

**Minnesota Heart Disease and Stroke Prevention (HDSP) Initiative  
Literature Review  
Environmental Setting: Healthcare**

**HDSP Literature Review Summary of Healthcare Interventions**

A literature review was commissioned by the Minnesota Department of Health with funding through the Centers for Disease Control and Prevention (CDC) for the purpose of seeking out information and research regarding cardiovascular health. The intended use for the study was defined in five environmental settings.

- Community and Community Organizations,
- Healthcare,
- Land and Transportation,
- Schools, and
- Worksites.

Several questions were used in the formulation of the review in order to organize the information. These questions were addressed within the context of each of the defined environmental settings.

**What is the evidence that environmental or policy change impacts behavior of individuals?**

Research has shown that health is related to both the physical and social environment. In other words, social and environmental conditions favorable to health can promote, support, and reinforce healthy behaviors and contribute to the reduction of heart disease and stroke. This is known as the socio-ecological model.<sup>11</sup>

*Environmental Interventions*

Environmental interventions can be defined as including changes to the economic, social and/or physical environments. Examples of this include but are not limited to:

- standardized guidelines for patient care related to heart disease and stroke ;
- making low-fat choices available in cafeterias;
- enhanced 9-1-1 system to improve emergency response rates.

*Policy Interventions*

Policy interventions are defined as including laws, regulations, and rules (formal and informal). Examples of policy interventions are:

- regulations and enforcement of smoke-free environments;
- clinic and/or hospital policies for patient follow-up for lipid management.<sup>14</sup>

The literature review illustrates examples of single-approach or multiple-approach strategies which address the reduction of risk factors as essential to cardiovascular health. Risk factors addressed include:

- physical inactivity,
- tobacco use,
- high blood pressure,
- high cholesterol,

- unhealthy diets,
- diabetes, and
- obesity.

In multiple interventions, examples are given that involve targeting several risk factors at the same time working with environmental and policy change.

### **What does environmental or policy change mean in the healthcare setting?**

To impact heart disease and stroke with a population-based approach, the Centers for Disease Control and Prevention (CDC) recommends the following environmental and policy change strategies in the healthcare setting:<sup>14</sup>

- Promote policy, environmental, and system strategies to improve quality of care. For example, promote the Wagner Chronic Care model and the adoption of evidence-based guidelines in hospitals (e.g., *Get with the Guidelines*, American Heart Association; *Guidelines Applied to Practice*, American College of Cardiology).
- Establish policies to: treat stroke as an emergency in hospitals, provide immediate diagnostic evaluation and treatment within 3 hours, and have a neurologist on call at all times.
- Provide education and public awareness on use of 9-1-1, ER (Emergency Room) services, signs and symptoms of heart attack and stroke.

### **What works?**

The literature review indicates multiple interventions have been implemented with varying levels of success in the healthcare setting. Literature in this review provided evidence for success from:

- participation in cardiac rehabilitation programs (strongly associated with improved survival in years following a heart attack, improvements in dietary behavior, medication compliance, weight loss improved levels of physical activity);
- patient follow-up either via phone or face-to-face encounters;
- pharmacist follow-up (resulted in significant improvements in patient compliance and improved treatment outcomes);
- good communication skills to guide patient-provider encounter and understanding of key behavioral change strategies; and
- prompting tools for physicians to provide dietary counseling.”<sup>5</sup>

### **What are the lessons learned?**

#### *Challenges to Successful Interventions*

One particular review<sup>17</sup> specified the following challenges in intervention strategies:

- 1.) Cardiology training programs do not provide appropriate levels of training in prevention.
- 2.) Failure of health care providers to prescribe preventive strategies.
- 3.) Third-party payers lack of funding support for preventive strategies.

Americans can learn from an Australian review which indicated several areas of consideration for future programs:

- post-program stage of patient follow-up by general practitioners,
- geographical disadvantage of those living outside regional centers to access the service,

- enhancement of the primary prevention aspect of the program,
- adaptation of the program to fit the needs of Aboriginal clients, and
- facilitation of evaluations by the use of resources and training of staff in computer skills.<sup>1</sup>

A nationwide survey of pediatric cardiologists determined the frequency of discussion with patients. Respondents of the survey provided these insights;<sup>9</sup>

- promotion of cardiovascular health was a role more appropriate for providers of primary care;
- most common barriers to anticipatory guidance were:
  - constraints of time, and
  - perceived role of the cardiologist.

Preventive neurology has not been emphasized in neurology training programs and is not mentioned in the requirements for residency education in neurology. A recommendation is for evidence about effectiveness of stroke prevention to be effectively distributed through computerized notices, mass media campaigns and physician knowledge assessments. The strategies were not evaluated, just suggested.<sup>8</sup>

Although this study<sup>4</sup> is not specific to cardiovascular health, the challenges are important to note. Intervention strategies included site visits and surveys to 33 clinics and 6 multi-clinic organizations, including in the state of Minnesota. Frequently cited challenges included:

- problems associated with inadequate funding;
- recruitment and retention of professional staff;
- conversion to tribal compacting or contracting of clinical services, and
- anticipated changes in Federal and State programs, included Medicaid, welfare and Medicare.

### **Where are the gaps in the literature?**

The literature review did not find peer-reviewed articles related to:

- Evidence that implementation of hospital-based quality improvement infrastructure that focuses on protocols to ensure patients are treated and discharged with appropriate medications and risk counseling impacts decrease in recurrence of cardiac event.
- Specific culturally appropriate approaches in the healthcare setting to impact cardiovascular health in priority populations such as Native American, African-American and other high risk populations in Minnesota.

### **What has been done in Minnesota?**

One peer-reviewed article reported that the Mayo Clinic conducted a study of 1,821 patients regarding participation in cardiac rehabilitation. Participation in the cardiac rehabilitation program was strongly associated with improved survival in the years following a heart attack.<sup>21</sup>

It is known and acknowledged that many interventions are being implemented in Minnesota communities at various levels of the healthcare system. For more information, consult the web

site [www.health.state.mn.us/cvh](http://www.health.state.mn.us/cvh) and/or contact a member of the Heart Disease and Stroke Prevention Program, Minnesota Department of Health via the web site.

## Summary

History teaches the healthcare system is affected by demands in the market place, plus socio-economic, demographic and political influences. Some of the public policy changes to the system have been dramatic, such as the development of Medicaid and Medicare and growth of managed care systems. Following these policy and system changes, health care policy has been developed incrementally, that is, a tinkering with the system and finding solutions to the most effective way to produce and deliver services with favorable outcomes.

It appears that some of the current literature recommends that individual change, plus a supportive environment, is crucial to sustaining behavior changes. Extensive empirical evidence is not available regarding policy and environmental changes to prevent cardiovascular disease; although this body of evidence is growing. Some of the evidence suggests that some institutions are reluctant to institute policies regarding environmental and/or policy change because of the cost factors to the health care organization.

However, interest is growing related to implementation of hospital-based guidelines to improve quality of care. The American Heart Association in Minnesota is attempting to provide training and technical assistance in the implementation of *Get With the Guidelines* (GWTG) with a first training session scheduled late in 2004. As hospitals in Minnesota become engaged in the process of implementation of GWTG, impact evaluation will be forthcoming.

Therefore, in conclusion, several questions can be raised for future discussion:

- 1.) What additional studies or evidence would assist in understanding policy and environmental strategies for the healthcare system?
- 2.) What is the capacity and skill level of professionals in the field throughout the state of Minnesota who are currently or will be implementing population-based cardiovascular health initiatives?

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