

**Minnesota Heart Disease and Stroke Prevention (HDSP) Initiative
Literature Review – October 2004
Environmental Setting: Communities & Community Organizations**

HDSP Literature Review Summary of Community-based 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?

The Minnesota Heart Disease and Stroke Prevention Plan 2004-2010 emphasizes,

“In addition to the work that the health care system, several initiatives and programs, and other organizations are doing, policies and environmental improvements are essential arenas in which significant impact can be made on cardiovascular health in Minnesota.”

In defining these interventions, it is recognized there needs to be multiple approaches or strategies which involve changes in environments and policies in order to impact changes in behavior to ultimately impact cardiovascular health.

Environmental Interventions

Environmental interventions can be defined as including changes to the economic, social and/or physical environments. Examples of this are:

- incorporating walking paths and recreation areas into new community development designs;
- assuring that walking paths are safe for citizens to utilize;
- AED (automated defibrillation devices) are located in public buildings.

Policy Interventions

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

- laws and regulations that restrict smoking in public buildings;
- legislation provides monies for communities to enhance 9-1-1- services.

The socio-ecological model depicts how environments in which one lives, works and plays impacts ones behavior. Risk factors, which contribute to heart disease and stroke that communities and community organizations need to address include:

- physical inactivity,
- tobacco use,
- high blood pressure,
- high cholesterol,
- inadequate nutrition,
- diabetes, and
- obesity.

What does environmental or policy change mean in the community and community organizations setting?

This literature review confirmed the analysis of many other reviewers. There are many good examples of how programs can be implemented and the importance of quality “ground work.” Additionally, much of the literature acknowledges the challenges presented by evaluation of community-based programs. Community programs are easily confounded by external influences and the unrealistic expense and effectiveness of performing controlled evaluations. However, there is strong evidence that community interventions may be one of the most cost effective and sustainable forms of intervention.

For purposes of clarity, the focus of this community-based literature review includes community groups such as faith-based organizations, citywide programs, tribal communities, retail sites and restaurants, neighborhood groups, senior housing sites, grass-roots organizations. Other community organizations, such as schools, worksites and healthcare are frequent sites for cardiovascular health programs; therefore other work groups are doing literature reviews for those settings.

After reviewing over 50 articles on community campaigns, Elder suggests, the three A’s as a strategy for designing and assessing the potential effectiveness of a community-based intervention: Affordability, Acceptability and Adequacy.⁷

In the book, *Health Promotion at the Community Level*, the seven guiding principles of effective community program planning include:

1. Plan is based on a historical understanding of the community.
2. Since health issues generally have multiple causes, a comprehensive effort using multiple interventions is required.
3. Focus on a community context and work primarily through existing structures and values.
4. To be effective, project needs intersecting components of the community working together to address the problem in a comprehensive effort.
5. Active community participation, not just token representation, is desired.
6. Focus on short and long-term problem-solving to create sustained change beyond demonstration period.
7. Most importantly, the community must share responsibility for the problem and the solution.⁴

What works?

The Centers for Disease Control and Prevention promotes the following strategies as best practices for community and community-organizations to have population impact:

- raise awareness of signs and symptoms of heart attack and stroke through educational initiatives;
- promote enhanced 9-1-1 services statewide;
- promote Emergency Medical Service training and protocols related to heart attack and stroke;
- promote the use of community guidelines; and
- promote policies, system changes, and educational opportunities related to blood pressure and cholesterol management and the importance of heart health.¹⁶

A review of past community interventions related to promotion of improved nutrition and physical interventions found that few of these interventions were based on data and theory.¹

The theoretical framework of a community intervention is important to investigate for appropriateness for the audience. For example: “*Hip-Hop to Health Jr.*” used the *Social Learning Theory*, *Self-determination Theory* and the *Trans-theoretical Model* to create the framework for behavior change to help determine the best interventions with both adults and preschool children.⁸

Understanding the needs, wellness level and health risks of your community group will help determine an appropriate intervention design that will meet the needs of that community and increase the likelihood of success. Therefore **community assessment, and community readiness** is recommended before planning to implement prevention strategies.

Additionally, the **involvement of community members** from the very beginning of any community-based intervention will contribute to the success of a community-based program. In addition to addressing the specific needs of the community, community involvement will help to create buy-in to any program that is developed and will improve the likelihood that the program will continue beyond the initial funding.¹²

It is recommended that **community structures be used to imbed prevention programs** whenever possible. This will contribute to making the best use of resources, simplify organization and increase the likelihood that the activities will continue beyond initial interventions.⁵

Additionally, community interventions are more successful when several strategies are used or a **multi-pronged approach** is utilized. For example, media campaigns are more successful when paired with educational or individual components.²

Attention to **cultural appropriateness is also essential** to the success of a community-based program. Not only because the information is not likely to be heard outside an appropriate context, but also because misunderstandings can develop that have the potential to undermine programs.³

What are the lessons learned?

Challenges to Successful Interventions

Because community interventions occur in a relatively uncontrolled environment, it can be difficult to assess their effectiveness.¹ Studies confirm that effective interventions at the community level have multiple components that target individuals, organizations and the community as a whole. When the program contains too few of these components, the intervention may be of inadequate strength to have an effect, or enough of an effect to measure. Therefore, clear and measurable goals are needed to increase the likelihood that interventions can be accurately evaluated.

Designing programs with adequate power also requires a meaningful understanding of the targeted community. For instance, in communities with a high rate of poverty where risk factors for CVD are high, the community may perceive adequate, safe housing as a more significant issue than physical activity or improved nutrition. As such, members may find it difficult to invest time and energy into a CVH program, even though CVD may be leading cause of death in their community. So, understanding the needs of the community and working with community leaders is critical.

Much of past community-based research has been of a quasi-experimental nature. While outcomes have often been in a positive direction, many have showed only marginal improvement. However, when community-based studies are evaluated together, there is a strong indication that over time risk factor reduction does occur and community-based interventions can be very cost effective, especially when efforts are focused on environmental and policy change, rather than direct behavior change efforts.

Funding sources for community interventions often have predefined priorities. These priorities may not match the priorities of the community and funding organizations. The discrepancy can reduce the level of ownership within the community of health promotion efforts. Care should be taken to balance community priorities and program priorities.

Where are the gaps in the literature?

There is a need for comparable studies of community-based interventions, which focus on specific interventions with targeted populations of groups such as American Indian, immigrant groups, groups of low-literacy, etc.

At the time of the literature review there have been few examples of American Indian and other culturally diverse groups for this study, only one Native American community-based diabetes education program was identified in the peer review literature.³

What has been done in Minnesota?

Minnesota had several examples of previous cardiovascular health (CVH) programs.

A low-literacy nutrition education program was conducted in the Twin Cities area of Minnesota in collaboration with the Expanded Food and Nutrition Education Program

(EFNEP) directed towards a population that was diverse, low-income. The program was developed to provide simple, practical and relevant nutritional information in a fun and entertaining way.¹¹

Restrictive tobacco policies – seven Minnesota communities participated in an assessment of support for restrictive tobacco policies. The results can be generalized to other states and can be an effective argument for implementing more tobacco policy and environmental changes around the country.⁹

In August of 2004 Minnesota Heart Disease and Stroke Prevention Initiative gave a call to action for Minnesotans to embark with a statewide plan developed to improve cardiovascular health in Minnesota. This was a kick-off event for the Minnesota Heart Disease and Stroke Prevention Plan 2010.¹⁴

Summary

In summary, community interventions need to involve more and a wider variety of participants and take more time to develop and implement than interventions more focused on clinic-based or less comprehensive interventions. Since greater participation is required, there is a greater possibility of differing viewpoints, which can result in disagreement over the direction of the project. In an effort to create a more effective program, gathering data about the community, previous studies and a theoretical framework can help to focus the project and determine a rationale that addresses the needs of all parties. Community-based interventions lend themselves to primary prevention because they are population-based rather than aimed at individual circumstances. Programs are most effective when multiple strategies are used to address the CVD risks. Keeping in mind the 3 A's; *affordability, adequacy and acceptability* will increase success rates. Most importantly, involving the community in meaningful ways from the beginning and continuing throughout the program will enhance the effectiveness and sustainability of the program.

Specific attention needs to be made to the CDC recommendations regarding population impact for communities. In an article published in the American Heart Journal (2004), one conclusion reached related to improving heart disease and stroke conditions in community settings would be to increase the public recognition of major signs and symptoms of heart attack and stroke. Therefore public health efforts are needed to increase recognition of these symptoms in both the general public and groups at high risk for an acute event.¹⁰

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