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Using Sound Science to
Prevent Chronic Disease:
State Policy Implications

Trends Alert



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Note: This publication is the last of a three-part series on the implications and costs of trends in chronic diseases, including:

- *State Official's Guide to Wellness*
- *TrendsAlert: Costs of Chronic Diseases: What Are States Facing?*
- *TrendsAlert: Using Sound Science to Prevent Chronic Disease: State Policy Implications*

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Why Using Proven Prevention Policies is Important

Preventable chronic diseases contribute to the rapidly increasing health care costs that states face. Because of the effect medical costs have on budgets, states are beginning to focus on getting proven interventions into policy and practice, but this transition has been slow. Policymakers can focus states' efforts to prevent chronic diseases and their associated costs by supporting the **20 Key Proven Strategies to Prevent Chronic Diseases and Promote Good Health** presented in this *TrendsAlert*. These effective and evidence-based strategies are based on the *Guide to Community Preventive Services* and the *Guide to Clinical Preventive Services*, the two leading sets of recommendations for chronic disease prevention (see page 6).

Trend data show that health care expenditures in the U.S. have been growing at a staggering pace in recent years and projections show continuing growth in the future.¹ Public funds are paying for a larger share of these costs, through Medicaid, Medicare and other publicly funded programs. If current trends continue, states will be responsible for approximately \$250 billion to support Medicaid in 2014—twice the amount states currently contribute. While this is startling, another trend is sobering—some science-based interventions that save lives and health care costs were known decades ago but remain underutilized. Policy support for key effective strategies has been extremely slow to develop at all levels of government and slower to be adopted in health care practice. Policymakers need to support these interventions to guarantee widespread implementation.

State policymakers and legislators can use legislative, budgetary and executive authority to implement proven prevention policies for chronic diseases and their risk factors.

Specifically, legislators can:

- **Provide leadership and encourage others to become active in implementing proven prevention policies;**
- **Create partnerships with the private sector and health insurers to evaluate benefits of adopting prevention strategies;**
- **Work with the executive branch and federal government to increase use of proven policies under publicly funded health programs;**
- **Engage the state's health department to create a statewide strategic plan for adopting all recommended strategies;**
- **Consider legislation to foster participation by businesses, state and local agencies, and communities to promote use of chronic disease prevention policies; and**
- **Engage multiple constituencies in finding sensible and practical ways to implement prevention policies that consider the state's unique economic, political, cultural and demographic conditions.**

Chronic Disease Trends

Chronic diseases such as heart disease and stroke, cancer, diabetes, arthritis and respiratory diseases are major killers and major sources of illness, hospitalization, health care costs and long-term disability in the U.S. Without aggressive intervention to prevent complications of these chronic diseases and their costs, these trends are expected to continue to worsen.

Recent chronic disease data show that:

- 25 million Americans live with a chronic disease that significantly limits their daily activity.
- 1.7 million deaths, or 70 percent of all deaths in the U.S., annually are due to all chronic diseases.²
- Chronic diseases account for more than 83 percent of the \$1.4 trillion spent on health care in the U.S. annually.³



- More than half of Medicare enrollees were treated for five or more medical conditions in 2002, and those with three or more chronic conditions accounted for more than 90 percent of Medicare expenses.⁴
- Five major chronic diseases—heart disease, stroke, cancer, chronic lower respiratory disease and diabetes—cause more than two-thirds (66 percent) of all U.S. deaths.⁵
- Health behaviors such as poor nutrition, lack of physical activity, smoking and stress account for approximately 40 to 50 percent of ill-health and death.⁶

The U.S. trends for the most common chronic diseases are staggering. For example:

- **Diabetes.** During 1980–2005, the estimated number of people diagnosed with diabetes in the United States more than doubled, from 5.8 million to 14.6 million.⁷ Although approximately 21 million Americans have diabetes, it is estimated that 6.2 million cases are undiagnosed.⁸
- **Obesity.** It is estimated that 66 percent (133 million) of American adults over age 20 are overweight or obese, while 32 percent (64 million) are obese.^{9, 10} In 1994, no state reported obesity rates at or above 20 percent. By 2005, 17 states had at least 25 percent obesity rates among their adult population, and in three of these states at least 30 percent were obese.¹¹ Overweight and obesity have been linked to increased risk for heart disease, stroke, several types of cancer, diabetes, osteoarthritis and other chronic conditions.
- **Cardiovascular Disease—Heart Disease and Stroke.** Heart disease and stroke are the first and third leading causes of death for both men and women in the United States, accounting for nearly 40 percent of all deaths. Every year, more than 927,000 Americans die of cardiovascular disease.^{12,13} In addition, more than one-fourth (70 million) of Americans live with a cardiovascular disease.¹⁴ More than 6 million hospitalizations each year are due to cardiovascular disease.¹⁵
- **Cancer.** Cancer is the second leading cause of death in the United States. According to *United States Cancer Statistics: 2002 Incidence and Mortality*, more than 557,000 Americans died of cancer, and more than 1.24 million were diagnosed with cancer in 2002. This does not include most pre-invasive cancers or about 1 million cases of non-melanoma skin cancer that were also diagnosed in 2002.¹⁶

Every year, research provides more evidence for interventions that can prevent chronic diseases. For example, raising prices on cigarettes has been successful in reducing youth initiation to tobacco use.¹⁷ Studies have shown that when health care providers assist smokers in quitting, they improve the success rate of addicted smokers.¹⁸ Moderate amounts of physical activity have been shown to greatly reduce the risk of heart attacks, strokes and diabetes. Also, evidence is emerging about effective strategies communities can use to encourage physical activity and how health care providers can help people maintain exercise regimens.¹⁹ However, these interventions require more support from all levels of government to be fully implemented and effective at addressing chronic diseases, their costs and complications.

Proven chronic disease prevention strategies are recommended by key governmental and nongovernmental agencies that set national health guidelines. The following sections describe 20 key strategies which science has shown to improve health. These 20 strategies focus on six areas:

- Preventing or reducing tobacco use;
- Increasing physical activity and improving nutrition;
- Increasing prevention of heart disease and stroke through control of blood pressure and cholesterol;
- Maintaining control of diabetes in diagnosed patients;
- Increasing prevention and early detection of certain cancers through expanded use of screening tests; and
- Improving oral health through school-based dental sealant programs and community water fluoridation.



As policymakers consider prevention solutions to control the cost and reduce the impact of chronic diseases, they will need to balance the needs of their constituents, fiscal realities and other factors including:

- Ways to inform and educate consumers and practitioners about best practices for good health, and the need to overcome health literacy barriers;
- Programs to reach the uninsured, underinsured and underserved populations; and
- Impact of limited insurance coverage in their state for prevention services.

This *TrendsAlert* presents policy recommendations that have been proved effective by scientific research for preventing chronic diseases. It also describes some of the most recent and innovative state solutions that incorporate effective chronic disease prevention strategies. Extensive information about state wellness programs and health care cost trends can be found in two other Healthy States publications in this series, the *State Official's Guide to Wellness* and *TrendsAlert on Costs of Chronic Diseases: What Are States Facing?*

Figure 1. 20 Key Proven Strategies to Prevent Chronic Diseases and Promote Good Health

1. **Reducing Tobacco use:** Price increases for tobacco products
2. **Reducing Tobacco use:** Mass media campaigns combined with other interventions
3. **Reducing Tobacco use:** Smoking bans and restrictions
4. **Reducing Tobacco use:** Patient telephone support (quit lines) combined with other interventions
5. **Increasing Physical activity:** Community-wide campaigns
6. **Increasing Physical activity:** "Point-of-decision" prompts to encourage stair use
7. **Increasing Physical activity:** School-based physical education
8. **Increasing Physical activity:** Social support interventions in community settings, such as walking groups and support groups
9. **Increasing Physical activity:** Enhanced access to places for physical activity and informational outreach activities
10. **Improving Nutrition in Schools:** Weight management skills and support programs
11. **Diabetes Disease Management:** Identifying people with diabetes within the health care system, implementing effective care guidelines/performance standards, and tracking, measuring and managing health outcomes
12. **Diabetes Case Management:** Planning and coordinating care for people with diabetes.
13. **Diabetes Self-management:** Education in community gathering places (e.g., libraries) for adults with type 2 diabetes and in the home for children/adolescents with type 1 diabetes
14. **Cancer Prevention:** Client reminders, one-on-one education, and use of small media (e.g., informational letters, brochures and videos) to increase demand for screening
15. **Cancer Prevention:** Reducing structural barriers (e.g., inconvenient hours and locations), out-of-pocket client expense, and working with providers to increase providers offering and client access to screenings
16. **Cancer Prevention:** Preventing skin cancer by reducing UV light exposure
17. **Improving Oral Health:** School-based dental sealant programs
18. **Improving Oral Health:** Community water fluoridation
19. **Heart Disease and Stroke Prevention:** Blood pressure control
20. **Heart Disease and Stroke Prevention:** Cholesterol screening

Sources: *Guide to Community Preventive Services* (<http://www.thecommunityguide.org>) and *Guide to Clinical Preventive Services* (<http://www.ahrq.gov/clinic/cps3dix.htm>)

What Works: Interventions Proven to Prevent Chronic Diseases

Chronic diseases account for 83 percent of health care costs that states face.³ Preventing these diseases and treating them early are vital to controlling related costs. Policies to prevent chronic diseases that scientific research has proved effective have not always been widely used.

Historically, there has been a significant delay from the time the scientific basis is established for how to prevent a disease to the time it is widely supported by policy and implemented in practice. For example, the scientific evidence supporting the use of mammograms to prevent breast cancer was established in the 1960s. It was not until 1990, when Congress enacted the National Breast and Cervical Cancer Early Detection Program, that it became widely used. By the mid-1990s, there was sufficient evidence to support colorectal exams for prevention of colon cancer. However, there has been very little support for policies that could prevent this cancer, the second leading cause of cancer death in the U.S.²⁰

State legislators can use legislative, budgetary and executive authority to increase the use of scientifically proven strategies to prevent chronic diseases and their risk factors. By cooperating with other state legislators, private sector businesses, health insurance companies, state health agencies and community-based organizations, legislators can work on adopting prevention policies now to improve the long-term health of their constituents.

The following sections describe proven community-based practices and health care policies that prevent chronic diseases, their costs and/or their complications. This section describes national organizations that evaluate research on prevention policies and provides many examples of how states are implementing proven prevention policies for chronic diseases.

National Recommendations for Preventing Chronic Diseases

Several federal agencies and national task forces are responsible for distilling the latest science into recommendations for health and preventive services. The U.S. Preventive Services Task Force, the Agency for Healthcare Research and Quality, and the Task Force on Community Preventive Services are the primary bodies that make recommendations for health services for individuals, as well as for entire communities or populations.

There are two leading sets of national guidelines for chronic disease prevention:

- The *Guide to Community Preventive Services (Community Guide)* is a national resource on proven prevention programs focused on populations, rather than individuals. It contains guidelines developed by a national task force responsible for condensing the latest research results into preventive services recommendations.
- The *Guide to Clinical Preventive Services* is similar to the Community Guide, but focuses on medical care recommendations for individual patients.

More detail about these guides appears in Figure 2, and the Appendix contains detailed information about the guidelines for prevention of specific chronic diseases.

Figure 2. Resources on Science-Based Prevention Guidelines

Guide to Community Preventive Services. *The Community Guide* is developed by the nonfederal Task Force on Community Preventive Services (Task Force), appointed by the director of the Centers for Disease Control and Prevention (CDC). This group was convened to provide leadership in the evaluation of community, population and health care system strategies to address a variety of public health and health promotion topics such as physical activity. Although convened by the U.S. Department of Health and Human Services, the Task Force is an independent decision-making body.²¹ The *Community Guide* is available at: <http://www.thecommunityguide.org>.

Guide to Clinical Preventive Services. The U.S. Preventive Services Task Force (USPSTF), first convened by the U.S. Public Health Service in 1984, and since 1998 sponsored by the Agency for Healthcare Research and Quality (AHRQ), is the leading independent panel of private sector experts in prevention and primary care. The USPSTF conducts rigorous, impartial assessments of the scientific evidence for the effectiveness of a broad range of clinical preventive services, including screening, counseling and preventive medications. Its recommendations are considered the “gold standard” for clinical preventive services.²² The guide is available at: <http://www.ahrq.gov/clinic/cps3dix.htm>.

Other federal and state bodies translate these guidelines into policy by requiring government-sponsored health insurance to cover these prevention services and to provide incentives for insurers to cover these services. For example, the Centers for Medicare and Medicaid Services reviews these guidelines to set standards for their programs.

The sections that follow and the Appendix contain detailed information about the chronic disease prevention recommendations from sources such as the *Community Guide* and the *Guide to Clinical Preventive Services*.

State legislators and policymakers can use these recommendations to choose the most appropriate prevention programs to:

- require in state legislation (e.g., smoking bans) for communities,
- include in state-supported health insurance programs for state employees or Medicaid benefit plans (e.g., reducing out-of-pocket costs for smoking cessation programs), or
- include in worksite health promotion programs for state employees or to be adopted by private employers.²³

20 Key Proven Strategies to Prevent Chronic Diseases and Promote Good Health

Research has proved the effectiveness of many strategies to prevent chronic diseases, address risk factors and promote good health. The strategies below are recommended by the *Community Guide* with either strong or sufficient evidence of effectiveness, or were selected from the *Guide to Clinical Preventive Services*, based on their clear implications for preventing chronic disease in populations.²⁴ One strategy was drawn from the *Dietary Guidelines for Americans, 2005*. Because these 20 strategies have been historically underused, they are prime opportunities for states to make progress against chronic diseases. Detailed Guidelines on the Proven Prevention Strategies are listed in the Appendix.



Reducing Tobacco Use: *Increase Tobacco Cessation, Reduce Initiation of Tobacco Use and Reduce Environmental Exposure to Tobacco Smoke*

Tobacco use is the single most preventable cause of death and disease, causing approximately 440,000 premature deaths in the United States each year.²⁵ Stopping the use of tobacco is the most cost-effective method of preventing chronic disease among adults.²⁶ Smoking harms nearly every organ in the body and can cause chronic lung disease, coronary heart disease and stroke, as well as cancer of the lungs, larynx, esophagus, mouth, bladder, cervix, pancreas and kidneys.²⁷ Each smoker who successfully quits reduces total anticipated medical costs associated with heart attack and stroke by an estimated \$47 in the first year and \$853 during the following seven years.²⁸ An economic assessment published in 1998 found that a health care insurance plan's annual cost of covering treatment to help people quit smoking ranged from 89 cents to \$4.92 per smoker, whereas the annual cost of treating smoking-related illness ranged from \$6 to \$33 per smoker.²⁹

Below are four selected strategies for preventing and reducing tobacco use; the complete list appears in the Appendix.

Recommended Strategies

1. [Increase the price of tobacco products](#). Increasing the price of tobacco products has been shown to decrease tobacco use initiation and increase cessation. Young people and low-income adults are particularly sensitive to price increases.

State example: The bedrock component of California's comprehensive tobacco prevention and control program was a 25 cent increase in the state's excise tax on tobacco products. **California** experienced 33,000 fewer deaths from heart disease from 1989 through 1997 following its tobacco control efforts.³⁰ During this time, rates of lung cancer among men declined more rapidly in California than in other parts of the country, and rates of lung cancer among women in the state declined, while they continued to increase elsewhere.³¹

2. [Mass media campaigns combined with other interventions](#). Public education campaigns using advertising and mass media in combination with community-based services, cessation services, quit lines and other interventions, such as those in schools, have proved effective in decreasing initiation and increasing cessation.

State example: Following the establishment of **Massachusetts'** comprehensive tobacco control program, state rates of smoking during pregnancy dropped sharply, from 25 percent in 1990 to 13 percent in 1996.³² Massachusetts implemented a statewide program that included a media campaign, statewide training and technical assistance programs for smoking cessation providers, and local programs offering direct community-based services for tobacco use prevention and cessation.

3. [Smoking bans and restrictions](#). Fourteen states have placed strong restrictions on smoking in public places: **California, Connecticut, Delaware, Florida, Idaho, Maine, Montana, New Jersey, New York, Massachusetts, Rhode Island, Vermont, Utah, Washington and the District of Columbia**.³³ Studies have shown that smoking bans in workplaces lead to an average reduction in secondhand smoke exposure of 72 percent.³⁴

State example: A rapid reduction in heart attacks was reported in **Montana** following the implementation of a comprehensive local clean indoor air ordinance in Helena. In fact, this community noted a 40 percent decline in the number of hospital admissions for acute myocardial infarctions (heart attacks) during the six months this ordinance was in place, a rate which rebounded when the ordinance was suspended.³⁵

4. [Patient telephone support \(quit lines\) combined with other interventions](#). Smokers can use quit lines as an effective tool to aid them in cessation. When paired with other interventions such as a media campaign, cessation rates increase.

State example: **New York's** comprehensive anti-smoking efforts are built around five major strategies that incorporate most of CDC's recommended policies and interventions. These five key strategies include:³⁶

- Funding community-based organizations to help them fight tobacco use at the local level and fight tobacco promotion in neighborhood stores, billboards, schools and businesses;
- Keeping the price of tobacco products high with a \$1.50 excise tax per cigarette pack and a 37 percent tax on other tobacco products and restricting the places where tobacco products can be sold;
- Minimizing nonsmokers' exposure to secondhand smoke through smoking bans in indoor public spaces and workplaces;
- Running an aggressive, emotionally powerful media campaign to motivate smokers to quit and prevent others from ever starting; and
- Helping to make it easier for smokers to quit through staffing telephone quit lines that offer counseling and follow-up services, cutting costs for nicotine replacement products, and encouraging health care providers to screen for tobacco use.

The first four strategies not only reduce the amount of smoking among adults, but also are effective in preventing children from starting to smoke.

Increasing Physical Activity

Despite the proven benefits of physical activity, more than 50 percent of American adults do not get enough physical activity to provide health benefits, and 26 percent are not active at all in their leisure time. Lack of physical activity is a leading contributor to obesity and other chronic diseases (e.g., type 2 diabetes). Activity decreases with age, and sufficient activity is less common among women than men and among those with lower incomes and less education. Insufficient physical activity is not limited to adults. Less than two-thirds of young people in grades 9–12 regularly engage in vigorous physical activity, and 75 percent are not getting enough moderate physical activity. Daily participation in high school physical education classes dropped from 42 percent in 1991 to 28 percent in 2003.³⁷

The benefits of physical activity can be profound. For example, a sustained 10 percent weight loss will reduce an overweight person's lifetime medical costs by \$2,200–\$5,300 by lowering costs associated with hypertension, type 2 diabetes, heart disease, stroke and high cholesterol.³⁸ Furthermore, physical activity is so important that even if only 10 percent of adults began a regular walking program, \$5.6 billion in heart disease costs could be saved.³⁹

Recommended Strategies

5. [Community-wide campaigns](#). Community-wide campaigns—when part of a multi-component effort that also includes strategies such as support or self-help groups, physical activity counseling, risk factor screening and education, community health fairs and other community events, and environmental or policy changes such as the creation of walking trails—are effective in increasing both the percentage of people who are physically active and the quality of their activity.⁴⁰

State example: **Florida** Law Chapter #338 (2004-enacted) requires the Department of Health to promote healthy lifestyles to reduce the prevalence of overweight and obesity in the state through



public awareness campaigns; technical assistance, training and resources on healthy lifestyles and chronic diseases; and development, implementation and use of all available research methods to collect data and track the incidence and effects of weight-gain, obesity and related chronic diseases.

6. ["Point-of-decision" prompts to encourage stair use.](#) Point-of-decision prompts are signs placed by elevators and escalators that encourage people to use nearby stairs for health benefits or weight loss. These signs tell people about the health benefits of taking the stairs and/or remind people who already want to be more active that taking the stairs is an opportunity to do so.

Example: CDC's Division of Nutrition and Physical Activity conducted a study beginning in 1998 to see if making physical changes to a stairwell in the Atlanta-based Koger Center Rhodes Building would motivate employees to use the stairs. A four-stage passive intervention was implemented over three and a half years that included painting and carpeting, framed artwork, motivational signs and music. Infrared beams were used to track the number of stair users. "StairWELL to Better Health" was a low-cost intervention (less than \$16,000), and the data suggest that physical improvements, motivational signs and music can increase stairwell use among building occupants.⁴¹

7. [School-based physical education \(PE\).](#) To increase the amount of time students spend doing enhanced or vigorous activity in PE class, enhanced school-based PE seeks to change instructional strategies by making classes longer or having students be more active during class. Interventions reviewed by the Community Guide included changing the activities taught (e.g., substituting soccer for softball) or modifying the rules of the game so that students are more active (e.g., in softball, have the entire team run the bases together when the batter makes a base hit). Many interventions also included health education.⁴²

State examples: **Oklahoma** Senate Bill 312 (2005-enacted) requires the state Board of Education to mandate, as a condition of accreditation, that public elementary schools provide physical education taught by certified health and physical education teachers for a minimum of 90 minutes each week. It also encourages school districts to implement graduation requirements, such as health education credits taught by class teacher, nurse or physical education teacher for a minimum of 60 minutes per week.⁴³ **Arkansas** Act 1729 (2003-enacted) requires each school district to report physical education compliance to the Department of Education annually and requires 60 minutes of physical activity per week for every student in grades K-8 who is physically able to participate.

8. [Social support in community settings.](#) These interventions focus on changing physical activity behavior through building, strengthening and maintaining social networks that provide supportive relationships for behavior change (e.g., setting up a buddy system, contracting with others to complete specified levels of physical activity or setting up walking groups or other groups to provide friendship and support). Interventions included in the Community Guide review involved either creating new social networks or working within existing networks in a social setting outside the family, such as in the workplace. Walking groups, buddy systems and other social supports increase physical activity time by 44 percent and frequency of physical activity by 20 percent. These programs improved fitness levels, lowered percentage of body fat, increased knowledge about exercise and improved confidence in the ability to exercise.⁴⁴
9. [Enhancing access to places for physical activity and informational outreach activities.](#) These interventions involve the efforts of worksites, coalitions, agencies and communities to change the local environment to create opportunities for physical activity. Such changes include creating walking trails, building exercise facilities or providing access to existing nearby facilities. Many



enhanced access programs also train participants to use the equipment and offer health behavior education, risk factor screening, referrals to physicians or additional services, health and fitness programs, and support or buddy systems to increase physical activity.

State examples: The Eugene School District in **Oregon** has received a federal Carol M. White Physical Education Progress (PEP) Grant that improves school fitness facilities, allowing more focus on individual lifetime fitness activities rather than traditional competitive sports. For example, elementary schools added climbing walls and plan to open these facilities to the community. A partnership with city-sponsored after-school programs in Eugene's middle schools trains city staff to encourage similar lifetime, individual fitness activities.⁴⁵

To reach families throughout the state, **Wisconsin** state government partnered with Blue Cross Blue Shield Foundation of Wisconsin to distribute more than 500,000 educational books on ways for parents to help their children lead healthier lives. The guide highlights the important role that family, realistic goals, nutrition and physical activity have in achieving good health. It includes a healthy-habit quiz to help families identify where to make changes in their daily lives, as well as nutritional guidance on creating healthier meals and recreational activities that parents and children can enjoy together.⁴⁶

Improving Nutrition in Schools

The Dietary Guidelines for Americans recommend that children and adolescents increase their intake of fruits, vegetables, whole grain and fiber-rich foods while limiting fat (see Appendix for specific guidelines).⁴⁷ Most children are not meeting federal recommendations on a variety of food categories. Unbalanced and unhealthy eating means that children are not getting the nutrients they need for growth, learning (cognitive development and function) and prevention of chronic diseases later in life.

Only 2 percent of school-aged children consume the recommended daily number of servings from all five major food groups, and less than one-fifth of children eat five servings of fruits or vegetables a day; only 30 percent consume the recommended serving amounts for the milk group. More than 80 percent of children and adolescents eat too much total fat (i.e., more than 30 percent of total calories from fat), and more than 90 percent eat too much saturated fat (i.e., more than 10 percent of total calories from saturated fat).⁴⁸

Establishing healthy eating patterns in childhood and adolescence promotes optimal childhood health, growth and intellectual development; prevents immediate health problems, such as iron deficiency anemia, obesity, eating disorders and dental caries; and may prevent long-term health problems, such as coronary heart disease, cancer and stroke. Schools can help accomplish this through a coordinated school nutrition policy which promotes healthy eating through classroom lessons and creates a school environment supporting these lessons.

Recommended Strategy

10. [School nutrition programs](#). School health programs can help children and adolescents attain full educational potential and good health by providing them with the skills, social support and environmental reinforcement they need to adopt long-term, healthy eating behaviors.⁴⁹

State example: **Kentucky** Senate Bill 172 (2005-enacted) requires the state Board of Education to issue minimum nutritional standards for food and beverages sold outside the Nutritional School Breakfast and National School Lunch programs. The bill addresses time limitations for the sale of competitive foods and sets penalties for violations of sales. The bill also sets requirements for food service personnel training and annual assessments of school districts' nutrition and physical activity environment.



Preventing and Managing Diabetes

Evidence has shown that outpatient training to help people self-manage their diabetes prevents hospitalizations; every \$1 invested in such training can cut health care costs by up to \$8.76.⁵⁰ Additionally, screening for blood sugar in people with risk factors for diabetes, and simple checking of feet and eyes in diabetics can prevent costly and debilitating complications. Yet many adults are not getting regular lifesaving screenings as recommended. In just five years, a foot care program can save \$900 (in 2000 U.S. dollars) in health care costs for a person with diabetes who has had foot ulcers. Such care prevents amputations.⁵¹

Recommended Strategies

11. [Disease management](#). Identify all those diagnosed with diabetes within the health care system; implement effective care guidelines/performance standards; track, measure, and manage health outcomes.
12. [Case management](#). Assign a case manager to plan and coordinate care for people with diabetes.

State example: Qualis Health, the **Washington** State Department of Health, and the Robert Wood Johnson Foundation's Improving Chronic Illness Care program implemented a diabetes training collaborative using the [Chronic Care Model](#). Provider practices (private offices and clinics, hospital clinics, health care delivery systems and health plans partnered with medical clinics) have sent case managers to trainings that focus on how to plan and coordinate care for people with diabetes.^{52,53} This has resulted in improvements in patient control of blood sugar and increases in the percent of patients with blood pressure and cholesterol levels below the "high" range.

13. [Educate people about diabetes self-management in community gathering places \(e.g., libraries\) for adults with type 2 diabetes and in the home for children/adolescents with type 1 diabetes.](#) Diabetes self-management education is the process of teaching people to manage their diabetes. Its goals are to optimize metabolic control, prevent acute and chronic complications, and achieve an optimal quality of life, while keeping costs acceptable. It can be provided in various community settings, including community gathering places, the home, recreational camps, the worksite and schools.

State example: The Charleston and Georgetown (**South Carolina**) Diabetes Coalition has nearly eliminated the 21 percent disparity in blood sugar (hemoglobin A1C) testing between African-Americans and whites through aggressive comprehensive community outreach to African-Americans where they live, worship, work, play and seek health care. Strategies include establishing walk-and-talk groups, providing diabetes medicines and supplies, and creating learning environments where health professionals and people with diabetes learn together. Just two years after the program began, African-Americans in Charleston and Georgetown are more physically active, are being offered healthier foods at group activities and are getting better diabetes care and control. In addition, some disparities have been greatly reduced for African-Americans with diagnosed diabetes. For example, more African-Americans are having the recommended annual tests to determine their hemoglobin A1C (blood sugar) level, lipid profile and kidney function, as well as referral for eye examination using dilation and measurement of blood pressure.⁵⁴



Cancer Prevention

To reduce mortality from breast, cervical, colon and rectal cancers, the U.S. Preventive Services Task Force recommends several key effective strategies.

A mammogram every one to two years can reduce the risk of dying of breast cancer by approximately 20 to 25 percent over 10 years for women aged 40 or older.⁵⁵ Routine screening can reduce the number of people who die of colorectal cancer by as much as 60 percent or more.⁵⁶ Screening programs for colorectal cancer have a cost-effectiveness ratio of \$10,000 to \$25,000 per life-year saved.⁵⁷ This means, for example, that if a state spent \$12.5 million on a colorectal cancer screening and treatment program over five years, that state should expect to prevent 100 to 250 colorectal cancer deaths.

The Guide to Community Preventive Services recommends a number of strategies to increase the use of these effective cancer screening services. In addition, tobacco control, weight control, physical activity and a healthy diet (see above) are also important ways to improve cancer prevention.

Recommended Strategies to Increase the Use of Cancer Screening

14. [Multi-component interventions using media, education and enhanced access.](#) The use of mass media to increase cancer screening is almost always applied in the context of broader community programs that include small media (e.g., brochures, posters or newsletters), a small group or one-on-one educational component and, usually, an access-enhancing measure (removal of a financial or structural barrier). Use of multi-component interventions that include media, education and enhanced access is based on the premise that providing information about benefits and availability will increase demand for cancer screening and, along with making services more accessible by removing financial or structural barriers, will promote higher screening rates.

State example: **New York** state provides a multi-component program to address breast cancer. The program reduces financial barriers by including Medicaid coverage for breast and cervical cancer treatment after screening to uninsured, low-income individuals. Access barriers are also reduced by:

- Allowing excused leave time for breast cancer screening for state workers, both females and males. State employees can use up to four hours for screening without having to deduct the time from their vacation, sick or personal leave.
- Using mobile mammography vans to increase access to annual screenings to women throughout the state.

Other components address the media and educational aspects including:

- [Healthy Women Partnerships](#) are funded in 54 New York counties to lead local efforts to educate, inform and provide women with breast and cervical cancer health care services.
- [Cancer education.](#) The Healthy Women Partnerships program also supports public education about cancer risk factors and the importance of early detection.
- [Income tax check-off.](#) New York established a check-off on the New York State Income Tax Form to donate funds to the Breast Cancer Research and Education Fund.

15. [Increasing provider delivery and client access to screening services through interventions to reduce structural barriers, out-of-pocket client expense and provider reminder/assessment/feedback interventions.](#) Reducing structural barriers helps give clients access to a preventive service (e.g., cancer screening) in a clinical or non-clinical setting through changes in such barriers as location, hours of operation and availability of child care. These

interventions are based on the premise that facilitating access to screening will increase demand for and use of these services.

State examples: Southeast **Missouri** is a large rural area with limited medical services, low socioeconomic status and high insurance premiums and deductibles, which have prevented underserved women from receiving breast and cervical cancer screening and diagnostic services. In 2004, four different events were held in eight rural locations in southeast Missouri. Local providers used a mobile mammography unit, a van equipped with a variety of mammography equipment. These Women's Health Days were advertised through the media, church bulletins, flyers and word of mouth.

The **Delaware** Screening for Life Program provides breast, cervical and colorectal cancer screening tests to qualified adults. The program serves individuals and families below 250 percent of the federal poverty level who are uninsured or underinsured. In addition to screening services, the program also provides health education and assistance with coordinating health care.⁵⁸

Recommended Strategies to Increase Use of Cancer Prevention

16. [Preventing skin cancer by reducing UV light exposure.](#) The strategies of effective population-based interventions to prevent skin cancer by reducing exposure to ultraviolet (UV) focus on changes in: 1) improving "covering up" behavior, such as wearing protective clothing like a long-sleeved shirt, long pants and hat; and 2) increasing shade use or staying out of the sun during peak UV hours.

Interventions in primary school settings as well as those in recreational and tourist settings are designed to increase sun-protective knowledge, attitudes, intentions and behavior among the populations.⁵⁹

Improving Oral Health

More than \$84 billion was spent on dental services in the United States in 1995. In most cases, dental caries (tooth decay) can be prevented, yet tooth decay remains one of the most common childhood diseases. Two community-based interventions—school-based, or school-linked, dental sealant programs and community water fluoridation—have proved effective in preventing tooth decay. Both strategies have been shown to save money and are strongly recommended for population-based prevention of tooth decay, particularly among low-income families, families without private dental care and families at highest risk for oral health problems.⁶⁰

Recommended Strategies

17. [School-based dental sealant programs.](#) Dental sealants are plastic coatings applied to the chewing surfaces of teeth, where most decay is found. School-based or school-linked sealant delivery programs directly provide sealants to children who are otherwise unlikely to receive them. School-based programs are conducted entirely in the school setting, and school-linked programs are conducted in both schools and clinic settings outside schools. Such programs define a target population within a school district; verify unmet need for sealants through surveys; get financial, material and policy support; apply rules for selecting schools and students; screen and enroll students at school; and apply sealant at school or offsite in clinics. Many programs target what are referred to as high-risk children with high-risk teeth. High-risk children include vulnerable populations less likely to receive private dental care, such as children eligible for free or reduced-cost lunch programs. High-risk teeth are those with deep pits and fissures that erupt into the mouth around ages 6 and 12. Sealant programs prevent about 60 percent of tooth decay



in school children aged 6 to 17. Increasing access to dental sealants among poor children results in a significant decrease in tooth decay and subsequent pain, suffering, costs for treatment and lost school days.

State example: *Healthy Smiles for Wisconsin* is a statewide program initially supported by CDC to improve the oral health of **Wisconsin** children through school and community partnerships. As part of this effort, the state formed Healthy Smiles for Wisconsin Coalition, which includes more than 25 state, public and private organizations. The coalition's dental sealant program, *Seal a Smile Initiative*, began in October 2000 and has helped establish new school-based dental sealant programs. During the 2005-06 school year, more than 4,800 school-aged children in 40 counties across Wisconsin received more than 18,000 dental sealants through this program. Since the 2002-03 school year, the state has appropriated \$60,000 annually for this program. The governor's 2005-07 budget proposed doubling funding for this program to \$120,000 annually.

18. [Community water fluoridation](#). Community water fluoridation has been shown to be effective in reducing tooth decay among populations. Tooth decay typically decreases 29 percent after starting or continuing community water fluoridation. Fluoridation is also cost-effective: for every \$1 spent on community water fluoridation, about \$38 is saved in dental treatment.⁶¹ Annual costs to communities to fluoridate the water are minimal, ranging from about 50 cents per capita for communities of more than 20,000 people to about \$3 per capita for small communities of 5,000 or fewer residents. While national health objectives call for 75 percent of the population served by community water systems to be drinking optimally fluoridated water by 2010, only two out of three people have access to fluoridated drinking water today,⁶² leaving approximately 100 million Americans without its benefits.

Legislators in some states have passed laws requiring fluoridation. Currently 10 states—**Connecticut, Minnesota, Illinois, South Dakota, Ohio, Georgia, Nebraska, California, Delaware** and **Nevada**—have laws mandating community water fluoridation. Several of these laws mandate fluoridation for communities with a specified number of people served by public water systems, and all specify the fluoride level to be maintained in the water system.⁶³

Heart Disease and Stroke Prevention

Heart disease is the leading cause of death in the United States and is a major cause of disability. Almost 700,000 people die of heart disease in the U.S. each year, which is about 29 percent of all U.S. deaths. High blood pressure and high blood cholesterol are two major contributing factors to heart disease.

Lifestyle changes that include eating a healthy diet that emphasizes fruits, vegetables, low fat dairy products and foods with less salt and sodium, maintaining a healthy weight, being physically active, moderating alcohol intake and not smoking can help keep blood pressure levels normal and cholesterol levels low. High blood pressure and cholesterol can usually be controlled with lifestyle changes and, when needed, medication.⁶⁴

Recommended Strategies

19. [Blood pressure screening](#). Evidence shows that blood pressure screening can identify adults at increased risk for cardiovascular disease due to high blood pressure, and that treatment of high blood pressure substantially decreases the number of people who develop cardiovascular disease.⁶⁵

State example: The **Georgia** Stroke and Heart Attack Prevention Program is a screening, education and direct service program for low-income patients with hypertension. A recent cost-effectiveness evaluation of the program found it was less costly and resulted in better health

outcomes than either no preventive care or private care. Combining the costs of preventive treatment with the costs of expected adverse events, the Georgia Stroke and Heart Attack Prevention Program cost an average of \$486 per patient annually, compared with average annual costs of \$534 for no care and \$624 for private care. Because the benefits of this program accrue to both the state and federal governments through reduced Medicaid and indigent care expenditures, both state and federal governments have a financial incentive to support this type of program.

20. [Total cholesterol screening](#). Measurement of HDL cholesterol along with total cholesterol improves the identification of people at increased risk of cardiovascular disease. Men over age 35 and women over age 45 should be screened regularly for high blood cholesterol.⁶⁶

Factors Affecting Use of Proven Interventions

The nation has been slow to take up scientifically proven methods of prevention, and health care practitioners have not universally adhered to recommended proven clinical prevention guidelines. Because much of our health care and insurance system is oriented to acute medical care, this may have contributed to the delay. When someone has a heart attack, the treatment costs for that individual are usually covered by insurance, but preventing the risk factors that led to the heart attack may not be covered. For many of the diseases and risk factors discussed here, the clinical and scientific evidence for prevention was established decades before it was used routinely in clinicians' offices or incorporated into policy initiatives. For example, abundant scientific evidence on the health hazards of smoking existed before the U.S. Surgeon General released the landmark 1964 report declaring smoking a serious public health hazard. It still took several decades after that report's release before policymakers and the public seriously considered widespread action to combat tobacco use.

The Uninsured and Underinsured

Almost 46 million Americans—16 percent—are uninsured.⁶⁷ Between 2000 and 2003, the number of uninsured Americans increased by more than 5 million people.⁶⁸ Many more Americans are underinsured, with only limited coverage for catastrophic events. Preventive services may be unavailable or difficult to access for these people. The result can be unexpected costly illnesses or visits to emergency departments for treatment of illnesses that are not caught and treated early. These delays in receiving treatment can lead to a reduced quality of life and even premature disability and death.

Safety net providers give some relief and make preventive services available to individuals and their communities. Often, community health centers, migrant health centers, nonprofit agencies, hospital outreach programs and school-based clinics provide these services at little or no cost. Still, those without a home in the medical care system have more difficulty making wellness and prevention part of their health care usage.

Insurance Coverage for Preventive Services

In recent years, coverage for preventive services has increased. Medicare and Medicaid have added some prevention services to their covered benefits, and a number of states have mandated that insurance plans cover wellness services. Unfortunately, these benefits often go unused. For example, while Medicare beneficiaries use breast cancer screenings at a high rate, their use of the colorectal cancer screening benefit is low. The same can be said of many benefits provided through other insurance plans. Merely providing coverage is not enough—people need to know that they have coverage for preventive services and be motivated to take advantage of those services.

While many clinical preventive services are covered by insurance plans, coverage for those that are not traditional medical interventions provided by physicians lags behind. Tobacco cessation services and

nutrition and physical activity counseling are prime examples. A major clinical trial showed that people with pre-diabetes could reduce their chances of progressing to full diabetes either with a prescription drug or through supported nutrition and physical activity improvements. The drug therapy was effective for 30 percent of patients, but the nutrition/physical activity counseling was effective for 60 percent. The counseling was also the only intervention that returned blood sugar levels to normal ranges and worked for those 65 and older. Yet, today, most insurance plans would cover the drug but not the counseling. Although the cost is the same, the health care system continues to favor pharmaceutical interventions.⁶⁹

Transforming Health Care: Moving Toward Prevention in Clinical Practice

Almost without exception, public and private health insurance favor acute care and treating illness, rather than paying for preventive measures or even supporting population-based public health initiatives. Health care in the U.S. experienced a shift toward prevention through the Medicare Modernization Act of 2003, which added chronic disease screenings as standard benefits. Other public and private insurers, however, have been slower to move toward prevention despite ample economic and health data supporting such a transition. Preventing disease in the general population, however, cannot be achieved by simply providing health insurance coverage and services alone; physicians and other health professionals must play an important role in promoting wellness among their patients to prevent and control chronic diseases.

Businesses and employers also play a key role in addressing chronic diseases. A 2001 national survey revealed significant gaps in coverage for clinical preventive services in employer-sponsored health insurance plans. Important and effective clinical preventive services to address the most prevalent chronic diseases are not covered at nearly the same rates as other services. For example, tobacco cessation counseling is a well-established clinical preventive service; however, it was not covered by more than 80 percent of employers' plans in 2001. Other important services to prevent and treat chronic diseases were covered by less than 25 percent of employer-sponsored plans, including nutrition counseling, weight loss and management counseling, and physical activity counseling.⁷⁰

Low Health Literacy

Improving health communication, written or oral, is an essential step in improving health literacy.⁷¹ Each interaction—whether between a patient and a provider, a health plan and a member, or public health departments or voluntary health associations and the community—is an opportunity to craft a message that is appropriate for the audience and gives individuals the information they need to make positive health decisions.

State decision-makers play an important role in improving health communication. Mandated policies and procedures affect the availability of one-on-one assistance for individuals, the grade level at which materials are prepared and the availability of materials in languages other than English. State policymakers also play a role in authorizing informational campaigns and increasing awareness of how low health literacy affects care. More information can be found in CSG's **Health Literacy Tool Kit** at <http://www.csg.org/pubs/Documents/Toolkit03HealthLiteracy.pdf>.



What Can Legislators Do?

State legislators and policymakers can use legislative, budgetary and executive authority to implement proven strategies to prevent chronic diseases and their risk factors. In addition, they can use their role as a community leader to encourage use of these strategies in their constituent communities. For several recommended strategies, community-based outreach and education is effective when paired with mass media.

A challenge state policymakers face in implementing prevention strategies is the length of time needed before results can be achieved in terms of avoiding chronic diseases. Policies implemented today will have the greatest effect on the health of today's children when they reach maturity.

With the future in mind, several states have supported or implemented broad initiatives to promote good health:

- *Healthy Arkansas* is aimed at improving the health of Arkansans through physical activity, nutrition and tobacco avoidance. The program provides information on health topics such as obesity, body mass index, nutrition, diabetes, physical activity and quitting smoking.
- *Get Healthy California* is an initiative to address obesity throughout the state by reducing the size of physical education classes to give students more personalized attention; providing additional training for physical education teachers; and buying more sports equipment such as playground balls, soccer balls, jump ropes, gymnastics equipment and track equipment. Additional funding will provide 1,000 Physical Education Incentive Grants designed to give schools the ability to hire more credentialed physical education teachers. At the kickoff of this initiative, Gov. Arnold Schwarzenegger enacted SB 12 and SB 965 (2005), which established the strongest nutritional standards in the nation for public schools. The governor also signed SB 281 (2005), providing \$18.2 million for more fresh fruits and vegetables in school meals.
- *Prescription for a Healthy Vermont* was implemented in 2005 by Gov. Jim Douglas to address multifaceted health concerns in the state. Key components of the plan include:
 - *Fit & Healthy Kids* encourages children to eat fruits and vegetables, provides opportunities for students to be active and gives grants for communities to create recreational areas such as playgrounds or ball fields. The Governor's Awards program recognizes exceptional local schools.
 - The *Vermont Blueprint for Health* aims to improve outcomes for those with chronic diseases by educating them about how to take a more active role in their health care.
 - *Fit & Healthy Vermonters* focuses on reducing obesity and improving nutrition by beginning community walking programs, encouraging physicians and insurance companies to follow the Chronic Care Model and developing a patient registry for chronic diseases.
 - The *Governor's Commission on Healthy Aging* promotes healthy lifestyles for seniors in communities including proper nutrition and physical exercise, identifies how communities can be made more accessible and senior-friendly, and recognizes individuals and organizations making extraordinary accomplishments in aging.

State legislators play a critical role in using science-based approaches as they become more involved in supporting chronic disease prevention both through broad-based and targeted initiatives. Specifically, they can:

- **Provide leadership in statehouses and encourage colleagues to become active in prevention policy;**



- **Become champions for wellness in states and statehouses;**
- **Create partnerships with the private sector and health insurers to evaluate benefits of adopting prevention strategies;**
- **Work with the executive branch and federal government to maximize options under publicly funded health programs:**
 - **Work with colleagues from other states to share ideas on successes, challenges and lessons learned.**
 - **Seek more information on updated recommended strategies from national organizations such as the [Centers for Disease Control and Prevention](#), [The Community Guide](#) and [Partnership for Prevention](#).**
- **Engage the state's health department to create a statewide strategic plan for adopting all recommended strategies;**
- **Consider legislation to foster participation by businesses, state and local agencies, and communities to promote chronic disease prevention and its key components; and**
- **Engage allies and opponents in policy discussions to arrive at sensible and practical solutions to unique state economic, political, cultural and demographic conditions.**

Conclusion and Future Trends

Current trends of chronic disease and their related costs are projected to continue unless all sectors of society engage in creative solutions to reduce these costs and expand disease prevention. One impending demographic shift is the aging of the baby boomers. In 2011, the baby boomer generation will begin turning 65. By 2030, approximately 20 percent of the U.S. population will be over age 65, a dramatic increase from the current level of 13 percent.⁷² This increase will have an enormous impact on health care costs. According to one study, Medicare spending could increase from 3 percent of U.S. gross domestic product in 2006 to 8.8 percent by 2030.⁷³

Additionally, health professionals and policymakers are beginning to see children enter their teen years, college and adulthood with diabetes, high blood pressure and other effects of overweight, physical inactivity and unhealthy eating. Some experts estimate that the generation growing up today may be the first to live a shorter life than their parents and grandparents.⁷⁴ This will have a tremendous effect on public resources and the ability of public agencies to provide health care and social services, while draining a critical U.S. resource—the work force.

Fortunately, state policymakers have many underutilized strategies that have been shown to be effective in preventing chronic diseases. Evidence shows that it is never too late to stop smoking, become physically active and eat healthful foods—three important tenets of prevention. The 20 strategies presented in this *TrendsAlert* show the most promise for preventing diseases and their related complications and reducing runaway health care costs. To control chronic diseases and their costs, policymakers can emphasize prevention, while maintaining services for those who are already ill. By acting decisively, policymakers can prevent significant costs and illness.

More detailed information about state wellness efforts and the burden of chronic diseases can be found in CSG's documents, [State Official's Guide to Wellness](#) and [Trends Alert--Costs of Chronic Diseases: What Are States Facing?](#) (available at <http://www.healthystates.csg.org/Publications/>)

APPENDIX: Detailed Guidelines on Proven Prevention Strategies

Except where noted, the guidelines on the following pages are selected from the *Guide to Community Preventive Services* and the *Guide to Clinical Preventive Services*, representing those recommendations that pertain to chronic disease prevention.

Guide to Community Preventive Services. The Community Guide is developed by the nonfederal Task Force on Community Preventive Services (Task Force), appointed by the director of the Centers for Disease Control and Prevention (CDC). This group was convened to provide leadership in the evaluation of community, population and health care system strategies to address a variety of public health and health promotion topics such as physical activity. Although convened by the U.S. Department of Health and Human Services, the Task Force is an independent decision-making body.⁷⁵ Guidelines for prevention of chronic diseases are included where strong or sufficient evidence exists to support the guidelines, as of fall 2006. See: <http://www.thecommunityguide.org>

Guide to Clinical Preventive Services. The U.S. Preventive Services Task Force (USPSTF), first convened by the U.S. Public Health Services in 1984, and since 1998 sponsored by the Agency for Healthcare Research and Quality (AHRQ), is the leading independent panel of private sector experts in prevention and primary care. The USPSTF conducts rigorous, impartial assessments of the scientific evidence for the effectiveness of a broad range of clinical preventive services, including screening, counseling and preventive medications. Its recommendations are considered the “gold standard” for clinical preventive services.⁷⁶ Guidelines are included that support the community-based chronic disease prevention guidelines described above, as of fall 2006. See: <http://www.ahrq.gov/clinic/cps3dix.htm>.



Reducing Tobacco Use		
		Strength of Evidence of Effectiveness
Community/ Population Approaches	Strategies to Increase Tobacco Cessation	
	Increase the unit price for tobacco products	Strong
	Mass media campaigns combined with other interventions	Strong
	Provider reminder systems (alone)	Sufficient
	Reducing patient out-of-pocket costs for effective treatments	Strong
	Patient telephone support (quit lines) combined with other interventions	Sufficient
	Strategies to Reduce Tobacco Use Initiation by Children, Adolescents and Adults	
	Increase the unit price for tobacco products	Strong
	Mass media campaigns combined with other interventions	Strong
	Strategies to Reduce Exposure to Environmental Tobacco Smoke	
	Smoking bans and restrictions	Strong
Clinical Recommendations	Counseling to Prevent Tobacco Use	
	Clinicians should screen all adults for tobacco use and provide tobacco cessation interventions for those who use tobacco products.	Good
	Clinicians should screen all pregnant women for tobacco use and provide augmented pregnancy-tailored counseling to those who smoke.	Good



Increasing Physical Activity		
Community/ Population Recommendations	Informational Approaches to Increase Physical Activity	Strength of Evidence of Effectiveness
	Community-wide Campaigns	Strong
	"Point-of-Decision" Prompts To Encourage Stair Use	Sufficient
	Behavioral and Social Approaches to Increase Physical Activity	
	School-based Physical Education	Strong
	Social Support Interventions in Community Settings	Strong
	Individually-adapted Health Behavior Change Programs	Strong
	Environmental and Policy Approaches to Increase Physical Activity	
	Creation of or enhanced access to places for physical activity combined with informational outreach activities	Strong
	Street-scale urban design and land use policies and practices	Sufficient
	Community-scale urban design and land use policies and practices	Sufficient
Clinical Recommendations	Physical Activity Counseling	
	<p>No specific recommendations.</p> <p>The Task Force notes that multi-component interventions—provider advice plus behavioral interventions—are the most promising to facilitate and reinforce healthy levels of physical activity. Such interventions often include a combination of:</p> <ul style="list-style-type: none"> • Patient goal-setting • Written exercise prescriptions • Individually tailored physical activity regimens • Mailed or telephone follow-up assistance provided by specially trained staff. <p>Linking patients to community-based physical activity and fitness programs.</p>	Promising
<p>Note that additional community/population and clinical recommendations are available regarding obesity. In addition, recommendations for worksites are under review.</p>		



Improving Nutrition in Schools		
Community/ Population Recommendations*	Adequate Nutrients within Calorie Needs	
	Consume a variety of nutrient-dense foods and beverages within and among the basic food groups while choosing foods that limit the intake of saturated and <i>trans</i> fats, cholesterol, added sugars, salt and alcohol.	
	Meet recommended intakes within energy needs by adopting a balanced eating pattern, such as the U.S. Department of Agriculture (USDA) Food Guide or the Dietary Approaches to Stop Hypertension (DASH) Eating Plan.	
	Weight Management	
	To maintain body weight in a healthy range, balance calories from foods and beverages with calories expended	
	To prevent gradual weight gain over time, make small decreases in food and beverage calories and increase physical activity.	
	Food Groups to Encourage	
	<p>Consume a sufficient amount of fruits and vegetables while staying within energy needs. Two cups of fruit and 2.5 cups of vegetables per day are recommended for a 2,000-calorie intake, with higher or lower amounts depending on the calorie level.</p> <p>Choose a variety of fruits and vegetables each day. In particular, select from all five vegetable subgroups (dark green, orange, legumes, starchy vegetables and other vegetables) several times a week.</p> <p>Consume 3 or more ounce-equivalents of whole-grain products per day, with the rest of the recommended grains coming from enriched or whole-grain products. In general, at least half the grains should come from whole grains.</p> <p>Consume 3 cups per day of fat-free or low-fat milk or equivalent milk products.</p> <p><i>*Based on Dietary Guidelines for Americans 2005, which contain additional recommendations for specific populations. The full document is available at: http://www.healthierus.gov/dietaryguidelines/index.html</i></p>	
Clinical Recommendations	Counseling for a Healthy Diet	Strength of Evidence of Effectiveness
	<p>No specific recommendations.</p> <p>The Task Force notes 2 promising approaches to behavioral counseling to promote a healthy diet:</p> <ul style="list-style-type: none"> • Counseling (2-3 sessions) delivered by a specialist • 5 minutes or less of primary care provider counseling supplemented by patient self-help materials, telephone counseling, or other interactive health communications 	Promising
<p>Note that additional community/population and clinical recommendations are available regarding obesity. In addition, recommendations for worksites are under review.</p>		



Preventing and Managing Diabetes		
Community/ Population Approaches	Health Care System Level Interventions	Strength of Evidence of Effectiveness
	<u>Disease management:</u> 1) Identify all those diagnosed with diabetes within the health care system. 2) Implement effective care guidelines/performance standards. 3) Track, measure, and manage health outcomes.	Strong
	<u>Case management:</u> Assign a case manager to plan and coordinate care for people with diabetes.	Strong
	Interventions to Educate People about Diabetes Self-Management	
	<u>In community gathering places (e.g., libraries) for adults with type 2 diabetes and in the home for children/adolescents with type 1 diabetes.</u>	Sufficient
Clinical Recommendations	Screening for Diabetes Mellitus, Adult Type 2	
	<u>Screen all symptomatic adults with hypertension or hyperlipidemia for Type 2 diabetes</u>	Fair



Cancer Prevention		
Community/ Population Recommendations	Strategies to Improve Breast Cancer Screening	Strength of Evidence of Effectiveness
	Multi-component Interventions using media, education and enhanced access	Strong
	Client Reminders	Strong
	Small Media (e.g., brochures or videos)	Strong
	Reducing Structural Barriers (e.g., inconvenient hours of operation)	Strong
	Incentives with Client Reminders	Strong
	Reducing Out-of-pocket Expense	Sufficient
	One-on-One Education	Strong
	Strategies to Improve Cervical Cancer Screening	
	Client Reminders	Strong
	Multi-component Interventions using media, education and enhanced access	Strong
	Strategies to Improve Colorectal Cancer Screening	
	Reducing Structural Barriers (e.g., inconvenient hours of operation)	Strong
	Client Reminders	Sufficient
	Strategies for Skin Cancer Prevention	
	Educational/Policy Interventions in Primary Schools	Sufficient
Educational/Policy Interventions in Recreational/Tourism Settings	Sufficient	
Clinical Recommendations	Breast Cancer Screening	
	Screening mammography, with or without clinical breast examination, every 1-2 years for women aged 40 and older.	Fair
	Cervical Cancer Screening	
	Screening with cervical cytology (Pap smears), beginning within 3 years of onset of sexual activity or at age 21 (whichever comes first) and screening at least every three years thereafter.	Good
	The U.S. Preventive Services Task Force recommends against routine Pap smear screening in women who have had a total hysterectomy for benign disease or are older than age 65 and have had adequate recent screening with normal Pap smears and are not otherwise at high risk for cervical cancer.	Fair
	Colorectal Cancer Screening	
Colorectal cancer screening for men or women 50 years of age or older.	Good	



Improving Oral Health		
Community/ Population Recommendations	Intervention Strategies for Preventing Dental Caries	Strength of Evidence of Effectiveness
	School-based sealant delivery programs	Strong
	Community water Fluoridation	Strong
Clinical Recommendations	Prevention of Dental Caries in Preschool Children	
	Primary care clinicians prescribe oral fluoride supplementation to children whose primary water source is deficient in fluoride	Fair

Heart Disease and Stroke Prevention		
Community/ Population Recommendations	Preventing Heart Disease and Stroke	Strength of Evidence of Effectiveness
	Has not been evaluated by U.S. Preventive Services Task Force	N/A
Clinical Recommendations	Strategies for Preventing Heart Disease and Stroke	
	High Blood Pressure: Routine Screening and Treatment	Good
	Total Cholesterol: Routine Screening and Treatment	Good



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