

GIH

HEALTHY BEHAVIORS:

*Addressing Chronic
Disease at Its Roots*

ISSUE BRIEF NO. 19

FEBRUARY 2004

BASED ON A

GRANTMAKERS

IN HEALTH

ISSUE DIALOGUE

WASHINGTON, DC

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Foreword

On November 5, 2003, Grantmakers In Health (GIH) convened an Issue Dialogue to explore what grantmakers can do to help people adopt and sustain healthy behaviors that can reduce the risks of chronic disease. Using the lens of tobacco prevention and cessation, physical activity, and healthy eating, the meeting explored the challenges associated with changing behavior and sustaining those changes over time. It called attention to the importance of designing comprehensive and sustained interventions that support long-term behavior change and highlighted exemplary grantmaking strategies aimed at promoting healthy behaviors among children, youth, and adults.

This Issue Brief incorporates the information and ideas shared at the meeting with a background paper that was prepared for participants at the Issue Dialogue. It begins by defining chronic disease and laying out the burden of chronic disease in the United States. Subsequent sections:

- explore the contribution of specific behaviors to the development of chronic diseases;
- provide a framework for designing effective interventions;
- review lessons from research on tobacco control;
- describe current efforts to promote healthy behaviors and prevent chronic disease; and
- identify strategies that health grantmakers can use to help people make the journey from knowledge to action to long-term

behavior change — whether the ultimate goal is to reduce risks for cardiovascular disease, prevent cancer, avert the disability and illness associated with overweight and obesity, or achieve other health and wellness goals.

This Issue Brief does not discuss media approaches and social marketing techniques that can be used to educate people about behaviors that place their health at risk and motivate them to change their behavior. That topic will be covered in an Issue Dialogue to be held in spring 2004; an associated Issue Brief will be published in fall 2004.

GIH acknowledges all those who participated in the Issue Dialogue, with special thanks to the presenters: Larry Cohen, M.S.W., Prevention Institute; Susan Curry, Ph.D., University of Illinois at Chicago; Judy Ford, M.P.H., M.H.S., American Legacy Foundation; Cheryl Harris, House Of Ruth Maryland; Jane Schadle, R.N.C., M.S.H.A., The Wellmark Foundation; John Frank, M.B.A., Kate B. Reynolds Charitable Trust; and Maggie Sauer, M.S., M.H.A., Duke University.

Lauren LeRoy, Ph.D., president and CEO of GIH, moderated the session. Donna Langill, program associate at GIH, planned the program, wrote the background paper, and edited the Issue Brief. Lise Rybowski of The Severyn Group, Inc., synthesized the material presented at the Issue Dialogue with the background paper prepared for the meeting. Other contributors to the

final report include Anne Schwartz, Ph.D., and Angela Saunders, GIH's vice president and communications manager, respectively.

Support for the Issue Dialogue and this Issue Brief was provided by the American Legacy Foundation and the Maternal and Child Health Bureau, Health Resources and Services Administration.

About GIH

Grantmakers In Health (GIH) is a nonprofit, educational organization dedicated to helping foundations and corporate giving programs improve the nation's health. Its mission is to foster communication and collaboration among grantmakers and others and to help strengthen the grantmaking community's knowledge, skills, and effectiveness. GIH is known today as the professional home for health grantmakers and a resource for grantmakers and others seeking expertise and information on the field of health philanthropy.

GIH generates and disseminates information about health issues and grantmaking strategies that work in health by offering issue-focused forums, workshops, and large annual meetings; publications; continuing education and training; technical assistance; consultation on programmatic and operational issues; and by conducting studies of health philanthropy. Additionally, the organization brokers professional relationships and connects health grantmakers with each other, as well as with others whose work has important implications for health. It also develops targeted programs and activities and provides customized services on request to individual funders. Core programs include:

- **Resource Center on Health Philanthropy.** The Resource Center monitors the activities of health grantmakers and synthesizes lessons learned from their work. At its heart are staff with backgrounds in philanthropy and health whose expertise can help grantmakers get the information they need and an electronic database that assists them in this effort.
- **The Support Center for Health Foundations.** Established in 1997 to respond to the needs of the growing number of foundations formed from conversions of nonprofit hospitals and health plans, the Support Center now provides hands-on training, strategic guidance, and customized programs on foundation operations to organizations at any stage of development.
- **Building Bridges with Policymakers.** GIH helps grantmakers understand the importance of policy to their work and the roles they can play in informing and shaping public policy. It also works to enhance policymakers' understanding of health philanthropy and identifies opportunities for collaboration between philanthropy and government.

GIH is a 501(c)(3) organization, receiving core and program support from more than 200 foundations and corporate giving programs each year.

Diversity Statement

GIH is committed to promoting diversity and cultural competency in its programming, personnel and employment practices, and governance. It views diversity as a fundamental element of social justice and integral to its mission of helping grantmakers improve the nation's health. Diverse voices and viewpoints deepen our understanding of differences in health outcomes and health care delivery, and strengthen our ability to fashion

just solutions. GIH uses the term, diversity, broadly to encompass differences in the attributes of both individuals (such as race, ethnicity, age, gender, sexual orientation, physical ability, religion, and socioeconomic status) and organizations (foundations and giving programs of differing sizes, missions, geographic locations, and approaches to grantmaking).

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Introduction

Chronic diseases such as heart disease, cancer, lung disease, stroke, and diabetes are among the most serious threats to the nation's health. More than 90 million Americans live with these or other chronic diseases. Each year, more than 1.7 million people die from them (CDC 2003e).

Unlike many acute illnesses, chronic conditions are generally not caused by infectious agents. Instead, the development of chronic diseases is largely the result of behavioral factors. While genetics and exposure to environmental toxins can also influence the development of chronic disease, behavior is the primary contributor to chronic disease for most people.

The federal government's *Healthy People 2010* goals recognize that the adoption of healthier behaviors is critical if the nation is to sustain its progress toward better health for all. Five of the 10 leading health indicators selected to measure the success of this nationwide health promotion and disease prevention agenda are related to behavior: physical activity, overweight and obesity, tobacco use, substance abuse, and responsible sexual behavior. As a result, many of the *Healthy People 2010* objectives are aimed at promoting healthy behaviors among children, youth, and adults, and supporting the behavior changes needed to improve the health of individuals already at risk for chronic disease.

Promoting healthy behaviors around well-known risks like tobacco use, physical inactivity, and poor nutrition requires

helping people develop the skills and motivation to translate knowledge into action. It also requires providing the ongoing support people need to sustain what are often difficult changes in lifestyle.

Definition and Prevalence of Chronic Disease

The term "chronic disease" is used to refer to a range of illnesses that share a number of common characteristics. Generally speaking, a condition is considered a chronic disease if it persists over an extended period of time, is not easily or quickly resolved, and cannot be cured by medication (although symptoms can often be controlled or ameliorated with medication). Chronic diseases frequently worsen over time, causing disability or impairment, and typically require ongoing medical supervision and care (CDC 2002; University of Maryland 2003).

Chronic diseases are the nation's leading cause of death, illness, and disability, with over 70 percent of deaths in the U.S. attributable to chronic diseases. Five chronic diseases — heart disease, cancer, stroke, chronic obstructive pulmonary disease, and diabetes — account for more than two-thirds of all deaths (CDC 2002).¹ Twenty-five million people in the U.S., or 1 in 10, experience major limitations in their daily activities due to a chronic condition (CDC 2003e).

Although the rates of some chronic diseases are declining, others are increasing. Of particular concern is a dramatic increase in diabetes. Among adults, diagnosed diabetes has increased by 61 percent since 1991 and

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"The top three actual causes of death in the United States are behaviorally related. . . . All told, modifiable lifestyle factors account for about half of premature deaths in the United States."

SUSAN CURRY,
 UNIVERSITY OF ILLINOIS
 AT CHICAGO

.....

¹ Chronic obstructive pulmonary disease is an umbrella term for airflow obstruction associated with emphysema, chronic bronchitis, asthma, and chronic airway obstruction (American Lung Association 2001; CDC 2002).

.....
*“Each hour, as many as 85
 Americans die prematurely
 from tobacco use, inactivity,
 and poor nutrition.”*

SUSAN CURRY,
 UNIVERSITY OF ILLINOIS
 AT CHICAGO

is expected to more than double by 2050. Type 2 diabetes — previously considered a disease of adulthood — is increasingly being diagnosed in children and adolescents. Type 2 diabetes is linked in both children and adults to increases in obesity and physical inactivity (CDC 2003a).

Many chronic diseases affect members of racial and ethnic minority populations at rates that exceed those for whites. For example, African Americans are more likely to die from heart disease, stroke, and cancer than are whites. Deaths from diabetes are also significantly higher for African-American, American Indian/Alaska Native, and Hispanic populations than for whites (HHS 2000a).

Many risk factors for chronic disease are also more common among members of racial and ethnic minority groups. For example, almost 30 percent of African-American adults and about one-quarter of Hispanic adults are obese, compared to 18 percent of white adults (HHS 2000a). African Americans are also more likely to have high blood pressure. American Indians/Alaska Natives, Asian Americans, and Mexican Americans are less likely to be screened for high cholesterol.

The Contribution of Behavior to Chronic Disease

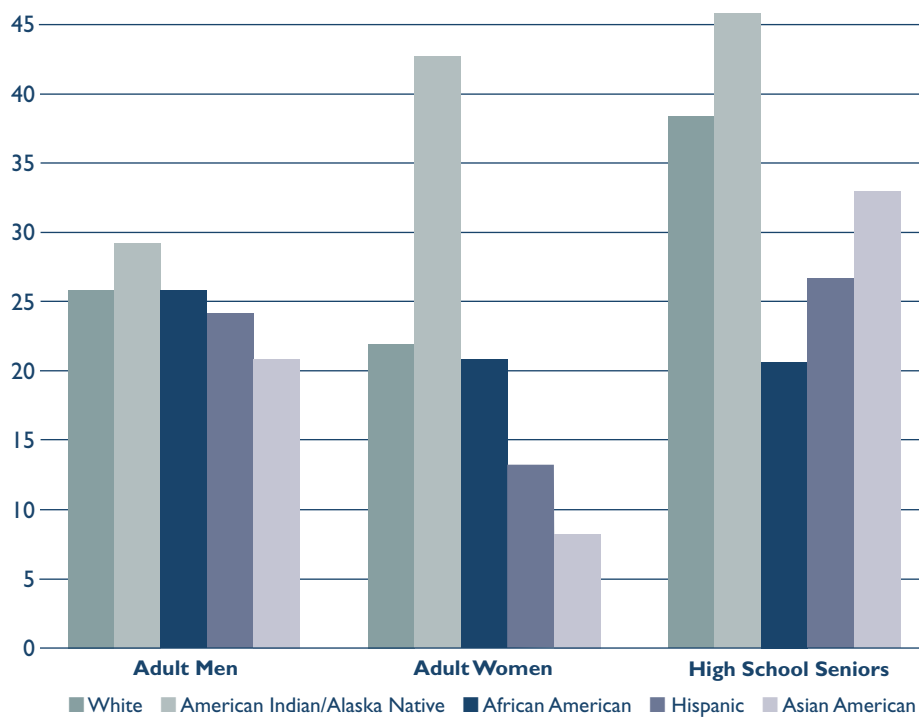
The development and progression of many chronic diseases are linked to unhealthy behaviors, particularly cigarette smoking and use of other tobacco products, poor diet, and lack of regular exercise. Together,

these three behaviors are the most important contributors to preventable disease and premature death in the U.S.

Environment and genes also play a role in chronic disease. Exposure to environmental toxins and pollutants has been linked to the development of chronic diseases such as asthma and cancer, while genetic factors may predispose some individuals to particular types of chronic disease (Physicians for Social Responsibility 2002; HHS 2000a). Genetic risk factors have been identified for high blood pressure, high cholesterol, type 1 and type 2 diabetes, and some cancers, as well as for obesity and overweight (Association of State and Territorial Health Officials 2002). Even where genes play a role, however, the interaction of genetics and behavior is key: behavior influences the development and progression of chronic disease, even in genetically susceptible individuals.

Tobacco

Cigarette smoking causes more preventable disease and death in the U.S. than any other single factor and is a major risk factor for heart disease, stroke, lung and other cancers, and chronic lung disease (HHS 2000a). Despite these well-known risks, almost 23 percent of adults in the U.S. are smokers. More men than women smoke: 25 percent of men smoke, compared to 20 percent of women (American Legacy Foundation 2003b, 2003f; CDC 2003b). Smoking also varies across racial and ethnic groups (Figure 1). Finally, tobacco use is strongly associated with socioeconomic status, with nearly 32 percent of low-income adults smoking (American Legacy Foundation 2003d).

Figure 1. Variations in Smoking Across Gender and Age Groups by Racial and Ethnic Groups (percentage)

Sources: American Legacy Foundation, "Men and Tobacco Use," <http://www.americanlegacy.org/americanlegacy/skins/alf/display.aspx?moduleid=8cde2e88-3052-448c-893d-d0b4b14b31c4&mode=User&action=display_pages&ObjectID=9c49d0ad-9d46-496c-9164-f96095ee7aea>, accessed on September 29, 2003; American Legacy Foundation, "Tobacco and the American Indian and Alaskan Native Community," <http://www.americanlegacy.org/americanlegacy/skins/alf/display.aspx?moduleid=8cde2e88-3052-448c-893d-d0b4b14b31c4&mode=User&action=display_pages&ObjectID=9c49d0ad-9d46-496c-9164-f96095ee7aea>, accessed on September 29, 2003; and American Legacy Foundation, "Women and Smoking," <http://www.americanlegacy.org/americanlegacy/skins/alf/display.aspx?moduleid=8cde2e88-3052-448c-893d-d0b4b14b31c4&mode=User&action=display_pages&ObjectID=9c49d0ad-9d46-496c-9164-f96095ee7aea>, accessed on September 29, 2003.

Among teens and young adults, rates of smoking are higher than in the general population. Twenty-eight percent of high school students report smoking in the past month, as do eleven percent of middle school students (American Legacy Foundation 2003g). Twenty-eight percent of college students smoke; among young adults who do not attend college, the rate is 33 percent (American Legacy Foundation 2003a).

Smokers are not the only tobacco users at increased risk of developing chronic disease. Smokeless tobacco, which contains 28 known carcinogens, is used by an estimated 7.6 million Americans age 12

and older (3.4 percent of this population). Use of this product is more common among young adults ages 18 to 25 and among men, who are more than 10 times as likely as women to report using smokeless tobacco (National Cancer Institute 2003). In addition, a high number of individuals are endangered by secondhand smoke. Forty-three percent of children and 37 percent of nonsmoking adults are exposed to secondhand smoke at home or in the workplace.

Influence of Tobacco Use on Chronic Disease

Cigarette smoking causes 440,000 premature deaths annually from chronic

disease (American Cancer Society 2003). There is convincing evidence that smoking increases the risk of many types of cancer. Smoking’s link with lung cancer is especially well documented, with a dose-response relationship to the number of cigarettes smoked, the deepness of inhalation, and the duration of smoking. Depending on a smoker’s habits and history, smoking increases the risk of lung cancer at least 10-fold and as much as 20-fold. More than 80 percent of the country’s 169,400 new cases of lung cancer are attributable to smoking (Curry et al. 2003).

Smoking is also linked to other chronic diseases. Smoking is a causal factor for cancer of the larynx, esophagus, pharynx, mouth, and bladder (Figure 2). It contributes to the development of cancer of the pancreas, kidney, and cervix; is associated with developing aggressive and more deadly forms of prostate cancer; and is a risk factor

for heart disease, stroke, and chronic obstructive pulmonary disease (HHS 2000a; Curry et al. 2003).

Prevention of tobacco use is the best way to avoid tobacco-related diseases, but cessation also reduces the risk of disease. Smokers who quit live longer than those who continue to smoke, due to a reduction in the risk of nearly all smoking-related diseases. For lung cancer, the risk of developing the disease starts dropping two to three years after quitting and continues dropping over the next 10 years. Patterns for many other types of cancer are similar. Smokers who quit experience significant drops in risk, with the benefit increasing with the duration of cessation (Curry et al. 2003).

Smokers who quit before middle age benefit the most from quitting. Former smokers who quit by age 35 can avoid 90 percent of the excess risk of premature

Figure 2. Increase in Cancer Risk Associated with Smoking

Level of Evidence	Moderate Increase in Relative Risk	Large Increase in Relative Risk
Convincing	Colon Stomach Leukemia Cervical	Lung Oral Pharyngeal Laryngeal Esophageal Bladder Kidney Pancreatic
Probable	Prostate (mortality) ^a	Liver

^a Smoking is associated with the development of aggressive and more deadly forms of prostate cancer.

Source: Curry, Susan J., Tim Byers, and Maria Hewitt (eds.), *Fulfilling the Potential of Cancer Prevention and Early Detection* (Washington, DC: National Academy Press, 2003).

death (American Cancer Society 2003). But even older smokers who quit can substantially reduce their risk of premature death.

Smokeless Tobacco

Use of smokeless tobacco also carries significant risk. Smokeless tobacco, also called spit tobacco, comes in two forms: chewing tobacco and snuff. Chewing tobacco, which is available in loose leaf, plug, or twist forms, may be chewed or placed inside the cheek. Snuff, which is finely ground or shredded tobacco that may be dry or moist, is typically used by placing a pinch between the cheek and gum (National Cancer Institute 2003).

Chewing tobacco and snuff contain 28 carcinogens. Smokeless tobacco users have an increased risk of developing lesions and cancers of the oral cavity (National Cancer Institute 2003). The risk of cancer of the cheek and gums may increase nearly 50-fold among long-term snuff users (American Cancer Society 2004; National Cancer Institute 2003).

Secondhand smoke

Secondhand smoke, also referred to as environmental tobacco smoke, presents a health risk to nonsmokers who are exposed to it. Secondhand smoke consists of mainstream smoke, the smoke that is exhaled by smokers, and sidestream smoke, the smoke that goes directly into the air from the end of a burning cigarette, cigar, or pipe. Chemically similar to the smoke inhaled by smokers, the presence of formaldehyde, arsenic, and other noxious chemicals in secondhand smoke led the U.S. Environmental Protection Agency (EPA) to classify secondhand smoke as a

substance proven to cause cancer in humans (EPA 1994). Secondhand smoke is responsible for approximately 3,000 lung cancer deaths and 30,000 to 60,000 deaths from cardiovascular disease in nonsmokers annually (American Legacy Foundation 2003i). Of the lung cancer deaths, approximately 27 percent are due to exposure at home and 73 percent are due to exposure in work or social situations (EPA 1994).

Secondhand smoke is especially dangerous for children, who have higher respiratory rates than adults and lungs that are still developing. Exposure is a risk factor for the development of asthma in children and also increases the frequency and severity of attacks for those who already have asthma. In addition, secondhand smoke is responsible for 150,000 to 300,000 cases of bronchitis and pneumonia in children under 18 months, leading to thousands of preventable hospitalizations annually.

Diet and Physical Activity

A healthy diet and an active lifestyle can lower the risk for many chronic diseases. Proper nutrition can help prevent heart disease, stroke, some types of cancer, diabetes, and osteoporosis (CDC 2003b). Diet also influences many of the risks for chronic disease, including hypertension, high cholesterol, and obesity (Center for the Advancement of Health 2000). An active lifestyle that includes regular exercise can help prevent chronic disease by, among other benefits, improving cardiovascular functioning and helping people maintain a healthy weight.

Although American diets have improved over the past few decades, there is a persistent gap between what people

consume and recommended dietary patterns. The U.S. Department of Agriculture (USDA) regularly assesses American diets using its Healthy Eating Index, which assigns scores of 0 to 10 to 10 components of a healthy diet, for a possible combined score of 100 (Center for Nutrition Policy and Promotion 2002a).²

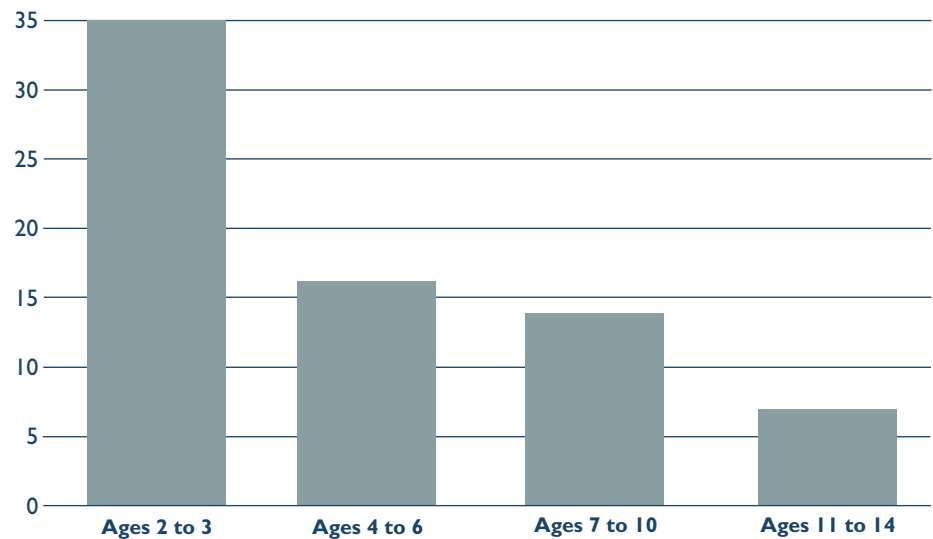
Diets that score:

- higher than 80 points are considered good;
- between 51 and 80 points are considered to be in need of improvement; and
- 50 points or lower are considered poor in quality.

The USDA's assessment found that the diets of most people (74 percent) were rated as needing improvement, and 16

percent were rated as poor. Only 17 percent of people consumed the recommended numbers of servings of fruit each day, and only 30 percent met the recommendations for consumption of dairy products (Center for Nutrition Policy and Promotion 2002b). Among seniors, diet quality declines slightly with age, with 18 percent of seniors older than 85 consuming a poor diet (Center for Nutrition Policy and Promotion 1999). Diet quality among children and youth is highest for very young children, with 35 percent of children ages 2 to 3 having a good diet (Center for Nutrition Policy and Promotion 1998a). Diet quality declines steadily as children age (Figure 3).

Figure 3. Children with Diets Rated as “Good” by Age Group (percentage)



Source: Center for Nutrition Policy and Promotion, “Report Card on the Diet Quality of Children,” *Nutrition Insights* 9, October 1998.

² The U.S. Department of Agriculture’s assessment looks at 10 components of a healthy diet: components 1-5 measure the degree to which a person’s diet meets the federal government’s serving recommendations for the five major food groups (grains, vegetables, fruits, milk and other dairy products, and meat); components 6 and 7 measure total fat and saturated fat consumption as a percentage of calorie intake; component 8 measures total cholesterol intake; component 9 measures total sodium intake; and component 10 measures variety in a person’s diet (Center for Nutrition Policy and Promotion 2002a).

Similarly, although there have been recent improvements in physical activity levels, too many people fail to get enough exercise. Less than half of adults engage in the recommended amount of physical activity (30 minutes a day of moderate activity most days of the week). Among children ages 9 to 13, 62 percent do not engage in any organized physical activity during nonschool hours, and over one-fifth do not engage in any free-time physical activity at all (CDC 2003g, 2003h).

There are differences in risks related to diet and physical activity among racial and ethnic groups. Rates of physical activity are lower among African Americans and Hispanics, for example (HHS 2000a). Diet quality is lowest among African Americans, with 28 percent eating a diet rated as poor, compared to 16 percent of whites and 14 percent of people from other racial and ethnic groups. Compared to other groups, consumption of many foods important to health, such as fruits and vegetables, is lower among African Americans, while consumption of fats, saturated fats, and cholesterol is higher (Center for Nutrition Policy and Promotion 1998b).

Influence of Diet and Physical Activity on Chronic Disease

An unhealthy diet and a sedentary lifestyle increase the risk for chronic disease. A poor diet is associated with four of the 10 leading causes of death in the U.S.:

coronary heart disease, some types of cancer, stroke, and type 2 diabetes. Diet is also associated with the development of osteoporosis, the major underlying cause of bone fractures in older people (HHS 2000a). People who are physically inactive are almost twice as likely to develop heart disease as active people, making inactivity as important a risk factor for heart disease as smoking, high blood pressure, or high cholesterol. Inactivity is also linked to the development of diabetes and colon cancer (HHS 1996).

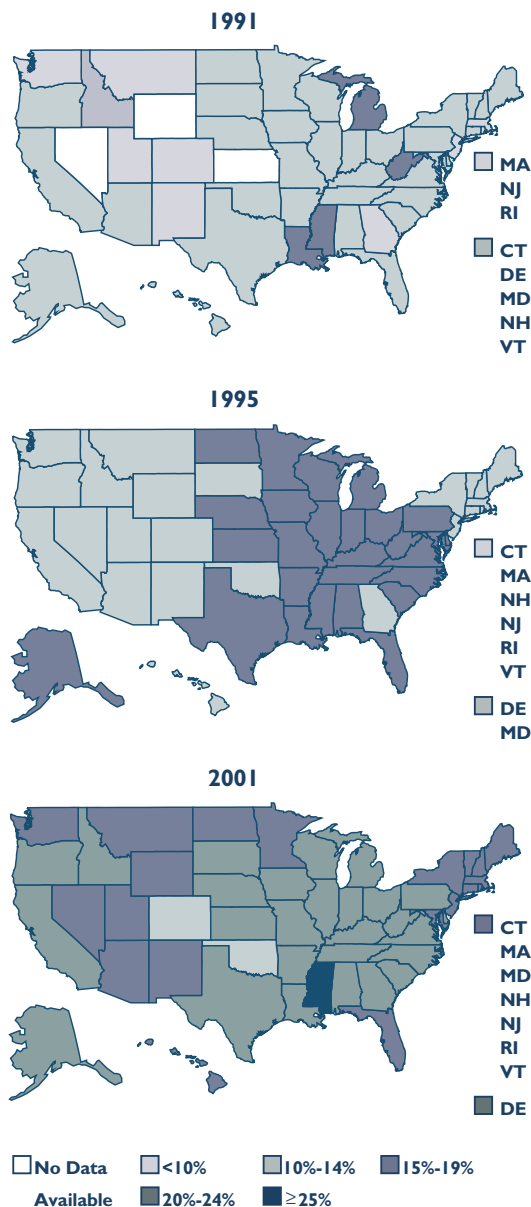
Diet and physical activity patterns are driving the country's current epidemic of overweight and obesity. Since 1987, overweight and obesity have increased dramatically in the U.S. (Figure 4). Currently, 65 percent of adults and 15 percent of children are overweight (CDC 2003b).³ People who are overweight or obese have an increased risk of developing heart disease, high blood pressure, diabetes, arthritis-related disabilities, and some cancers (CDC 2003b).

Taken together, Americans' diet and activity patterns account for an estimated 300,000 deaths annually. This toll is second only to tobacco use and is higher than deaths due to infectious agents, toxins and pollutants, firearms, sexual behavior, motor vehicles, and drug use combined (McGinnis and Foege 1993).

³ Overweight and obesity are most commonly measured using body mass index (BMI). BMI expresses the relationship of a person's height to his or her weight. To calculate BMI, a person's body weight in kilograms is divided by the square of his or her height in meters. Individuals with a BMI of 25 to 29.9 are considered overweight, while individuals with a BMI of 30 or more are considered obese. A child is considered to be overweight if his or her BMI is at or above the 95th percentile of the sex-specific BMI growth charts developed by the Centers for Disease Control and Prevention's National Center for Health Statistics.

THE OBESITY EPIDEMIC

Figure 4. Residents with body mass index greater than or equal to 30 (percentage)



Source: Centers for Disease Control and Prevention, *Physical Activity and Good Nutrition: Essential Elements to Prevent Chronic Diseases and Obesity* (Atlanta, GA: U.S. Department of Health and Human Services, 2003).

Overweight and obesity, important risk factors for chronic disease, have increased dramatically over the past several decades. Between 1991 and 2001, the number of states reporting that at least 20 percent of adult residents were obese went from zero to 29. In an additional 20 states, over 15 percent of the adult population was obese in 2001 (CDC 2003c).

Currently, an estimated 44.3 million adults in the U.S. are obese, an increase of 74 percent since 1991 (Mokdad et al. 2003). Overweight and obesity are also increasing among children. About 15 percent of children and adolescents ages 6-19, or almost 9 million, are overweight, a three-fold increase since 1980 (CDC 2003f). Another 15 percent are considered to be at risk of becoming overweight. Among younger children ages 2-5, over 10 percent are overweight, up from 7 percent in 1994 (CDC 2003d).

Obesity is more common among members of racial and ethnic minority groups. Almost 30 percent of African-American adults and about one-quarter of Hispanic adults are obese, compared to 18 percent of white adults. Obesity is also more common among American Indian and Pacific Islander women than among white women (HHS 2000a).

Adults who are overweight or obese are at increased risk for heart disease, high blood pressure, diabetes, arthritis-related disabilities, and some cancers. Children who are overweight or obese are increasingly experiencing health problems previously associated only with adults, such as type 2 diabetes and heart conditions (CDC 2003c).

Regular physical activity and healthy eating are essential to reducing this epidemic of obesity. Grantmakers can play an important role in creating environments that support these behaviors.

For more information on grantmaking strategies for addressing obesity, see GIH's Issue Brief No. 111, *Weighing In on Obesity: America's Growing Health Epidemic* (available on GIH's Web site at www.gih.org).

Designing Effective Interventions

Although risky behaviors are often perceived as being solely a matter of personal choice, behavior is shaped by multiple forces operating at different levels (IOM 2001). Behavior that presents a risk to health is influenced not only by individual choices, but also by human biology; environment; social norms; culture; and access to social support, information, and health care services (IOM 2001). As a result, interventions that involve only the individual (for example, approaches that rely solely on personal self-control or willpower) are unlikely to change long-term behavior unless other factors in a person's environment, such as family relationships, work situations, and social norms, happen to be aligned to support a change.

As Larry Cohen of the Prevention Institute pointed out at the Issue Dialogue, the opportunities lie in a systems-oriented approach that addresses both individual and environmental factors. Quoting George W. Albee, Mr. Cohen noted that, "No epidemic has ever been resolved by paying attention to the affected individual." A combination of approaches that address individual, family, community, and societal factors has the greatest likelihood of being effective in helping people to change their behavior and to sustain behavior changes over time (IOM 2001). Unlike public sector funders, who are often hobbled by categorical funding requirements or restricted to funding only certain types of grantees, foundations and corporate giving programs have the flexibility to adopt comprehensive approaches that

address the root causes of unhealthy behaviors and chronic disease, while simultaneously supporting programs that meet the needs of those already at risk for chronic disease.

A framework developed by the Prevention Institute, the *Spectrum of Prevention*, can help grantmakers think strategically about initiatives aimed at promoting healthy behaviors and preventing chronic disease. The *Spectrum of Prevention* includes six complementary levels of intervention: strengthening individual knowledge and skills, promoting community education, educating providers, fostering coalitions and networks, changing organizational practices, and influencing policy and legislation (Figure 5). When implemented together, these interventions are more likely to produce successful results than any single activity.

A comprehensive strategy to promote healthy behaviors must include interventions at all six levels to ensure that individuals are empowered to make healthy choices and have access to the support and services needed to sustain those choices. For example, a strategy for promoting physical activity among youth might include the following components:

- increasing awareness among youth by incorporating education about physical activity and disease prevention into classes at school;
- educating parents and other community members about the importance of physical activity for youth by promoting the national Walk to School Day or other approaches that encourage children to walk to school;

.....
"Telling people isn't necessarily enough.

We're seeing a new set of problems that just can't be solved with a simple approach. . . . We're looking at promoting not only healthy behaviors, but healthy environments."

LARRY COHEN,
 PREVENTION INSTITUTE

Figure 5. *The Spectrum of Prevention*

Level of Intervention	Definition	Examples
Strengthening individual knowledge and skills	Enhancing an individual's capability of preventing injury or illness and promoting safety	Teaching children about bicycle safety, counseling patients in the medical office, teaching shoppers how to interpret product labels
Promoting community education	Reaching groups of people with information and resources to promote health and safety	Using the media to educate and inform people about specific issues, such as the sale of cigarettes to minors
Educating providers	Informing providers who will transmit skills and knowledge to others	Training medical professionals as well as teachers, social workers, and others who come in frequent contact with people exhibiting specific behaviors
Fostering coalitions and networks	Bringing together groups and individuals for broader goals and greater impact	Forming grassroots, community-based, or intergovernmental coalitions to address a shared goal
Changing organizational practices	Adopting regulations and shaping norms to improve health and safety	Rethinking architectural practices so that staircases are attractive and safe, sponsoring farmers' markets to make healthy foods readily available
Influencing policy and legislation	Developing strategies to change laws and policies to influence outcomes	Banning soda machines from schools, requiring car seats for children

Adapted from: Cohen, Larry and Susan Swift, "The Spectrum of Prevention: Developing a Comprehensive Approach to Injury Prevention," *Injury Prevention* 5:203-207, 1999. More information on the Spectrum of Prevention and other tools for developing a prevention strategy is available from the Prevention Institute (see www.preventioninstitute.org).

- providing training to pediatricians and other health professionals to help them provide information to young patients and their families, and help youth develop the skills and motivation to engage in regular exercise;
- supporting the development of community coalitions to identify community needs related to physical activity among youth (for example, safety concerns on walking routes to schools or in neighborhood parks, or access to school recreational facilities in the evening and on weekends) and to work collaboratively to address them;
- encouraging schools and after-school programs to alter schedules and routines to incorporate additional opportunities for physical activity into the day; and

- working to establish minimum state standards for physical education in schools.

A multifaceted strategy that focuses on bringing about changes in social and environmental norms, as well as individual behaviors, would ensure that youth have the information they need to make informed choices about their activity levels, family and community support for healthy choices, and safe streets and neighborhoods that encourage and provide opportunities for physical activity.

Identifying the Components of Effective Interventions

Effective behavioral change interventions share common characteristics. Therefore, separate intervention models need not be developed for each of the behaviors contributing to the development of chronic disease. There are more similarities than differences in what is effective, at both the individual and the population levels. While additional research is needed to refine approaches, much is already known about the components of effective behavioral change interventions.

A recent study by the Institute of Medicine that examined interventions to modify unhealthy behaviors found that effective strategies share three common elements (Curry et al. 2003):

- **They help people develop the skills needed to change behavior.** In addition to knowing what they need to do to be healthier, people need to know how to change their behaviors. That is, they need information about strategies to maintain motivation and deal with barriers to behavior change.
- **They provide comprehensive and sustained interventions.** Research shows that multicomponent, sustained interventions are more effective than single-component approaches of short duration (IOM 2001). This is particularly true for sustaining behavior change, which is a greater challenge than achieving short-term behavior change.
- **They ensure access to social and other supports that help people maintain changes in behavior.** Interventions that focus only on individual self-control or willpower leave many factors to chance and are unlikely to succeed over the long term (IOM 2001). Social support from family, friends, and others engaged in similar behavior change efforts can help people maintain their motivation. Other supports, such as environmental changes or campaigns that seek to change social norms, can help remove some barriers to behavior change.

EFFECTIVE BEHAVIORAL PROGRAMS: A CHECKLIST

Effective behavioral change interventions share many of the same elements. At a minimum, effective interventions:

- provide person-to-person contact that lasts at least 10 minutes at each contact,
- involve at least four to seven treatment contacts,
- spread those contacts over at least two weeks,
- emphasize positive results and avoid high-threat communications,
- include training on specific behavioral skills,
- provide meaningful social and other supports,
- incorporate opportunities for individual tailoring and address different levels of readiness to change, and
- have consistent and repeated follow-up.

These elements remain the same, whether the intervention is delivered in groups or to individuals and whether the interaction is in person, on the phone, or on the computer. Interventions that meet only the minimum requirements will yield only moderate results. Generally speaking, the greater the intensity of the intervention, the greater the results.

Lessons from Research on Tobacco Control

The literature on tobacco control is well developed. Over the years, literally thousands of studies have been published documenting the consequences of tobacco use and the effectiveness of various approaches to tobacco prevention and cessation (HHS 2001). Compared to tobacco control, less is known about how to help people consume a healthy diet, increase their levels of physical activity, and maintain a healthy weight (Curry et al. 2003). Because tobacco use has been so widely studied, it can provide guidance to those interested in supporting effective

strategies to promote physical activity and healthy eating. This section reviews some of the lessons from tobacco control initiatives that can inform other health promotion efforts.

Prevention Is Easier than Intervention

Learning brand new behaviors is easier than changing existing ones (IOM 2001). Those behaviors that are learned first, whether they are healthy or unhealthy, are the easiest to maintain, while efforts to change a particular behavior are often derailed by changes in surroundings, life circumstances, stress levels, and other factors.

In the context of tobacco, this means that it is important to keep youth and adults tobacco-free because quitting is harder than never starting at all. In the context of diet and exercise, it means that inculcating healthy nutrition and activity habits among people when they are young will be easier than motivating them to change unhealthy eating habits and sedentary patterns as they get older.

Behavior Change Is Hard and Usually Doesn't Happen Overnight

Changes in behavior are very difficult to initiate and sustain, particularly the changes necessary to prevent chronic disease. Because nicotine, a drug found naturally in tobacco, is as addictive as heroin and cocaine, people who want to stop smoking typically find it hard to quit (American Cancer Society 2003). Only 5 percent of those who want to quit succeed in quitting for three months or more; on average, former smokers make 8 to 11 quit attempts before succeeding for good (American Legacy Foundation 2003h). Similarly, many obese individuals struggle to adhere to the level of exercise needed to reach and maintain a healthier weight (Curry et al. 2003). A systematic, sustained, and comprehensive approach is critical to overcoming these kinds of challenges.

More Intensive Interventions Are More Effective than Less Intensive Interventions

Just as there is a dose-response relationship between the number of cigarettes smoked and the risk of developing a chronic disease, there is a dose-response relationship between the intensity of

intervention with smokers in primary care settings and the effectiveness of those interventions (HHS 2000b). One-time advice from a health professional can produce cessation rates of 5 percent to 10 percent a year. More intensive interventions that combine behavioral counseling and pharmacological treatment, however, can produce cessation rates of 20 percent to 25 percent per year. Providing ongoing counseling and support for people who are trying to quit smoking is more effective in helping people quit and preventing relapse than short-term approaches (IOM 2001). There is a similar relationship between intensity and effectiveness for clinical interventions aimed at improving dietary patterns (Pignone et al. 2003). The evidence for physical activity is inconclusive, and further study is needed to determine whether primary care counseling is an effective strategy for promoting physical activity (U.S. Preventive Services Task Force 2002).

Social Support Is Important

Social support is important in helping smokers quit. Smokers who have social support for their attempts to quit smoking are 50 percent more likely to succeed than those who do not have access to social support (Fiore et al. 2000). Social support is particularly important for women. Research conducted by the American Legacy Foundation (2003c) found that 54 percent of women smokers relied on social support in trying to quit, while only 34 percent of male smokers relied on social support.

.....
“There is a huge gap between what we know and what we do. And we don't want to stop the scientific enterprise, but we sure as heck want to pay attention to applying what we already have in hand.”

SUSAN CURRY,
 UNIVERSITY OF ILLINOIS
 AT CHICAGO

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Social support for tobacco cessation can come from a variety of sources. It can come from family members, friends, or coworkers who actively work to support and encourage smokers in their quit attempts. It can come from formal or informal group programs, one-to-one counseling provided by health professionals or others, or telephone support. For tobacco prevention, social support can come in the form of social norms that discourage smoking and reward smoke-free lifestyles.

Social support is also important for people seeking to become more physically active or to eat a healthier diet (HHS 1996; Ammerman et al. 2001). Approaches similar to those that work for tobacco control are likely to be effective in helping people stick with exercise programs and eat healthier foods.

Decreasing Out-of-Pocket Costs for Services Can Boost Participation and Success Rates

Reducing the financial barriers to tobacco cessation services increases the use of these services and also increases the number of people who stop using tobacco (Task Force on Community Preventive Services 2003). The role of cost in tobacco cessation programs is complex, however. A study of one health plan found higher quit rates among smokers who paid a portion of the costs associated with smoking cessation services, compared to those who received services for free. But a greater percentage of smokers participated in cessation services when they were free. When quit rates were examined as a percentage of all smokers in the plan, the higher participation rates

among those receiving services for free outweighed the higher quit rate among those bearing a portion of the cost (Curry et al. 2003).

Tobacco cessation services are often not covered by insurance. As a result, many smokers must pay out of pocket for these services. Thirty-three states offer some coverage under their Medicaid programs, but only 11 of these covered the most effective treatment, a combination of counseling and pharmacotherapy (Curry et al. 2003). Medicare does not cover tobacco cessation counseling or pharmacotherapy. Only 24 percent of employer-sponsored health insurance programs offer any coverage for tobacco cessation treatment (CDC 2004). Although managed care plans often stress their role in improving access to preventive care, the situation for those in managed care plans is not much better. While 75 percent of managed care organizations say they offer a tobacco cessation benefit, 54 percent provide only self-help materials. Counseling is covered by only 33 percent of managed care organizations, while 25 percent cover pharmacotherapy (Barry 2002).

The out-of-pocket costs of changing to a healthier diet or becoming more physically active may be a deterrent for some individuals, particularly those with limited incomes. Insurance coverage for nutrition counseling by dietitians is typically only available for individuals who are diagnosed with conditions such as diabetes, kidney disease, or heart disease that can be influenced by changes in diet (Chima and Pollack 2002). Coverage for nutritional counseling, medications, and other services solely for the prevention or treatment of

overweight and obesity is uncommon in private plans and nonexistent under Medicaid and Medicare (Downey 2002).

Limiting Access and Places of Use Are Effective Strategies

Tobacco control efforts led to the enactment of clean indoor air rules to limit smoking in public places, controls on sales of cigarettes and other tobacco products to minors, and taxes that increase the price of cigarettes. As of 2002, the majority of states had some form of clean indoor air law, with laws regulating smoking in schools, health care facilities, government worksites, and child care locations being the most common (National Cancer Institute 2002b). All states impose excise taxes on cigarettes, although the amount of the tax ranges from \$0.03 per pack in Virginia to \$2.05 per pack in New Jersey (National Conference of State Legislatures 2003c). Similarly, all states restrict the sale of tobacco products to minors. Some states have enacted laws prohibiting adults from furnishing tobacco to minors, requiring merchants to demand identification to verify a purchaser's age, or imposing other restrictions on or penalties for sales to minors (National Cancer Institute 2002a).

These approaches are effective in reducing smoking (HHS 2000b). Clean indoor air laws have been shown to decrease daily tobacco consumption and to increase cessation by smokers. Increasing the price of cigarettes reduces smoking by adults and is particularly effective in reducing smoking by minors (Center for Tobacco-Free Kids 2003b). Price increases reduce smoking three ways: they reduce average cigarette consumption among smokers, encourage more smokers to quit, and result

in fewer young people deciding to start smoking. Enforcement of laws prohibiting sales of tobacco products to minors results in significant reductions in youth smoking (Center for Tobacco-Free Kids 2003a).

Similar environmental approaches may be effective in promoting healthy eating among youth. Grantmakers could support efforts to remove foods and beverages with limited nutritional value from school menus and vending machines, or make these foods more expensive to purchase. Ongoing research suggests that such manipulations of the food environment for children may be more effective in changing their eating behaviors than interventions that focus on education (National Heart, Lung, and Blood Institute 1998). Another environmental approach could focus on stores located near schools; grantmakers could work with store owners and managers to restrict children's access to candy, high-fat snacks, and soft drinks in the hours immediately preceding and following school.

At the Population Level, Relatively Modest Changes Can Make a Difference

The impact of a behavioral change program depends on its reach into the target population and the amount and duration of the behavior change achieved by program participants. In the context of tobacco cessation, a communitywide approach that reaches 200 people and achieves a quit rate of 10 percent will have a larger impact on population health than a small group program that reaches 20 people and achieves a 50 percent quit rate. Similarly, if Americans lost an average of 2.2 pounds over one year, the country

would see a 25 percent reduction in the prevalence of obesity. In short, broad-based programs that aim for moderate changes in behavior may be more effective in improving health than narrowly targeted programs that aim for more radical behavior changes.

Interventions Must Be Tailored to the Needs of Racial and Ethnic Minority Populations

Tobacco control efforts are most successful when tailored to the specific needs, barriers, and smoking patterns of the target population (IOM 2001). In one example, tobacco cessation interventions that were designed specifically for African Americans resulted in higher cessation rates after one year than standard interventions.

Efforts to promote physical activity and healthier diets are also more effective if they are designed to meet the needs and concerns of specific populations. For example, interventions that incorporate cultural elements, such as traditional foods or activities, and that remove cultural obstacles, such as language barriers, appear to be more effective in helping people from racial and ethnic minority groups achieve weight loss (Curry et al. 2003).

Efforts Need To Be Comprehensive

Comprehensive programs that intervene at multiple levels to influence behavior are more effective than more limited approaches (Curry et al. 2003). For tobacco control, programs can be considered comprehensive if they target all four pathways to preventing disease from tobacco: preventing the initiation of tobacco use among young people,

promoting quitting among young people and adults, eliminating nonsmokers' exposure to environmental tobacco smoke, and identifying and eliminating the disparities related to tobacco use and its effects among different population groups (HHS 2000b). In Arizona, California, Massachusetts, and Oregon, states with comprehensive tobacco control programs that were well-funded and sustained during the 1990s, cigarette sales between 1990 and 2000 fell more than twice as much as the country as whole (43 percent compared to 20 percent) (Gallogly 2003). Reductions in smoking were seen in both adults and youth. For behaviors related to physical activity and diet, approaches that are effective in improving health outcomes will also need to be comprehensive, targeting both youth and adults and incorporating primary, secondary, and tertiary prevention.

Preventing Relapse May Be the Biggest Challenge

Although many people are motivated to change their behavior and are successful in implementing behavior change in the short term, achieving long-term behavior change is much more difficult. Smoking is a sobering example of this challenge. Although over 40 percent of smokers try to quit each year, relapse rates are high (American Legacy Foundation 2003h; American Cancer Society 2003). Only 5 percent to 16 percent of people who try to quit are able to stay smoke-free for six months without pharmacotherapy, and between one-fourth and one-third are able to quit for six months with medications to help with withdrawal symptoms. Long-term adherence rates are also low among those trying to be more physically active:

half of those who start an exercise program quit within six months (National Heart, Lung, and Blood Institute 1998).

Adherence is highest when regimens are short term, simple, easy to follow, have clear and immediate benefits, and require little change in lifestyle. Conversely, adherence is lowest when efforts must be sustained over longer periods of time, the regimen is complex, benefits are not immediately apparent, and the condition being treated is asymptomatic (National Heart, Lung, and Blood Institute 1998). Unfortunately, the changes needed to prevent chronic disease and improve health outcomes most often fit the latter descriptors. Sustained, comprehensive, and multilevel interventions enhance people's ability to sustain behavior changes long enough to improve their health.

Current Efforts to Promote Healthy Behaviors and Prevent Chronic Disease

Messages about the importance of healthy behaviors have found a broader audience recently, in large part because public officials and the media have focused much-needed attention on the dramatic increases in overweight and obesity among children and adults, and the ramifications for the future health and well-being of the nation's population. The health care field and other sectors of society, such as schools and employers, are responding to these messages by implementing programs to promote healthy behaviors and prevent

chronic disease. Although there is still much work to be done, many exemplary efforts are currently under way. This section briefly discusses how the health care community is responding and profiles selected activities of the federal government, state governments, schools, and the private sector.

Health Care Providers

Americans make 829 million physician visits each year, an average of 3.1 visits per person (Center for the Advancement of Health 2001). Health care providers, however, often do not take advantage of these opportunities to provide counseling and other interventions to help patients adopt healthier behaviors. Risk assessment and counseling about behaviors such as smoking, unhealthy diets, and physical activity are delivered less frequently in health care settings than other preventive and early intervention measures such as cancer screenings (HHS 2000a).

Although time is often cited as a constraint that prevents physicians from counseling patients about unhealthy behaviors, even brief counseling has been proven effective in convincing patients to adopt healthier behaviors. Moreover, although health care providers want to provide good care to their patients who need behavior counseling, many feel they need more training on behavior change counseling, as well as more information about model approaches and tools that are effective in clinical settings (Center for the Advancement of Health 2001).

Physicians can play a variety of roles related to behavioral counseling. They can provide such counseling as a routine part of office

visits, either directly or by using nurses or other health professionals on their teams. They can link patients to community-based services that can help them adopt and sustain healthier behaviors.

A meeting of clinicians, health administrators, researchers, and others convened by The Robert Wood Johnson Foundation and the federal Agency for Healthcare Research and Quality (AHRQ) in 2001 yielded some information about approaches currently in use by primary care practices to promote healthy behaviors (Health Systems Research 2001). These included:

- playing informational videotapes in waiting rooms and offices;
- using drop-in group visits to provide ongoing information and support;
- offering telephone support systems;
- developing Web sites tailored to the practice;
- using videoconferences and other telehealth applications for school-based health clinics; and
- collaborating with community partners, such as churches, to sponsor health education programs.

A five-year research effort aimed at identifying new models for promoting healthy behaviors in primary care settings is currently being cofunded by The Robert Wood Johnson Foundation and AHRQ. This initiative, which is explained in greater detail in the next section, will provide valuable information about how primary care providers can help patients adopt healthier behaviors.

Federal Government Initiatives

The federal government has been in the health promotion business for some time. The first Surgeon General's report on the health effects of smoking, issued in 1964, and subsequent reports on the dangers of smoking focused the nation's attention on the connection between behavior and health. There are now many federal programs that target unhealthy behaviors, ranging from research on the impact of behavior on disease processes to funding for state and local health promotion and prevention efforts to sponsorship of the President's Council on Physical Fitness and Sports. This section describes just a few of the federal government's efforts to promote healthy behaviors.

- *The Guide to Community Preventive Services* — This guide provides recommendations on population-based interventions to promote health and prevent disease, injury, disability, and premature death. The recommendations are developed by the nonfederal Task Force on Community Preventive Services appointed by the director of the Centers for Disease Control and Prevention. The task force makes its recommendations based on systematic reviews of the evidence of effectiveness of specific interventions. Available on-line at www.thecommunityguide.org, the guide is intended for use by public health decisionmakers, communities, and health care systems to improve prevention and health promotion efforts. Current recommendations address tobacco use, physical activity, and diabetes, among other topics.

- *National Guideline Clearinghouse* — This clearinghouse is a publicly available database of evidence-based clinical practice guidelines and related documents. Available on the Internet at www.guideline.gov, it provides users with access to systematically developed recommendations, strategies, or other information to inform health care decisionmaking in specific clinical circumstances. It currently offers clinical guidelines on tobacco cessation, nutritional counseling, and physical activity counseling. To be included in the database, guidelines must be produced under the auspices of a relevant professional organization, such as a medical speciality association, a government agency, or a health plan. Guidelines must include a review of the evidence supporting a particular approach. The clearinghouse is maintained by the Agency for Healthcare Research and Quality, in partnership with the American Medical Association and the American Association of Health Plans Foundation.
- *HealthierUS Initiative* — *HealthierUS* is President George W. Bush's initiative to encourage Americans to be physically active every day, eat a nutritious diet, get preventive screenings, and make healthy choices. The initiative currently has two components. The first is a five-year cooperative agreement program, *Steps to a HealthierUS*, which funded 12 communities in federal fiscal year 2003 for projects aimed at reducing the burden of diabetes, overweight, obesity, and asthma and addressing three related risk factors (physical inactivity, poor nutrition, and tobacco use). The second component of the *HealthierUS* initiative is a new, more widely accessible *President's Challenge* program, administered by the President's Council on Physical Fitness and Sports. The *Challenge* program allows individuals to track weekly fitness activities and receive presidential fitness awards for achieving defined fitness goals. Information and resources related to the *HealthierUS* initiative can be found on-line at www.healthierus.gov.
- *VERB: It's What You Do* — This campaign, launched by the U.S. Department of Health and Human Services in 2002, is intended to promote physical activity among 9 to 13 year olds, the age group often referred to as "tweens." The campaign is using mass media, interactive media, partnerships with national and community organizations, and community events to help tweens increase their levels of physical activity and positive behavior. The campaign encourages tweens to find a verb or several verbs that fit their personality and interests. The campaign then encourages tweens to use "their verb" to increase their physical activity levels, whether it be by gardening, bowling, dancing, skateboarding, jumping rope, swimming, playing basketball, or other activities. The campaign also encourages youth to get involved with their peers or with organizations, such as school clubs, scouting, religious groups, and Boys & Girls Clubs, from which they can learn positive and healthy habits.
- *Team Nutrition Grants* — This grant program of the U.S. Department of Agriculture supports the implementation

of the department's nutrition requirements and dietary guidelines in school meals. States receive grants to support one of three behavior-oriented strategies:

- providing training and technical assistance for child nutrition food service professionals to help them serve meals that look good, taste good, and meet nutrition standards;
- providing multifaceted, integrated nutrition education for children and their parents to build skills and motivation concerning healthy food and physical activity choices; and
- generating support for healthy eating and physical activity by involving school and child care administrators and other school and community partners in school meal decisions.

States may use a variety of mechanisms for delivering consistent messages to children and their caretakers about healthy eating and reinforcing those messages, including food service initiatives, classroom activities, school-wide events, home activities, community programs and events, and media events and coverage. Approximately \$4 million was available for grants in federal fiscal year 2004.

- *Carol M. White Physical Education Program* — This grant program, administered by the U.S. Department of Education, provides grants to local educational agencies and community-based organizations to pay 90 percent of the total cost of initiating, expanding, and improving physical education programs designed to assist students in making

progress toward meeting state standards for physical education. Grant funds may be used to provide equipment and support to enable students to participate in physical education activities and to train teachers and staff. In federal fiscal year 2003, the department awarded approximately \$59 million to 256 grantees.

State Health Promotion Efforts

Many states are taking action to address the major behavioral risks for chronic disease. Despite fiscal pressures resulting from the unprecedented budget shortfalls experienced by most states starting in 2001, states are forging ahead with tobacco control initiatives and addressing issues related to overweight and obesity.

Many states have considered bills to restrict smoking in public places or increase cigarette excise taxes. During the 2003 legislative session, legislation related to smoking in public places was introduced in 41 states.⁴ Among the states enacting restrictions into law are Florida, which mandates smoke-free areas in workplaces and restaurants; and New York, which extended its smoking prohibitions to include virtually all indoor workplaces, mass transit vehicles, and transit terminals, as well as outdoor seating areas of bars where food is served (National Conference of State Legislatures 2003a). Thirty-six states considered increases in tobacco taxes and 10 of these states enacted legislation increasing such taxes (National Conference of State Legislatures 2003c).⁵ In Alabama, the legislature voted to conduct a voter referendum on an excise tax increase.

⁴ The number of states introducing legislation related to indoor smoking is accurate as of October 1, 2003.

⁵ The states enacting tobacco tax increases in 2003 are Arkansas, Connecticut, Georgia, Idaho, Montana, New Jersey, New Mexico, South Dakota, West Virginia, and Wyoming.

The 1998 Master Settlement Agreement (MSA) between tobacco companies and most states provided a new source of ongoing revenue to support state programs and responsibilities. From fiscal year 2001 to fiscal year 2004, states allocated \$1.8 billion in settlement funds to tobacco prevention efforts, four times more than the federal government has devoted to similar programs (McKinley et al. 2003). Although many states reduced or eliminated funding dedicated to tobacco prevention in fiscal year 2004 budgets in order to maintain other programs, lawmakers in some of these states indicated that the reductions are temporary measures to deal with budget pressures and that they intend to restore funding. Nine tobacco growing states have also used MSA funds to change the environment by providing economic assistance to tobacco farmers affected by reduced quotas from tobacco companies.⁶ The funds support economic redevelopment, crop diversification, and development of the infrastructure to process alternative crops, among other things.

Many states also considered legislation in 2003 to address issues related to overweight and obesity, such as adjusting the nutritional content of school meals, changing physical education requirements, limiting access to soft drinks and foods with minimal nutritional value in schools, taxing snack foods, or requiring restaurants to post nutritional information (National Conference of State Legislatures 2000b). Among the states enacting laws related to overweight and obesity in 2003 are:

- New Mexico, which created a *Safe Routes to School* program to increase the number of students who can safely walk or ride a bicycle to school;
- New York, which established a childhood obesity prevention program within the state department of health; and
- Virginia, which amended its requirements regarding insurance coverage for surgical treatment of obesity to require that criteria used by insurers to approve or deny access to surgery be based on current clinical guidelines recognized by the federal National Institutes of Health (National Conference of State Legislatures 2000d).

Seven states formed obesity task forces to examine issues and options for preventing and reducing obesity and overweight (Robbins 2003).⁷

Some states have launched comprehensive initiatives to address the increase in overweight and obesity among children and adults. Although Colorado has the lowest rate of obesity in the nation, the state took action to prevent increases in overweight and obesity. The *Colorado Physical Activity and Nutrition State Plan 2010* outlines specific steps that the state intends to take to address the obesity epidemic. One component of the plan is Colorado on the Move™, a statewide initiative that will work through schools and worksites and with communities to encourage residents to increase walking by 2,000 steps per day (about a mile). The program offers pedometers to support participants in counting their steps and

⁶ The tobacco-growing states using MSA funds to provide economic assistance to farmers are Alabama, Georgia, Indiana, Kentucky, Maryland, North Carolina, Ohio, South Carolina, and Virginia.

⁷ The seven states that formed obesity task forces in 2003 are Arkansas, Louisiana, Maine, Mississippi, New York, Nevada, and Tennessee.

increasing their daily activity levels. Over 100,000 pedometers have been distributed in Colorado since the initiative's launch in October 2002, and an initial evaluation indicates that most participants have been able to add 2,000 steps to their day's activities (National Institute for Health Care Management 2003; Thompson 2004).

Exemplary School-Based Programs

Schools have an important role to play in helping children eat nutritious meals, be physically active, and refrain from smoking. Opportunities range from changing school menus to incorporating additional opportunities for physical activity into the school day to providing school-based tobacco prevention and cessation programs. While a comprehensive look at school-based efforts is beyond the scope of this Issue Brief, two effective efforts are highlighted here.

- *Planet Health* — Developed by Harvard University researchers, *Planet Health* uses an interdisciplinary strategy to incorporate health promotion materials into existing school structures and core curricula, including math, social studies, science, language arts, and physical education. The behavioral targets are to reduce television viewing time, decrease consumption of high-fat foods, increase moderate and vigorous physical activity, and increase consumption of fruits and vegetables to five or more servings per day. Intervention components include teacher training, classroom lessons, a two-week campaign to reduce television viewing, activities in physical education classes, and wellness sessions for teachers. This approach has been proven effective

in reducing obesity in youth. A study of the program found a reduction in obesity among girls in intervention schools compared to those in control schools, as well as a decrease in television viewing time for both girls and boys (Gortmaker et al. 1999).

- *Oregon's Tobacco Prevention and Education Program* — Oregon's approach to addressing the issue of tobacco use has been recognized as a national model by the federal Centers for Disease Control and Prevention (Oregon Department of Human Services 2003). This program is a comprehensive effort with seven components: county- and tribal-based programs, comprehensive school-based programs, a state quit line, multicultural outreach and education, a statewide public awareness and education campaign, program evaluation, and statewide coordination and leadership. Thirty-two schools received funding to implement comprehensive tobacco education programs, which include proven tobacco prevention curricula; school policies that aim to eliminate the use of tobacco on school grounds and at school events; and special resources for teachers and parents, including training and cessation support. The evaluation of the state's program found a 47 percent decline between 1996 and 2002 in the number of Oregon's eighth graders who smoke. Schools that implemented a comprehensive tobacco education program experienced even greater declines in youth smoking.

Private Sector Efforts

In many ways, workplaces provide the same opportunities for promoting healthy behaviors for adults as schools do for

children: employers can help employees eat better, increase their activity levels, and quit smoking. Healthier employees translate into company savings, through decreases in health care costs and reductions in absenteeism (Partnership for Prevention 2001). A recent survey of large companies found that 95 percent are offering health promotion and disease management programs to help get or keep their workers healthy and to address rising health care costs, an increase of 7 percent since 1995 (Hewitt Associates 2003). The survey also found that:

- employers' use of financial incentives and disincentives, in the form of reimbursement for weight control programs or monetary rewards for participating in a program, increased dramatically from 14 percent in 1993 to 40 percent in 2002;
- 29 percent of employers are making health risk questionnaires available to employees to detect preventable health conditions, and 76 percent are offering health screening tests for specific health conditions;
- 71 percent of employers offer education and training programs to encourage employees to take greater responsibility for their health choices and to promote healthy lifestyles; and
- a majority of these employers offer additional incentives and activities designed to heighten awareness about the importance of healthy behaviors, including offering a smoke-free workplace, sponsoring health fairs, providing on-site fitness facilities, and sponsoring sports teams and tournaments.

Even small employers can work to improve the health of their workers. For example, Duncan Aviation, a family-owned aircraft support business in Battle Creek, Michigan, has eliminated 60 percent of identified employee health risks — such as high blood pressure, obesity, and smoking — by implementing a health awareness program. The program, which has been in operation for over a decade, has also kept the company's health care costs low. Increases in Duncan Aviation's health insurance costs have been less than half those experienced by other companies in the area (Partnership for Prevention 2001).

Opportunities for Grantmakers

Health grantmakers are key players in efforts to help people live longer and healthier lives. They are helping to broaden the focus of prevention and intervention strategies by mobilizing communities, employers, schools, providers, families, and individuals to change the social, political, and environmental fabric of life in ways that support healthy lifestyles. Using the framework of the *Spectrum of Prevention*, the following strategies illustrate how grantmakers can and do intervene at many levels to help people make the behavior changes that can prevent or delay the onset of chronic diseases.

Strengthening Individual Knowledge and Skills

The first level of the *Spectrum of Prevention* involves educating individuals about the importance of healthy behaviors and empowering them to make changes in their lives. Many different kinds of organizations

and individuals can provide this kind of education, and many health grantmakers support projects that provide information and opportunities to develop skills. One of the challenges associated with this component is to help individuals find ways to replace their unhealthy behavior, or compensate for its loss — especially when that behavior was a way to cope with stress. Programs that focus on adopting a positive change, such as achieving stress relief by exercising, may get a better reception than those that emphasize putting an end to unhealthy behaviors. Another challenge is helping people maintain a long-term commitment to changes in individual behavior. For many, an eight-week exercise program or a one-time healthy cooking class will not be enough to counter the demands of everyday life and the force of social norms.

Some grantmakers are partnering with faith communities to educate people about healthy behaviors and provide the skills and support people need to preserve or improve their health. One example is the Kate B. Reynolds Charitable Trust, which is working with the General Baptist State Convention of North Carolina (GBSC) to improve health and prevent chronic disease among African Americans. This work is taking place as part of the foundation's *Project SELF Improvement* (with SELF representing smoking, education, lifestyle, and fitness), a five-year initiative focused on disease prevention and health promotion in at-risk populations.

With the support of the foundation, GBSC is educating lay leaders in churches across North Carolina about healthy lifestyles and cancer prevention. The lay leaders then go back to their churches and

educate, mobilize, and organize congregants and community residents to improve their diets, increase their physical activity levels, promote cancer screening, and explore the connections between faith and health. To date, four associations of GBSC are involved in the initiative, comprising 88 churches serving over 19,000 congregation members, many of whom live in inner city or rural communities that are medically underserved.

Although the programs, services, and supports provided at each participating church may differ, common elements include:

- providing information and education on healthy behaviors and cancer prevention;
- building exercise breaks into church functions;
- sponsoring exercise classes or walking groups;
- making exercise equipment or walking trails available at the church to make exercising less expensive, safer, and more accessible; and
- improving the nutritional value of food served at church functions by substituting unhealthy foods with healthier versions and showing people how to prepare traditional foods in a healthier way.

The faith-based component of *Project SELF Improvement* has been effective, in large part because the lay health advisors are trusted sources of information and support for the people in their churches.

Other grantmakers are focusing on educating youth about healthy behaviors to get them started on the road to a healthy adulthood. The Wellmark Foundation in Iowa, for example, is supporting efforts to

reverse the dramatic rise in type 2 diabetes among American Indians by addressing early risk factors in young children. One funded program, the *Tama Diabetes Prevention Program*, began with a group of mothers involved in a play group, who became concerned about the growing number of overweight children at community playgrounds who were unable to play the same way that other children could. The mothers reached out to health care providers, local public health officials, and the cooperative extension office at a nearby university and got them involved in designing and implementing an intervention targeting nutrition, physical activity, and obesity prevention.

The *Tama* program engages young children in physical activities while their parents are learning how to plan and prepare healthy meals. The program also introduces the children to healthy snacks and includes a home visiting component, where a nutritionist provides additional education and reinforcement about healthy eating. The program has achieved success in helping families alter food choices and meal preparation in favor of healthier foods.

Another effort funded by The Wellmark Foundation is *Little Winds*, a community-based diabetes prevention program for 3rd and 4th grade children from the Sac and Fox Meskwaki Nations. The program promotes outdoor activities that incorporate traditional dances and games, such as lacrosse and konano (another traditional ball game played on an open field), to get children moving and stimulate muscle growth, strength, and coordination. The program also includes healthy snacks and family nutrition education. The program has had a positive effect on physical activity and nutrition among the children who participated in the program. Some of the youth, for example, practiced traditional dance every day after school and continue to perform at Pow Wow (a tribal social and spiritual gathering).

In another example, The California Endowment, The California Wellness Foundation, and The Robert Wood Johnson Foundation fund the *California Adolescent Nutrition and Fitness (CANFit) Program*, which works with communities to build their capacity to improve the nutrition and physical activity status of low-income youth from California's

SIGNS OF IMPROVEMENT AT LITTLE WINDS

Initial health assessments of the children participating in Little Winds found that many were showing signs of acanthosis nigricans (AN), a condition that causes darkening of the skin, often at the back of the neck. Caused by elevated insulin levels, AN is an indicator of increased risk for type 2 diabetes. Many of the children with AN who participated in Little Winds experienced improvements because the exercise and healthy foods offered by the program helped reduce their insulin levels.

African-American, American Indian, Latino, and Asian and Pacific Islander populations. Among the efforts supported by *CANFit* are ethnic group-specific community assessments, a Cambodian recipe book, an American Indian surf camp, and activity leagues for African-American and Asian and Pacific Islander girls, as well as culturally and linguistically appropriate social marketing campaigns.

The American Legacy Foundation is funding a range of tobacco prevention and cessation projects through its *Priority Populations Initiative*, which supports education, prevention, and behavior change in six populations: African Americans, Asian and Pacific Islanders, American Indians, Hispanic Americans, sexual minorities, and those of low socioeconomic status. These populations were targeted because they have been found to be disproportionately affected by illnesses related to tobacco use. They also tend to be disproportionately targeted by tobacco companies' advertising and marketing efforts and often have limited or no access to prevention, education, or cessation services.

One exemplary program funded by the American Legacy Foundation's *Priority Populations Initiative* is a tobacco cessation program operated by the House Of Ruth Maryland. The Baltimore, Maryland-based House Of Ruth is one of the foremost domestic violence programs in the United States, offering shelter, transitional housing, counseling, and other services to victims of domestic violence and their families. A three-year grant from the American Legacy Foundation funds the House Of Ruth's *Healthy Inspirations* program, which incorporates tobacco

control into an overall program of health and wellness for the residents and staff of a 23-bedroom shelter.

The *Healthy Inspirations* program takes a holistic and positive approach to tobacco cessation by providing pressure-free information, support for healthier lifestyles, and access to primary care to address other health issues affecting the women and their children. The women served by the House Of Ruth are often both in physical pain and stressed and anxious about the future. Cigarettes are frequently used as a coping mechanism. To address this, *Healthy Inspirations* focuses on alternative methods for relieving stress and pain in addition to providing education and support for tobacco cessation. Among the services offered through the program are: relaxation techniques, such as meditation, acupuncture, and aromatherapy; pain management through self-massage, biofeedback, and muscle relaxation techniques; and opportunities for self-expression through painting, sculpture, and crafts. The program also helps women relieve their stress and improve their overall health and well-being by encouraging movement through dance and fitness classes. Other services help mothers manage the demands of parenting their children in the shelter. The program is reaching not only the families using the shelter, but also program staff who are being encouraged to set a healthy example for clients and support them in their efforts to get and stay smoke-free.

Assessing the impact of the tobacco cessation program at the House Of Ruth is challenging. By its nature, the population of women at the shelter is mobile. Women

may only be at the shelter for a week or two. And once they leave the shelter, tracking them down for follow-up is difficult and may even endanger a woman's safety if she has returned to her abusive partner. Staff of the House Of Ruth try to follow up whenever possible, but also focus on giving women the information they need to take positive steps toward a healthier life, whether that happens immediately or some time in the future. According to Cheryl Harris of the House Of Ruth, "They may not stop while they're in shelter. We do not expect that. But we do expect them to hear and understand."

Promoting Community Education

The second level of the *Spectrum of Prevention* involves increasing community awareness about issues affecting health and safety and disseminating information about community resources that can help people live healthier lives. One way in which health grantmakers are promoting community education is by sponsoring communitywide walks and other annual events that highlight the importance of physical activity in preventing chronic disease. For example, the Paso del Norte Health Foundation sponsors community walking promotions in El Paso, Texas, as well as in Doña Ana and Otero counties in New Mexico. The objective of the walking programs is to provide information, inspiration, and opportunities for people to use walking as a fun and safe form of exercise. Each community's program has three components:

- radio and television campaigns designed to inform community residents about the importance of increasing their level of physical activity and the impact of

physical activity on health. The campaigns feature a hotline that people can call to request a free walking kit that is designed for a low English literacy population.

- neighborhood events that encourage participation in walking groups and citywide events that celebrate the area's culture and physical activity.
- a community mobilization through which the foundation partners with a local agency to develop walking groups and train volunteer walking group leaders.

As a complementary strategy, the foundation also supported the development of walking trails to provide safe, accessible places for people to be active.

The Jewish Healthcare Foundation also supports a community education initiative aimed at educating the women of Pittsburgh about heart health and the prevention of cardiovascular disease. The initiative, *Working Hearts*, disseminates educational materials, such as wallet cards, bookmarks, and a newsletter, and conducts community education at conferences, shopping malls, schools, health care sites, and other locations. The initiative also maintains a Web site, has enlisted a local television news anchor as a spokeswoman, and was successful in getting the month of February declared Women's Heart Month in Pennsylvania.

Educating Providers

The third level of the *Spectrum of Prevention* focuses on providers and the training they need to transmit accurate and helpful information to their patients and clients, and assist them in developing the

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"When women come in [to the shelter] we tell them right up front, 'Whether you smoke or not, whether you stop or not; that is not our issue. Our issue is to give you this information. How you use it is up to you.' . . . But we hope that we've given women enough information that, at some point, when they're comfortable in life or maybe just as they're walking down the street, they will say, 'You know, I heard about that at the House Of Ruth and I think it might work.'"

CHERYL HARRIS,
HOUSE OF RUTH
MARYLAND

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skills and motivation necessary to make and sustain changes in their behavior. Many grantmakers target health professionals to help them educate their patients about healthy behaviors.

As previously noted, The Robert Wood Johnson Foundation is partnering with the federal Agency for Healthcare Research and Quality on a five-year initiative to identify ways that primary care providers and their staffs can help patients become more physically active, eat better, quit smoking, and use alcohol in moderation. The initiative, *Prescription for Health*, is providing grants to primary care practice-based research networks for projects that will develop new models of care or tools for changing health-related behaviors. In another example focusing on health professionals, the Columbus Medical Association Foundation in Ohio funded the development of a CD-ROM-based tobacco cessation curriculum for dental students and practicing dentists.

Other grantmakers target other types of providers serving children and adults. The United Methodist Health Ministry Fund in Kansas, for example, supported the development of a curriculum for child care providers to help them teach children about healthy eating and the importance of physical activity. Several grantmakers support programs that train lay health advisors who can work directly with friends, neighbors, and people in their congregations to provide education and social support. In Iowa, The Wellmark Foundation turned to *promotoras* to work with Hispanic immigrant agricultural workers on diabetes prevention and other

health issues (*promotora de salud* is the Spanish term for lay health workers who are trained to be health educators and resources to members of their communities). The program has been successful in increasing preventive care among this hard-to-reach population and has reduced emergency room visits for nonemergency care.

Fostering Coalitions and Networks

The fourth level of the *Spectrum of Prevention* looks to the development of partnerships, coalitions, collaborations, and networks as a means of accomplishing common goals while reducing competition and duplication of effort. For health grantmakers, this can take many different forms, including direct support for coalitions, partnerships between grantmakers and national organizations, or collaborations among grantmakers. One key opportunity for grantmakers working on healthy behaviors is to seek out nontraditional partners, both for themselves and for grantees, in order to stimulate innovative approaches and to reach populations that have had historically poor access to education and support services related to behavior change. As Marguerite Johnson of the W.K. Kellogg Foundation said at the Issue Dialogue, “Sometimes strange bedfellows can conceive some beautiful children together.”

Support for coalitions — Many health grantmakers support the work of national, state, and community coalitions that are working to promote healthy behaviors. In one example, the Public Welfare Foundation helped ensure that low-income

PROMOTING HEALTH, PREVENTING DISEASE

The work of the Robert Wood Johnson Foundation in Princeton, New Jersey rests on the view that promoting health and preventing disease requires investments in comprehensive, multifaceted, and sustained interventions. The foundation's strategies reach out not only to individuals and families, but to many other institutions, health professionals, the media, and policymakers.

One of the foundation's four major goals is promoting healthy communities and lifestyles. Within this funding priority area, a recent focus is increasing activity levels among Americans of all ages as a means of reducing chronic conditions such as obesity, diabetes, hypertension, cancer, and preventable physical disabilities. This area of work provides an excellent example of a philanthropic strategy that targets multiple levels of society to promote behavior change that can improve health. Initiatives in this area include:

Active for Life, which promotes increased physical activity among older adults. People age 50 and older are the most sedentary segment of the adult population. Active for Life is helping community-based organizations deliver and sustain physical activity programs for older adults. (Web site: www.activeforlife.info)

Prescription for Health, which is identifying effective ways that primary care providers can integrate behavior counseling about physical activity, good nutrition, and other health-promoting behaviors into routine medical care visits. (Web site: www.prescriptionforhealth.org)

Active Living by Design, which promotes and supports activity-friendly communities. The initiative has funded 25 community partnerships nationwide to plan and implement community strategies that help people be physically active as part of normal daily life. (Web site: www.activelivingbydesign.org)

Active Living Research, which supports research on policy issues and characteristics of natural and built environments to understand how community design; transportation systems; recreation facilities; and the policies of schools, work sites, and health systems affect personal levels of physical activity. (Web site: www.activelivingresearch.org)

Active Living Network, which is building a collaborative movement of national leaders from a range of professional fields, including design, architecture, transportation, public health policy, recreation, and health.

Leadership for Active Living, which provides information and assistance to state and local government leaders as they create and promote policies, programs, and places that enable active living that improves the health, well-being, and vitality of communities. (Web site: www.leadershipforactiveliving.org)

Active Living Resource Center, which provides information, resources, training, and technical assistance to community members and professionals working to create more activity-friendly communities. (Web site: www.bikewalk.org)

city residents have access to healthy, organically grown produce by supporting a Washington, DC nonprofit organization that brings area farmers, volunteers, and urban communities together to sponsor farmers' markets, nutrition education programs, and community gardens. In another example, the American Legacy Foundation provided support for two town hall meetings designed to gain insight into the perceptions and priorities of the Hispanic sexual minority community with regard to tobacco use and prevention and to mobilize a regional antitobacco social marketing campaign aimed at changing community norms about tobacco use.

A third example of collaboration comes from the Mary Black Foundation in Spartanburg, South Carolina, which is working with city planners, real estate developers, the state department of transportation, and others to bring about policy changes at the local level to support the development of bike lanes and walking paths. The Otho S.A. Sprague Memorial Institute in Illinois supports a coalition, CLOCC: the Consortium to Lower Obesity in Chicago Children. CLOCC has representatives from pediatricians, nutritionists, Head Start leaders, Chicago public schools, and the Chicago park district. One of this group's first projects was to create a common database that allows them to establish a baseline for assessing obesity in the city's children.

Collaborations with nonprofit organizations — Health grantmakers are also partnering with national, state, and local organizations to accomplish common goals related to healthy behaviors. One

such effort is the partnership among The Robert Wood Johnson Foundation, the YMCA of the USA national office, and local YMCAs on a 10-year *YMCA Total Health* initiative. This mobilization of YMCAs nationwide is a response to increases in overweight and obesity in the population and the corresponding increases in risk for heart disease, diabetes, and other obesity-related diseases. The mobilization, which will promote healthy lifestyles that include physical activity and good nutrition, will serve all users of participating local YMCAs, but will focus special attention on the estimated 30 percent to 35 percent of adults who make repeated attempts to adopt healthier behaviors, but fail to sustain them. A select group of local YMCAs is developing new approaches to serving this so-called try/fail population, including new services and programs, enhanced staff training, changes to facilities, and expanded efforts to reach out to communities to engage community residents and advocate for policies that support healthy lifestyles. The mobilization has the potential to involve 2,300 YMCAs with 10,000 branches that reach an estimated 17.9 million men, women, and children.

Collaborations among grantmakers — Grantmakers can work together to increase the effectiveness of their grant funds. In one example, the American Legacy Foundation has launched a new initiative to increase the number of foundations that fund tobacco control programs in their communities. The *Funders for Tobacco Control Grant Program* will provide matching funds to organizations that fund existing, innovative, or new tobacco control programs, with a special focus on

A GOOD SOLUTION SOLVES MULTIPLE PROBLEMS

Larry Cohen noted that an intervention to address a specific issue may have unintended — yet positive — consequences. A trail designed to help people exercise in order to reduce obesity, for example, may also help to lower depression in those who use it. A well-designed trail can also contribute to a reduction in injuries because it creates a separation between cars and walkers (or cars and bicycles). So the power of an intervention can be multiplied, even if it is intended to meet only one particular objective.

organizations addressing tobacco use among youth, secondhand smoke education and policy, and tobacco use in rural communities.

Another example of collaboration among grantmakers is the Health Funders Partnership of Orange County. Composed of nine Orange County, California-based foundations, the Health Funders Partnership was formed to create systems change in the community, focusing first on the prevention and management of diabetes. After studying the issue and bringing together community stakeholders, the Health Funders Partnership issued a request for proposals, funded through contributions from the nine participating foundations, as well as The California Wellness Foundation and The California Endowment. The projects funded create a continuum of prevention, education, and treatment support for low-income county residents who have the greatest difficulty accessing needed care, and included a prevention program for school-age children, a project that trained community residents to advocate for changes in programs and policies, and a hospital-led program to coordinate specialty care for patients with diabetes.

Changing Organizational Practices

The fifth level of the *Spectrum of Prevention* involves changing the practices of key organizations that can either promote or discourage healthy behaviors. Changes in the social and built environment become especially important in the context of policy changes, since changes in law do not necessarily equate to changes in practices. Physical education, for example, may be required by the state, but that does not mean schools have the space or resources required to deliver an appropriate program.

A local nutrition council that aims to change the environment is supported by The Mary Black Foundation. The Spartanburg Nutrition Council bases its work on the premise that, although it cannot change the nutritional practices of every community resident, it can help people eat a healthier diet by changing the environments where children and adults eat and congregate — schools, child care settings, workplaces, and restaurants. For

example, the council worked with a local school to help it assess the foods available to children and make changes to promote the consumption of healthier foods. One change was the replacement of a school fundraiser that sold junk food with one that sells healthy snacks. The council also runs a “14 Carrot Challenge” that gives special recognition to organizations and establishments that meet specified nutrition criteria.

Another example of fostering environmental change comes from The Wellmark Foundation, which supported a smoking cessation project in the small farming community of Keosauqua, Iowa. The *Worksite Wellness Smoking Cessation Program* involved the five companies that employ 90 percent of the employees in the county. The health services, nicotine replacement therapy, and education funded by the foundation were successful in encouraging some employees to quit smoking. But what was even more effective in reducing overall smoking was the decision of two of the five employers to make their plants nonsmoking

environments. Not only were employees at those plants less likely to smoke heavily during the work day, employees who made a decision to quit were less likely to return to their old habits. Two years out, 70 percent of the employees in one of those plants are still nonsmokers. The foundation then built upon its success with the employers by sponsoring a social marketing campaign around tobacco cessation as a communitywide project. The campaign attracted so much attention that the foundation was able to help push through changes in city regulations to eliminate smoking in local restaurants.

Influencing Policy and Legislation

The sixth level of the *Spectrum of Prevention* can involve changes in laws, regulations, and policies that affect the health and well-being of children and adults. Many health grantmakers fund projects aimed at achieving policy, program, and legislative changes that promote health. For example, The Boston Foundation and The Jessie B. Cox Charitable Trust supported a campaign

THINK NATIONALLY, WORK LOCALLY

To effect changes nationally, it is critical to build momentum at the local level. Changes made at the local level — like soda bans in schools — often catch on and are adopted at the national level. One powerful example of this phenomenon is the passage of car safety seat laws in state after state across the country. Tennessee was the first state in the nation to pass a law requiring car safety seats for children ages 3 and under. Following the passage of this law in 1978, car seat use in Tennessee more than tripled from 8 percent to 29 percent within 2½ years (Schieber et al. 2000). Largely because of this success, by 1985, similar legislation had been enacted by every other state, leading to a significant and powerful change in national norms in less than a generation.

advocating for an increase in Massachusetts' cigarette excise tax. While the primary goal of the campaign was to generate public funds to support expansions in the state's public health insurance coverage, increases in cigarette taxes are a proven method of reducing smoking among youth and adults. The campaign's plan called for a portion of the new funds to be used to hire community health workers for outreach and disease prevention efforts.

In another example, The California Endowment gave grants to statewide organizations to allow them to advocate for long-term public policy solutions to the health and health care issues affecting California's agricultural workers. The grants were part of a five-year, \$50 million initiative launched in response to recommendations from a foundation-sponsored task force that found that the state's agricultural workers face serious risks for life-threatening chronic diseases caused by poor nutrition and little or no access to health care.

Health grantmakers are also sponsoring studies of government policies and programs, and supporting key state and local organizations that advocate for particular populations. St. Luke's Health Initiative funded a study of Arizona's Proposition 200, a 1994 law increasing cigarette taxes from 18 cents to 58 cents per pack. Funds from this tax increase were earmarked for programs focused on the medically needy, tobacco use prevention programs, and research on tobacco-related diseases. The study was conducted to determine whether the tobacco tax funds

were spent according to the wishes of the people and to examine whether the funded programs were working. The study also provided valuable information about uses of Arizona's share of the master tobacco settlement.

Conclusion

Whether it is working to educate seniors about the importance of remaining active, funding the development of community walking trails, or advocating for laws that protect children from tobacco, health grantmakers are and will continue to be in the forefront of efforts to promote healthy behaviors and prevent chronic disease. There are promising signs that the work of grantmakers and others is beginning to pay off. In recent years, physical activity levels among adults have increased, albeit modestly, and rates of smoking have declined among both youth and adults.

But much difficult work remains to be done. Grantmakers interested in promoting healthier lifestyles and preventing chronic disease will find themselves facing entrenched patterns of behavior and strong societal influences. Changing American diets, for example, will require confronting a culture where unhealthy food is easier to find than healthy food and both children and adults are bombarded with messages that encourage them to eat more than they need. Similarly, encouraging people to move more will be challenging when many, especially women, are working longer hours than ever and it feels as though time is increasingly in short supply (Golden and Jorgensen 2002; Smolensky and Gootman

2003). The challenges to preventing tobacco use and helping smokers quit are well known, but remain hard to overcome.

Addressing the root causes of chronic disease is a long-term proposition requiring sustained efforts. Comprehensive, multilevel interventions are most likely to be successful, but these types of interventions require sophisticated strategies, thoughtful planning, careful execution, and sustained funding. Grantmakers can — and do — play key roles at each point in the process, by contributing their expertise; by supporting key services and organizations; and by mobilizing individuals, families, communities, and society at large to create environments where people can be successful in their efforts to live healthier lives.

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