AHA Scientific Statement

Taking the Initiative

Implementing the American Heart Association Guide for Improving Cardiovascular Health at the Community Level

Healthy People 2010 Heart Disease and Stroke Partnership Community Guideline Implementation and Best Practices Workgroup

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In 1990, heart disease and stroke emerged as the leading causes of death worldwide and remain the first and third leading causes of death in the United States, respectively.[1,2] Cardiovascular disease (CVD) in the United States is responsible for ≈40% of all deaths, more than the next 5 leading causes of death combined. CVD death rates have declined significantly over the past several decades as a result of decreased incidence of myocardial infarction and increased survival.[3,4] Coronary heart disease is also a leading cause of premature and permanent disability in the US labor force.[2] In addition, the economic consequences are grave. In 2004, total CVD costs in the United States were estimated to be $368.4 billion[2]; these costs are expected to increase 40% to 50% by the year 2010.[5] Blacks, the poor, and residents of particular regions in the United States are examples of groups that shoulder a disproportionate burden of CVD.[6]

US health objectives, as presented in Healthy People 2010, have placed a national emphasis on the prevention of CVD and its risk factors.[7] The Secretary of Health and Human Services recently released the *Public Health Action Plan to Prevent Heart Disease and Stroke* (Action Plan) to further the "Healthy People 2010 goal of improving cardiovascular health through the prevention, detection, and treatment of risk factors; early identification and treatment of heart attacks and strokes; and prevention of recurrent cardiovascular events."[8] A recent American Heart Association publication focused on the optimal community approach to the prevention of CVD and its complications.[9] This report, from the AHA Expert Panel on Population and Prevention Science, is entitled *The American Heart Association Guide for Improving Cardiovascular Health at the Community Level: A Statement for Public Health Practitioners, Healthcare Providers, and Health Policy Makers* (AHA Guide). On the basis of a review of the literature and the work of other national committees, the expert panel made 59 recommendations for community-based efforts to promote cardiovascular health. The Action Plan complements the local community focus of the AHA Guide by providing a national action framework and infrastructure recommendations needed to prevent heart disease and stroke more effectively.

The AHA Guide recommendations include such measures as providing healthy meals in schools, training emergency first responders in the use of automatic defibrillators, providing safe and convenient means for walking and bicycling, and increasing excise taxes on cigarettes. These recommendations were informed by the body of research on the successes and limitations of interventions in the following areas: (1) community-wide settings,[10–28] (2) schools,[29,30] (3) worksites,[31–34] (4) faith communities,[35–37] and (5) healthcare organizations.[38,39]

The recommendations were classified by 2 additional dimensions: (1) essential public health services (assessment, education, community organization and partnering, ensuring personal health services, environmental change, and policy change)[40] and (2) type of risk factor or behavior (inadequate diet, sedentary lifestyle, tobacco use, hypertension or hyperlipidemia, early recognition of symptomatic disease).

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Box 1: Montana Improves Emergency Response Systems and Awareness of Signs and Symptoms

The Montana Department of Public Health and Human Services Cardiovascular Health (CVH) Program is working to raise awareness of the signs and symptoms of heart disease and stroke to reduce treatment time, to improve outcomes for patients, and to increase the efficacy of emergency response systems.

In partnership with Benefis Healthcare and the Montana State University Social Norms Project, the Montana CVH Program has developed a social marketing campaign to raise residents' awareness of stroke signs and symptoms and stroke risk factors in the Great Falls area (Cascade County). The campaign includes paid radio, television, and newspaper advertisements and creation of a brochure and poster that complement the media messages. Benefis Healthcare, the local stroke task force, and the fire department helped to develop and implement the community campaign from April to June 2004. The brochures and posters were disseminated to key community groups, reaching the target audience in such locations as clinics, senior centers, churches, and pharmacies. This campaign, 1 piece of a 2-pronged stroke project in Great Falls, is intended to complement the Benefis-Emergency Medical Services (EMS) systems intervention that will be integrated with efforts to improve the quality of stroke prevention and treatment in Great Falls and Billings.

The EMS systems intervention will assess and improve the quality of prehospital and hospital care of stroke patients. The intervention is a partnership between the Montana CVH Program, Benefis Healthcare in Great Falls, and the local stroke task force, including the fire department and ambulance service. Improving emergency and hospital care may increase the percentage of ischemic stroke patients who arrive at Benefis within the treatment window for administration of recombinant tissue plasminogen activator and may affect inpatient indicators for quality stroke care. The Montana CVH Program epidemiologist assisted Benefis Healthcare in analyzing their data from the Get With the Guidelines registry to look at factors such as prehospital care, characteristics of patients with ischemic stroke or transient ischemic attack, and geographic location of patients. Evaluation will be performed by analyzing registry data and conducting telephone surveys before and after the campaign; 911 dispatch data on stroke-related calls before and after the campaign may be examined. Billings will be the control (comparative) community.

In addition to improvements in the prevention and treatment of stroke, the Montana CVH Program has also focused on heart attack[108] (see http://www.cdc.gov/pcd/issues/2004/jul/03_0029.htm.). A workplace intervention was conducted among 523 Montana State health department employees in 2003 to increase awareness of the signs and symptoms of heart attack and the need to call 911. All employees received an Act in Time to Heart Attack Signs brochure and wallet card with their paychecks. The posters were placed in key workplace areas. A weekly e-mail message, including an opportunity to enter a contest addressing the signs and symptoms of heart attack, was sent to all employees. Baseline and follow-up telephone surveys were conducted to evaluate the effectiveness of the intervention. Results showed that this low-cost workplace intervention significantly increased awareness of the signs and symptoms of heart attack and the need to call 911. For example, awareness that pain or discomfort in the jaw, neck, or back was a sign of heart attack increased from 69% to 91%. Also, awareness of the sign of feeling weak, lightheaded, or faint increased from 79% to 89%, and awareness of the need to call 911 if someone is having a heart attack or stroke increased from 84% to 90%.

For more information on the Montana CVH Program, go to http://www.dphhs.state.mt.us/hpsd/pubheal/disease/cardio/index.htm.

Disseminating recommendations such as these into widespread practice remains a major challenge. Most community-based efforts do not have adequate resources and the capacity to implement all the interventions in a list of promising practices such as the AHA Guide. This issue must also be addressed in federally sponsored programs such as the State Heart Disease and Stroke Prevention Program, funded by the Centers for Disease Control and Prevention, and the Enhanced Dissemination and Utilization Centers of the National Heart, Lung, and Blood Institute, National Institutes of Health. With strong support from the community and policy makers, program planners can set priorities and implement and evaluate effective programs. For example, the New York State Heart Healthy Program implemented policy and environmental change initiatives at worksites and in faith communities, along with a successful educational campaign to encourage consumption of low-fat milk. The Montana program successfully translated and disseminated evidence-based science into practice to improve emergency-response systems and increase awareness of signs and symptoms of heart disease and stroke (Box 1). This article describes a model and strategies needed for a community-driven initiative with limited resources and shows how to prioritize and translate a list of promising practices into action with the AHA Guide as an example.

Framework for Implementation

An important component of success in developing a community prevention program is early consideration of how to translate what is known about multiple and sometimes overlapping promising practices into effective and sustainable action at the community level. The Healthy People 2010 Heart Disease and Stroke Partnership proposes a framework for bridging the gap between research and action. This

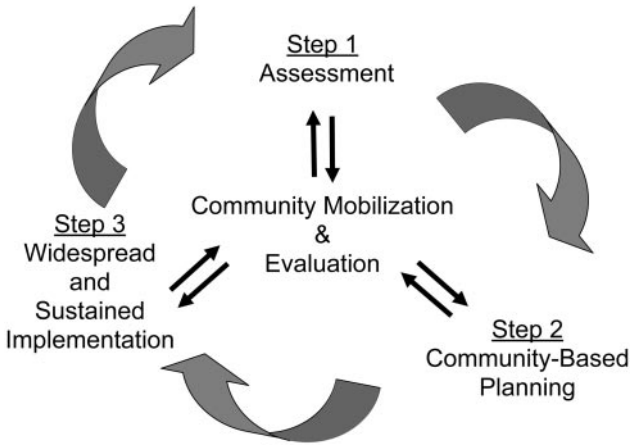

Figure 1. Framework for bridging the gap between research and practice.

framework involves a cycle of assessment, community-based planning, and widespread and sustained implementation (Figure 1). Every step in this cycle is supported by community mobilization and evaluation.

Community mobilization involves the development of partnerships, leadership, and community capacity. The mobilized community must first assess its cardiovascular health needs and assets. To start the planning process, community partners should decide which ideas will be implemented and how. Planning also entails decisions about how to adapt these ideas to the local community. With implementation, the goal is to reach the greatest number of at-risk individuals (reach) with the most effective combination of interventions (intensity) for the longest period of time (sustainability).[41] Both ongoing community mobilization and evaluation are required to provide critical support throughout assessment, planning, and implementation. Strategies for each of the recommended steps in the framework are summarized in Figure 2. The case study in Box 2 describes how 1 community partnership in Arizona addressed the points in this framework.

Community Mobilization

Definition

In this article, "community" may refer to a geographic area, a population group (eg, a racial/ethnic group, members of an association), a school, a workplace, a group of patients served by a clinic, or a faith community. It is a common assumption that effective and sustainable health promotion is about empowering people to gain control over the circumstances that affect their health and well-being.[42,43] Thus, it is essential for the success of health promotion initiatives to develop partnerships with communities and mobilize them to take action. Community mobilization is the process by which

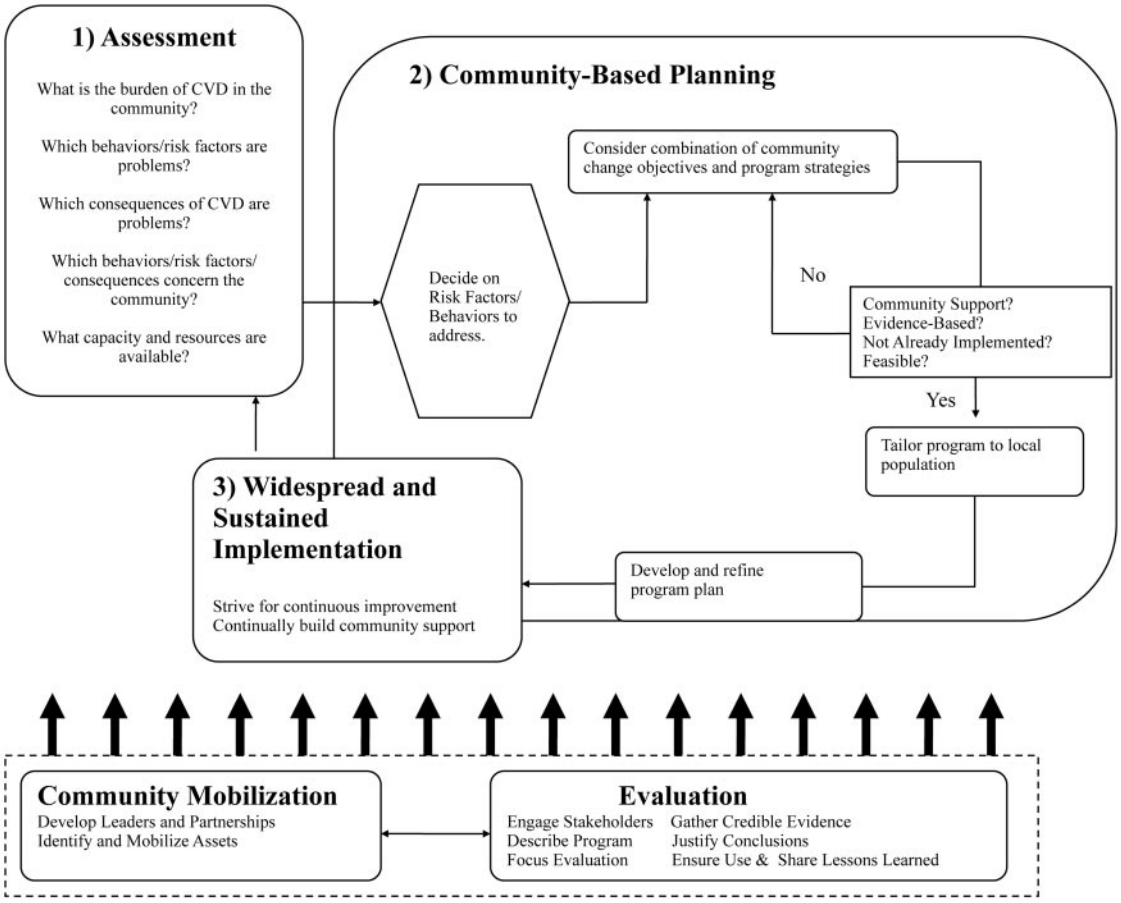

Figure 2. Flowchart for bridging the gap between research and practice. No indicates "No to one or more of the questions;" Yes, "Yes to all of the questions."

Box 2: Case Study: Prevention of Chronic Disease in Cochise County, Arizona

Douglas (Ariz) and its neighboring communities have ≈27 000 residents living on the US-Mexico border. Agua Prieta and Naco are much larger towns on the other side of the border in Sonora, Mexico. Communities on the US side of the border are ≈70% Hispanic. Douglas and other cities on the US-Mexico border share very high rates of poverty and chronic diseases, associated lifestyle risk factors, and poor access to health care. However, Douglas has had a long history of leadership in the implementation of health initiatives and has demonstrated how to successfully use community health workers to connect people to health services, to promote health, and to lead efforts for change.

On the basis of a decade-long history of collaborative community health assessments, mostly local and binational surveys, partnerships in Douglas and the other border communities clearly documented the significance of chronic diseases, their risk factors, and access to health care along the border. A partnership in Douglas became a local community advisory board (CAB) to work with long-standing university partners who had a prevention research center (PRC) funded by the Centers for Disease Control and Prevention (CDC) (Source: Southwest Center for Community Health Promotion, Mel and Enid Zuckerman Arizona College of Public Health, Tucson). This partnership had wanted to focus on diabetes and CVD and to have disease prevention and health promotion intervention programs. The local CAB participated in community-based planning to support the PRC's application for renewal of funding by the CDC. On the basis of community concern and history, as well as data demonstrating the need, the partnership chose diabetes self-care, physical activity, healthy food choices, and positive changes in social norms as the behaviors to modify. The strategy was to modify these behaviors by offering the combination of an educational program for patients with diabetes, an educational outreach to their families (to support the patient and prevent disease in family members through health promotion activities), and a community program combining education with walking clubs called Pasos Adelante (Steps Forward). Pasos Adelante is a modification of the National Heart, Lung and Blood Institute's curriculum, Su Corazon, Su Vida. To increase the effectiveness of intervention, depression is addressed in each component, community health workers facilitate all 3 components, and the community partnership will identify and pursue policy changes to create an environment that supports intervention objectives (eg, improved access to walking trails, "point of purchase" nutrition information, and nutrition classes at the food bank).

The strategies chosen were supported by community members. The need to address depression, for example, came directly from the requests of community health workers. Each of the strategies had solid theoretical support (eg, social support and network, family systems, and ecological theories). The use of community health workers to improve screening for chronic disease had been disseminated from Douglas to other communities in Arizona. Similarly, the individual feasibility and effectiveness of each of the 3 components (patient education, outreach to patients' families, and community program) and the policy change coalition had been demonstrated in other border communities in which the PRC and its partners had been involved (and in other parts of the country) and were ready for dissemination to Douglas.

The partnership received community support and CDC funding to conduct a clinical trial, in addition to evaluating partnership collaboration, the role of community capacity, progress in achieving objectives, and the effectiveness of policy and environmental change on the success of interventions. The aim of the clinical trial is to evaluate the combined effect of participating in the different individual, family, and community interventions. Findings and program components shown to be effective will be disseminated to communities binationally across the US-Mexico border.

community members, groups, or agencies come together and garner collective resources and capacity to develop a strategy, plan, or process to address a particular issue in the community. This step involves developing leaders and identifying, strengthening, and mobilizing the needed community and organizational capacity.

Strategies

Strategies for mobilizing the community involve 3 steps: (1) develop leadership, (2) create partnerships, and (3) identify assets and resources.

Develop Leadership

Community-based promotion of heart health involves identifying and developing community leaders who can engage in "collaborative leadership"[44,45] to facilitate all stages of coalition development[46] and lead policy change efforts.[47] Leadership can be developed through formal training opportunities and "engagement strategies" such as on-the-job training.[48] Developing and supporting leaders from the community such as community health workers can build a valuable bridge with the population.[49] Planning, implementing, and evaluating programs with trained community health workers or lay health advisors who work through the community's social networks with credibility and trust are powerful approaches that have been shown to make interventions more effective.[50–53] Developing leadership teams or cadres can also be an effective approach.[48]

Create Partnerships

One goal of leadership in an initiative to promote heart health and prevent stroke is to form effective partnerships and constituencies. The first question is whether the partnership has the appropriate members around the table. The answer may depend on how the community is defined and whether advocacy (ie, political action) or broad-based consensus is the initial approach. However, a review of the advantages and

disadvantages of these approaches and their combination over time is beyond the scope of this report. The AHA Guide describes various settings for engaging the community: religious organizations, workplaces, schools, healthcare organizations, and the community at large. Within each setting, the community that needs to be represented in a partnership can be defined as (1) all persons in the setting, including those with diverse and sometimes conflicting interests (eg, in a political jurisdiction); (2) persons with something in common (eg, nonsmokers)[54]; or (3) persons who share social ties and common perspectives and engage in joint action.[55]

When a partnership begins with a focus on advocating for a policy or program, a stakeholder analysis might be done to ensure involvement of a broad spectrum of influential supporters and community members. Influential persons or organizations who oppose a particular initiative might be targeted for efforts to neutralize their opposition. When a partnership begins with a focus on building consensus around how to address a particular problem, a broad range[56] of stakeholders—especially community members and representatives of all interested parties in the for-profit, nonprofit, and public sectors—are invited to the table even when they bring opposing views. They participate and negotiate in the initial planning stages. Regardless of whether advocacy or broad-based consensus is the initial focus, community members and leaders exert great influence.

Research-based tools to improve the function and collaborative advantage of partnerships are now available and listed in Table 1. In addition, principles and practical steps of community-based participatory research are valuable guides for developing effective partnerships to promote heart health and prevent strokes. Developing trust and agreeing on ways to achieve community participation and control of the initiative are critical for effective community mobilization.[57] Leadership from within particular communities may require unique approaches to organizing and implementing an initiative, for example, in working with American Indian and Alaska Native communities.[58]

Identify Assets and Resources

In addition to developing leaders and partnerships, it is also important to identify and mobilize the capacity of the community to implement interventions and promote community change. This capacity extends beyond money and organizational resources (eg, information and program activities) and includes human and social capital.[48,59,60] Knowledge of local cultures and how to engage in low-budget media advocacy are examples of human capital. Relationships among organizations,[61] partnership members, and policy makers, as well as the trust in these relationships, are examples of social capital.[62,63] Beyond the required understanding, sensitivity, and respect for local cultures, the shared beliefs, rituals, and values within a culture are critical and powerful resources on which to build an intervention.

It may be helpful to seek agreement among partnership members on a method to identify and mobilize the assets and resources within or available to a community. Because many communities may not have a wealth of local resources, this process should include identifying and leveraging additional resources available beyond the community, including regional and state health agencies, voluntary health organizations, healthcare systems, health plans, and universities. These organizations may also be valuable sources for training and technical assistance.

The Secretary's Action Plan systematically identifies many of the optimal capacities, infrastructure, and resources needed for communities to take effective action,[8] including population-wide data sources and surveillance systems, training, technical support, research efforts, programs, and cultural competency.

Although effective organization and mobilization of community capacity may be time and effort intensive, this step is vital and essential to ensure the sustainability and ultimate success of planned interventions.

Assessment

Definition

Assessment is an ongoing process to monitor health problems in a community, to identify the community's capacity and effectiveness in dealing with these problems, and to communicate these findings to decision makers.[64]

Strategies

Assessment strategies can be broad, allowing for and requiring development of significant amounts of information on multiple health problems,[65,66] or can be specific and focused on a health issue of great importance to the community such as CVD. The availability of community resources will determine the size and scope of the initial assessment. For broad assessment, a full CVD component would optimally be incorporated into the community health assessment. Important determinations include the information to be gathered, methods to be used, purposes of data analysis, and assignment of responsibility for assessment tasks.[67] The numerous methods to gather data include seeking local expert consultation; collating existing research reports; analyzing existing data (eg, from hospital discharge records, mortality files, and surveys on behavioral risk factors); or collecting new data, usually through surveys of households, healthcare providers, or communities. Three assessments are critical: (1) obtain data on CVD burden, (2) identify CVD prevention indicators, and (3) conduct a needs and capacity assessment.

Obtain Data on CVD Burden

To document the magnitude of the problem, information can be gathered on the burden of CVD and disparities across racial and ethnic, socioeconomic, and geographic groups, as well as other groups of people within the community. Measures of disease burden can include the following: (1) the number of CVD cases and deaths in the community or locale, (2) years of potential or quality-adjusted life lost, (3) direct healthcare costs, (4) lost income and productivity, (5) social costs, and (6) measures of impairment, disability, disadvantage, and health-related quality of life.

Relating representative case studies or anecdotes about loss of a loved one to CVD or living with CVD can be a persuasive method to garner resources and support from decision makers.

TABLE 1. Resources to Assist in the Selection and Implementation of Community Change Objectives and Strategies

Resources	Description	Sources
National Goals and Guidelines		
Get With the Guidelines	Premier hospital-based quality-improvement program for the AHA and the American Stroke Association	AHA: http://www.americanheart.org/presenter.jhtml?identifier=1165
	Resource for improving secondary prevention in healthcare organizations	
A Public Health Action Plan to Prevent Heart Disease and Stroke	National plan for preventing heart disease and stroke with an action framework useful for communities and 22 recommendations of the resources needed successful prevention initiatives	US Department of Health and Human Services: http://www.cdc.gov/cvh/
Guide to Community Preventive Services	Recommendations on population-based and public health interventions implemented in community setting	US Task Force for Community Preventive Services: http://www.thecommunityguide.org
	Reviews of evidence, costs, applicability, and barriers to implementation of community-based prevention initiatives	
Promising Practices in Chronic Disease Prevention and Control, Chapter 3: Achieving a Heart Healthy and Stroke-Free Nation	Review of the rationale, infrastructure, strategies, and progress of national Heart Disease and Stroke Prevention Program	US Department of Health and Human Services, Centers for Disease Control and Prevention: http://www.cdc.gov/nccdphp/promising_practices/pdfs/Heart.pdf
Healthy People 2010 Volumes I and II	National disease prevention and health promotion initiative providing measurable objectives communities can use for designing, implementing, and assessing activities related to heart disease and stroke, tobacco use, physical activity and fitness, nutrition and overweight, diabetes, and 23 other areas	US Department of Health and Human Services: http://www.healthypeople.gov
Tracking Healthy People 2010	Presentation of methods, measures, technical information, and data sources to monitor health status of nation and track objectives in *Healthy People 2010* for heart health and stroke prevention, including related objectives for diabetes, physical activity, and nutrition.	US Department of Health and Human Services: http://www.healthypeople.gov/Document/tableofcontents.htm#tracking
Healthy People in Healthy Communities: Guide for Community Leaders	Guide for building community coalitions, creating a vision, measuring results, and creating partnerships dedicated to improving community health; includes section on Strategies for Success to help start community activities	US Department of Health and Human Services: http://www.healthypeople.gov/Publications/HealthyCommunities2001/default.htm
Guidelines for Primary Prevention of Atherosclerotic Cardiovascular Disease Beginning in Childhood	"...[P]ractical approach to cardiovascular health promotion and identification and management of known risk factors for cardiovascular disease in children and young adults"	AHA: http://www.circ.ahajournals.org/cgi/content/full/107/11/1562
Guidelines for Primary Prevention of Cardiovascular Disease and Stroke: 2002 Update	"...[I]ntended to assist primary care providers in their assessment, management, and follow-up of patients who may be at risk for but who have not yet manifested cardiovascular disease'	AHA: http://circ.ahajournals.org/cgi/content/full/106/3/388
Data Sources		
DATA2010	Interactive database system that provides current health data for monitoring the health of nation	US Department of Health and Human Services, Centers for Disease Control and Prevention: http://wonder.cdc.gov/data2010/
	Authoritative source for *Healthy People 2010* data all objectives and population subgroups	
	Includes national data and state data for selected objectives	
Atlases of Heart Disease and Stroke Mortality Among Women and Men	Interactive maps presenting heart disease and stroke mortality rates, county by county, by state, racial/ethnic group, and sex	US Department of Health and Human Services, Centers for Disease Control and Prevention: http://www.cdc.gov/cvh
	Additional statistical reports available at this site	

TABLE 1. Continued

Resources	Description	Sources
Morbidity and Mortality Chartbook	Biennial compilation of data on rates and trends of morbidity and mortality from cardiovascular, lung, and blood diseases	US Department of Health and Human Services, National Institutes of Health, Heart, Lung, and Blood Institute:
	Describes national prevalence, hospitalizations, and mortality statistics, and additional information by state or country	http://www.nhlbi.nih.gov/resources/docs/cht-book.htm
	Includes risk factor prevalence and estimates of economic costs of these diseases	
Statistical Resources From the AHA	Annual statistical updates, fact sheets, and presentations documenting burden of heart disease and stroke	AHA: http://www.americanheart.org/presenter.jhtml?identifier=1200026
	Useful for assessment	
Comprehensive Tools for Health Promotion Initiatives		
School Health Index	Self-assessment and planning tool to assist schools in promoting physical activity, healthy eating, tobacco prevention, and other health-related issues	US Department of Health and Human Services, Centers for Disease Control and Prevention: http://apps.nccd.cdc.gov/shi/
Heart Attack REACT (Rapid Early Action for Coronary Treatment)	Background and planning tools for social-marketing approach to preventing mortality from heart attacks	University of Minnesota: http://www.epi.umn.edu/react
Know Stroke: Know the Signs, Act in Time	Information on stroke for patients, including facilitator's guide for community educators, and link to video on stroke	US Department of Health and Human Services, National Institutes of Health, National Institute of Neurological Disorders and Stroke: http://www.ninds.nih.gov/health_and_medical/pubs/knowstroke.htm
Community Tool Box	More than 6000 pages of practical skill-building information on >250 topics in community health promotion, including step-by-step instruction, examples, checklists, and related resources	University of Kansas, Work Group on Health Promotion and Community Development: http://ctb.ku.edu/
PATCH	Model with practical tools for planning, conducting, and evaluating community health promotion and disease prevention initiatives	US Department of Health and Human Services, Centers for Disease Control and Prevention: http://www.cdc.gov/nccdphp/patch/
Mobilization for Action Through Partnerships and Planning	Online guide for planning, implementing, and evaluating a community-based health promotion initiative	National Association of City and County Health Officials: www.naccho.org
Improving Health in the Community: A Role for Performance Monitoring	Framework for community health improvement that describes effective use of performance indicators	Institute of Medicine: www.nap.edu
Center for Healthcare Strategies, Inc.	Resources to help states, health plans, and consumer groups, through technical assistance and training, to engage aggressively in quality improvement in publicly financed healthcare	Center for Healthcare Strategies, Inc: http://www.chcs.org/info-url3959/info-url.htm
Partnership Tools		
Community Problem-Solving	Tools for organizing, planning, implementing, learning, and negotiating in community partnerships	Harvard University, Art and Science of Community Problem-Solving Project: http://community-problem-solving.net/cms/
Partnership Self-Assessment Tool	Online tool that gives a partnership a new way to assess how well collaborative process is working and to identify specific areas for partners to focus on to make the process work better	New York Academy of Medicine, Center for Collaborative Strategies in Health: http://www.partnershiptool.net/
Center for Participatory Change: The Toolbox	Basic tools to assist in community development, from how to be a community organizer, to forming a nonprofit organization, to writing grants	Center for Participatory Change, North Carolina: http://www.cpcwnc.org/toolbox.html
Evaluation Tools		
Kellogg Logic Model Development Guide	Guide to developing simple and complex logic models for planning and evaluating community health promotion initiatives	W.K. Kellogg Foundation: http://www.wkkf.org/Pubs/Tools/Evaluation/Pub3669.pdf
Program adaptation guidelines for research-tested intervention programs (RTIPs)	Simple guide for choosing and adapting prevention programs tested by research in other populations	US Department of Health and Human Services, National Institutes of Health, National Cancer Institute: http://cancercontrol.cancer.gov/rtips/adaptation_guidelines.pdf

TABLE 1. Continued

Resources	Description	Sources
Framework for Program Evaluation in Public Health	Flexible, practical, community-driven framework for evaluating public health initiatives	US Department of Health and Human Services, Centers for Disease Control and Prevention: http://www.cdc.gov/mmwr/preview/mmwrhtml/rr4811a1.htm
Getting to Outcomes 2004: Promoting Accountability Through Methods and Tools for Planning, Implementation, and Evaluation	Practical guide and tools geared for substance abuse program	The Rand Corp: http://www.rand.org/publications/TR/TR101/
	Also for use in planning and evaluating community-based programs and assessing fit between local community and best-practice program	
Community Health Worker Toolkit	Guide to program evaluation for community health workers and their programs	Mel and Enid Zuckerman Arizona College of Public Health: http://www.publichealth.arizona.edu/chwtoolkit/
	Concentrates on results and focuses on developing evaluation plan and choosing appropriate measurements and evaluation tools for community health worker program	
Process Evaluation Manual: Coordinated School Health Program Infrastructure Development	Rationale, process elements, progress indicators, and worksheets for developing and evaluating coordinated school health programs at state and local levels	US Department of Health and Human Services, Centers for Disease Control and Prevention: http://www.cdc.gov/HealthyYouth/publications/infrastructure/index.htm
Wilder Collaboration Factors Inventory	Inventory of 20 factors that can make or break any collaboration	Amherst H. Wilder Foundation: http://www.wilder.org/research/topics/collab/index.html
	Includes an online survey for better understanding a group's strengths and challenges	
Educational Tools		
Risk Assessment Tool for Estimating Your 10-Year Risk of Having a Heart Attack	Uses information from Framingham Heart Study to predict chance of heart attack in next 10 y	US Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute: http://hin.nhlbi.nih.gov/atpiii/calculator.asp?usertype=pub
	Designed for adults ≥20 y of age who do not have heart disease or diabetes	
Hearts 'n Parks	Online web site for heart-healthy activities at parks and recreation centers	US Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute: http://www.nhlbi.nih.gov/health/prof/heart/obesity/hrt_n_pk/index.htm
Aim for a Healthy Weight	Online web site to encourage healthy eating and physical activity	US Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute: http://www.nhlbi.nih.gov/health/public/heart/obesity/lose_wt/index.htm
Act-in-Time-to Heart Attack Signs	Online information about warning signs of heart attack for patients and health professionals	US Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute: http://www.nhlbi.nih.gov/actintime/index.htm
American Indian/Alaska Native CVH Training Manual	Culturally tailored cardiovascular health training manual for American Indians and Alaska Natives	US Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute: http://www.nhlbi.nih.gov
Latino CVH educational materials	Culturally tailored cardiovascular health materials for Latinos	US Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute: http://www.nhlbi.nih.gov/health/pubs/pub_slct.htm#latino
The BMI Calculator	Tool for patient, public and health professional to determine BMI	US Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute: http://www.nhlbisupport.com/bmi/
The Heart Truth	Information on women and heart disease	US Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute: http://www.nhlbi.nih.gov/health/hearttr
Your Guide to Lowering Your High Blood Pressure	Information on preventing and controlling high blood pressure	US Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute: http://www.nhlbi.nih.gov/hbp/index.html
CardioVision 2020	Web-based resources for community health initiative in Olmstead County, Minnesota	CardioVision 2020 Partnership http://www.cardiovision2020.org/

BMI indicates body mass index.

Identify CVD Prevention Indicators

To provide guidance for setting CVD intervention priorities in a particular community, data can be collected on the full spectrum of causes and consequences of CVD. As shown in the literature,[2,68–74] indicators can be developed for risk behaviors and biological risk factors, as well as their causes and CVD consequences (Table 2). Assessment options include the following: social and environmental conditions that are root causes of CVD; behavior patterns (eg, physical inactivity); biological risk factors (eg, obesity, diabetes, and elevated blood cholesterol concentration); first CVD events (eg, incidence of angina, myocardial infarction, congestive heart failure, stroke, and sudden death); recurrence of CVD events; CVD mortality; CVD complications; and quality of life with CVD.

In both assessment and evaluation, it is possible to focus on the occurrence of these indicators in the population and/or their disparities across social groups defined, for example, by

TABLE 2. Measures for CVD Assessment and Evaluation*

Indicator Category	Measures for Indicators†
Underlying social and environmental conditions	Poverty rate
	Income inequality
	High school and college graduation rates
	Social support
	Clean air laws for public buildings
	Point-of-purchase (nutrition) information provided (cafeterias)
	Miles of walking trails per capita
	Social norms regarding risk and protective factors
	Financial resources dedicated to CVD prevention
	Prevalence and quality of CVD programs that provide assistance
Risk behaviors and biological risk factors‡	
Determinants of behavior	
	Knowledge of behavioral risk factors for heart disease and stroke
	Knowledge of warning signs for heart attack and stroke
	Attitude about healthy behaviors
	Readiness to adopt healthy behavior
	Self-efficacy to perform healthy behaviors
	Perceived benefits after initial behavior change
Diet	Consumption of fruits and vegetables
	Consumption of salt/sodium
	Consumption of alcoholic beverages
	Intake of saturated fat
	Intake of dietary cholesterol
	Intake of total calories
Smoking	Prevalence of current smoking by age and sex
	Rate of smoking initiation among youth
Sedentary lifestyle	Comparison with recommended physical activity level.
Early detection of symptomatic disease	Rates of screening for major risk factors
Obesity	Prevalence of obesity (BMI >30 kg/m^2)
Hyperlipidemia	Prevalence of normal total cholesterol (<200 mg/dL)
Hypertension	Prevalence of LDL >100 mg/dL
Diabetes	Prevalence of high blood pressure ($>140/90$ mm Hg)
	Prevalence of type 2 diabetes
CVD outcomes	
First events or sudden death	Incidence and prevalence of CVD
	Incidence of sudden death and CVD mortality
	Cardiac and stroke deaths in emergency care
Disability or recurrence	Prevalence of CVD
	Hospital discharges for CVD
	Proportion of patients prescribed recommended medications
	Rate of selected medical procedures
	Incidence or 5-y risk of CVD event among CVD patients; direct and total costs for total CVD
CVD complications and survival	5-y Survival rate after first event
	CVD mortality rate among CVD patients
	Health-related quality of life among CVD patients
	Years of potential life lost attributed to CVD
	Quality-adjusted life years lost or saved

BMI indicates body mass index.

*Described in the following references: description of indicators for behavior, mortality, and prevalence for CVD surveillance measurable from existing data sets[69]; list of community-level and environmental indicators[73,74]; Institute of Medicine on behavioral and social risk factors[68;] AHA Heart Disease and Stroke Statistics—2004 Update[2]; National Cholesterol Education Program on cut points for total cholesterol and LDL[70]; review of measures based on theory such as knowledge and self-efficacy[71]; and review of health-related quality-of-life measures and quality-adjusted life years.[72]

†Depending on monitoring program, more sensitive and specific indicators can be constructed from these measures (eg, prevalence of no physical activity in leisure time among girls 12 to 18 years of age in participating schools).

‡Except for "determinants of behavior,"subcategories come from Pearson et al. [9]

race and ethnicity or income. Gathering as much of this data as possible from different sources at the local level and breaking it down by age, sex, race and ethnicity, income, and geographic location can provide powerful information for the next step of community-based planning.

Conduct a Needs and Capacity Assessment

Although the development of statistical data on CVD is important in the initiation of successful prevention programs in a community, community concerns and priorities are often equally critical. They can be assessed directly through community meetings and through more formalized mechanisms such as semistructured needs assessment surveys or group interviews.[75,76] As described here, assessment also involves determining the capacity of the community and organizations to address CVD prevention. This determination includes identifying and describing existing programs and policies affecting CVD[77] (see Table 1, PATCH, Community Programs/Policy Matrix and Community Resource Inventory) Instruments have been developed to assess the capacity to promote heart health,[78,79] although more work needs to be done in this area.

Assessments of CVD burden in populations at the county or city level or in smaller jurisdictions can be difficult, especially when resources or time is not available to conduct data gathering and analyses for small areas. Existing data at the local level are likely to be limited in extent and quality. Some interactive maps or atlases of disease showing county-specific data are available at the federal level, as is the case for heart disease and stroke mortality (Table 1). Many state health departments produce county-specific rates of CVD mortality; some may produce prevalence estimates based on hospital discharge data (http://www.cdc.gov/cvh/maps/index.htm). Data on behavioral risk factors (eg, smoking, physical inactivity, and inadequate fruit and vegetable consumption) are also available for metropolitan/micropolitan statistical areas (www.cdc.gov/brfss). Communities may also be able to check with their local universities to identify relevant assessments that may have been done in the past.

If the community cannot recruit the resources and team to perform an assessment, existing data at the next higher level (eg, county or state) should be examined. To assess whether these data are meaningful in a particular small community, demographics of the local population and the larger population can be compared. State and county data are often not representative of local communities. With demographic information, it is also possible to estimate the rates of CVD that would be expected if the community had the same rates for variables such as age, sex, and race and ethnicity as the state or the United States. Documenting the perceptions of knowledgeable people about whether data from the larger population are representative of the local community is also useful. As noted in the Action Plan, there is a need to improve the data available to communities.

Assessments are supported by evaluation data as they become available (Figure 1). Tools that are particularly useful for conducting a community cardiovascular health assessment, and where to find them, are listed in Table 1. They include the Community Tool Box, the Planned Approach to Community Health (PATCH), Mobilization For Action Through Partnerships and Planning (MAPP), and Improving Health in the Community: A Role for Performance Monitoring.

Community-Based Planning

Definition

Community-based planning is the process of empowering community partners to reach a consensus on the combination of interventions to be implemented. Possible interventions include those aimed at reducing high-sugar, carbonated beverages sold in schools; working with neighborhood grocery stores to provide fresh and reasonably priced fruits and vegetables; posting "point-of-decision" signs to encourage workers to take the stairs; or engaging in media advocacy for improving walking trails. It is difficult to identify the most effective population-based interventions for a particular community because so few controlled community trials with adequate controls are conducted under a variety of circumstances. Factors that can influence health promotion include the following: (1) the presence of other interventions; (2) quality of implementation; (3) strength of community support and involvement; (4) leadership and trust surrounding the initiative; (5) cultural competence and relevance of the intervention; (6) social cohesion; and (7) political, social, and economic supports.

Each of these factors can have a positive or negative effect on the success of an intervention (eg, walking trails) in a community.[80,81]

Although the consensus on a "standard of evidence" in community-based health promotion is weaker than that for interventions in clinical settings,[82] research demonstrating effectiveness in other populations is a useful starting point. It is also important to consider the community's interests, needs, and support, in addition to theoretical support, cultural competence, and the feasibility of intervention options.

Strategies

A reasonable approach to assist communities in this process of developing and implementing successful CVD prevention programs entails the following steps: (1) identify behaviors or biological risk factors for modification, (2) select objectives and relevant program strategies, (3) tailor the program to local needs and circumstances, and (4) develop and refine the program plan.

Identify Behaviors or Biological Risk Factors for Modification

An effective approach requires the selection of the behaviors (eg, tobacco use, physical inactivity, unhealthy diet, and lack of provider adherence to screening guidelines) and biological risk factors (eg, hyperlipidemia, hypertension, obesity, and diabetes) to be targeted. The behaviors and risk factors should be chosen in partnership with community members and should reflect the concerns and priorities documented in the CVD assessment as previously described here. With findings from the assessment, it may be possible to determine the community's greatest need. This approach allows a community to select important behavioral targets likely to have high impact on population health. It may be helpful to gauge the

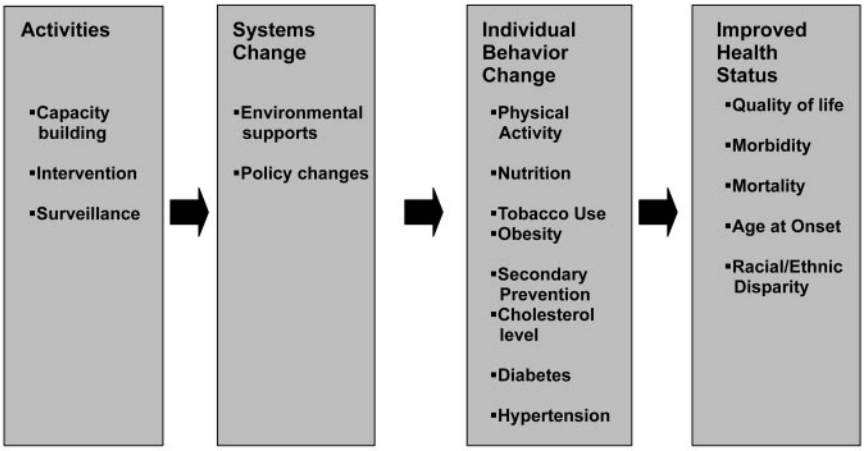

Figure 3. Overview of socioecological logic model for State Heart Disease and Stroke Prevention Program of the CDC.

importance of a behavior or risk factor (eg, smoking, physical inactivity, obesity) by estimating the proportion of an outcome (eg, the number of new cases of CVD) that is attributable to that behavior or risk factor.[83] In general, behaviors that are easier to modify and have a larger impact on CVD rates in a population are better and often simpler goals for health promotion.

Select Objectives and Relevant Program Strategies

The next step is to blend the wisdom of the local community with the literature on promising practices to select objectives for community change (eg, policies, environments, programs) and to program strategies to achieve them. Potential objectives for community change are listed in the AHA Guide under education, community organization and partnering, ensuring personal health services, environmental change, and policy change. Each recommendation targets 1 or more of the 5 community settings: community-wide settings, schools, worksites, faith communities, and healthcare organizations. Successful health promotion strategies usually require a multifaceted approach; rarely does a single change make a lasting difference in an entire community.[84] Thus, the partnership can identify different combinations of community change objectives to consider. For example, to prevent smoking initiation in youth, the following combination could be considered: curriculum changes in schools, increased taxes on tobacco, and improved enforcement of laws prohibiting the sale of tobacco to minors.

For each combination of community change objectives chosen, a program strategy to achieve those objectives needs to be considered. The Community Tool Box, PATCH, and MAPP (Table 1) are excellent guides to planning. Working through a logic model also is useful. Logic models are used to graphically show the organization, associations, and actions that underlie a program and are expected to precede changes in CVD rates. For example, the logic model for the State Heart Disease and Stroke Prevention Program (Figure 3) is based on a socioecological model that links environmental and policy system changes with personal behavioral changes.[68] The activities of capacity building, surveillance, and system changes are intended to support heart-healthy behavior, which leads to improved health status. Logic models are often cyclic rather than linear, in that 1 activity can modify another activity that precedes it in the logic model. For example, a policy to provide preventive follow-up services for persons with high blood pressure could lead to improved individual behavior change and could also influence surveillance and evaluation activities. Logic models not only serve to describe the program but also act as a tool to guide program evaluation. (See Table 1 for other logic models and guides for logic models, eg, Promising Practices in Chronic Disease Prevention and Control and Kellogg Logic Model Development Guide.)

The answers to 4 questions can help to guide decision-making about selection of appropriate objectives for community change to promote cardiovascular health and the strategies relevant to achieving these objectives:

1. Does pursuing this combination of objectives and strategies make sense to community partners?
2. Is there evidence to support these objectives and strategies?
3. Are the proposed strategies already being implemented?
4. Is it feasible to implement the strategies?

Does pursuing this combination of objectives and strategies make sense to community partners? Listening to the input of the community about the choice of objectives is critical to the planning process.[42,43,84] This input includes the community's perceptions about feasibility and likelihood of success, significant roadblocks, and community support for selected objectives and strategies.

Is there evidence to support these objectives and strategies? "Evidence" in health promotion and disease prevention requires asking 2 questions: Is there a theoretical basis for expecting that this combination of objectives and strategies is effective, and have these objectives and strategies, alone or in combination, been shown to be effective in other populations?

Listening to the accumulated knowledge of the research community about theories of community change that predict behavior change is very useful in a community-based decision-making process.[85] Efforts to combine multiple theories of behavior change into a single framework to assist communities in intervention design are only now emerging.[86] However, communities can still select 1 or more theories that

make the greatest sense to them. A simple integration of 2 theoretical perspectives is presented here.

First, Green and Kreuter[87] have summarized the determinants of individual behavior change common to multiple theories in 3 concepts: factors that predispose (educate and motivate), enable, or reinforce a desired behavior change. Thus, any combination of interventions should ensure that efforts to educate and motivate individuals are accompanied by efforts to reinforce and make behavior change easier for people. For example, a mass media campaign to promote physical activity through walking can be enabled by upgrading existing trails or constructing new convenient and attractive walking trails or through worksite health promotion policies that allow extended lunch periods for exercise. These efforts can be reinforced by starting walking clubs that provide social support and incentives, as well as reduced health insurance premiums, copays, or deductibles. It is also important to consider how factors that predispose, enable, and reinforce behavior may vary over the course of one's life[88] and one's readiness to change.[89]

The ecological approach is defined by a strategy that does not merely target the individual but also the individual's environment, understood as systems (eg, families) nested within larger systems (eg, communities). An ecological approach seeks a combination of interventions at the following levels: individuals, families and networks of relationships, organizations, community and environment, and public policy.[68,90] A comprehensive review of community-based health promotion strategies suggested that a potent multilevel combination may optimally involve (1) one-on-one interventions with high-risk individuals, (2) community-wide interventions to change social norms, and (3) policy-level changes.[84] In general, a systemic, comprehensive approach to prevention that addresses individual lifestyles and behaviors in a multifaceted approach using economic, social, environmental, cultural, and policy supports affords the greatest assurance of success.[68,91]

In addition to ensuring that there is a theoretical basis for the proposed objectives, it is important to learn whether similar intervention strategies have worked in other populations. The AHA Guide is helpful in that regard. Also, the US Task Force for Community Preventive Services reviewed many of the AHA Guide recommendations in its Guide to Community Preventive Services (Community Guide) (Table 1). The Community Guide summarizes what is known about the effectiveness, economic efficiency, and feasibility of selected interventions to promote community health and prevent disease. It contains recommendations for the use of various interventions based on the evidence gathered in the rigorous and systematic scientific reviews of published studies conducted by the review teams. The Community Guide also summarizes the strength of each of its recommendations for widespread implementation. Members of a community should pay special attention to the number of studies reviewed, the strength of the results, and how consistent the results were for different settings and populations. The Community Guide also identifies major barriers to implementation and gaps in research. Communities may also have to review some pertinent studies independently. As the authors of the Community Guide affirm, prevention effectiveness demonstrated in a few study populations should not be the sole criterion for selecting interventions. Many other factors also must be considered such as "available resources, community priorities, perceived value, and culture."[92]

Are the proposed strategies already being implemented? New initiatives should fill in the gaps in the current health promotion system. If 1 or more of the objectives or strategies are already being implemented, then strengthening or complementing the existing program might be considered.

Is it feasible to implement the strategies? The primary driver of feasibility is the availability of resources. Subjective impressions by partnership members about how much a program would cost may suffice in the planning stage. However, studies that publish the cost of interventions are becoming more commonplace. The Community Guide (Table 1) summarizes information related to the cost of some interventions. Other determinants of feasibility that should be considered by partnership members are the presence of organizational, legal, ethical, cultural, and political constraints.

Tailor the Program to Local Needs and Circumstances

A program previously implemented in a different population, even if described as effective in the literature, will likely need to be tailored to fit the local circumstances of a new population.[84] Excellent guides for this purpose are as follows: (1) the program adaptation guidelines for health education materials recommended within the Research-Tested Intervention Programs initiative at the National Cancer Institute, National Institutes of Health, and (2) Getting to Outcomes 2004 by the Rand Corporation (Table 1).

Develop and Refine the Program Plan

Health promotion program plans[87,93] should include strategies for evaluation (see the Widespread and Sustained Implementation section) and sustainability. The evaluation component should optimally be integrated into the initial planning steps. A key aspect of implementation is ensuring sustainability. Implementers should define the type and duration of sustainability needed.[94,95] Beyond continual grant writing, the process of institutionalization in which a program becomes an integral part of an established organization affords the greatest prospects of sustainability.[96,97]

Widespread and Sustained Implementation

Definition

Implementation is the process of carrying out a community plan in a widespread and sustained manner for sufficient time to produce change. It can take 2 forms: advocacy and programs. Implementation takes the form of advocacy when it involves an effort to change policy. Implementation takes the form of a program when it involves education, social marketing, delivering health care, altering the environment, or carrying out a changed policy. The tasks within advocacy can be organized like a traditional public health intervention[47] and effectively adopted as part of an expanded role for a community health coalition,[98] as long as the reality and

complexity of the policy-making process is considered.[99] Implementation optimally involves both advocacy and programs. An advocacy effort is usually implemented by a coalition of people, but a single organization or service-delivery network can also implement programs.

Implementation Strategies

Two strategies for implementation should be considered. First, the approach of continuous improvement through performance monitoring (see the Evaluation section) can improve effectiveness in the face of changing circumstances.[65,100] Without the ability to monitor, adapt, and change policy or program interventions, approaches proven effective in other populations may fail if they are implemented as fixed protocols in a world in which the circumstances are changing. Second, during implementation, it may be important to continually build community support for participation, especially among underserved or high-risk populations (see Community Mobilization above).

Additional resources to guide program implementation are briefly described and referenced in Table 1 (eg, Community Tool Box, and PATCH).

Evaluation

Definition

Evaluation is "a process of measuring components critical to the success of [a prevention program or initiative], including surveillance, program monitoring,"[101] as well as impact and outcome evaluation. An evaluation plan should be developed before the program is implemented. The evaluation of community-based health promotion initiatives is not limited to the logic of clinical or community trials. Instead, meaningful evaluation expands to answer a broad spectrum of questions from stakeholders. Funding agencies, policy makers, program staff, and community stakeholders often have 2 key questions. First, what impact has the program had on behavior, health status, or health-related quality of life in the population? Second, how can the performance of the program be improved as it unfolds? Answering the first question on health impact enhances understanding of what works and justifies continuing support for the program. Answering the second question through ongoing feedback on performance and relevant circumstances can help program stakeholders adapt and fine-tune an intervention shown to work elsewhere, so that it is effective in their community. This type of evaluation (process evaluation or performance monitoring) is critical to translate evidence-based recommendations into practice.

The emphasis stakeholders place on different evaluation questions may depend partly on whether the program is in the initial evaluation phase or is being disseminated and sustained in communities after the early evaluation has indicated effectiveness.

Evaluation Strategies

Practical and flexible guidelines for evaluating public health programs have been developed through national consensus.[67] The recommended process of engaging stakeholders, describing the program, focusing the evaluation, gathering credible evidence, and justifying conclusions is based on 7 concepts that are particularly useful for evaluation in the complex world of community health promotion.

1. Make sure the evaluation is useful to all who have a stake in the program, including funders, policy makers, program staff, clients, and community members. Thus, stakeholders are engaged to reach consensus about what the evaluation will accomplish given limited resources, to participate in the evaluation, and to interpret its findings.
2. Develop a meaningful evaluation based on a clear understanding of how the program will achieve its goals step by step. As discussed previously, developing a logic model from the beginning of program planning can be very useful.
3. Focus on asking and answering evaluation questions to meet the needs of identified users for specific uses. For example, a funding organization may want to know how many lives were saved by the program to determine whether to continue funding it. A grassroots community leader may also want to know whether the program fostered increased dependence on outside experts and support or whether it built the internal capacity of the community.
4. Engage diverse stakeholders in interpreting evaluation findings in light of their values and standards.
5. Use performance monitoring in organizational[100] and community-wide settings[65] when implementing and adapting interventions already shown to be effective in other populations. A small strategic selection of quantitative indicators can be used to monitor the following: structure (eg, whether staff have been trained and funds transferred), process (eg, number of patients in underserved communities participating and number and quality of contacts with legislators), and outcome (eg, percentage of schools or workplaces that offer healthy foods and beverages in vending machines).[65,102]

   Table 2 provides examples of indicators of short- and long-term outcomes of cardiovascular health promotion.

   In performance monitoring, the purpose of outcome indicators is to inform the program staff whether the anticipated changes are actually occurring. As noted by Durch and associates,[65] a number of characteristics describe indicators that are useful; these include validity, reliability, sensitivity, and robustness.
6. Use qualitative methods and quantitative indicators to identify and address barriers, problems, and opportunities to improve.[103] For example, "dialog boxes" can be used to confidentially report the messages of stakeholders (eg, program clients) to other stakeholders (eg, program staff).[104]
7. Evaluate short- and long-term program outcomes to justify program change or sustainability and to identify effective programs. The traditional and costly approach of comparing intervention communities with control communities over time[105] may be important for some programs such as programs in their original evaluation phase and those implemented in relatively controlled settings (schools, worksites, and clinics or interactions

between community health worker and patients). Instead of determining which programs work, controlling for differences between communities, a recent evaluation perspective can be used in efforts to identify "what works for whom under what circumstances."[16,80,81] The Action Plan, for example, calls for research on the effectiveness of prevention to determine "what combination of effective interventions (eg, policy, environment, individual) at what doses, in what settings (eg, family, school, worksite, healthcare, community), at what life stages, and among which priority populations are most effective. . . ."[8] From a community perspective, especially when evidence-based interventions are being disseminated to other communities, it might be sufficient merely to monitor changes in outcome indicators and to interview well-selected informants to interpret the causes of those changes.[106]

Evaluation is often perceived as a burden by organizations and community partnerships. Sufficient staff time and expertise must be allocated, but evaluations can be made more easily and more efficiently by using existing data sources or collecting data by means requiring the least time and resources. Unobtrusive environmental measures like miles of walking trail per capita or the percentage of restaurants that prohibit smoking may be appropriate indicators.[73,74]

Conclusions

Substantial advances in the secondary prevention of adverse CVD outcomes have been made by bridging the gap between guidelines and practice through programs and tools such as Get With the Guidelines, an AHA quality improvement process that helps to ensure that patients hospitalized for acute coronary syndrome are effectively treated and discharged with life-saving medications and the benefits of preventive services such as smoking cessation counseling. This program has enabled hospitals to easily integrate individual preventive efforts into a comprehensive hospital discharge system to maximize benefits.[107] In communities, schools, faith-based organizations, worksites, and healthcare organizations, research on preventing and controlling CVD risk factors (primordial and primary prevention) has led to the recommendations in the AHA Guide. Similarly, translating these recommendations into community-based practice requires a workable framework for implementation. Such a framework begins and ends with mobilizing the community through organizations, partnerships, leadership, trust, and a shared understanding of community participation and control. Organizations and partnerships need to assess the cardiovascular health of their community, to identify and plan for a combination of interventions, and to implement them in a far-reaching and sustained manner. Evaluation that begins with a clear picture of how the interventions are thought to produce change can help to nurture assessment, planning, and implementation into success and lessons learned.

To assess the needs for CVD interventions in a particular community, the recommendation is to blend the insights of community members with available data on CVD risk factors in the community, their underlying causes, and their consequences (eg, heart attacks, stroke, mortality, and impaired quality of life). Identifying both the burden of CVD in the community and its own interest in cardiovascular health is useful in the planning step. Selecting and developing plans for the right mix of prevention strategies in a community setting is a unique challenge. Unlike research on therapeutic interventions, research on the effectiveness of community-based prevention strategies is difficult to generalize to other communities. Effectiveness is likely to vary by the quality and duration of an intervention and numerous community circumstances.

Evidence of effectiveness in other populations is an ideal starting point for selecting the appropriate mix of CVD interventions for a particular community. Partners must also consider the needs of the community, whether the interventions make sense to community members and are theoretically sound, and whether the strategy is feasible and sustainable. Implementation of CVD interventions such as messages through mass media and efforts for policy change must be accomplished with an eye toward quality, reach, and sustainability.

Even if the selected interventions have been shown to be effective in another population under different circumstances, evaluation is still crucial. Ongoing feedback on the performance of the interventions is particularly useful to allow continuous learning and adaptation and fine-tuning of the program to different and changing circumstances. The effectiveness of some interventions may depend as much on the leadership and resources that support them as on their intrinsic design. Thus, in the framework presented here, an effort to mobilize the capacity of the organization and community around assessment, planning, implementation, and evaluation is central to success. Community mobilization also involves developing and maintaining trust among the partners, as well as a practice of community participation and control that is supported by all the stakeholders.

Recommendations to improve cardiovascular health at the community level, such as those offered in the AHA Guide, are most effectively incorporated into a process that respects community rights, wisdom, and complexity, combined with the knowledge gained from scientific research—a process that learns from and adapts to changing circumstances. Optimally, initiatives to promote heart health and to prevent stroke should be integrated as much as possible into diverse community settings (eg, schools, communities, healthcare facilities, and worksites) with the support of policy, public health practice, and infrastructure. A comprehensive approach that addresses the environmental, social, and cultural aspects of health, as well as individual lifestyles and behaviors, offers the greatest prospect for success. The cardiovascular health of whole populations may depend on it.

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*Modest.

†Significant.

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