

MINNESOTA
HEART DISEASE AND STROKE
PREVENTION PLAN 2004-2010
MID COURSE REVIEW



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LETTER FROM THE CHAIR

February 2008

DEAR FRIENDS AND COLLEAGUES:

Two years ago I was approached to be the chairperson for a group of experts in the heart disease and stroke prevention field. The goal was to provide advice and implementation strategies to the Minnesota Department of Health and communities on public health strategies to prevent and treat cardiovascular disease. A Plan had already been created in 2004, and this new group was assembled to provide guidance and expertise to implement it.

Since 2005, the Minnesota Heart Disease and Stroke Prevention Steering Committee has been involved in developing detailed action strategies to apply the state Plan and to explore creative avenues to resource these initiatives to assure success. The action strategies chart the key steps for achieving population-based public health interventions. They reflect the knowledge and experience of distinguished expert Steering Committee members from the University of Minnesota's Medical School and School of Public Health, the Mayo Clinic, all health plans, the Minnesota Medical Association, the Minnesota Council of Health Plans, Stratis Health (Minnesota's Medicare Quality Improvement Organization), local health departments, the American Heart Association of Minnesota, the Minnesota Stroke Association, the Minnesota Department of Health and many others.

Now at the halfway point, between starting the planning and the chosen endpoint of six years, the Steering Committee is conducting a Mid-Course Review of progress made to date.

From my experience as a local county public health medical director, I know how important it is to develop and implement interventions, practices, and policies that have the potential to serve the greatest good—ultimately improving the health of populations, not just individuals. I hope you will agree with the members of the Steering Committee that the effort in Minnesota to prevent heart disease and stroke is progressing.

Sincerely yours,

Neal R. Holtan, M.D., M.P.H.
Chair



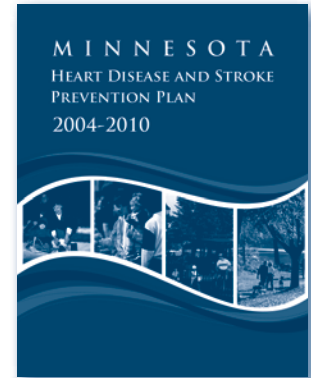
OVERVIEW: MINNESOTA HEART DISEASE AND STROKE PREVENTION PLAN 2004-2010

PURPOSE AND VISION

The Minnesota Heart Disease and Stroke Prevention Plan 2004-2010 (Plan) provides a blueprint and a call to action for individuals, communities, and organizations to collaborate and implement strategies that will reduce risk factors, incidence, complications, and mortality rates of heart disease and stroke.

The Plan is driven by its mission statement:

To improve cardiovascular health, with emphasis on populations with the greatest health disparities, through multi-sector efforts and strategies impacting community, organizational and individual actions, environments, and policies.



The Plan was created to:

- be culturally appropriate,
- focus on environmental and policy changes to impact broad audiences,
- be evidence-based or evidence-informed (best practice or promising practice),
- increase education and awareness of heart disease and stroke issues to the public, decision makers, and health care providers; and,
- monitor primary and secondary prevention efforts to ensure quality of care.

The Plan, besides guiding action, is a tool and a catalyst for motivating partners across the state to advance methods and programmatic efforts reducing the burden of cardiovascular disease. Many people and organizations were called upon to help create the Plan. Almost 300 individuals were involved in various community meetings and interviews across the state in order to provide insights from different perspectives.

Professionals have served as members of the Steering Committee, the Data Review Committee, five work groups (Communities, Worksites, Health Care, Land Planning/ Transportation, Schools), and have participated in community meetings, interviews, and capacity building events. Those involved represented multiple organizations and groups throughout Minnesota.

External stakeholders represented health plans in Minnesota, health care organizations, emergency medical services, community groups, local public health agencies, businesses, higher learning institutions, public schools, tribal healthcare systems, parks and recreation agencies, transportation agencies and diverse population groups.

Goals and objectives were created by work groups and committees that emphasized the involvement addressing the population as a whole with special attention to priority populations.

PLANNING MEETINGS AND STAKEHOLDER INVOLVEMENT

The Plan was developed with over 150 people from various parts of the state meeting over a two year period. Planning meetings and interviews were held with minority population groups including: Somali, Hmong, African American, Hispanic, American Indian, and youth to address potential disparities, general knowledge about healthy choices and needs related to heart disease and stroke prevention and intervention. Many of the groups showed similar gaps when it came to knowledge and needs related to cardiovascular health.

The participants knew what was necessary to prevent the onset of heart of disease and stroke however there were many cultural distinctions and differences as to why they could not live up to the necessary preventive measures. The minority groups were comfortable with their lifestyles, and few were willing to give up their customs to fit into a heart healthy diet, lifestyle, or address the necessary risk factors.

Those who knew someone who had suffered from either heart disease or stroke were still reluctant to give up their standard of living. The consensus was that only old people suffered from heart disease or stroke, regardless if they knew someone who had been diagnosed in their 40s. The illusion of immortality was evident.

“...it didn't hit me that cholesterol plus high blood pressure could possibly lead to a heart attack. I didn't get it until one of my friends said you really have to go and exercise. I said, 'Later. Later when it gets around two hundred something...I am still safe, it is borderline, so what the heck.’”

- Group Participant

In September 2002 a Capacity Building Kick-Off event took place to assist people developing the Plan to better understand the socio-ecological model, best practices and engage more partners in the process. The event officially started the development of a Plan. The two day conference was made up of those who were interested to learn about heart disease and stroke prevention – from a prevention and/or intervention perspective. Over 150 professionals working on issues related to heart disease and stroke came from across the state to participate in the kick-off event.

Five workgroups were created around settings or environments in which people live, work and play. The five workgroups included:

- Communities and Community Organizations
- Healthcare
- Land Planning and Transportation
- Schools
- Worksites

Those who attended were able to give their opinions and assessments of the issue. The event helped many attendees grasp the enormity of the problem.

“Hearing from Native Americans- they are the people that have high risk of CVD- it was encouraging to hear they welcome partnerships to lower disparities related to CVD.”

- Partner

The ideas, suggestions and strategies of these workgroups were synthesized into final goals, objectives and strategies that became the key operational focus not only of the subsequent Steering Committee but partners in the community as well. This Mid Course Review reports specifically on the activity since these initial planning meeting and the publishing of the Plan in 2004.

DATA REVIEW COMMITTEES

Also parallel to the various planning meetings held, in August 2002 the Data Review Committee was formed. The committee was instrumental in providing guidance in creating *The Burden of Cardiovascular Disease in Minnesota* later published in 2004. The report described the status of cardiovascular disease across the state and focused on coronary artery disease, stroke, heart failure, risk behaviors and factors, and health disparities. An update to the report has since been published in October of 2007. The Data Review Committee also helped design a monitoring system of cardiovascular disease in Minnesota to address gaps in data that are needed to track progress toward attainment of goals developed.

The Plan consists of five distinct goals and objectives that set the course of action for the six year period of time. The Plan's goals and objectives are outlined in the table below, and are also available online at <http://www.health.state.mn.us/cvh>.

GOALS AND OBJECTIVES

Table 1 Minnesota Heart Disease and Stroke Prevention Plan 2004-2010: Goals and Objectives

Goal 1: Develop infrastructure and capacity to promote cardiovascular health

Obj. 1 Engage leadership to develop policy and advocate for issues around heart disease and stroke.

Obj. 2 Identify and leverage resources through collaborations across nonprofit, public and private sectors to improve cardiovascular health.

Obj. 3 Develop monitoring and surveillance systems for cardiovascular health activities and outcomes.

Obj. 4 Design culturally appropriate public awareness and social marketing initiatives to build public support and education for cardiovascular health.

Obj. 5 Provide training and technical assistance to increase capacity to implement cardiovascular health strategies at the community level.

Goal 2: Prevent and treat risk factors related to heart disease and stroke.

Nutrition

Obj. 1 Increase by 20% the proportion of persons aged 2 and older who consume at least 5 daily servings of fruits and/or vegetables.

Obj. 2 Increase the proportion of persons aged 2 years and older who consume at least 3 servings of low-fat dairy foods daily. (DASH Eating Plan)

Obj. 3 Increase the proportion of persons aged 2 years and older who consume at least 3 servings of whole grain products daily.

Obj. 4 Increase the proportion of persons aged 2 years and older who consume 2,400 mg or less of sodium daily.

Obj. 5 Increase the proportion of persons aged 2 years and older who consume less than 10 % of calories from saturated fat.

Physical Activity

Obj. 6 Reduce by 10% the proportion of persons who engage in no leisure-time physical activity.

Obj. 7 Increase by 10% the proportion of persons who engage in physical activity for at least 30 minutes per day 5 days per week.

Tobacco

Obj. 8 Reduce by 20% the proportion of adults aged 18 years and older who smoke cigarettes.

Obj. 9 Reduce by 10% the proportion of adolescents who smoke cigarettes.

Obj.10 Reduce the proportion of nonsmokers exposed to environmental tobacco smoke a. Reduce by 20% the proportion of middle school children and high school children who are exposed to environmental tobacco smoke. Increase by 20% the proportion of adults who have banned smoking inside their home.

Goal 3: Detect and treat risk factors related to heart disease and stroke.

Weight

Obj. 1 Reduce by 10% the proportion of adults aged 18 years and older who have a body mass index (BMI) of greater than 25.

Obj. 2 Reduce the proportion of children aged 2 years and older who are overweight or obese.

Blood Pressure

Obj. 3 Increase by 5% the proportion of adults aged 18 years and older who have had their blood pressure measured within the preceding 2 years.

Obj. 4 Increase by 10% the proportion of adults aged 18 years and older with hypertension who are being appropriately treated for their high blood pressure.

Blood Cholesterol

Obj. 5 Increase by 10% the proportion of adults aged 18 years and older who have had their blood cholesterol checked within the preceding 5 years.

Obj. 6 Reduce by 5% the proportion of adults aged 18 years and older with high total blood cholesterol levels.

Diabetes

Obj. 7 Increase by 10% the proportion of adults aged 18 years and older with diagnosed diabetes whose blood pressure is under control.

Obj. 8 Increase by 10% the proportion of adults aged 18 years and older with diagnosed diabetes whose LDL-cholesterol level meets national consensus guidelines.

Obj. 9 Increase by 10% the proportion of adults aged 40 years and older with diagnosed diabetes who regularly take an aspirin.

Goal 4: Prevent recurrence, complications, disabilities, and mortality from heart disease and stroke.**Signs and Symptoms**

Obj. 1 Increase by 10% the proportion of adults aged 18 years and older who are aware of the early warning signs and symptoms of a heart attack.

Obj. 2 Increase by 10% the proportion of adults aged 18 years and older who are aware of the early warning signs and symptoms of a stroke.

Disease Management

Obj. 3 Increase by 5% the proportion of persons with coronary heart disease who have their LDL-cholesterol level treated to a goal of less than or equal to 100 mg/dL.

Obj. 4 Reduce by 10% the death rate for out-of-hospital heart attack for persons under age 65.

Obj. 5 Increase the proportion of eligible patients with heart attacks who receive artery-opening therapy within an hour of symptom onset.

Obj. 6 Reduce recurrent hospitalizations of older adults with congestive heart failure as the principal diagnosis.

Obj. 7 Increase by 10% the number of persons with stroke (brain attack) who reach a hospital with a stroke team and rapid intervention protocol within the time window for early intervention.

Obj. 8 Increase the proportion of persons with heart disease who are routinely screened for co-morbid depression and referred to appropriate treatment.

Mortality

Obj. 9 Reduce by 10% the coronary heart disease death rate of people living in Minnesota. 4.10
Reduce by 10% the stroke death rate of persons living in Minnesota.

Goal 5: Eliminate health disparities in heart disease and stroke.

Obj. 1 Reduce by 20% the coronary heart disease death rate of American Indians in Minnesota.

Obj. 2 Reduce by 20% the stroke death rate of African Americans in Minnesota.

Obj. 3 Reduce by 20% the stroke death rate of Asian Americans in Minnesota.

Obj. 4 Reduce by 20% the coronary heart disease death rate of Hispanics in Minnesota.

MINNESOTA HEART DISEASE AND STROKE PREVENTION STEERING COMMITTEE



The function of the **Minnesota Heart Disease and Stroke Prevention Steering Committee** is to guide, promote and participate in the Minnesota Heart Disease and Stroke Prevention strategic planning process, and champion the Minnesota Heart Disease and Stroke 2004-2010 Prevention Plan implementation.

Responsibilities of the Minnesota Heart Disease and Stroke Prevention Steering Committee:

- Promote the mission of the Plan.
- Create solid action plans consistent with the Plan's goals.
- Monitor and guide the Plan's programmatic implementation.
- Serve as a liaison to one's own organization/field/industry/ or community to encourage implementation of the Plan's goals and strategies.
- Commit to championing the statewide Plan and communicate its focus to stakeholders.
- Help build future collaborative activities in cardiovascular health and disease prevention guided by the direction in the Plan.
- Continually assess the needs and assets of various population groups and continually advocate for reducing health disparities.
- Continue to identify barriers and issues relative to cardiovascular health and propose resolutions.
- Promote the possibility of health policy recommendations central to heart disease & stroke prevention at the local and state levels.

The Steering Committee membership has from its inception represented a wide array of interested parties in the Minnesota heart disease and stroke prevention arena. The Committee has, since its inception, consisted of a cross disciplinary group of professionals from key settings: clinical, health plans, public health, emergency medical services, research, education and business arenas. In addition input and guidance is provided from key units within the Minnesota Department of Health including: Diabetes, Tobacco Control, Coordinated School Health, Chronic Disease Risk Reduction, Rural Health and Minority and Multicultural Health. The Committee is not only the driving force for the Plan, but works in a complementary fashion with the priorities set forth by the Centers for Disease Control and Prevention (CDC) to assure consistency with national goals and objectives. The members foster collaboration, cooperation and coordination across all programmatic initiatives.

The focus of the committee is not only to define and redefine the components of the Plan and its strategy, but also identify creative methods to assure its implementation. The committee, established in 2002, was the driving force in the creation of the Plan. Since 2005, the committee, along with six clinical and thirteen community advisors, continues to prioritize the objectives of the Plan by creating "implementation action plans" to help drive the Plan's success – note next section.

In addition, the committee continually explores opportunities to fund particular components of the Plan. To this end ongoing communication is held with statewide foundations whose priorities are consistent with those of the Plan. To date discussions have been held with the following foundations:

- Medtronic
- BlueCross and BlueShield
- Medica
- Boston Scientific
- Otto Bremer

It is the intent of the committee to engage in discussions with other foundations. Also, cooperative ventures have been discussed with CDC, The National Cardiovascular Health Council, and the Heart Disease and Stroke Prevention National Forum.

In May 2007 a task force was brought together under the auspices of the Steering Committee to discuss the progression of the Plan. The purpose of the task force was to provide insight and ideas on development of the Mid-Course Review. The task force noted the importance of reporting both quantitative burden of illness trend updates and qualitative programmatic analysis. The information should drive action for the remainder years of the Plan and help to set the course for ongoing years. This report is an outcome of the suggestions of the task force's recommendation to the full committee.

Finally, the committee is exploring the possibility of creating a Heart Disease and Stroke Prevention Alliance. The exploratory intent of the Alliance is to have shared ownership of the committee amongst its partners, provide greater funding opportunities, and explore enhanced policy development. Consideration of an Alliance will continue into the 2007-2008 year. Guidance will come from an established Alliance workgroup.

Note: A roster of the present HDSP Steering Committee is in Appendix A.

ACTION PLANS

Starting in 2005 a process was started by the Steering Committee to create prioritized “Action Plans” linking activities going forward with the goals and objectives of the Plan. The intent of these plans is to have them implemented across Minnesota through various partners with their respective expertise. In the fall of 2007 the Committee identified two of these action plans (note: italicized below) one that focuses on primary prevention and the other that focuses on secondary prevention. They then will start the process of writing grant applications and eventual letters of intent to appropriate foundations. Below is a listing of the action plans the Committee is focusing on under the specific goals of the overall Plan:

GROUP I: DEVELOP INFRASTRUCTURE & CAPACITY

Three Action Plan Choices:

1. Build a strong business case for employers on the importance of addressing cardiovascular health risk reduction and disease management to employers, employees, and other entities. Work with business groups.
2. Collaborate with community efforts to improve social conditions that effect cardiovascular health that are culturally appropriate.
3. Develop a monitoring system to evaluate progress towards achieving objectives for the State Plan.

GROUP II: PREVENT DEVELOPMENT OF RISK FACTORS

Three Action Plan Choices:

1. Work with School Boards (and parent-teacher organizations) to increase K-12 requirements for daily physical education and activity, and nutritional policies.
2. Coordinate school food service and nutrition education with other components the coordinated school health program to reinforce messages on healthy eating.
3. Promote healthy food choices in cafeterias, classroom, and vending machines and extracurricular schools and community youth activities.

GROUP III: DETECT AND TREATMENT OF RISK FACTORS

Three Action Plan Choices:

1. Support implementation of evidence-based obesity guidelines and educate people with diabetes on cardiovascular disease risk factor management and the relationship between risk factors and cardiovascular health.
2. Encourage health care organizations to model and offer environmental supports and policies that address obesity and cardiovascular health such as behavioral modification resources and web-based tools.
3. Identify feasible reimbursement strategies for supporting effective self management of cardiovascular risk factors.

GROUP IV: PREVENT RECURRENCE, COMPLICATION AND DISABILITIES

Three Action Plan Choices:

1. Early detection of asymptomatic disease: Validate the sensitivity and specificity of methods to detect early disease prior to clinical manifestations of cardiovascular morbid events.
2. Better management of manifest disease, improved clinical care of overt cardiovascular disease: Improve clinic, hospital, and other provider systems top support of assessment, treatment and appropriate follow- up care of cardiovascular disease patients, including disease management systems.
3. *Effective prevention of recurrence: Educate physicians and the public to increase awareness about appropriate prevention and health promotion guidelines to alter the course of established disease (both doctor and patient), aimed at populations with diagnosed cardiovascular disease and provided with means such as mass media, worksites, food stores, community sites with the goal of preventing recurrence of adverse cardiovascular events – Secondary prevention focus.*

GROUP V: ELIMINATING HEALTH DISPARITIES

Three Action Plan Choices:

1. *Support public awareness and education campaigns about the early warning signs and symptoms of heart attack and stroke – Primary prevention focus.*
2. Promote universal and comprehensive insurance coverage and reimbursement for cardiovascular health disease related prevention and treatment services.
3. Offer cardiovascular disease prevention screenings and physical activity and nutrition resources at accessible and community based sites such as places of worship (e.g., churches, synagogues and mosques) and facilities where people convene (e.g., park and recreation centers).

MINNESOTA STROKE PARTNERSHIP

In addition and in collaboration with the Steering Committee is the **Minnesota Stroke Partnership (MSP)**. MSP is a coalition of stroke experts who collaborate to recommend and implement key strategies to reduce the burden of stroke in Minnesota. The mission of the Minnesota Stroke Partnership is to raise awareness of stroke, promote stroke prevention, and improve systems of stroke care throughout Minnesota.



The MSP was formed in September 2005 as part of work defined under MDHs - Heart Disease and Stroke Prevention Unit collaborative efforts with a grant from CDC with the Great Lakes Regional Stroke Network (see below). The partnership is made up of neurologists, clinical nurse specialists, stroke experts associated with hospitals, clinics representatives, emergency medical services personnel, and researchers.

The Partnership currently has had since its inception three committees to address specific areas of interest; Steering Committee, Emergency Medical Services Stroke Task and the Emergency Department (ED) Stroke Task Force. In the Summer of 2006 the Steering Committee worked on stroke public awareness and education. The focus – through radio public service announcements – aimed at knowledge of risk factors, signs and symptoms, and general awareness.

The Emergency Medical Service Stroke Task Force has developed materials and provided training

for pre-hospital emergency care providers on stroke. Since January 2007, the EMS Stroke Task Force has been planning a train-the-trainer program for EMS educators in all eight EMS regions across Minnesota. The idea is to train the educators, so they can go back to their local areas to train providers on the most updated stroke issues. The training program was held in September 2007.

The ED Stroke Task Force is working on preparing emergency departments in Minnesota to be “stroke-ready” and to provide necessary and appropriate resources to emergency department staff around the state. The current task of this group is to develop a consensus protocol for stroke care in emergency departments to be adapted, adopted, and used by emergency departments in Minnesota. After this document is produced, the task force will work to provide resources and education to ED staff.

Note: A roster of the present MSP Committee is Appendix B.

GREAT LAKES REGIONAL STROKE NETWORK



MDH and the Heart Disease and Stroke Prevention Unit are part of the **Great Lakes Regional Stroke Network (GLRSN)**. The network has been funded by CDC since 2004 and recently received funding through 2010. The mission of the GLRSN is to optimize collaboration and coordination among Great Lakes

Regional states (Minnesota, Illinois, Indiana, Ohio, Wisconsin, and Michigan). The Illinois Department of Health is the lead state agency.

Since 2004 the GLRSN has been a force in driving significant Plan objectives related to Stroke in a broader perspective. Specifically, the GLRSN has developed a necessary regional infrastructure, enhanced the awareness of and urgency of stroke and stroke related issues across the region, and has built diverse partnerships with key stakeholders with the Network states. GLRSN accomplishments are noted in reports, journal articles, presentations, best practices, and a website. The documents and findings are shared with health care professionals, policy makers, and state stroke task forces such as the MSP. Going forward the GLRSN anticipates their activities will continue to strengthen states' capacity for stroke related projects, build new partnerships, and make policy/systems level changes in the Great Lakes region.

Key efforts of the GLRSN have included:

- Creating the Burden of Stroke in the Great Lakes Regional document
- Creating a stroke atlas illustrating regional stroke burden and its geographic distribution
- An environmental scan of each state's stroke related data
- A review of Quality Improvement Organization (QIO) stroke data from all states
- Stroke quality improvement training to address hospital level systems change
- Completing an inventory of all public education events throughout the region and developed stroke related resource and education materials

Going forward the GLRSN will facilitate efforts to improve quality of stroke care including integration of rehabilitation into the delivery of care. Also the Network will coordinate a collaborative approach to strengthen EMS notification and response in the Great Lakes region. Finally, the GLRSN continues epidemiological surveillance and evaluation in cooperation with all the states.

HEART DISEASE AND STROKE PREVENTION UNIT

Since the Plan was unveiled in 2004, the MDH and its **Heart Disease and Stroke Prevention Unit** continue to receive Capacity Building programmatic funds from CDC that focus on CDC's six priority areas:



- Control of high blood pressure
- Control of high cholesterol
- Increase the public's knowledge of the signs and symptoms; call 911
- Improve emergency response
- Improve quality of care
- Eliminate disparities.

In July of 2007 a new contract cycle began to continue its capacity building programmatic initiatives for the next five years. Specifically, the Unit will:

- Maintain the Unit infrastructure
- Develop and maintain relationships with skilled professionals and units /programs within MDH to foster collaborative efforts
- Develop, maintain and expand partnerships through the HDSP Steering Committee and the MN Stroke Partnership
- Implement a series of educational workshops on the Chronic Care Model
- Continue to define and monitor the burden of heart disease and stroke
- Develop, update, and facilitate the implementation of the Plan – specifically by building a strong business case for employers on the importance of policy and systems changes regarding cardiovascular health risk reduction and disease management to employers, and employees. The focus will be on blood pressure and cholesterol management.
- Develop plans for a statewide acute stroke transport and treatment system
- Develop and implement policies in health systems for educating and treating patients on blood pressure and cholesterol management
- Evaluate program activities

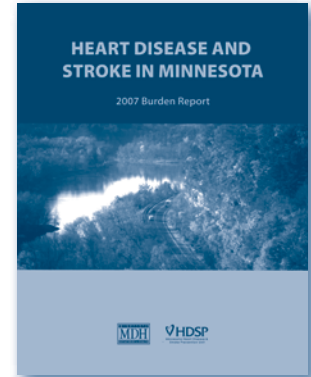
Also, the Unit received first year funding of a five year grant from CDC to be one of six states under the Paul Coverdell Stroke Registry designed to improve quality of care for acute stroke patients in Minnesota hospitals. These funds will be used to:

- Collect data on quality of care provided to patients treated at hospitals with suspected stroke
- Coordinate a MN Stroke Registry Advisory Committee
- Develop and implement quality improvement interventions for hospitals statewide
- Evaluate progress in stroke care as a result of quality improvement

Finally, the Unit started a three year initiative in May 2007 from the Otto Bremer Foundation to assess a community health worker model to improve cardiovascular care for patients in two Federally Qualified Health Clinics (FQHC) serving disparate populations. Best practices and lessons learned from the intervention will be shared with other FQHCs across the state.

QUANTITATIVE ANALYSIS: BURDEN OF HEART DISEASE AND STROKE TRENDS SINCE 2004

Ongoing cardiovascular disease data is continually collected to determine where the state stands in addressing heart disease and stroke and compare this against the goals set forth by the Plan, priority arenas identified by CDC, and national Healthy People 2010 goals. Analysis of the data helps to further define programmatic needs as well as implications for policy direction at the local and state levels. It also serves as a barometer for change as the Heart Disease and Stroke Prevention Steering Committee guides and directs implementation efforts. Finally, as new data is made available, updated fact sheets and major public announcements are made through the Heart Disease and Stroke Prevention Unit in cooperation with the Minnesota Department of Health Communications Department.



In October of 2007 an updated Heart Disease and Stroke Burden Report was published by MDH. Since 2000 cancer continues to supersede both heart disease and stroke separately as the leading cause of death in Minnesota. Yet, if heart disease and stroke are combined under the aegis of cardiovascular disease, then we see cardiovascular disease as the leading cause of death – accounting for 28% of all deaths in Minnesota. The most recent data is noted below since 2004 when the Plan was published. Fortunately, we have seen a positive mortality trend (decrease) overall since 1999.

	Mortality	
	2004	2005
Heart Disease	144.3 per 100,000	141.0 per 100,000
Stroke	46.2 per 100,000	42.0 per 100,000

Hospitalizations and the associated charges noted below are increasing. This most likely means that even though mortality rates are trending down, patients are still presenting to hospitals with cardiovascular disease diagnosis but surviving. At the same time however, health care costs to treat these patients is increasing. Additionally, in 2005 there were over 9,500 hospitalizations for “other” associated cardiovascular diseases (note: this data was not collected in 2004).

	Hospitalizations	
	2004	2005
Heart Disease	50,464	52,533
Stroke	10,810	11,172
Other	(No data)	9,542

Charges (Millions)		
	2004	2005
Heart Disease	\$1,468	\$1,617
Stroke	\$235	\$266
Other	(No data)	\$257

Prevalence in Minnesota		
	2002	2005-2006
Cigarette smoking	21.8%	18.3%
Physical Inactivity	16.2	14.2
Less than 5 fruits and vegetables/day	77.3	75.2
High blood pressure	20.2 (2000)	21.9
High blood cholesterol	30.2 (2001)	32.4
Diabetes	4.9	5.7
Overweight or Obese	59.0	60.9
Obese	22.0	24.0

The key modifiable risk factors for heart disease and stroke are still in play. Those noted in bold below are trending in the wrong direction.

Finally, data trends indicate that disparities continue to exist for heart disease and stroke. These disparities cut across racial and ethnic groups particularly, African American, American Indian, Asian/Asian Pacific and Hispanic populations. Also, data indicates that there are disparities by geographic regions of the state, and socioeconomic and education levels. The full Heart Disease and Stroke in Minnesota: 2007 Burden Report can be obtained by contacting the Minnesota Heart Disease and Stroke Prevention Unit or by visiting the web at www.health.state.mn.us/cvh.

DATA SOURCES

Further quantitative trend analysis is provided in Table 2. Data used to compile information for the table was acquired from the sources listed below.

1. **Behavioral Risk Factor Surveillance System (BRFSS)** is a main source of data for the Minnesota Heart Disease and Stroke Prevention Plan. The BRFSS is designed to measure risk behavior in adults 18 and older. The survey is a collaborative effort between the Centers for Disease Control and Prevention and US States and territories. In relation to the Plan, BRFSS was used in finding data that related to the population as a whole. It was not used for results that required a specific group of people.

2. **Minnesota Student Survey** is voluntary, confidential, and anonymous on the part of students. It is given to 6th, 9th, and 12th graders every 3 years. The survey asks students questions about activities, opinions, and behaviors. The issues addressed include substance abuse, school climate, weapons, safety issues, nutrition, academics, and connections with school, family and community along with many other topics. The Plan used the Minnesota Student Survey when looking at school aged groups.
3. **Minnesota Youth Tobacco Survey** provides data on the prevalence of tobacco use, sources of tobacco products, attitudes and beliefs about tobacco use, and other topics. Data from the survey serve as a baseline. This survey was used when looking at the reduction of youth tobacco smokers.
4. **Vital statistics** are the incidence and prevalence of heart disease and stroke divided by population and geographic distribution. Morbidity is an injury or illness and mortality is the death rate. Vital Statistics were used when looking at the cause of death for coronary heart disease and stroke death rates.
5. **Minnesota Adult Tobacco Survey** The Minnesota Adult Tobacco Survey (MATS) was an information-gathering project undertaken in 2003. Based on a model developed by the Center for Disease Control and Prevention, the survey interviewed 10,000 Minnesota adult residents. The results were used when showing the amount of adults who did not smoke.
6. **Health Plan Employer Data and Information Set** is a set of standardized measures that specifies how organizations collect, audit, and report performance information across the most pressing clinical areas, as well as important dimensions of customer satisfaction and patient experience. The information set looked at patients in clinical settings whose blood had been taken and correlated with heart disease and stroke.
7. **Community Measurement Project** is Minnesota's source for information on health care quality. The measurement project has information to help make the decisions, and updates the information on a regular basis. They offer comparisons among provider groups and clinics. This project was used to ascertain information on diabetes patients in Minnesota.
8. **SHAPE** is an ongoing joint public health surveillance and assessment project of the Hennepin County Human Services and Public Health Department to repeatedly survey the health of adults in Hennepin County. The Steering Committee looked at the SHAPE survey as the best

way to benchmark data.

Table 2: Minnesota HDSP Plan 2004-2010 - Objective Progress

Goal 2: Prevent development of risk factors for heart disease and stroke.	Baseline	2010 Target	Data Source	HP 2010 Objective	2007 Progress	Data Source
1. Increase the proportion of persons aged 2 and older who consume at least 5 daily servings of fruits and/or vegetables by 20%.	23%	27%	BRFSS (2002)	19-5, 19-6	24.5%	BRFSS (2005)
	22% 6th grade 15% 9th grade 12% 12th grade	26% 6 th grade 18% 9 th grade 14% 12 th grade	Minnesota Student Survey (2001)	-	21% 6 th 15% 9 th 13% 12 th	Minnesota Student Survey (2005)
2. Increase the proportion of persons aged 2 years and older who consume at least 3 servings of low-fat dairy foods daily.	No Data	-	-	DASH	No Data	Would require new data source
3. Increase the proportion of persons aged 2 years and older who consume at least 3 servings of whole grain products daily.	No Data	-	-	19-7	No Data	Would require new data source
4. Increase the proportion of persons aged 2 years and older who consume 2,400 mg or less of sodium daily.	No Data	-	-	19-10	No Data	Would require new data source
5. Increase the proportion of persons aged 2 years and older who consume less than 10% of calories from saturated fat.	No Data	-	-	19-8	No Data	Would require new data source
6. Reduce the proportion of persons who engage in no leisure-time physical activity by 10%.	16.2% adults 9.8% youth	15% adults 9% youth	BRFSS (2002), Minnesota Student Survey (2001)	22-1	14.2% adults 9.3% youth	BRFSS (2006) Minnesota Student Survey (2004)

7. Increase the proportion of persons who engage in physical activity for at least 30 minutes per day 5 days per week by 10%.	21%	23%	BRFSS (2000)	22-2	51%	BRFSS (2005)
Goal 2: Prevent development of risk factors for heart disease and stroke.	Baseline	2010 Target	Data Source	HP 2010 Objective	2007 Progress	Data Source
	44% 6th grade 51% 9th grade 37% 12th grade	49% 6th grade 56% 9th grade 41% 12th grade	Minnesota Student Survey (2001)		46% 6 th 52% 9 th 37% 12 th	Minnesota Student Survey (2004)
8. Reduce the proportion of adults aged 18 years and older who smoke cigarettes by 20%.	22% adults	17% adults	BRFSS (2002)	27-1	18.3%	BRFSS (2006)
9. Reduce the proportion of adolescents who smoke cigarettes by 10%.	4% 6th grade 19% 9th grade 35% 12th grade	3% 6th grade 17% 9th grade 31% 12th grade	Minnesota Student Survey (2001)	27-2	3% 6 th 15% 9 th 27% 12 th	Minnesota Student Survey (2004)
10. Reduce the proportion of nonsmokers exposed to environmental tobacco smoke.				27-10		
a. Reduce the proportion of middle school children and high school children who are exposed to environmental tobacco smoke by 20%	58% Middle School 76% High School	46% Middle 61% High	Minnesota Youth Tobacco Survey (2002)		49% Middle 65% High	MYTS 2005

b. Increase the proportion of adults who have banned smoking inside their home by 20%.	66%	79%	Minnesota Adult Tobacco Survey (1999)	76%	MATS 2003						
Goal 3: Detect and treat risk factors related to heart disease and stroke.	Baseline	2010 Target	Data Source	HP 2010 Objective	2007 Progress	Data Source					
11. Reduce the proportion of adults aged 18 years and older who have a BMI of greater than 25 by 10%.	59%	53%	BRFSS (2002)	19-1	60.9%	BRFSS (2006)					
12. Reduce the proportion of children aged 2 years and older who are overweight or obese.	No Data	-	-	19-3	No Data	-					
13. Increase the proportion of adults aged 18 years and older who have had their blood pressure measured within the preceding 2 years by 5%.	94%	99%	BRFSS (1999)	12-12	NA	BRFSS (Not asked since 1999)					
14. Increase the proportion of adults aged 18 years and older with hypertension who are being appropriately treated for their high blood pressure by 10%.	68%	75%	HEDIS (2001)	12-10, 12-11	70%	HEDIS (2005)					
15. Increase the proportion of adults aged 18 years and older who have had their blood cholesterol checked within the preceding 5 years by 10%.	76%	84%	BRFSS (2001)	12-15	75.3%	BRFSS (2005)					
16. Reduce the proportion of adults aged 18 years and older with high total blood cholesterol levels by 5%.	30%	29%	BRFSS (2001)	12-14	32.6%	BRFSS (2005)					
17. Increase the proportion of adults aged 18 years and older with diagnosed diabetes whose blood pressure is under control by 10%.	40%	44%	Community Measurement Project (2001)	12-10	42%	Community Measurement Project (2005)					
18. Increase the proportion of adults aged 18 years and older with diagnosed diabetes whose LDL is under 130 mg/dL by 10%.	57%	61%	HEDIS (2001)	12-16	69%	HEDIS (2005)					
19. Increase the proportion of adults aged 40 years and older with diagnosed diabetes who regularly take an aspirin by 10%.	52%	57%	Community Measurement Project (2001)	5-16	70%	Community Measurement Project (2005)					

Goal 4: Prevent recurrence, complications, disabilities, and mortality from heart disease and stroke.	Baseline	2010 Target	Data Source	HP 2010 Objective	2007 Progress	Data Source
20. Increase the proportion of adults aged 18 years and older who are aware of the early warning symptoms and signs of a heart attack by 10%.	11.3	-	BRFSS (2001)	12-2	13.2	BRFSS (2005)
21. Increase the proportion of adults aged 18 years and older who are aware of the early warning symptoms and signs of a stroke by 10%.	22.6	-	BRFSS (2001)	12-8	25.6	BRFSS (2005)
22. Increase the proportion of persons with coronary heart disease who have their LDL-cholesterol level treated to a goal of less than or equal to 100 mg/dl by 5%.	61%	64%	HEDIS (2002)	12-16	64%	HEDIS (2005)
23. Reduce the death rate for out-of-hospital heart attack for persons under age 65 by 10%	10.1 per 100,000	9.0 per 100,000	Vital Statistics (1997-2001)	MN 12.12	9.2 per 100,000	Vital Statistics (2001-2005)
24. Increase the proportion of eligible patients with heart attacks who receive artery-opening therapy within an hour of system onset.	No Data	-	-	12-3	No Data	Would require new data source
25. Reduce recurrent hospitalizations of older adults with congestive heart failure as the principal diagnosis.	No Data	-	-	12-6	No Data	Would require new data source
26. Increase by 10% the number of persons with stroke (brain attack) who reach a hospital with a stroke team and rapid intervention protocol within the time window for early intervention.	No Data	-	-	MN 12-10	No Data	TBD - MN Stroke Registry
27. Increase the proportion of persons with heart disease who are routinely screened for comorbid depression and referred to appropriate treatment.	No Data	-	-	-	No Data	Would require new data source
28. Reduce the coronary heart disease death rate of residents of Minnesota by 10%.	170 per 100,000	153 per 100,000	Vital Statistics (2001)	-	141 per 100,000	Vital Statistics (2005)
29. Reduce the stroke death rate of residents of Minnesota by 10%.	52 per 100,000	47 per 100,000	Vital Statistics (2001)	-	42 per 100,000	Vital Statistics (2005)

Goal 5: Eliminate health disparities in heart disease and stroke.	Baseline	2010 Target	Data Source	HP 2010 Objective	2007 Progress	Data Source
30. Reduce the coronary heart disease death rate of American Indians in Minnesota by 20%.	248 per 100,000	223 per 100,000	Vital Statistics (1997-2001)	-	226 per 100,000	Vital Statistics (2001-2005)
31. Reduce the stroke death rate of African Americans in Minnesota by 20%.	77 per 100,000	61 per 100,000	Vital Statistics (1997-2001)	-	70 per 100,000	Vital Statistics (2001-2005)
32. Reduce the stroke death rate of Asian Americans in Minnesota by 20%.	66 per 100,000	53 per 100,000	Vital Statistics (1997-2001)	-	52 per 100,000	Vital Statistics (2001-2005)
33. Reduce the coronary heart disease death rate of Hispanics in Minnesota by 20%.	136 per 100,000	122 per 100,000	Vital Statistics (1997-2001)	-	96 per 100,000	Vital Statistics (2001-2005)

QUALITATIVE ANALYSIS: HIGHLIGHTS AND ACCOMPLISHMENTS

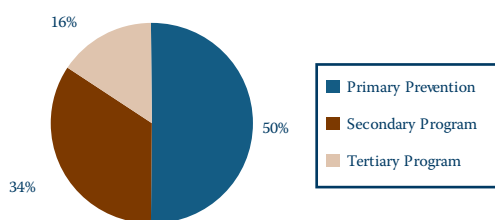
Besides the quantitative analysis, which focuses on overall trends statistically, the HDSP Steering Committee deemed it necessary to report on the implementation of the Plan in various arenas programmatically. The following analysis highlights just some of these programs. Program efforts have focused around settings and environments in which people live work and play all consistent with the five initial work groups. These, along with many others, are addressing heart disease and stroke from prevention and clinical intervention perspectives.

PROGRAM PARTNER SURVEY

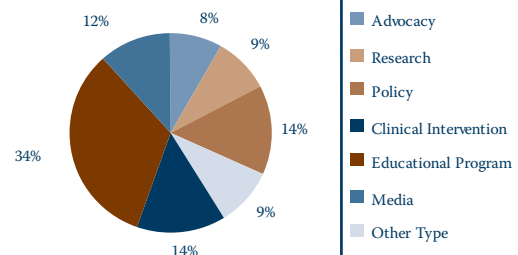
The Minnesota Department of Health's Heart Disease and Stroke Prevention Program Partner Survey sought to capture the work being done in the state around heart disease and stroke prevention, treatment, control, research, and surveillance. The survey collected information on heart disease and stroke-related programs, including the goals of the program, the target audience, the area served, and more. The database allows users to view, sort, and search for programs by different criteria, such as type of service provided and type of prevention program. The online program directory is a useful resource for service providers across the state to gain ideas and share best practices.

As of July 2007, 135 surveys were collected. Targeted outreach efforts were conducted to gather surveys from known partners, including steering committee members, Eliminating Health Disparities Initiative grantees, hospital and clinical contacts, and local public health agencies. Future data collection efforts hope to focus on businesses and schools to learn the scope of heart health programming occurring in specific settings.

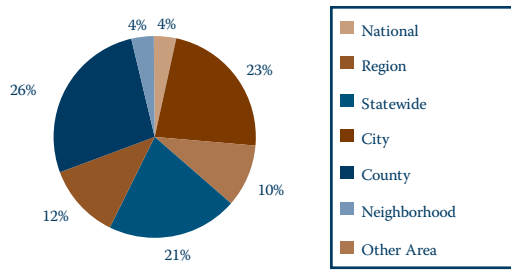
Type of Program Prevention



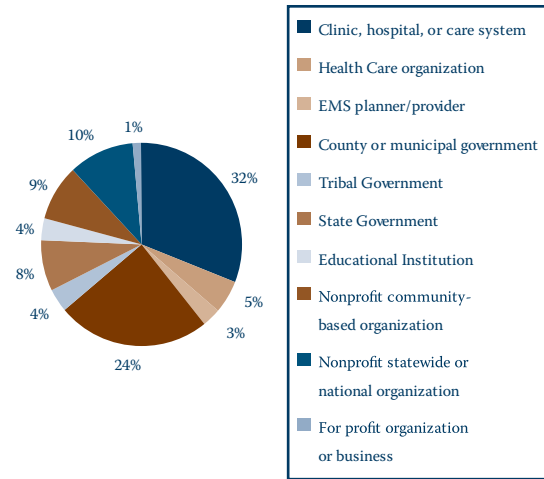
Type of Program Service



Type of Area Served



Types of Organizations



Knowing this information about the cardiovascular disease prevention and treatment programs across the state is an essential step in implementing and assessing the Minnesota Heart Disease and Stroke Prevention Plan 2004-2010 goals. The data gathered by the Program Partner Survey shows “who is doing what” in the state to advance these goals and allows the Heart Disease and Stroke Prevention Unit and Minnesota Heart Disease and Stroke Prevention Steering Committee to identify and respond to potential gaps and needs in service delivery. The inventory of programs that resulted from the Partner Survey also serves as a capacity building tool to promote and support cardiovascular programs in the state. The following is a sampling of the programs listed in the Minnesota Cardiovascular Disease Program Directory as a result of data collected from the Program Partner Survey. The full directory can be viewed at www.health.state.mn.us/cvh.

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Title of Program: Active Living Ramsey County

Organization: Ramsey County

Goals Addressed from State Plan: *Goals 1 and 2*

Population/Audience: Ramsey County municipalities

Description: Collaborative effort to improve the opportunity for physical activity within the built environment through policy, infrastructure, programming, training and technical assistance.



Title of Program: Women’s Wellness Workshops

Organization: Koochiching County Community Health

Goals Addressed from State Plan: *Goal 2*

Population/Audience: Women of Koochiching County

Description: Conducts annual educational workshop with lectures/presentations by health professionals, a health fair with display booths, and seminars on various health topics, including heart health, nutrition, and physical activity.

Title of Program: Stroke Prevention Project
Organization: Fremont Community Health Services
Goals Addressed from State Plan: *Goals 2, 3, and 5*
Population/Audience: African American and African-born immigrants
Description: Educate identified population about cardiovascular disease and screen for factors; referrals for the undiagnosed and under-diagnosed.

Title of Program: Soulful Living
Organization: Minneapolis/St. Paul - Children's Hospitals and Clinics
Goals Addressed from State Plan: *Goals 2 and 5*
Population/Audience: African American adolescent girls and adult women
Description: 12-week program designed to improve nutrition and increase physical activity.



Title of Program: Cardiovascular Health Care Guidelines
Organization: Institute for Clinical Systems Improvement (ICSI)
Goals Addressed from State Plan: *Goals 1 and 4*
Population/Audience: All

Description: Develop health care guidelines and support improvement in health care organizations, such as best practice guidelines for hypertension diagnosis and treatment, stroke diagnosis and treatment, etc.

Title of Program: HealthSource
Organization: Park Nicollet Health Services
Goals Addressed from State Plan: *Goals 2 and 3*
Population/Audience: Employers and employees
Description: Assist employers in managing the health and health risks of their employees through health risk assessment, health screenings, population-based programs, environmental interventions, phone-based coaching for those at high risk, and onsite fitness center management.

Title of Program: Correctional Health Hypertension Education
Organization: Anoka County Community Health and Environmental Services
Goals Addressed from State Plan: *Goal 3*
Population/Audience: Anoka County correctional facility inmates
Description: Educational program for inmates diagnosed with hypertension about medication management and managing risk factors to empower this population to take responsibility for their health.

Title of Program: Fresh Start Exercise Education Program
Organization: Saint Elizabeth's Medical Center
Goals Addressed from State Plan: *Goals 3 and 4*
Population/Audience: Serves those with coronary artery disease, valve disease, congestive heart failure, angioplasty/stents, diabetes, hypertension, obesity, high cholesterol, inactivity, etc.
Description: Program to prevent and treat chronic illness related to cardiovascular disease.

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Saint Elizabeth's Medical Center
 MINISTRY HEALTH CARE

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Title of Program: Mino Aye Ode (Healthy Heart) Program

Organization: Fond du Lac Health and Human Services

Goals Addressed from State Plan: *Goals 2, 3, and 5*

Population/Audience: Native Americans

Description: Reduce cardiovascular risk by motivating patients to play an active role in controlling key risk factors for CVD cardiovascular disease.

ADDITIONAL COMMUNITY PARTNERS

In the summer of 2007 the HDSP Unit at MDH continued to gather programmatic information from a sampling of additional partners. We also asked what barriers they are facing in getting their programs implemented and in what ways has their program (if any) addressed any environmental or policy changes related to cardiovascular health. If applicable, the following programs reported on this information as well.

Title of Program: Live Smoke Free

Organization: Association for Nonsmokers – Minnesota

Goals Addressed from State Plan: *Goal 2*

Population/Audience: Landlords

Description: Currently encouraging landlords to adopt smoke-free policies for their entire apartment buildings in order to protect non-smokers from secondhand smoke exposure. Nearly 100 buildings in Minnesota are currently 100% smoke-free.

Barriers faced: Landlords need to be educated on the fact that smoke-free policies are legal.

Environmental/policy changes related to cardiovascular health: Non-smoking, second hand smoke policy development for apartment complexes.



Title of Program: Search your Heart/Conozca Su Corazon

Organization: American Heart Association

Goals Addressed from State Plan: *Goal 1*

Population/Audience: African Americans and Hispanics

Description: This initiative is used to educate people on the warning signs of stroke and heart disease, and to expand the knowledge of the communities. The program results show that the communities are more likely to talk to doctors about heart disease and stroke. Other notable AHA programs: Get With the Guidelines, Alliance for a Healthier Generation, Acute Stroke Treatment Program, Go Red for Women, Power to End Stroke, Start!, NCQA Heart and Stroke Recognition Program, You're the Cure, Alliance for a Healthier Generation, MN AHA Advocacy

Barriers faced: Time was a hardship for this program. The commitment from churches should be full time, however the churches were not compensated, and some of the data collectors were not trained on data collection processes.





Title of Program: Center for Prevention
Organization: Blue Cross and Blue Shield of Minnesota

Goals Addressed from State Plan: *All 5 Goals*

Population/Audience: All Minnesotans, with emphasis on adults
Description: Blue Cross is pursuing a multi-faceted, multi-year series of initiatives to reduce four major risk factors for heart disease and stroke: 1) tobacco use, 2) secondhand smoke exposure, 3) insufficient physical activity, and 4) unhealthy eating. Key accomplishments and outcomes:

- Contributed significantly to passage of Freedom to Breathe law.
- Supported numerous cities and counties (via funding and technical assistance) in updating their comprehensive plans to better accommodate walking and biking, making it easier for citizens to be more active.

Made substantial investment in public awareness work (most notably the **do** Campaign) to heighten Minnesotans' awareness of the pleasures and benefits of a physically active lifestyle.

- Recruited Minnesota employers to collaborate in various initiatives to increase fitness levels in their workplaces and communities (e.g., Fittest State in the Nation; Active Workplaces funding).

Barriers faced: 1. Relative lack of state and local government resources to address these preventable health risks; 2. Challenge of elevating the stature of preventable health risks as significant concerns that threaten Minnesota's social and economic vitality.

Environmental/policy changes related to cardiovascular health: Blue Cross has aggressively pursued and funded multiple state- and local-level initiatives to limit exposure to environmental tobacco smoke, a major risk factor for cardiovascular disease. In addition, through conferences, RFPs, and networking, they have supported and provoked increasing levels of awareness and discussion within various cities and counties regarding community design and transportation planning strategies that make it easier for Minnesotans to choose more active lifestyles.

The Heart Disease & Stroke Prevention Plan 2004-2010 goals are to:

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ACT FAST at the First Sign of STROKE



www.strokemn.org

Minnesota Stroke Association
 Chapter of the National Stroke Association

Title of Program: ACT F.A.S.T.

Organization: Minnesota Stroke Association

Goals Addressed from State Plan: *Goals 2, 3 and 4*

Population/Audience: Hospitals, insurance groups, stroke survivors, seniors, and adults with risk factors

Description: This program is used for easy to remember stroke symptom recognition. The slogan, ACT FAST was adopted two years ago, and continues to be very popular. Over 20,000 pieces of literature were distributed with the slogan on it including printed bookmarks

Barriers faced: Cost of printing became expensive

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Title of Program: STEPS to a Healthier Minnesota

Organization: Minnesota Department of Health

Goals Addressed from State Plan: *Goal 2*

Population/Audience: Programs are in four Minnesota communities involving their schools, worksites, and healthcare settings.

Description: Program is reducing the burden of asthma, diabetes, and obesity by addressing the related risk factors of physical inactivity, poor nutrition and tobacco use and exposure. The STEPS program has been integrated into partner organizations standard programming.

Barriers faced: Ongoing funding and continued commitment of the communities.

Environmental/policy changes related to cardiovascular health: Monitoring the program comes from policies and implemented policy changes like school vending.



Title of Program: Screening for Early Detection of Cardiovascular Disease

Organization: University of Minnesota, Department of Medicine – Rasmussen Center for Cardiovascular Disease Prevention

Goals Addressed from State Plan: *Goal 3*

Population/Audience: Twin Cities healthy people

Description: Screened over 2000 patients to identify advanced early detection of CVD early in 1/3 of all healthy people. Promotion of screening in healthy people for early detection. Investigated insurance company reimbursement of screening.

Barriers faced: Medical profession's acceptance of early detection.



RASMUSSEN
CENTER
for
CARDIOVASCULAR
DISEASE PREVENTION

Title of Program: Mayo Clinic Medical Transport

Organization: Mayo Clinic - Education Department

Goals Addressed from State Plan: *Goals 2 and 3*

Population/Audience: Medical Transport personnel

Description: Updated stroke guidelines and educated our team members on latest evaluation, treatment, documentation, and early hospital notification. Teaching American Heart Association standards, risk factors, recognition and treatment of stroke patients.

Title of Program: Employee Wellness Program and UPlan's Health Connections

Organization: University of Minnesota

Goals Addressed from State Plan: *Goals 1 and 2*

Population/Audience: 20,000 employees and their families

Description: The Employee Wellness Program Builds awareness of health risks and offers programs to all employees to participate including the Health Partners 10,000 Steps Program. The University of Minnesota Farmers Market, and on campus health and wellness activities.



The UPlan Health Connections Program offers several programs to UPlan members including a confidential wellness assessment, lifestyle and medical condition management follow-up programs, and the Ask Mayo Clinic Nurse line. UPlan members can earn Wellness Rewards for participating in these activities.

Barriers faced: The University is a large employer with many locations within the state and at several locations world-wide.



Title of Program: Institute for the Costs & Health Effects of Obesity
Organization: National Business Group on Health
Goals Addressed from State Plan: *Goal 2*
Population/Audience: Major self-insured employers – some of which are in Minnesota

Description: Non-profit membership association for employers who are self insured. National Business Group on Health offers information and technical assistance for companies' health benefits, created Institute on Costs & Health Effects of Obesity to specifically address weight, nutrition, and sedentary lifestyle as risk factors. Created Best Employers for Healthy Lifestyles award program. The program addresses nutrition at work, physical activity, employee communications, incentives, and benefits. The organization makes specific recommendations to employers for health insurance plan design, promotes resources such as CDC stairwell program, and provides tips on how to increase physical activity, use of appropriate incentives, encourage walking, etc. The Institute has developed toolkits on healthy dining, communicating with employees about healthy lifestyles, and lifelong weight maintenance.

Barriers faced: Employee turnover: employers are concerned in making big investments, also concerned about cost trends and return on investment programs to address worker health.

Environmental/policy changes related to cardiovascular health: Policy work in Washington to make companies control costs while maintaining a plan design that supports preventive services and health maintenance. For example, companies may change to high deductible health plans, but still provide consumers with first dollar coverage for recommended preventive care.

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Title of Program: CAD Disease Management
Organization: HealthPartners
Goals Addressed from State Plan: *Goals 1,3 and 4*
Population/Audience: Health plan members
Description: Internally build data management solution

for patient with CAD that includes patient education materials and telephonic health coaching and counseling by RN, RD, Pharmacist and health educator. Program built and fully operational since April 2007

Barriers faced: Member turnover

Title of Program: Fremont Clinic Stroke Prevention Process
Organization: Fremont Community Health Services
Goals Addressed from State Plan: *Goal 1*

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Population/Audience: Immigrants in Northwest Twin City suburbs
Description: Program helps to eliminate health disparities that target African-American immigrants in Northwest Suburbs. Peer educated model for adults who live there is used and community members will go through training to learn the basics on blood pressure and screening. Getting people the help they need is the number one goal.

Many people have high blood pressure and are unaware of this. This program works with partner clinics by referring the person to a clinic with the same type of insurance. In order for this to be peer educated, people need to be trained on administering the tests.

Barriers faced: People will not admit they have a health disparity and refuse to get help. Consistent calling and urging to see a doctor is necessary. Many of the community walking programs failed because people did not feel safe in their neighborhoods.

Environmental/policy changes related to cardiovascular health: The clinic partnered with a local YMCA to allow members a way to workout.

Title of Program: Woodbury Health and Wellness Collaborative



Organization: Washington County Public Health and Environment

Goals Addressed from State Plan: *Goals 1 and 2*

Population/Audience: County employers

Description: Sponsored events in Woodbury are available to address obesity and chronic disease. The county provides cholesterol, stroke, and cardiovascular health information to about 40 employers in Washington County on an annual basis.

Barriers faced: There are limited number of appointments available for free screening and employees may not think that they have risk factors or if they do they don't want to be told to lose weight, exercise more etc.

Environmental/policy changes related to cardiovascular health: Washington County has a policy to encourage employees to participate in health activities and rewards them with paid time off.

Title of Program: Epidemiologic research:

Chronic kidney disease & end stage renal disease

Organization: Minneapolis Medical Research Foundation:

Chronic Disease Research Group (CDRG)

Goals Addressed from State Plan: *Goal 1*

Population/Audience: The audience is made up of physicians, health care providers, health policy leaders in the public and private sectors, biostatisticians, epidemiologists and leaders within the pharmaceutical and medical device industries.

Description: CRDG does research involving kidney disease and its complications along with the role kidney disease plays in cardiovascular morbidity. CRDG serves as the United States Renal Data System coordinating center, as well as serving as the USRDS cardiovascular special study center. In 2007, the planning began on a pilot chronic kidney disease detection program.

Barriers faced: The hardest part is finding enough funding to pursue these programs. Also, there is a

low level of awareness about chronic kidney disease and how big an influence it has on cardiovascular morbidity and mortality and healthcare costs.

Title of Program: Chronic Disease Risk Factor Unit

Organization: Minnesota Department of Health

Goals Addressed from State Plan: *Goal 1*

Population/Audience: The program takes place in medical and community settings, focusing on prevention, environment and influence.

Description: Reducing childhood obesity, along with education on nutrition and maintenance of weight loss. Creation of the Minnesota Task Force on Childhood Obesity - convening interested partners, using the Task Force Recommendations as a spring-board to form and engage a larger statewide Childhood Obesity Prevention Steering Committee and Alliance.

Barriers faced: Lack of leadership and advocacy for key state policy changes, such as physical education requirements for Minnesota schools. Also, and for real financial resources needed to address the obesity epidemic in Minnesota, lack of support to promote the Childhood Task Force recommendations through celebration, press releases, the media and distribution of paper copies in a timely manner after they were completed.

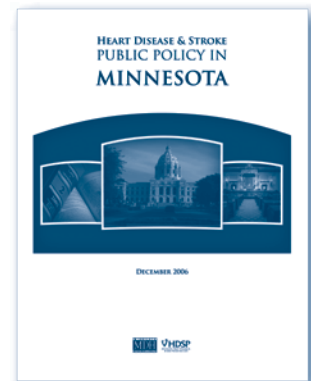
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PUBLIC POLICY AND ENVIRONMENTAL SYSTEMS CHANGE

It has been said that there is a fine line between education, public health initiatives, and medical intervention with that of policy, the environment and legislation to effect change. From a national perspective, CDC is continuing to promote policies central to heart disease and stroke at various levels and in different settings. Since 2004, many schools, businesses, health insurance companies, and communities across Minnesota have implemented organizational policies affecting students, employees, and the public in general that have a direct bearing on cardiovascular health. These policies and associated programs have included smoke-free initiatives, food vending machines, blood pressure and cholesterol screening, establishing various health programs for weight control and physical activity, on-site health clubs and clinics, etc. These programs are implemented at various levels of complexity.

The major barriers faced by most “organizations” is engagement, maintenance, and how to effectively motivate people to change lifestyles in order see positive health changes. From a policy perspective, many employers realize (and the trend is increasing) that partnering to promote policy and programs to effect health in general has not only shown better health for employees, but has also shown a positive return on investment. Programs also help to control rising costs of health care.



From a strictly public policy perspective in December of 2006 the HDSP Unit at MDH published the Heart Disease and Stroke Public Policy in Minnesota report. The full report can be found at: www.health.state.mn.us/cvh.

Findings in the report noted that as of July 2006, seven (7) statutes or other state-level legislative actions in Minnesota were found to be directly relevant towards heart disease and stroke prevention, treatment or control.* Table 3 summarizes these policies, organized by priority area topic.

Table 3. Summary of Minnesota statutes and laws relevant to priority areas.

Topic	Statute Number	Year	Status	Brief Description
Control High Blood Pressure	62J.43	2004	Expires 2006	To improve quality and reduce health care costs, state agencies shall encourage the adoption of best practice guidelines and participation in best practices measurement activities by physicians, other health care providers, and health plan companies. The initial best practices and quality of care measurement criteria developed shall include asthma, diabetes, and at least two other preventive health measures. Hypertension and coronary artery disease shall be included within one year following availability.
Control High Cholesterol	-	-	-	-
Know Signs and Symptoms; Call 9-1-1	-	-	-	-
Improve Emergency Response	604A.01	1999	Active	Good Samaritan Law for automated external defibrillators used by bystanders
	144E.103	1999	Active	Requires for defibrillators to be on all emergency vehicles
	403.15	2004	Active	Multiline telephone system 911 requirements.
		2006	Active	Funding allocation for 240 automated external defibrillators to be placed in state patrol vehicles (\$312,000) over the next three years.
Improve Quality of Care	256B.072	2005	Active	Establishes a performance reporting system for health care providers who provide health care services to public program recipients. The measures used for the performance reporting system for medical groups shall include hypertension and coronary artery disease and acute myocardial infarction and heart failure for inpatient hospitals.
Eliminate Disparities	145.928	2001	Active	Establishment of the Eliminating Health Disparities Initiative (EHDI). The health commissioner shall award grants to eligible applicants for local or regional projects and initiatives directed at reducing health disparities.

* One of these statutes actually expired in 2006, but is included in this table nonetheless.

From 2004-2006 Minnesota ruled to improve quality and reduce health care costs - state agencies shall encourage the adoption of best practice guidelines and participation in best practices measurement activities by physicians, other health care providers, and health plan companies. Hypertension and coronary artery disease will be included within one year following availability.

In 2005, Minnesota established a performance reporting system for health care providers who provide health care services to public program recipients. This measure is used for a performance reporting system for medical groups, and includes hypertension, coronary artery disease, acute myocardial infarction and heart failure for inpatient hospitals.

In May of 2007 the “Freedom to Breathe” provision of the Minnesota Clean Indoor Air Act was passed into law and went into effect October 1, 2007 to protect the public from the health hazards of second hand smoke. In 2005 it was estimated that exposure to secondhand smoke killed more than approximately 46,000 from coronary heart disease nationally. Details and specific information about the law can be found at www.health.state.mn.us/freedomtobreathe.

Also, in the 2007 Legislative Session the legislature called for the Commissioner of Health in consultation with the State Community Health Services Advisory Committee to develop a Comprehensive Statewide Health Promotion Plan that can effect change more effectively and at a lower cost at a community level rather than through individual counseling and change promotion. This plan was developed and it incorporated the heart disease and stroke prevention plan concepts into the final product that was presented to the state Legislature October 1, 2007

RECOMMENDED POLICY CHANGES

The Minnesota Heart Disease and Stroke Prevention Steering Committee would also recommend the following changes to be considered by partners, advocates, and the Minnesota Heart Disease and Stroke Prevention Unit.

- Physical activity should start with a required k-12 education, along with nutrition education that is standardized throughout the state.
- Implement a statewide public awareness campaign to describe heart attack and stroke signs and symptoms.
- Enforce adherence to guidelines in care of high blood pressure, high blood cholesterol, hypertension and cholesterol screening policy for all health care providers.
- Require the addition of clinical decision-making tools in the Health Information Technology system currently being developed in Minnesota.
- Establish stroke care systems, similar to trauma systems, along with the development of a telestroke network.
- Require health insurance plans to provide adequate coverage for cognitive and physical rehabilitation for stroke survivors.
- Increased funding and training for Automated External Defibrillators to be placed in the community.
- Health insurance for all Minnesotans.

BARRIERS/MID-COURSE ADJUSTMENTS

The breadth, scope, complexity, and comprehensiveness of strategies and objectives of the Plan make it difficult to reach all goals by 2010. Regardless of this challenge, the Plan is moving forward in creative and meaningful ways.

The Steering Committee is at a critical juncture for 2007-2008 in that in its hands are the Plan itself and now action plans that need funding sources to assure successful implementation. The goal of the committee for the coming year is to better inform members about actual programs and how to guide implementation based on ongoing needs. In addition, to the various action plans noted previously, two will be chosen for extensive work (one on primary and the other on secondary prevention) with eventual letters of intent to appropriate foundations. Work groups will be created and work will take place at committee meetings and through necessary subcommittees.

The Committee is also assessing whether to form an Alliance that would be driven by the coalition of partners not just MDH. The major reason for this consideration would be for the following reasons:

- Funding opportunities
- To better drive the Plan's implementation into its next iteration for 2020
- Shared ownership of the Plan and its work going forward among all partners
- Further addressing the gaps, barriers and areas of concern or opportunity that have emerged since the inception of the Plan

The potential for this will be further considered in the fall of 2007.

Another major barrier is the lack of a specific data infrastructure to better monitor and evaluate progress towards achieving strategic Plan objectives. The quantitative section of this report relies on data from various data sets (state and national) that do not directly address all the goals and objectives identified in the Plan. Success of the Plan could be better assessed through a data set specifically developed for its goals. In the meantime, a better methodology to communicate goal advances through a quarterly data analysis update provided through a listserv would be an effective tool. The HDSP Steering Committee is considering this option.

Overall, more attention needs to be directed towards modifiable risk factors. We are making strides, albeit small, related to decreasing cigarette smoking, increasing physical activity, and eating more fruits and vegetables /day. Yet, high blood pressure and cholesterol, Diabetes and weight factors still pose significant problems. In addition, more attention needs to be directed towards specific populations and geographic areas:

- African Americans – stroke
- American Indians – heart disease and stroke
- Asians – stroke
- Children
- Low socioeconomic status groups – heart disease and stroke
- Several areas of rural Minnesota – heart disease and stroke

The Plan began almost seven years ago with a kick-off event, interviews, and community meetings. Since then, there has been a lack of ongoing publicity looking at the Plan as a tool. Professionals working at hospitals, clinics, professional associations, businesses, schools etc., may have a copy of the Plan, but it is impossible to see how they are implementing its objectives specifically. Again a dedicated data infrastructure could help alleviate this.

The small staff in the Minnesota Heart Disease and Stroke Prevention Unit focuses its efforts almost entirely on the priorities identified by CDC – namely secondary prevention. The state Plan has complementary priorities in the primary prevention arena as well. These need to have a major focus as well. This could be a significant focus for state “matching funds” appropriation.

In addition, the following barriers appear to be ongoing:

- Better overall education on the signs and symptoms of heart disease and stroke
- Commitment of various population groups to address heart disease and stroke as a major public health and medical issue
- Funding and staffing for innovative programs that address the goals of the Plan
- Challenges of elevating the stature of health risks in the public eye
- Better early detection screening methods and willingness to accept these new methods
- Better coordination between and across programs
- Addressing population and geographic disparities that are still prevalent
- Access to care

CONCLUSION

Midway through the implementation of the Minnesota Heart Disease and Stroke Prevention Plan 2004-2010 we see that the Plan is one major positive variable in driving impact. Communities, populations, health plans, hospitals, clinics businesses, and schools that use the Plan are showcasing their programmatic experiences and the numbers collected are pointing towards lowering the incidence and prevalence of heart disease and stroke. Minnesota nationally is one of the leading states in the prevention and control of cardiovascular disease. A collaborative and coordinated effort between the avenues of medicine with that of public health continues to make strides. No one initiative or partner can take credit. The continual commitment of all entities appears to be the key. The Plan offers the necessary framework now, and through 2010.

For the next three years, the Plan should continue to be utilized in a number of creative ways. The ability to further employ the five goals of the Plan gives us hope that cardiovascular disease will no longer be a leading cause of death for the citizens of Minnesota.

APPENDIX A

2007-2008 HEART DISEASE & STROKE
STEERING COMMITTEE

Tom Arneson, MD, MPH
 Donald Bishop, Ph.D.
 Janny Brust, MPH (Vice Chair)
 Jay Cohn, MD
 Tom Crowley, MBA
 Khatidja Dawood, MS
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 Gary Hanovich, MD
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 Mary Thissen- Milder, Ph.D.
 Pam VanZyl York, Ph.D., MPH

Chronic Disease Research Group
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 StayWell Health Management
 Division of Indian Work
 Minnesota Department of Health
 Minneapolis Heart Foundation
 Southside Community Health Servs.
 Department of Education
 Minnesota Department of Health

CLINICAL ADVISORS

Beth Baker, MD
R. Craig Christianson, MD
Jay Cohn, MD
Daniel Duprez, MD, Ph.D.
Thomas Kottke, MD, MSPH
Ann Taylor, MD

Regions Hospital
UCare Minnesota
University of Minnesota
University of Minnesota
Regions Hospital Heart Center
University of Minnesota

COMMUNITY ADVISORS

David Abelson, MD
Glen Andis
Jeanne Bailey, RN
Ellen Benavides, MHA
Carol Berg, RN, MPH
Jill Birnbaum, JD
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Park Nicollet Health Services
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UCare Minnesota
American Heart Association
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Mayo Clinic
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Minnesota Department of Health
Minneapolis Department of Health
HealthPartners
Community Univ. Health Care Clinic
ICSI
Park Nicollet Health Services

STAFF

Stanton Shanedling, Ph.D., MPH
James Peacock, Ph.D., MPH
Albert Tsai, Ph.D., MPH
Elizabeth Gardner, MA
Mary Jo Mehelich, RN
Jenny Patrin

Minnesota Department of Health

APPENDIX B

2007-2008 MINNESOTA STROKE PARTNERSHIP COMMITTEE



Donna Brauer, Ph.D., RN
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Ed Crisostomo, MD
Sandy Hanson, MD
Melissa Larson
Donna Lindsay, RN
Kathleen Miller, BSN, RSC
Darcy Olson, BSN, RN, CNRN
Alejandro Rabinstein, MD
Sueling Schardin, MPH, RD
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Mankato State University
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Mayo Clinic
American Heart Association
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Genentech
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St. Cloud Hospital
Gold Cross/Mayo Medical Transport

STAFF

Albert Tsai, Ph.D., MPH
Stanton Shanedling, Ph.D., MPH
James Peacock, Ph.D., MPH
Mary Jo Mehelich, RN

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To request copies, please contact the
Minnesota Heart Disease and Stroke Prevention Unit
Minnesota Department of Health.

Minnesota Heart Disease and Stroke Prevention Unit
Minnesota Department of Health
P.O. Box 64882
St. Paul, MN 55164-0882
(651) 201-5412

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