

MINNESOTA HEART DISEASE AND STROKE PREVENTION

# CONNECTION

*Connecting programs, events, resources, research, and people in the Minnesota heart disease and stroke prevention community.*

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## A SIGNPOST ALONG THE ROAD OF LIFE: FAMILY HISTORY OF STROKE

*Editor's Note: This article is the second in a two-part series on family history and cardiovascular disease.*

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This article briefly reviews what is known about the role of family history in stroke and suggests some strategies for using family health history to empower at-risk individuals and families to lower their risk of stroke and related conditions. Strokes that cluster in families may be associated with mutations in single genes (Mendelian conditions) or multifactorial causes. Most people's familial risk for stroke is due to a combination of genetic susceptibility, behavioral and environmental risk factors. In other words, both genes and lifestyle choices influence risk.

Stroke may occur along with other common diseases such as hypertension, atherosclerosis or diabetes within families. As with coronary artery disease, the number of relatives and an earlier age of onset are associated with increased risk of stroke. For example, in the population-based Health Family Tree Study (1), 86% of strokes occurring before age 75 and 68% of strokes at any age were clustered in 11% of the families studied. In one large study of twins in the United States, the concordance rate between identical twins for stroke was 18% compared with 3.6% for fraternal twins, which is a five-fold increase in risk (2). More commonly, if one parent has had a stroke, the risk for the child is increased about two-fold compared to persons whose parents have not had a stroke (3).

**What to do about a family history of stroke.** In caring for healthy patients who have a family history of stroke, there are no consensus guidelines that



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specifically address screening or prevention for these patients (4.) However, it is prudent to be especially vigilant in screening and in emphasizing preventive behaviors such as a healthy diet, weight management, regular exercise and a tobacco-free lifestyle. It is also important to document the family history of stroke and related conditions as accurately as possible in at least first and second-degree relatives. The type of stroke and the age(s) when family members were affected should be recorded. Recording the type of stroke is important because there is some evidence that different types of stroke may have different degrees of heritability. It is also important to record medical conditions that predispose to strokes and that also run in families, such as atherosclerosis, abnormal heart rhythm, hypertension, diabetes and associated intermediate conditions (5).

**The value of a family history of stroke for prevention.** A family history of stroke or a related condition is a signpost along the road of life that urges caution and preventive measures to protect one's health. Many of the preventive and screening interventions that are effective in individuals with familial risk for stroke are also the ones that are recommended for the general public. A family history of stroke may provide the motivation necessary to make healthier decisions for long-term health benefit. Data suggest family history can be used as a motivator to help people practice healthier lifestyles. For example, in at least one cohort study of almost 500 young adults with stage one hypertension that were followed over a six year period, the participants who had a parent with hypertension steadily became healthier over time because of adhering more faithfully to healthy lifestyle habits, such as regular exercise and a heart-healthy diet, compared to their cohorts without a family history of hypertension. At the end of the six year study, the participants without a family history were more likely to be over weight, be on hypertension medications and to exercise less than their peers who had a family history (6).

In addition, a family history of stroke may be a clarion call that results in an entire family embracing healthier habits as a unit. If one family member is at risk for stroke or a related condition, other family members also share that risk. In these situations, it may be most efficacious to have entire families-at least ones who live their everyday lives together-work together for better health. This may also have the benefit of reinforcing healthy behaviors across generations. Since the antecedents of chronic diseases start in childhood in many cases, developing healthy exercise and diet habits early in life will ameliorate other risk factors, such as genetic susceptibility, that are not as modifiable (7). Family history of stroke and other related conditions may then be a useful tool for improving health and preventing disease in individuals, families, and communities. For additional questions, please contact Kristin Oehlke, MS, CGC, Genomics Coordinator, at 651-201-3609 or visit [www.mngenepool.umn.edu](http://www.mngenepool.umn.edu)

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# SPOTLIGHT INITIATIVES AND PROGRAMS

The Connection's Spotlight feature is designed to describe locally-based cardiovascular disease prevention resources and services. This edition focuses on two cardiovascular disease risk factors: diabetes and tobacco use.

## HORIZONS UNLIMITED PROGRAM, DIVISION OF INDIAN WORK

The Division of Indian Work (DIW), in partnership with the greater Minneapolis Council of Churches, includes a number of programs to advocate for the American Indian population living in the Minneapolis area. Horizons Unlimited provides Native clients with a food shelf specializing in nutrition and diabetes prevention. The emphasis on diabetes prevention has vital implications for cardiovascular disease prevention: People with diabetes have a two to four times greater risk of cardiovascular disease and stroke versus people without diabetes. The food shelf's work is part of the community fabric supporting heart disease and stroke prevention. Currently, the food shelf feeds more than 8,800 low-income American Indians each year. In addition, food baskets are prepared for Thanksgiving and Christmas.

Within this diabetes prevention program, case management, referral and support services are available. To help reduce barriers to behavior change, the program provides a range of services to encourage healthy management of diabetes, and may include physical activity, nutrition education, and in-home visits for counseling and other assistance. For example, through a partnership with the YWCA, participants are connected with a personal trainer to provide instruction on safe and appropriate physical activity. For nutrition, weekly classes rotate topics on nutrition and cooking, and maintain a family focus. Cooking classes focus on commonly available ingredients, and instruct participants to prepare a healthy, family-friendly recipe. Participants take home a bag of the ingredients from that evening's recipe to encourage preparation at home. Each month, a family night is held for participants and their families. Activities include educational speakers, activities and a communal meal.

Suzanne Simerson, the Director of Adult Services, described all of the programs through the DIW having a common approach to focus on mind, body and spirit. Traditional methods are used for healing for these three aspects, therefore all programs are interconnected for the individual and family. Suzanne described a situation where an individual may connect with DIW programs for anger management, and eventually connect with the diabetes prevention program. "Using this holistic approach brings more services to individuals. And once participants begin healing in one part of their life, we make referrals to other services."

To learn more about the Horizons Unlimited Program, contact Suzanne Simerson at 612-722-8722 or [ssimerson@gmcc.org](mailto:ssimerson@gmcc.org). Visit [www.gmcc.org](http://www.gmcc.org) for more information.

## TOBACCO-FREE YOUTH RECREATION

Secondhand smoke is a major problem in Minnesota, with at least one-third (33.1%) of middle school and nearly one-half (45.7%) of high school students repeatedly exposed to it (1). Tobacco-Free Youth Recreation (TFYR) is a statewide initiative that assists community groups in their efforts to create tobacco-free park and recreation environments where they can promote and model tobacco-free lifestyles. A tobacco-free lifestyle is one important step toward cardiovascular health—at any age.

Brittany McFadden leads the TFYR initiative in Minnesota, and described youth's interest in tobacco-free outdoor environments.

Have an idea for a spotlight feature?  
Let us know!  
Contact us at (651) 201-5412.

### ***Why does it work to involve youth in the TFYR policy efforts?***

Youth see cigarette butts littered at backstops on baseball fields, or they see smokers near the playground areas when they take their siblings to the local park. Since youth are primary users of public parks, they are motivated to learn about how they can help to change policies around smoking in parks. Youth feel empowered to change policies that impact their own lives and their health.

We typically work with youth groups from sports teams, chemical health groups, or other organizations. Local smoke-free coalitions often recruit interested students to get involved in the process, and encourage parents to be involved as well. For a typical community, between two and seven students are involved throughout the process, which often takes three to 12 months to complete.

One success story is from the students from the St. Thomas Academy and Visitation School in Mendota Heights. Students collected cigarette litter from local parks and letters of support from community groups to present to the local City Council in February. The City of Mendota Heights adopted a tobacco-free policy one month later. In April, State Representative Rick Hansen offered a resolution during a general floor session of the Minnesota House of Representatives honoring these students for creating tobacco-free parks.

### ***What barriers do you find in implementing this process around Minnesota?***

As this is a slow-moving process, it is difficult to keep students engaged, especially during the summer months. For the policies that move especially slowly, students often lose focus on this issue. Another challenge can be the community park board members who oppose the idea that secondhand smoke can affect individuals in an outdoor environment.

A program such as this has strong implications for establishing similar policies and programs in school or business settings to effect positive cardiovascular health.

To learn more about the TFYR initiative, and their available resources, visit <http://www.ansrmn.org/TFYR03Home.htm> or email Brittany McFadden at [bhm@ansrmn.org](mailto:bhm@ansrmn.org).

1. *The Burden of Cardiovascular Disease in Minnesota: Mortality and Risk Factor Update. May 2004 Report. Minnesota Department of Health, St. Paul, MN. May 2004.*

## **NEWS FROM THE CENTERS FOR DISEASE CONTROL & PREVENTION**

**Stanton B. Shanedling, Ph.D., MPH**  
**Supervisor**  
**Heart Disease & Stroke Prevention Unit**  
**Minnesota Department of Health**

When one thinks of the Centers for Disease Control and Prevention (CDC) you cannot help but be impressed by all the disease conditions, risk factors, and health promotion information available for medical and public health professionals, policy makers and the public. What is driving their cardiovascular disease initiatives and how does it impact the work we do in Minnesota?

CDC's Heart Disease and Stroke Prevention Division website ([www.cdc.gov/DHDSP](http://www.cdc.gov/DHDSP)) describes their mission:

“To provide public health leadership to improve cardiovascular health for all, reduce the burden, and eliminate disparities associated with heart disease and stroke.”

We all know that heart disease and stroke are the first and third leading causes of death in the United States. We also know that Minnesotans are not immune and that many of us are at-risk for these conditions. Fortunately, medical science has advanced, but we still face challenges of translating our prevention knowledge into action. CDC recognized this barrier and with the cooperation of a vast array of partners they developed a document called A Public Health Action Plan to Prevent Heart Disease and Stroke (<http://www.cdc.gov/dhdsp/index.htm>) The Action Plan's purpose is to chart a course to promote achievement of national goals for heart disease and stroke prevention through 2020 and beyond. CDC expects that in the next two decades heart disease and stroke will increase as the “baby boom” generation ages.

There are five essential components of the Action Plan: taking action, strengthening capacity, evaluating impact, advancing policy and engaging in partnerships. CDC has identified six priority areas:

- Control high blood pressure
- Control high cholesterol
- Know signs and symptoms of heart attack and stroke; Call 911
- Improve emergency response
- Improve quality of care
- Eliminate health disparities

CDC currently funds 32 states and the District of Columbia to help carry out their mission. Minnesota is fortunate to be one of the funded states and activities are carried out through the Heart Disease and Stroke Prevention (HDSP) Unit.

If CDC is delivering this national message, how is Minnesota directing our efforts at the state and local levels? The Heart Disease and Stroke Prevention Plan 2004-2010 was developed as a blueprint to coordinate resources to meet public health goals. And, the Heart Disease and Stroke Prevention Steering Committee is creating action plans in order to get necessary programs implemented. These plans focus on primary, secondary and tertiary prevention. The 2006-2007 goal is to get the plans funded and hand them off to suitable local providers and partners for implementation. Action plans are described on our website at [www.health.state.mn.us/cvh](http://www.health.state.mn.us/cvh).

In an effort to connect our partners with national cardiovascular disease goals, the Heart Disease and Stroke Prevention Unit will continue to bring you news and information from the Centers for Disease Control and Prevention and the Division for Heart Disease and Stroke Prevention.

# Upcoming Events:

## BIOMARKERS OF CARDIOVASCULAR RISK: STATE OF THE ART

November 16-17, 2006

Leighton Auditorium

Harold W. Siebens Medical Education Building

Mayo Clinic, Rochester

Registration information:

507-284-0286 or [strain.diane@mayo.edu](mailto:strain.diane@mayo.edu)

## QUALITY DIABETES CARE IN THE HOSPITAL

November 3, 2006

HealthPartners 8100 Building

Superior Room

8100 34th Avenue South

Bloomington

Registration information:

[www.health.state.mn.us/diabetes](http://www.health.state.mn.us/diabetes)

Announcements and upcoming events may be posted in the newsletter at no charge. The HDSP Unit reserves the right not to publish announcements at its discretion. Please submit your news to Jenny Patrin at [jenny.patrin@health.state.mn.us](mailto:jenny.patrin@health.state.mn.us) or (651) 201-5412.

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