adults aged 18 and older in at-risk groups will know all 5 heart attack warning signs and symptoms and the importance of calling 9-1-1. (D&Disp)

ACTION PLAN

As objective 4A and 4A1 are developmental objectives, the RI HDSP Program will collect and analyze baseline information and identify at-risk groups and their accompanying baseline and target measures.

The Worksites Work Group will distribute linguistically-appropriate educational brochures and posters to Rhode Island businesses that describe the five heart attack warning signs and symptoms and the importance of calling 9-1-1. The work group will identify and reach out to partners critical to accomplishing the objective.

The Community Work Group will support a Public Service Announcement (PSA) plan that will focus on increasing awareness of stroke and heart attack signs and symptoms and the importance of calling 9-1-1.

The Community Work Group will also identify appropriate informational materials and develop a production and distribution plan. This plan may include incorporating heart attack awareness into the "CPR Anytime Program," requesting the Red Cross to add heart attack awareness to CPR classes, and making heart attack and stroke educational materials available to senior centers.

DATA SOURCE

Objectives 4A and 4A1: Targets were derived from Morbidity and Mortality Weekly Report. Disparities in Adult Awareness of Heart Attack Warning Signs and Symptoms – 14 States, 2005. February 22, 2008; 57(07); 175–179. Success at meeting the targets will be assessed using 2005–2011 BRFSS data.



4B. By 2012, 18% of Rhode Island adults aged 18 and older will know the four warning signs of stroke as described in the FAST campaign, including the importance of calling 9-1-1. (D)

ACTION PLAN

HEALTH will coordinate with the Massachusetts Department of Public Health to run the FAST campaign in the Rhode Island/Southeastern Massachusetts media market. HEALTH will also make supplemental campaign materials available to community partners.

The Community Work Group will support the implementation of the FAST campaign in Rhode Island. The work group will assist with the dissemination of campaign materials. The work group will also develop a production and distribution plan to identify other appropriate stroke-related information. This plan may include requesting the incorporation of stroke awareness into the "CPR Anytime Program," requesting that the Red Cross include stroke awareness in its CPR classes, and making FAST wallet cards available at senior centers.

The Worksites Work Group will distribute linguistically-appropriate educational brochures and posters associated with the FAST campaign (see description to the left) to worksites statewide. The work group will identify and reach out to partners critical to achieving this objective.

DATA SOURCE

Objective 4B: Target was derived from Morbidity and Mortality Weekly Report. Awareness of Stroke Warning Signs – 17 States and the U.S. Virgin Islands, 2001. May 7, 2004; 53(17); 359–362. Success at meeting the target will be assessed through the 2009 evaluation of FAST Campaign (by the Massachusetts Department of Public Health) and progress reports from the Community and Worksites Work Groups.

The FAST Campaign

The FAST Campaign is a public awareness campaign aimed at increasing knowledge about the signs and symptoms of stroke and the importance of early detection.

The campaign asks the public to remember a simple acronym (FAST) which stands for:

FACE: *Ask the person to smile. Does one side of the face droop?*

ARMS: *Ask the person to raise both arms. Does one arm drift downward?*

SPEECH: *Ask the person to repeat a simple sentence. Are the words slurred?*

Can he/she repeat the sentence correctly?

TIME: *If the person shows any of these symptoms, time is important. Call 9-1-1 or get to the hospital fast.*

The media portion of this campaign is a collaborative effort involving HEALTH and the Massachusetts Department of Public Health and will begin its second year in June 2009.

EMERGENCY RESPONSE OBJECTIVES

4C. By 2012, develop a plan for adopting the national emergency dispatch standards in Rhode Island. (P)

ACTION PLAN

The Emergency Medical Services (EMS) Work Group proposes to pilot Emergency Medical Dispatch (EMD) with the City of Warwick Fire Department. The first steps will be to identify a certified EMD system, approach the Rhode Island Interlocal Risk Management Trust (see description on opposite page) as a potential funder, and work with community partners to plan the pilot.

DATA SOURCE

Objective 4C: Progress reports from HEALTH's Division of EMS

4D. By 2012, develop a plan to ensure provision of interpreter services for non-English speaking 9-1-1 callers in Rhode Island. (P)

ACTION PLAN

The EMS Work Group proposes to assist in the evaluation of the existing Rhode Island E-911 Interpreter Resources to determine the most efficacious way to meet demand for interpreter services. This will include an investigation of whether a call can be transferred to a local/municipal dispatcher while the interpreter is on the phone line. The work group plans to meet with the Executive Director of Rhode Island E-911 and/or the appropriate technical support person to discuss the availability of existing interpreter resources. As a next step, the work group will investigate ways in which first responders could access interpreter services, including exploring modifications to existing contracts.

DATA SOURCE

Objective 4D: Reports from E-911 and HEALTH's Division of EMS

4E. By 2012, develop a plan to align Emergency Medical Technician (EMT) levels, standards of care and education with emerging national standards. (P)

ACTION PLAN

The EMS Work Group proposes to assist in the development of an EMS strategic plan. As a first step, the work group plans to work with HEALTH's Division of EMS Physician Medical Consultant to review the current status of EMS and create a plan to better align Rhode Island with national standards.

DATA SOURCE

Objective 4E: Progress reports from HEALTH's Division of EMS

4F. By 2012, establish a process to designate "primary stroke centers" based on Joint Commission on the Accreditation of Healthcare Organizations (JCAHO). (P)

ACTION PLAN

The Stroke Work Group/Rhode Island Stroke Task Force will identify internal and external resources to assist in the implementation of the Stroke Prevention and Treatment Act of 2009. This act is expected to pass the General Assembly in the 2009.

DATA SOURCE

Objective 4F: Progress reports from the Stroke Work Group/Rhode Island Stroke Task Force and the RI HDSP Program

4G. By 2012, ensure that EMS providers identify and transport suspected stroke and ST-elevated myocardial infarction (STEMI) patients to the most appropriate hospitals using evidence-based guidelines. (P)

ACTION PLAN

The EMS Work Group will work to update the STEMI and Stroke protocols to define the facilities that are most appropriate and reflect hospital by-pass. The work group will work with the Ambulance Service Advisory Board (ASAB) and HEALTH's Division of EMS Physician Medical Consultant to: update the STEMI protocol to reflect hospital by-pass to Percutaneous Coronary Intervention (PCI) Centers, pending approval of the ASAB; update the stroke protocol to reflect hospital by-pass to a designated "primary stroke center" as defined in 4F; and support the inclusion of 12 lead Electrocardiograms (ECGs) in ambulances statewide.

DATA SOURCE

Objective 4G: Patient care reports from HEALTH's Division of EMS

4H. By 2012, develop a plan to track the number of persons with stroke who are transported by EMS to a certified stroke center. (P)

ACTION PLAN

The EMS Work Group plans to develop a Phase 1 plan for data tracking. The work group will attempt to secure funding through the EMS data grant and connect collected EMS data to hospital data.

DATA SOURCE

Objective 4H: Run reports from HEALTH's Division of EMS

4I. By 2012, increase the number of Heart Safe Communities in Rhode Island from zero to 15, beginning with a pilot project. (I&P)

ACTION PLAN

The Community Work Group is supporting a Heart Safe Community Pilot Project in three communities in Rhode Island. During 2009, the Community Work Group will assist with on-going regular check-ups with the pilot communities to assess their needs and progress. The work group will collect and review Heart Safe Community applications in July 2009 and award designations in September 2009. The work group will recruit new cities and towns and roll out the program statewide in the Fall of 2009.

DATA SOURCE

Objective 4I: Progress reports from Community Work Group and RI HDSP Program

The Rhode Island Interlocal Risk Management Trust

The Rhode Island Interlocal Risk Management Trust acts as a catalyst for legislative change among Rhode Island public sector entities. The Trust was established in July 1986 as a resource in the implementation of a broad-based public sector coalition. The Trust works to promote amendments to current tort legislation to lessen governmental liability.

GOAL 5

ENSURE THAT THOSE WITH CARDIOVASCULAR DISEASE RECEIVE APPROPRIATE TREATMENT TO PREVENT THE PROGRESSION OF DISEASE, SUBSEQUENT EVENTS (E.G., HEART ATTACK AND STROKE), ASSOCIATED COMPLICATIONS, DISABILITIES AND MORTALITY.

CARDIAC POST-EVENT OBJECTIVES

5A. By 2012, all acute-care hospitals will use a standardized discharge packet that promotes public access and educates cardiac event patients and families on risk factors, medications, warning signs, rehabilitation options and the appropriate method for requesting EMS in their area. (P)

ACTION PLAN

The Health Care System Work Group will develop and disseminate a standardized discharge packet to acute-care hospitals statewide.

DATA SOURCE

Objective 5A: Progress reports from the Health Care System Work Group

5B. By 2012, post-event cardiac care resources and services will be identified, published and shared throughout the state on a periodic basis (minimum every 2 years). The resource list will promote access to care and includes a list of facilities providing comprehensive inpatient rehabilitation services, outpatient services, home care for heart attack recovery, community-based exercise programs and heart attack support groups. (P)

ACTION PLAN

The Community Work Group will create and disseminate a RI HDSP Community Resource Guide. The work group will review similar existing products; identify partner organizations who should be involved in the project; adopt the priority areas identified in the objective; identify additional content areas that will be included in the guide; identify lead partners to collect information; invite identified partner organizations to share information; and compile collected information into the guide.

DATA SOURCE

Objective 5B: Progress reports from the Community Work Group



5C. By 2012, adopt a standardized data platform to track adherence to evidence-based care of patients hospitalized with coronary artery disease through the adoption of a performance improvement program that is consistent with national guidelines. (e.g., Get with the GuidelinesSM). (P)

ACTION PLAN

To increase the RI HDSP Steering Committee's expertise in Quality Improvement, the Health Care System Work Group will identify and recruit partners from the local organizations who have expertise in the adherence to scientific guidelines. Together with these partners, the work group will develop a plan for evaluating compliance and performance, including a standardized data platform to track adherence.

DATA SOURCE

Objective 5C: Progress reports from the Health Care System Work Group

5D. By 2012, adopt a standardized data platform to track adherence to evidence-based care of patients hospitalized with heart failure through the adoption of a performance improvement program that is consistent with national guidelines. (e.g., Get with the GuidelinesSM). (P)

ACTION PLAN

Similar to the Action Plan for 5E, the Health Care System Work Group will identify and recruit partners from the local quality improvement organizations who have expertise in the adherence to scientific guidelines. Together with these partners, the work group will develop a plan for evaluating compliance and performance, including a standardized data platform.

DATA SOURCE

Objective 5D: Progress reports from the Health Care System Work Group

5E. By 2012, adopt a standardized rehabilitation screening tool that is consistent with national guidelines for hospitalized cardiac event patients. (P)

ACTION PLAN

The Health Care System Work Group and the RI HDSP Program will work to identify a screening tool that is evidence-based and consistent with JCAHO standards and assist in the plan for dissemination of the tool to hospitals statewide.

DATA SOURCE

Objective 5E: Progress reports from the RI HDSP Program

5F. By 2012, adopt statewide mechanisms, such as JCAHO or Commission on Accreditation of Rehabilitation Facilities (CARF) standards, to ensure that hospitalized cardiac event patients are referred for post-event care. (P)

ACTION PLAN

The Health Care System Work Group and the RI HDSP Program will work closely with their partners in the rehabilitation community to create a plan for adopting statewide mechanisms to ensure that hospitalized cardiac event patients are referred for appropriate post-event care. Steps will include identifying best practices, surveying hospitals to understand current practices, and providing survey results and best practice information to hospitals statewide.

DATA SOURCE

Objective 5F: Progress reports from the Health Care System Work Group and the RI HDSP Program

STROKE POST-EVENT OBJECTIVES

5G. By 2012, all acute-care hospitals will use a standardized discharge packet consistent with JCAHO standards that promotes public access and educates stroke patients and families on risk factors, medications, warning signs, rehabilitation options and the appropriate method for requesting EMS in their area. (P)

ACTION PLAN

The Stroke Work Group/Rhode Island Stroke Task Force supports the adoption of Get with the GuidelinesSM, an evidence-based program for in-hospital quality improvement, as well as JCAHO and CDC education measures. The work group also supports an increase from zero to 40% in the number of hospitals that use the statewide discharge packet. The group will work with the Stroke Coordinators Network to adopt the education measures as the statewide standard; review hospital discharge packets from around Rhode Island; identify additional content areas and materials that should be included in the packet; conduct a baseline survey to determine which hospitals statewide are currently using materials that meet the standards for discharge education; and conduct a bi-annual check to assess progress with the creation and implementation of a standardized discharge packet.

DATA SOURCE

Objective 5G: Progress reports from the Stroke Work Group/Rhode Island Stroke Task Force

5H. By 2012, all acute-care hospitals will adopt and consistently use standardized protocols that screen for and ensure timely transition from inpatient to appropriate next level of care consistent with JCAHO standards for all patients with a history or suspected history of stroke events. (P)

ACTION PLAN

The Stroke Work Group/Rhode Island Stroke Task Force will begin by identifying appropriate partners in the acute-care hospital community and begin outreach to establish a plan for meeting the objective. The initial focus of the work group's efforts will be to help hospitals reach a consensus on a coordinated method for addressing stroke and then develop oversight capacity and recruit rehabilitation partners.

DATA SOURCE

Objective 5H: Progress reports from the Stroke Work Group/Rhode Island Stroke Task Force

5I. By 2012, post stroke care resources and services will be identified, published, and shared throughout the state on a periodic basis, promoting access to care and including a list of facilities providing comprehensive inpatient rehabilitation services, outpatient services, home care for heart attack recovery, community based exercise programs, and stroke support groups. (P)

ACTION PLAN

Similar to the Action Plan for 5B, the Community Work Group will create and disseminate a RI HDSP Community Resource Guide. The work group will assess existing products; identify partner organizations; select content areas; collect information; and compile the guide.

DATA SOURCE

Objective 5I: Progress reports from the Community Work Group

5J. By 2012, adopt a standardized data platform to track adherence to evidence-based care of patients hospitalized with stroke through the adoption of a performance improvement program that is consistent with national guidelines. (e.g. Get with the GuidelinesSM or state approved). (P)

ACTION PLAN

The Stroke Work Group/Rhode Island Stroke Task Force proposes the inclusion of a standardized data platform in the Primary Stroke Center Designation Legislation. The work group will include the adoption of a statewide data platform in the legislation; meet with potential legislative sponsors; identify a champion; and track legislation through the end of the legislative year.

DATA SOURCE

Objective 5J: Progress reports from the Stroke Work Group/Rhode Island Stroke Task Force

5K. By 2012, adopt a standardized rehabilitation screening tool that is consistent with national guidelines for hospitalized stroke patients. (P)

ACTION PLAN

The Stroke Work Group/Rhode Island Stroke Task Force will begin by identifying appropriate partners in the rehabilitation community and begin outreach to establish a plan for meeting the objective.

DATA SOURCE

Objective 5K: Progress reports from the Stroke Work Group/Rhode Island Stroke Task Force and the RI HDSP Program

5L. By 2012, adopt statewide mechanisms, such as JCAHO or CARF standards, to ensure hospitalized stroke patients are referred for post-stroke care. (P)

ACTION PLAN

The Stroke Work Group/Rhode Island Stroke Task Force will begin by identifying appropriate partners in the hospital and rehabilitation communities and begin outreach to establish a plan for meeting the objective. The initial focus of these efforts will be to help hospitals reach a consensus on a coordinated method for addressing stroke and then develop oversight capacity and recruit rehabilitation partners.

DATA SOURCE

Objective 5L: Progress reports from the Stroke Work Group/Rhode Island Stroke Task Force and the RI HDSP Program

REHABILITATION OBJECTIVE

5M. By 2012, develop programs to evaluate compliance with national guidelines that are consistent with JCAHO and CARF for post acute care and establish system performance measures for compliance. (P)

ACTION PLAN

The Health Care System Work Group and the RI HDSP Program will work with members of the Stroke Work Group/Rhode Island Stroke Task Force and partners in the rehabilitation community who operate in accordance with JCAHO and CARF standards to develop guidance aimed at improving compliance and a plan for disseminating guidance to rehabilitation facilities and evaluating compliance.

DATA SOURCE

Objective 5M: Progress reports from the Health Care System Work Group and the RI HDSP Program



GOAL 6

DEVELOP A STATEWIDE INFRASTRUCTURE AND CAPACITY TO PREVENT HEART DISEASE AND STROKE AND IMPROVE SYSTEMS OF CARDIOVASCULAR CARE

INFRASTRUCTURE OBJECTIVES

6A. Develop scientific capacity to define and monitor the cardiovascular disease burden in Rhode Island and produce a regularly updated heart disease and stroke burden document. (P)

ACTION PLAN

The RI HDSP Program will continue data collection through the Rhode Island Heart Disease and Stroke Surveillance System. The system includes BRFSS, Hospital Discharge Data, Emergency Department Data, and Vital Records.

The RI HDSP Program will track several cardiovascular disease-related indicators recently recommended by the CDC (see 1–9 below). Indicators 1 through 6 have already been integrated within the plan. Although objectives have been developed for indicators 7–9, action plans and measures must be developed and included in the next update of the RI HDSP State Plan.

CDC Recommended Indicators to be included in the RI HDSP State Plan:

1. Proportion of individuals requiring hospitalization/ emergency care with primary diagnosis related to heart disease (see Objective 1A)
2. Proportion of individuals requiring hospitalization/ emergency care with primary diagnosis related to stroke (see Objective 1B)
3. Degree of reduction in disparities in cardiovascular mortality between general and priority populations (See Objective 1G)
4. Proportion of individuals that have achieved blood pressure control (See Objective 3B)
5. Proportion of individuals that are aware of the risks associated with uncontrolled high blood pressure (causes and consequences) (See Objective 3B1)
6. Degree of reduction in disparities between general and priority populations regarding awareness of high blood pressure control and risk factors (See Objective 3C)

7. Proportion of health care sites with electronic medical records for high blood pressure control (including pharmacologic and lifestyle modification components). Planned objective: By 2012, increase the proportion of adults aged 18 and older with diagnosed high blood pressure that have their blood pressure under control from a baseline of 35–36% to 40%. (I)

8. Proportion of worksites providing health risk assessments with blood pressure screening for early detection or monitoring. Planned objective: By 2012, increase the proportion of at-risk population aged 18 and older with diagnosed high blood pressure that have their blood pressure under control by 5% of baseline.(I) At-risk group baseline and target: Income <\$25,000 or Less than High School Diploma: Baseline: 25–30%; Target: 30–35%

9. Number of community environmental changes to control high blood pressure. Planned objective: By 2012, increase the proportion of at-risk groups aged 18 and older with diagnosed high blood pressure that are taking action to control their high blood pressure by 5% of baseline. (D)

After creating a baseline for the statewide burden of heart disease and stroke and identifying trends in modifiable risk factors over the past 8 years, an updated and expanded report on the burden of heart disease and stroke is being prepared. The 2009 Burden of Heart Disease and Stroke in Rhode Island report will be used to measure progress on improving the health of individuals with heart disease and stroke in Rhode Island.

A final report on the burden of heart disease and stroke is planned for release in June 2012.

DATA SOURCE

Objective 6A: The 2009 Burden of Heart Disease and Stroke in Rhode Island; The 2012 Burden of Heart Disease and Stroke in Rhode Island

American Heart Association / American Stroke Association

The American Heart Association (AHA) was founded in 1924 as the nation's oldest and largest voluntary health organization dedicated to building healthier lives, free of heart disease and stroke. To help prevent, treat and defeat these diseases—America's No. 1 and No. 3 killers—AHA funds cutting-edge research, conducts lifesaving public and professional educational programs, and advocates to protect public health.

The American Stroke Association (ASA) was created in 1997 as a division of the American Heart Association. ASA works to improve stroke prevention, diagnosis and treatment to save lives from stroke—America's No. 3 killer and a leading cause of serious disability. To do this, ASA funds scientific research, helps people better understand and avoid stroke, encourages government support, guides health care professionals, and provides information to stroke survivors and their caregivers to enhance their quality of life.



6B. Develop, maintain and enhance a diverse and active partnership to plan, implement and coordinate heart disease and stroke prevention activities within the state. (P)

ACTION PLAN

As part of an ongoing process, the RI HDSP Program will build effective partnerships through:

- » Expansion of the RI HDSP Steering Committee, which will continue to evolve as new members are identified and invited to join.
- » Continued development of the relationship with the Rhode Island affiliates of the American Heart Association/American Stroke Association, partnering on statewide activities such as Heart Safe Communities, the Northeast Cerebrovascular Consortium conference planning and Go Red Day, and supporting the American Heart Association Search Your Heart Program.
- » Developing partnerships with local health promotion and ambulatory care centers to implement programs such as the RICCC's Cardiovascular Disease Optional Program.
- » Strengthening the health care partnerships which improve care across the state. For example, The Rhode Island Stroke Coordinators Network group continues to build a statewide network, and the Rhode Island Stroke Task Force continues to meet and work towards the implementation of the recommendations from the Rhode Island Stroke Task Force report on stroke care in Rhode Island.

DATA SOURCE

Objective 6B: Progress reports from the RI HDSP Program

6C. Develop, update and facilitate implementation of a comprehensive Rhode Island Heart Disease and Stroke Prevention State Plan. (P)

ACTION PLAN

The work groups (Community, EMS, Health Care System, Stroke/Rhode Island Stroke Task Force and Worksites) will continue to work together to formulate goals, objectives and activities that will give the lay public, program planners, health care providers, legislators and policy makers realistic and achievable goals for lowering the burden of heart disease and stroke in the state.

The 2009 RI HDSP State Plan will be released to the public at the June 2009 RI HDSP Annual Summit.

Updated versions of the plan are scheduled throughout the next several years.

DATA SOURCE

Objective 6C: RI HDSP State Plan and progress reports from the RI HDSP Program

6D. Build and strengthen heart disease and stroke prevention infrastructure at HEALTH. (P)

ACTION PLAN

As part of an ongoing process, the RI HDSP Program participates in meetings of the Chronic Care and Disease Management (CCDM) team, which includes the diabetes, asthma and cancer programs. The CCDM Team is working on short, intermediate and long-term strategies to integrate chronic disease management, programming and policies across programs.

DATA SOURCE

Objective 6D: Progress reports from the RI HDSP Program

6E. Enhance program evaluation to help monitor and manage a heart disease and stroke prevention program that addresses systems change (indicating environmental supports and policy changes) to sustain individual behavior change, create enhanced access to effective medical care and to improve health status and the elimination of health disparities in heart disease and stroke in Rhode Island. (P)

ACTION PLAN

Program evaluation will include:

Data collected from program sites:

- » Data from the RICCC cardiovascular disease electronic registries will be analyzed to measure improvement in decreasing the percentage of patients with high blood pressure and high cholesterol.
- » High Blood Pressure Control Core Indicators collection from select RICCC sites and an ambulatory care center will be used to assess outcomes in high-priority populations. Indicators include: the proportion of health care systems with electronic medical records for high blood pressure control; the proportion of individuals with high blood pressure in compliance with hypertensive medication regime; average blood pressure levels among individuals with high blood pressure; and proportion of individuals who have achieved blood pressure control.

Papers written on the process evaluation for programs addressing heart disease and stroke, such as a paper on the first 12 months of the RI HDSP Neighborhood Pilot Project (see description on opposite page) for the New England Regional Minority Health Committee.

Continuing data collection through the Heart Disease and Stroke Surveillance System.

A periodically updated report on the burden of heart disease and stroke in Rhode Island to measure progress on improving the health of individuals with heart disease and stroke in Rhode Island and to offer a venue for disseminating program briefs to external and internal partners.

DATA SOURCE

Objective 6E: Program evaluation data sources include available surveillance systems (e.g. BRFSS, Hospital Discharge Data, Vital Records), as well as progress reports and other documentation (e.g. RICCC reports).

RI HDSP Neighborhood Pilot Project

The RI HDSP Neighborhood Pilot Project aims to create social, environmental and policy changes to reduce the risk of heart disease and stroke in South Providence, Rhode Island. The population of South Providence is predominantly low-income, Hispanic and non-Hispanic Black and has higher age-adjusted hospitalization rates for heart disease and stroke than the statewide average. This may mean that the racial and ethnic minority groups living in South Providence are less likely to receive screening and treatment for risk factors of heart disease and stroke.

The Pilot Project is focused on:

- » *Establishing linkages across three partnering agencies where high-risk individuals are identified (e.g., through blood pressure and cholesterol screening).*
- » *Increasing referrals across partnering agencies to encourage and support monitoring of participants at risk for or who have heart disease and stroke.*
- » *Building cross-organizational linkages beyond the partnering agencies to include other health promotion program sites and worksite wellness programs in the neighborhood.*

The three partners involved in the pilot are: St. Joseph's Health Services of Rhode Island; the Center for Hispanic Policy and Advocacy (CHisPA); and John Hope Settlement House. These three organizations have designed a streamlined system for referring persons at risk for heart disease or a stroke to ambulatory care and/or to community resources for nutrition and physical activity classes.

To date, the RI HDSP Neighborhood Pilot Project products include a RI HDSP Neighborhood Pilot Project protocol, intake and referral form, and resource guide.



RI HDSP Steering Committee Membership Organizations

Rhode Island Department of Health	Narragansett Indian Health Center
Rhode Island Department of Administration	Neighborhood Health Plan of Rhode Island
American Heart Association/American Stroke Association	Newport Hospital
Blue Cross Blue Shield of Rhode Island	Newport Neurology
Brown University	Quality Partners of Rhode Island
Cardiovascular Research Center	Rhode Island Free Clinic
Care New England Wellness Center	Rhode Island General Assembly
Chad Brown Health Center	Rhode Island Health Center Association
Center for Hispanic Policy & Advocacy (CHisPA)	Rhode Island Hospital
East Providence Fire Department	South County Hospital
The Health & Wellness Institute	St. Joseph's Health Services of Rhode Island
The Hospital Association of Rhode Island	Warwick Fire Department
International Institute of Rhode Island	Women & Infants Hospital
John Hope Settlement House	Worksite Wellness Council of Rhode Island
Kent Hospital	YWCA of Northern Rhode Island
Lifespan Community Health Services	
Johnston Fire Department	
Memorial Hospital of Rhode Island	
Mended Hearts Association	
The Miriam Hospital	

Glossary/Acronyms

ACTION PLAN: A set of activities designed to achieve a particular objective

ACTIVITIES: Shorter-term, discreet projects that help to achieve an objective and make progress toward a longer-term goal

BEST PRACTICES: Methods or processes that have been shown, through rigorous evaluation, to be the most efficient and effective way of achieving a desired outcome

BRFSS: Behavioral Risk Factor Surveillance System

CARDIOVASCULAR DISEASE: The class of diseases that involve the heart or blood vessels

CARF: Commission on the Accreditation of Rehabilitation Facilities

CDC: Centers for Disease Control and Prevention

CSI: Chronic Sustainability Initiative (See description on page 23)

DEVELOPMENTAL OBJECTIVES: Objectives intended to create a change or impact, but for which a baseline is not yet known and must be developed

EMS: Emergency Medical Services

ENVIRONMENTAL CHANGE: Interventions designed to influence people's attitudes and health behaviors by changing or altering both the physical and social environment

HEALTH: The Rhode Island Department of Health

HEART ATTACK (MYOCARDIAL INFARCTION): Occurs when blood flow to a section of heart muscle becomes blocked. If the flow of blood is not restored quickly, the section of heart muscle becomes damaged from lack of oxygen and begins to die.

HDSP: Heart Disease and Stroke Prevention

IMPACT OBJECTIVES: Objectives that will result in a change from a given baseline to an established point or target

JCAHO: Joint Commission for the Accreditation of Healthcare Organizations

LOW EDUCATION: For the purposes of the RI HDSP State Plan, low education refers to persons with less than a high school diploma.

LOW INCOME: For the purposes of the RI HDSP State Plan, low-income refers to household incomes of less than \$25,000 per year.

MORTALITY RATE: A measure of the number of deaths (in general or due to a specific cause) in a population, scaled to the size of that population, per unit of time

POLICY CHANGE: Formal rules and/or regulations that govern behaviors and practices, including public policy or policies within organizations

POPULATION-BASED: Interventions that focus on an identified population or community rather than on individual change

PREVALENCE: The total number of cases of the disease in the population at a given time, or the total number of cases in the population

PROCESS OBJECTIVES: Objectives that will establish a process or system that does not currently exist, but which is necessary before change or impact can be achieved

RICCC: Rhode Island Chronic Care Collaborative (See description on page 19)

SMART: Refers to objectives that are specific, measurable, achievable, relevant, time-bound

STROKE: A type of cardiovascular disease, a stroke affects the arteries leading to and within the brain. A stroke occurs when a blood vessel that carries oxygen and nutrients to the brain is either blocked by a clot or bursts.

End Notes

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- 1 Centers for Disease Control and Prevention. National Vital Statistics Report. Deaths: Final Data for 2005. Volume 6(10). April 24, 2008. Accessed on the web at: http://www.cdc.gov/nchs/data/nvsr/nvsr56/nvsr56_10.pdf
See also: Cardiovascular Disease Prevalence and Mortality, 2008. Accessed on the web at:
<http://cfpub.epa.gov/eroe/index.cfm?fuseaction=detail.viewInd&lv=list.listByAlpha&r=201585&subtop=381>
 - 2 Cooper R, et al. Trends and disparities in coronary heart disease, stroke, and other cardiovascular diseases in the United States: Findings of the national conference on cardiovascular disease prevention. Circulation. 2000 Dec 19;102(25):3137-47
 - 3 Centers for Disease Control and Prevention. National Vital Statistics Report. Deaths: Final Data for 2005. Volume 6(10). April 24, 2008. Accessed on the web at: http://www.cdc.gov/nchs/data/nvsr/nvsr56/nvsr56_10.pdf
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The data sources associated with these objectives satisfy the CDC request that state health departments track a selection of specified indicators, including:

- 4 Proportion of individuals requiring hospitalization/emergency care with primary reason related to heart disease.
 - 5 Proportion of individuals requiring hospitalization/emergency care with primary reason related to stroke.
 - 6 Rhode Island Department of Health, Center for Health Data and Statistics, Hospital Discharge Data 2005. The RI HDSP State Plan uses 2005 Rhode Island data for hospitalization rates as baseline. These data were collected 1.5 years prior to the grant funding (July 1, 2007–June 30, 2012). Age-adjusted rates are calculated for the whole population, rather than adults aged 18 and older.
 - 7 American Heart Association. Heart Disease and Stroke Statistics – 2009 Update. Dallas, TX, which drew its data from the National Center of Health Statistics compressed mortality file 1979–2005. The RI HDSP State Plan uses 2005 Rhode Island data for mortality rates as baseline, which is 1.5 years prior to grant funding (July 1, 2007–June 30, 2012). Age-adjusted rates are calculated for the whole population, rather than adults aged 18 and older.
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The data sources associated with these objectives satisfy the CDC request that state health departments track a selection of specified indicators, including:

- 8 Proportion of individuals that have achieved blood pressure control.
 - 9 Proportion of individuals that are aware of the risks associated with uncontrolled high blood pressure (causes and consequences).
 - 10 Degree of reduction in disparities between general and priority populations regarding awareness of high blood pressure control and risk factors.
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- 11 The Rhode Island Heart Disease and Stroke Surveillance System aggregates two years of BRFSS data in order to monitor trends in prevalence rates for heart disease and stroke and related risk factors for the state population and by markers for disparities. Because questions on high blood pressure and high cholesterol are included every other year in the BRFSS, the target data sets for high blood pressure and high cholesterol objectives are based on the 2011 BRFSS. The 2011 BRFSS will provide preliminary findings.
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- 12 The percentage shown takes into account multiple lifestyle behaviors. In the 2003, 2005 combined BRFSS file, the percentage of adults aged 18 and older with diagnosed diabetes and obesity (two conditions together) with high blood pressure is 77%; the percentage of adults aged 18 and older with diagnosed diabetes and no regular physical activity (two conditions together) with high blood pressure is 70%; and the percentage of adults aged 18 and older with diagnosed diabetes and currently smokes (two conditions together) and high blood pressure is 58%.
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- 13 The percentage shown takes into account multiple lifestyle behaviors. In the 2003, 2005 combined BRFSS file, the percentage of adults aged 18 and older with diagnosed diabetes and obesity (two conditions together) with high blood cholesterol is 67%; the percentage of adults aged 18 and older with diagnosed diabetes and no regular physical activity (two conditions together) with high blood cholesterol is 59%; and the percentage of adults aged 18 and older with diagnosed diabetes and currently smokes (two conditions together) and high blood cholesterol is 60%.
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