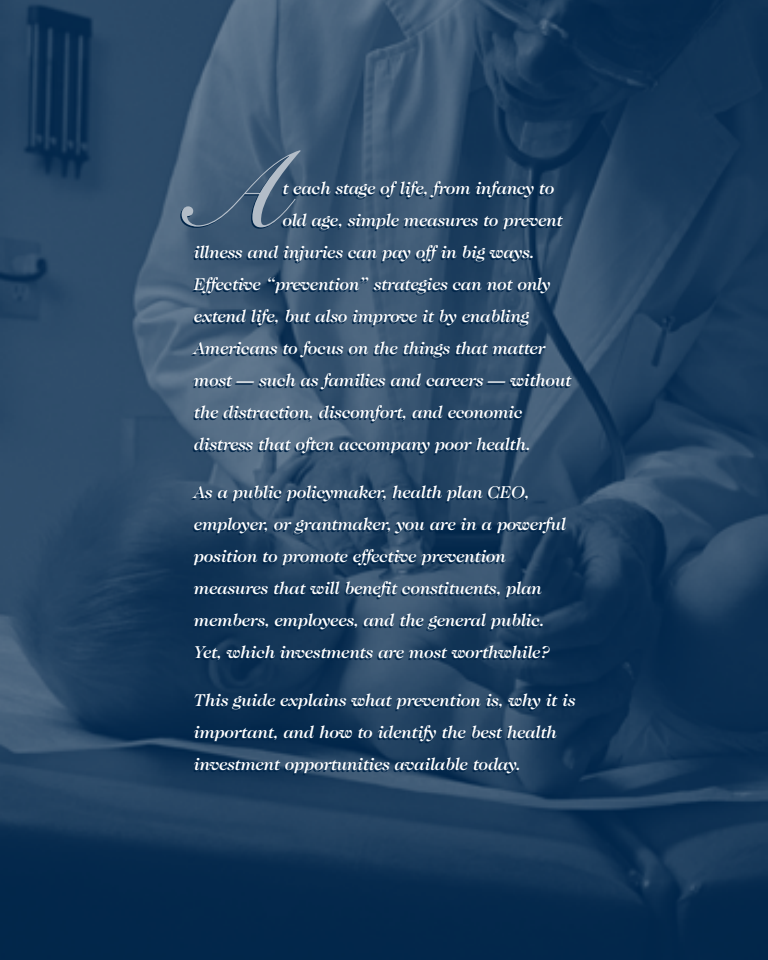


Guide to Smart Prevention Investments

Fall 2001

Partnership for Prevention

Washington, DC

A doctor in a white coat and stethoscope is examining a patient's hands. The scene is dimly lit, with a blue tint. The doctor is leaning over the patient, and the patient's hands are the focus of the examination. The background is slightly out of focus, showing what appears to be a hospital setting.

At each stage of life, from infancy to old age, simple measures to prevent illness and injuries can pay off in big ways. Effective “prevention” strategies can not only extend life, but also improve it by enabling Americans to focus on the things that matter most — such as families and careers — without the distraction, discomfort, and economic distress that often accompany poor health.

As a public policymaker, health plan CEO, employer, or grantmaker, you are in a powerful position to promote effective prevention measures that will benefit constituents, plan members, employees, and the general public. Yet, which investments are most worthwhile?

This guide explains what prevention is, why it is important, and how to identify the best health investment opportunities available today.

Prevention Basics

What Is Prevention?

Prevention encompasses a host of activities to help people avoid illness, injury, and premature death. Some preventive measures are policies, for example, laws that discourage driving while drunk; regulations to fortify foods with needed vitamins and minerals or preserve air and water quality; and employer policies to prevent workforce injuries. Other preventive measures are services, such as periodic health screenings, which help detect diseases at an early stage when treatment can be most effective, or specific vaccines or medicines that have been shown to prevent illness.

Health education campaigns to encourage people to switch to low-fat milk or quit smoking are also preventive measures. Programs that help to reduce violent crime, track infectious diseases like HIV/AIDS, or improve employee health and productivity with worksite-based services are also part of prevention.

As these examples suggest, a prevention portfolio can include:

- > health and related social and economic policies;
- > clinical services; and
- > community-based efforts.

(See “Types of Prevention Investments.”)

Preventing some health problems requires all three strategies. For example, some states have diversified their tobacco prevention portfolios by raising tobacco taxes, enforcing laws that prohibit sales to minors, making it easy for tobacco users to get counseling and nicotine replacement products, sponsoring public education campaigns, and creating tobacco-free environments in public places.^{1,2} These states have been rewarded with declining rates of tobacco use and lower population-wide risks for heart disease and cancer.

Why Invest in Health Promotion and Disease Prevention?

1. Well-chosen prevention investments have been proven to lengthen life and improve its quality.

Since 1900, the average U.S. lifespan has increased by more than 30 years. Twenty-five of these added years are attributed to investments in prevention. Vaccines to protect children from polio and other infectious diseases, improvements in motor vehicle safety, safer and healthier foods, and clean drinking water have saved lives and prevented disability.^{13,14} (See “Investing for Life” for more opportunities to make smart prevention investments.)

2. *Treating preventable diseases and disabilities is costly.*

The cost of care for preventable conditions is growing.¹⁵ Currently, more adults and children are developing diabetes and becoming overweight/obese, two conditions that can often be avoided with diet and physical activity. Both conditions are costly to treat, in part because they increase risks for other serious health problems.^{16, 18, 19, 32} In addition, treating cardiovascular disease and cancers that result from tobacco use has always been expensive and remains so.² The toll of these health conditions goes beyond the monetary cost of treatment. Productivity, quality of life, and independence are also at risk.

What can health investors do? We could significantly reduce costs in many of these categories by improving the prevalence of regular physical activity, healthy diets, tobacco abstinence, and maintenance of a healthy weight.^{2,19}

To encourage these lifestyle changes, the Institute of Medicine recommends joining access to clinical services with efforts to create social and physical environments that promote health.^{20,21} For example, restricting secondhand smoke exposure is an environmental policy that can cut asthma attacks and reinforce clinical services to help tobacco users quit or cut back.^{9,17,23-25}

Types of Prevention Investments

Health, social, and economic policies are broad actions, including legal and regulatory measures, to reduce exposure to harmful substances and reinforce healthy behaviors. For example, a social policy could require that foods sold or served on school campuses meet basic nutrition standards.³ Raising the excise tax on alcoholic beverages is an economic policy that works to decrease alcohol-related illnesses and deaths, especially among youth.^{4,1} In the private sector, employers can require staff to receive periodic safety training as a health policy.⁴

Physicians and other health professionals deliver *clinical preventive services*. Immunizations for children and adults, breast cancer and colorectal cancer screening, use of dental sealants, and counseling patients to quit smoking are all recommended clinical preventive services.¹⁹

Governments, health plans, employers, and grantmakers may all invest in *community-based prevention*. (These communities can be neighborhoods, towns, or even multi-state regions. Populations or social groups, such as senior citizens or health plan enrollees, are also referred to as communities.) For example, a community-based preventive measure can be medical groups working to boost immunization rates by reminding health care providers and patients when different vaccinations are due.⁶ Foundations can make grants to organizations that distribute child safety seats and educate parents about using them – an intervention proven to reduce motor vehicle injuries.²¹ Also, communities can increase physical activity levels by improving access to recreational spaces.¹²



3. Many recognized, but underutilized, prevention opportunities are available.

Half of all disease, injury, and premature death in the United States is potentially preventable.²⁶ And, with longer life expectancies, Americans have more years to benefit from programs that protect and improve health. Even at older ages, disability and a lower quality-of-life need not be inevitable.²⁷

Preventive measures shown to boost the health of Americans of all ages already exist, but they are underutilized.^{18, 28, 29}

➤ Three fourths of 17-year-olds have at least one decayed tooth. Many of these cavities could be prevented simply by fluoridating community water supplies and applying dental sealants to children's teeth.⁸

➤ Fewer than 20% of sexually active teenage and young women enrolled in managed care plans are screened for chlamydia, the most common infectious disease in the United States.³⁰ Without identification and treatment, 40% of women with chlamydia develop pelvic inflammatory disease, a cause of infertility.²⁹

➤ Injuries are the leading cause of death among children. Yet, child safety and booster seats, bicycle helmets, and smoke detectors, which are known to help children and young adults avoid serious injury, are often not utilized.³¹

➤ Obesity is a national epidemic. And overeating and sedentary lifestyles are major contributing factors.^{22, 32, 33} Yet, untapped opportunities abound to counter the many social and environmental conditions that promote unhealthy weight gain.

- Physical education offers children time and training to be active, but Illinois is the only state that requires daily physical education for grades K-12.^{5, 34}
- People of all ages walk more when they feel safe, have nearby recreational facilities, and can use paths connecting homes with schools, worksites, and stores.^{28, 36}
- 5-A-Day programs can encourage people to eat five or more servings of fruits and vegetables each day.²⁷ With more partners and resources, every community could have a 5-A-Day program.

Surefire Prevention Guides

The *U.S. Preventive Services Task Force* (USPSTF) sets the "gold standard" and is the definitive guide to prevention in clinical settings. This panel of independent experts in prevention and primary health care is convened by the U.S. Public Health Service to identify the most effective interventions (vaccines, screening tests, and physician advice) to help Americans prevent disease and promote health.⁷ USPSTF recommendations are posted at www.ahrq.gov/clinic/prevenc.htm.

The *Guide to Community Preventive Services* (www.thecommunityguide.org) picks up where USPSTF recommendations leave off. The *Community Guide* recommends effective strategies to protect the health and safety of a community, such as school-based physical education programs, campaigns to encourage the use of safety gear in contact sports, and 0.08 blood alcohol concentration (BAC) laws.¹² The *Community Guide* is developed by the Task Force on Community Preventive Services, an independent, non-federal task force convened by the Centers for Disease Control and Prevention.

Estimated Costs of Health Conditions, 1999*

Health Condition	Year ^a	Estimate ^b
Alcohol abuse and dependence	1998	\$184.6 billion
Cancer	1990	\$96.1 billion
Cerebrovascular disease (stroke)	1998	\$43.3 billion
Chronic obstructive pulmonary diseases & related conditions	1998	\$37.3 billion
Diabetes	1997	\$98.2 billion
Heart diseases	1999	\$183.1 billion
HIV/AIDS infections	1999	\$28.9 billion
Injury	1995	\$338 billion
Obesity	1995	\$99.2 billion
Pneumonia and influenza	1999	\$25.6 billion
Smoking	1995	\$138.0 billion

Notes: ^aThe methodology, assumptions, and data for calculating these cost estimates varies, so the estimates are not directly comparable. ^bReference year of cost data. The cost estimate includes both direct (e.g., medical care, transportation to a clinic, prescriptions, and some property damage) and indirect (e.g., reduced productivity due to illness, value of caregivers' time) expenses. Source: National Institutes of Health, Disease-Specific Estimates of Direct and Indirect Costs of Illness and NH Support Fiscal Year 2000 Update, Bethesda, MD: U.S. Dept. of Health and Human Services, 2000.

Tips for Smart Prevention Investors

Intelligent investors take advantage of options known to yield high returns. Fortunately, when it comes to prevention, experts have already identified many surefire opportunities (see “Surefire Prevention Guides” on page 2).

Here are some general tips to help maximize your gains from prevention investments.

Invest When Prevention Saves Money

A few prevention strategies are cost saving—that is, the monetary savings resulting from the prevention program, service, or policy are greater than the cost (e.g., early disease detection averts costly medical treatment and caregiving).

Among the elite group of cost-saving preventive services are most childhood immunizations, smoking cessation services for pregnant women, pneumococcal and influenza vaccinations for older adults, and chlamydia screening for sexually active young women aged 15-20 years.³⁸⁻⁴⁰

Invest in Cost-effective Prevention

Many valuable prevention options are considered “cost effective.” Although they do not yield dollar savings, they improve health for a reasonable cost, relative to other spending options.

When Cost Data Are Not Available, Follow These Tips

Data on cost savings or cost effectiveness are not available for all prevention options, including some that may turn out to be the most worthwhile. Here are a few common-sense guidelines to supplement cost data when it is available and especially to consider when it is not.⁴¹ Depending on the type of health condition and its prevalence in the population, different tips will apply. A few, however, are relevant for all prevention interventions.

Generally, a prevention investment is more likely to be worthwhile if it:

- 1. Is effective at what it is supposed to do.** Effective prevention strategies have a high success rate in the real world. An effective public education campaign will not only increase knowledge, but also motivate people to act. An effective test (e.g., cholesterol screening) will identify most patients who have the condition, yield few false-positive results, and minimize risks. Beneficial and safe treatments should be available if the disease is detected.
- 2. Targets a widespread health problem.** Focusing on diseases, injuries, or risky behaviors (such as smoking) that affect substantial numbers of people can yield similarly substantial returns.
- 3. Addresses a disease (or injury) with severe and long-term consequences.** Health conditions with severe and/or long-term consequences (e.g., birth defects, head injuries, diabetes) often require costly and frequent health care. Preventing such conditions, even if they are not particularly widespread, can moderate health care spending associated with complications and preserve quality of life.
- 4. Targets groups at greater risk for illness or injury.** Prevention strategies can target populations that are at greater risk of illness or injury than other groups (perhaps based on age, socioeconomic status, or known risk behaviors). By focusing resources where the need is the greatest, these investments can yield moderate to high returns.
- 5. Works relatively quickly.** Strategies that deliver quick health improvements may be preferred to those that take years to provide a return on investment.
- 6. Is easily delivered and/or inexpensive.** Effective prevention strategies have few obstacles to impede success. Simple programs can keep costs low by minimizing errors and maximizing patient and clinician participation.

A companion publication, *What Policymakers Need to Know About Cost Effectiveness* by Partnership for Prevention, explains the purpose and uses of cost-effectiveness analysis and offers tips for critically assessing cost-effectiveness information.



Investing for Life: Tried-and-True Prevention for ...

Infants

Neural tube defects – serious birth defects that affect the central nervous system – cause lifelong disability in afflicted infants who survive. Threatening one of every 1,000 pregnancies, neural tube defects could be half as common simply by increasing the amount of folic acid consumed before and during the early months of pregnancy. The U.S. Food and Drug Administration has taken a step in the right direction by mandating that cereal products be fortified with low levels of folic acid. Each year, this single policy keeps 89 newborns from having neural tube defects, for an associated annual savings of \$4 million.⁴⁰

Youth

Unintentional injury is the #1 cause of death for youths aged 1-21 years.⁴¹ About 250 youths die each year from bicycle-related injuries alone. Another 140,000 suffer bicycle-related head injuries that are severe enough to require emergency care. Yet, the use of bicycle helmets can considerably reduce the number of head injuries and associated medical expenses (estimated to exceed \$3 billion per year). A 1990 Maryland law mandating helmet use for cyclists younger than 17 years increased helmet use tenfold – from 4% to 47% – at a cost of about \$36,600 per head injury prevented.⁴² Communities across the nation agree that this is a reasonable price to prevent serious and potentially long-term health problems. Many have implemented their own programs to encourage helmet use.

7. Serves a large population with similar health risks at one time. Some prevention strategies, such as laws and regulations or public education, benefit many people all at once. These types of interventions, deliver a sizable improvement without the cost of one-on-one service delivery. However, such investments only offer good returns when many people have similar health risks. (When this is not the case, see tip #4.)
8. Is accepted by most people in the targeted audience. It's commonsense: if more people participate, greater health gains are possible. Acceptability reflects perceptions about safety and individual susceptibility to illness or injury. It also indicates the belief that the cost (e.g., patients' time or pain) is worth the likely benefits. Poorly accepted policies and clinical procedures often require additional resources to encourage participation.
9. Is safe. When prevention is safe, it is unlikely to harm the recipient or have unwanted side effects. Obviously, possible adverse side effects or injuries increase costs and lower acceptability.
10. Is less expensive than other options to achieve the same health impact. Few investors will put money into one program when another achieves the same outcome, but is less expensive.

Other Investment Considerations

Prevention investors may also want to consider ethical, equity, and other social issues when allocating scarce resources. For example, could a new policy stir up a backlash by employees, constituents, or health plan enrollees? Would the program benefit one group and not another? What other opportunities to improve health and safety might have to be foregone if resources are limited?

Boosting Gains from Prevention

Past preventive measures have considerably improved Americans' health. Illnesses like polio, for example, once common and deadly, are much less threatening. With the emergence of new infectious diseases (e.g., HIV/AIDS and West Nile Fever) and an ever-changing American risk profile (e.g., new occupational hazards and changing diet, exercise, and drug-use habits) prevention is as relevant – and needed – today as ever.

Quite simply, prevention offers nearly unmatched opportunities for protecting and improving the nation's health.

How can we boost these potential gains?

Many promising prevention opportunities are as yet untapped. Policymakers, employers, grantmakers, and health plan executives can invest in any of a number of strategies known to improve and extend life at a reasonable cost. (These proven strategies are presented throughout this guide.)

Health investors can also support research activities to develop and evaluate promising practices. Which preventive services are most effective? Where should we invest scarce dollars? Governments and private investors need to draw upon health and environmental sciences, economics, and ethics to answer these questions. (It is only because of past investments in prevention research that we can take advantage of strategies proven to save lives and avert illness/injury today.⁴³)

With private sector and government support, we can continue improving the health of Americans.⁴⁴

Reduce the odds for early death and disability. Increase the odds for health. Invest in prevention today.

Sources of More Information

The federal Agency for Healthcare Research and Quality supports research to assess the effectiveness of clinical programs. (www.ahrq.gov)

The Centers for Disease Control and Prevention (CDC) is recognized as the lead federal agency for protecting the health and safety of people. The CDC website (www.cdc.gov) offers information on best practices for prevention.

Partnership for Prevention is dedicated to objective and balanced analysis of health promotion and disease prevention issues. Our publications can help guide your prevention investing. These publications are available at www.prevent.org/publications.htm.

- > Want to understand cost-effectiveness analysis? Turn to *What Policymakers Need to Know About Cost Effectiveness*.
- > *Priorities Among Recommended Clinical Preventive Services* ranks 30 preventive services based on their cost effectiveness and potential to protect health.²⁹
- > *Nine High-impact Actions Congress Can Take to Protect and Promote the Nation's Health* identifies which prevention policies would make the greatest difference in American lives.
- > *Healthy Workforce 2010: An Essential Health Promotion Sourcebook for Employers, Large and Small* offers strategies for employers to invest in health promotion.
- > *Priorities in Prevention*, a series of issue briefs, synthesizes research on prominent public health and prevention issues and identifies opportunities for improving the nation's health.

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Partnership for Prevention is a national membership association committed to increasing resources for and knowledge about effective disease prevention and health promotion policies and practices. Our diverse membership includes corporations, nonprofit policy and research institutions, professional and trade associations, voluntary health organizations, health plans, and state health departments. Partnership adheres to the highest standards of scientific evidence supporting the case for preventive services, health promotion, and environmental health. Partnership can be found online at <http://www.prevent.org>.

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Investing for Life: Tried-and-True Prevention for...

Adults

Cardiovascular disease (CVD), the nation's leading cause of death and disability among working adults, is at least partially preventable. Proven ways to reduce the risk of CVD include smoking cessation, weight loss, and regular physical activity. For the 58 million Americans who already have CVD, controlling high blood pressure and lowering cholesterol levels are secondary prevention strategies to maintain quality of life and avoid premature death.³⁰

Adults and Seniors

Scientists have yet to determine the exact causes of colorectal cancer (i.e., cancer of the large intestine or rectum). About 75% of all colorectal cancer occurs in people with no known risk factors. Fortunately, early detection and treatment can extend the lives of men and women with colorectal cancer at a reasonable price. Routine screening for colorectal cancer with annual fecal occult blood tests costs about \$35,000 for each year of life saved.³¹

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Investing for Life: Tried-and-True Prevention for...

Seniors

Common infections are a real threat to older adults' health. Pneumococcal disease, for example, kills approximately 40,000 Americans every year, most of them age 65 or older. And most influenza epidemics claim the lives of about 20,000 people, again, mostly seniors. Premature death and serious illness can be prevented with effective vaccines that actually save money. The pneumococcal vaccine produces a net savings of \$141 for each senior vaccinated (although far too few are¹). The influenza vaccine is variously estimated to save \$30 to \$60 in hospitalization costs per \$1 spent on vaccination.²


All Ages

Excessive alcohol use affects Americans of all ages. In 1998, more than 16,000 people were killed and 300,000 injured in alcohol-related motor vehicle crashes.³ The burden to the nation, just for these motor vehicle injuries, is estimated to range from \$28 billion to more than \$40 billion each year.⁴ Several prevention policies are known to reduce drunk driving at a reasonable cost, thereby lowering the risk of auto accidents for all Americans:

- drinking and driving laws that set the per se legal blood alcohol content to .08% for drivers;
- administrative license revocation for at least one year for drunk drivers; and
- strict enforcement of drunk driving laws via sobriety checkpoints and other measures.⁵

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