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The U.S. health care system has traditionally relied on sophisticated technology to diagnose and treat illness. With a growing recognition that the leading causes of illness and death relate to factors that individuals can control, strategies for illness prevention are assuming a more important role in health care.

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Health Promotion: Its Role in Health Care

- Health promotion stresses early detection of health risks, utilization of resources for appropriate and timely care, and monitoring of health care costs. As one part of a total health plan strategy, employee assistance programs range from the provision of information to efforts to encourage health-related behavior change.
- Medical screening can be an effective technique to detect disease in the earliest stages; however, its use in insurance underwriting is controversial.
- Health promotion and disease prevention's place on the public policy agenda was defined for the coming decade with the publication of a national strategy for improving the nation's health, emphasizing health promotion, health protection, and disease prevention.
- The U.S. Surgeon General describes smoking as the largest single preventable cause of death and disability for the U.S. population. Annual costs to the health care system of smoking-related illnesses exceed $65 billion and are increasing at the rate of 22 percent to 25 percent per year.
- The Office of Technology Assessment estimates that early and frequent prenatal care can save the U.S. health care system between $14,000 and $30,000 in newborn, first year, and long-term health care costs. The lifetime custodial cost of caring for a low birth-weight baby can reach $500,000.
- A recent study showed that persons who did not exercise had 114 percent higher nonmaternity medical claims costs, used 30 percent more hospital days, and were 41 percent more likely to have annual claims of more than $5,000 than those who exercised the equivalent of climbing 15 flights of stairs or walking 1.5 miles four or more times a week.

◆ Introduction

Preventive health or *wellness* programs include a variety of health promotion actions designed to foster good health and healthy lifestyles. In the broadest sense, health promotion can be defined as any effort to prevent illness, disease, or premature death through behavioral and organizational change (Sloan et al., 1987).

The concept of health promotion is gaining currency on public and work place agendas, as well as in individual health care planning, for a number of reasons. Secretary of Health and Human Services Louis W. Sullivan describes health promotion as the best way to reduce the ever-increasing portion of resources spent to treat preventable illness and functional impairment while also playing a major role in improving Americans' health and quality of life. Employers are concerned about rising health care costs and the relationship between employees' health and job productivity.

A growing number of employers are offering work place health promotion programs in an attempt to lower health care costs and increase productivity. These programs are part of the evolution in health care toward an increasingly integrated strategy of prevention and cure.[1] The focus is shifting from general health education and fitness to dealing more with specific risk factors (Towers, Perrin, Forster & Crosby, 1991). Employers deal with such issues as substance abuse and other potentially destructive habits as well as reproductive health care, immunization, mental health, hazard exposure, diet, and exercise. Programs range from modest efforts to provide information to more aggressive efforts to encourage health-related behavior change. **Effective health promotion reinforces the connection between behavior and health by informing employees and motivating them to make constructive changes. Health promotion or wellness programs stress early detection of health risks, utilization of resources for appropriate and timely care, and monitoring of health care costs.** Although evidence of these programs' cost effectiveness is inconclusive, they are expected to assume increasing significance as part of a health care cost management strategy in the 1990s.

The benefits of a healthy work force extend beyond the years during which workers are employed. Healthy lifestyles and preventive measures begun early and maintained throughout life can reduce the prevalence of acute and/or chronic disease in the postretirement years.

This *Issue Brief* explores the role of health promotion in health care, including employer efforts to manage health care costs. The report reviews studies of the cost effectiveness of health promotion and preventive health measures such as smoking cessation and prenatal and infant care. It also discusses employee assistance programs (EAPs) and medical screening.

◆ Health Care Spending

National health spending for 1990 accounted for 12.2 percent of Gross National Product (GNP), up from 11.6 percent in 1989 (U.S. Department of Health and Human Services, 1991a). Average per capita spending for health care in the United States in 1990 was $2,566, or more than twice the $1,063 spent in 1980. The per capita expenditure was $346 in 1970 and $143 in 1960 (Levit et al., 1991).

Public health data show that many conditions leading to the most costly medical procedures are often preventable. For example, coronary artery disease affects 7 million Americans a year, causing approximately 1.5 million heart attacks and 500,000 deaths. An estimated 300,000 bypass procedures are performed each year, at an individual cost of approximately $30,000. Treatment for a single case of lung cancer is

[1] A trade organization for corporate health and finance professionals, the American Association of Fitness Directors in Business and Industry, was founded in 1974 with 25 members. Only 30 programs were known to exist at that time; today there are more than 3,000 (Rothman, 1990).

nearly as much, at $29,000 (U.S. Department of Health and Human Services, 1991c). Costs of treatment for selected conditions that may be preventable are shown in table 1.

◆ Health Promotion in the Work Place

Today's health promotion efforts are rooted in the history of American business. The first comprehensive program is said to have been started nearly a century ago when John H. Patterson, president of the National Cash Register Company, authorized employees to take exercise breaks both before and after the lunch hour. He built a gym and a large park at the Dayton, Ohio, plant and encouraged all workers to use them. Henry Ford was another fitness pioneer. He believed that workers were "organic machines" in need of optimum maintenance. From 1924–1943, he ordered executives

Table 1
Costs of Treatment for Selected Preventable Medical Conditions

Condition	Overall Magnitude	Avoidable Intervention[a]	Cost per Patient[b]
Heart Disease	7 million with coronary artery disease 500,000 deaths/year 284,000 bypass procedures/year	Coronary bypass surgery	$30,000
Cancer	1 million new cases/year 510,000 deaths/year	Lung cancer treatment Cervical cancer treatment	$29,000 $28,000
Stroke	600,000 strokes/year 150,000 deaths/year	Hemiplegia treatment and rehabilitation	$22,000
Injuries	2.3 million hospitalizations/year 142,500 deaths/year 177,000 persons with spinal cord injuries in the United States	Quadriplegia treatment and rehabilitation Hip fracture treatment and rehabilitation Severe head injury treatment and rehabilitation	$570,000 (lifetime) $40,000 $310,000
HIV Infection	1–1.5 million infected 147,525 AIDS cases (as of January 1990)	AIDS treatment	$75,000 (lifetime)
Alcoholism	18.5 million abuse alcohol 105,000 alcohol-related deaths/year	Liver transplant	$250,000
Drug Abuse	Regular users: 1-3 million, cocaine; 900,000, IV drugs; 500,000, heroin Drug-exposed babies: 375,000	Treatment of drug-affected baby	$63,000 (5 years)
Low Birth-Weight Baby (LBWB)	260,000 LBWB born/year 23,000 deaths/year	Neonatal intensive care for LBWB	$10,000
Inadequate Immunization	Lacking basic immunization series: 20%–30% aged 2 and younger; 3% aged 6 and over	Congenital rubella syndrome treatment	$354,000 (lifetime)

Source: U.S. Department of Health and Human Services, *Healthy People 2000: National Health Promotion and Disease Prevention Objectives* (Washington, DC: U.S. Government Printing Office, 1990).
[a]Examples (other interventions may apply).
[b]Representative first-year costs, except as noted. Not indicated are nonmedical costs such as lost productivity to society.

to follow a dietary plan that was heavy on soybean products and salads and excluded alcohol, coffee, and sweets. The required exercise routine included participation in a series of dances at a work place ballroom (Rothman, 1990).

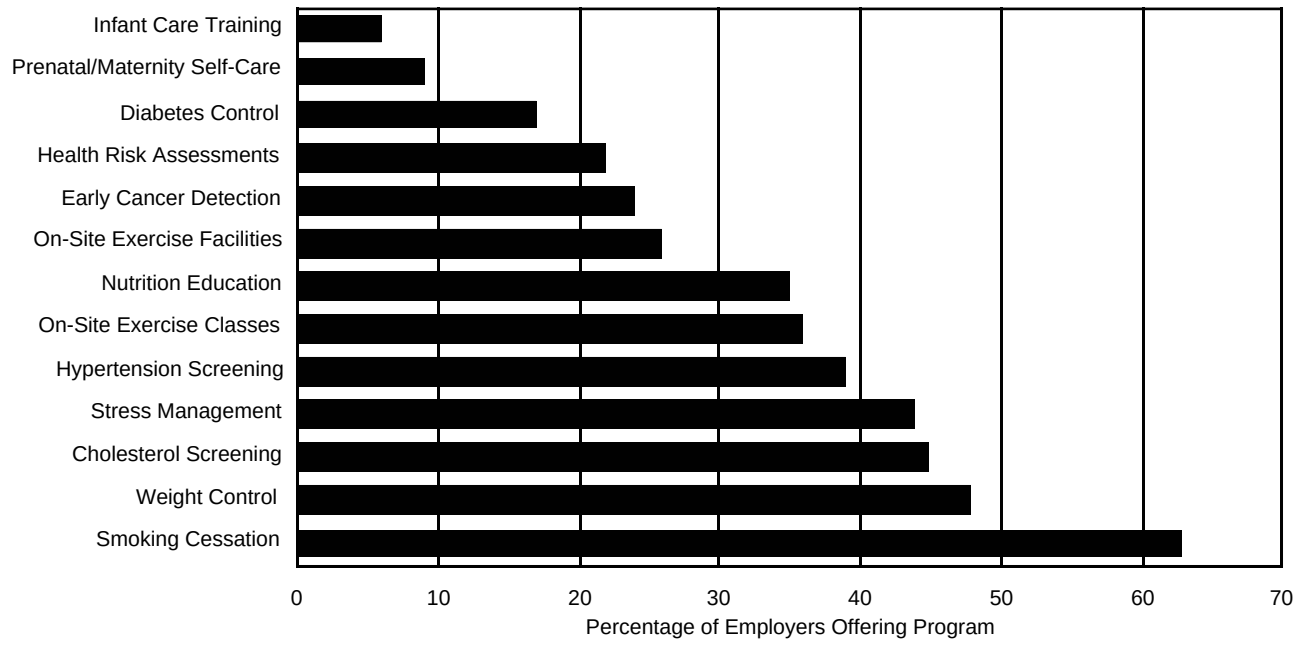
On-site exercise classes were also a component of wellness programs identified in 1989 (chart 1). Of the 976 companies participating in a survey of health care cost management practices, just over one-third (36 percent) offered such programs.[2] **The most prevalent types of employer-sponsored wellness programs included smoking cessation (63 percent), weight control (48 percent), cholesterol screening (45 percent), and stress management (44 percent).** Fewer than 10 percent of the companies offered prenatal/maternity self-care programs (9 percent) or infant care training programs (6 percent).

Perception of positive outcomes for health promotion activities was widespread in a 1990 study; every activity was believed to improve employee health (Coopers & Lybrand, 1990).[3] While exercise/fitness programs were most often considered the *most important* for employees, smoking control was most frequently ranked as *most cost effective*. Charts 2 and 3 show the relative perceived importance and cost/benefits.

[2]Survey respondents included a mix of small, medium, and large employers. The average firm size was 7,642 employees, with a median employee population of 2,500 (Hewitt Associates, 1989).

[3]The survey was sent to 345 companies identified as sponsoring wellness programs for their employees. The response rate was just over 20 percent. Respondents indicated that because comprehensive data evaluating the programs' effectiveness were limited, the rankings were based on management opinions.

Chart 1
Prevalence of Selected Health Promotion Programs, 1989



Source: Hewitt Associates, *Managing Health Care Costs*, Lincolnshire, IL: Hewitt Associates, 1989.

One-half of the respondents to a 1991 survey of 135 large U.S. companies indicated that they offer health and wellness programs to help employees stop smoking, control their weight, and improve their dietary habits. Stress management is also a component of many programs. One-half of the surveyed companies offer on-site exercise facilities. Nineteen percent of the companies with wellness programs reported offering financial incentives to attract participants and target key risk factors (Towers, Perrin, Forster & Crosby, 1991).

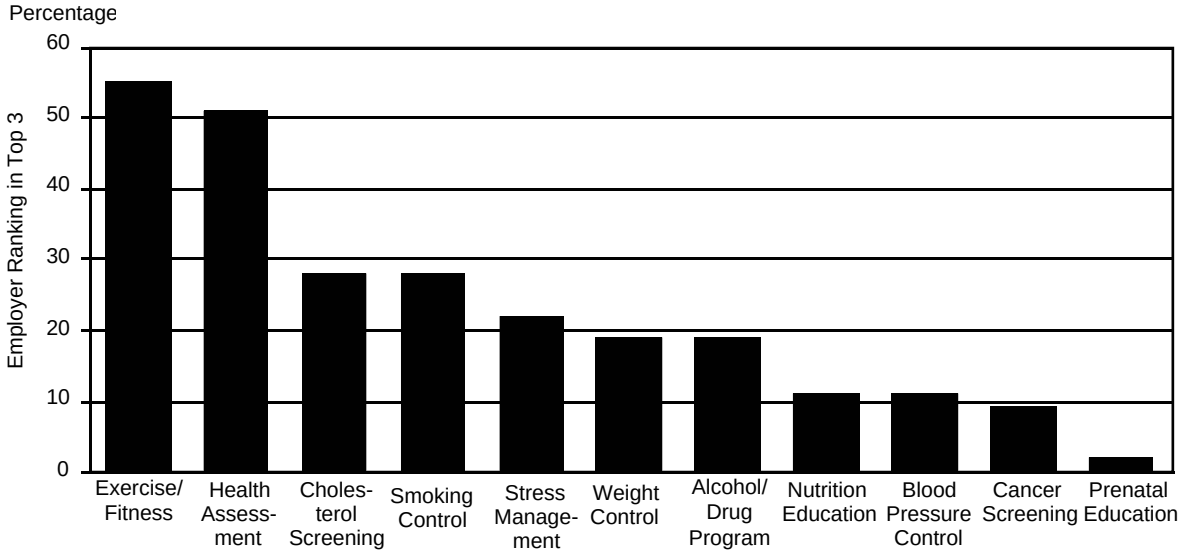
Health insurers also are focusing on health promotion. Blue Cross and Blue Shield organizations are promoting prevention and early detection strategies in an effort to reduce reliance on medical treatment. Programs target employee groups, schools, communities, health institutions, and businesses (Blue Cross and Blue Shield Association, 1990). In June 1991, Blue Cross and Blue Shield recommended coverage of routine medical screening for cancer, heart disease, and other illnesses under its policies. The screening package includes tests for breast, colon, cervical, and lung cancer; heart disease; hypertension; diabetes; thyroid disease; and osteoporosis. Procedures that would be covered include mammograms, Pap smears, and tests for cholesterol and blood in the stool.

Aetna Life & Casualty is offering a prenatal education program as part of a benefit package available to employers. Entitled *Healthy Beginnings*, the program uses nurse consultants to help identify and assist women who may be at risk of delivering premature or low birthweight babies (Aetna Life & Casualty, 1991).

Employee Assistance Programs

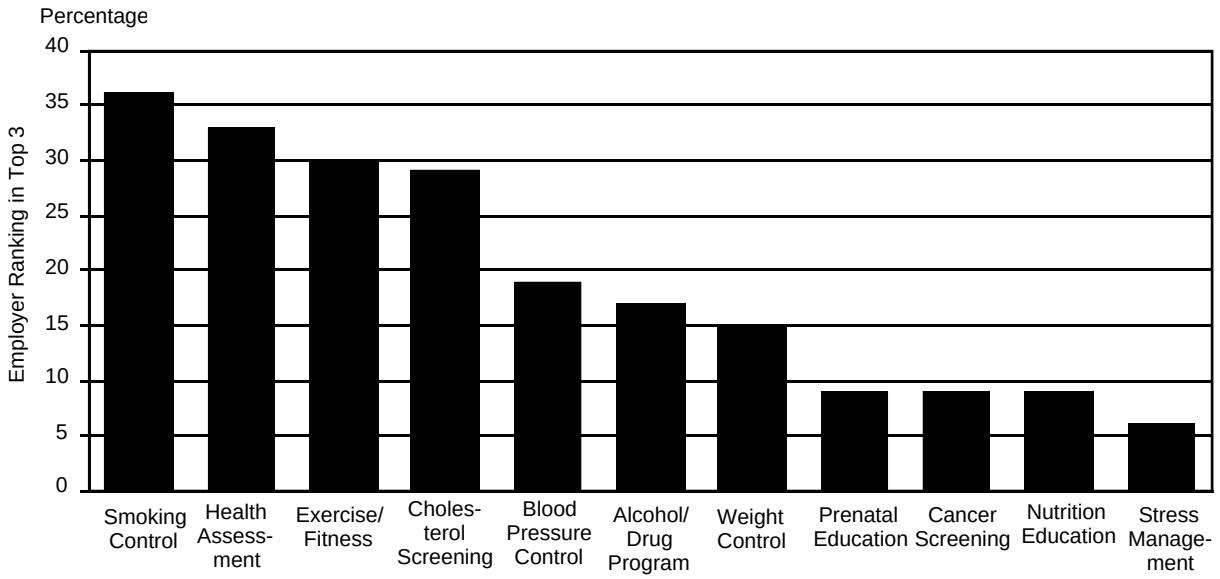
Employee assistance programs (EAPs), started in the 1950s as occupational alcoholism programs, are designed to promote wellness among employees. In contrast to health promotion, which emphasizes prevention of physical and emotional illness through healthier lifestyles, EAPs assist in the identification and resolution of a broad range of personal problems.

Chart 2
Employer Ranking of Health Promotion Activities by Importance



Source: Coopers & Lybrand, *Health Management: A Survey of Company-Sponsored Wellness Programs, 1990* (New York, NY: Coopers & Lybrand, 1990).

Chart 3
Employer Ranking of Health Promotion Activities by Cost Benefit



Source: Coopers & Lybrand, *Health Management: A Survey of Company-Sponsored Wellness Programs, 1990* (New York, NY: Coopers & Lybrand, 1990).

EAPs are sponsored by both private- and public-sector employers, some labor unions, and since 1970, the federal government. They have evolved slowly in private industry partly because of employers' initial reluctance to become involved with mental health care (Coudroglou, 1986).

Although **EAPs** are now well established, there is no consensus concerning what services constitute these programs or on their appropriate organizational structure. They **can assume a variety of forms but generally include policies and procedures that identify or treat employees whose personal, emotional, health, or behavioral problems adversely affect their job performance.** In addition to substance abuse, EAPs may deal with marital problems, family troubles, stress, domestic violence, child and elder care, and other personal issues.

Some employers contract with specialists in community agencies to provide services for employees who are referred through EAPs. Others offer direct assistance through their own staff counselors. Programs may be operated within company medical units or in personnel departments. They are administered by mental health professionals—specialists in alcoholism, psychiatrists, psychologists, and social workers (Sonnenstuhl and Trice, 1986). **EAPs reach employees through seminars, health fairs, information and referral services, and support groups as well as through one-on-one counseling** (Watkins, 1987).

In 1950, there were only about 50 EAPs in the United States (Bureau of National Affairs, Inc., 1988). Estimates of the number today range as high as 12,000, most of which have been developed since 1983 (Watkins, 1987). **A 1989 survey of medium and large establishments showed that 49 percent of full-time employees were eligible for EAPs, including more than one-half of professional and administrative employees and more than one-third of production service employees** (U.S. Department of Labor, 1991).

Screening

Screening is a technique to detect disease in its earliest stages, before the person is aware of symptoms. Unlike vaccinations, smoking cessation, and exercise, which are primary prevention measures, screening represents secondary prevention. A disease or a precursor must be established before screening has an effect (Russell, 1986). Mammography and Pap tests are examples. For women over 50, mortality due to breast cancer can be reduced by 30 percent with mammography and clinical breast examination. Although the magnitude of benefit is less, the technique also is effective for women aged 40 through 49. The Pap test is effective in screening for cancer of the uterine cervix, reducing mortality from the disease by as much as 75 percent (U.S. Department of Health and Human Services, 1991c).

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Genetic tests differ from other diagnostic tests to the degree that technology outpaces knowledge. Laboratories may perform genetic tests long before their diagnostic or predictive abilities can be validated.

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Medical screening of workers has long been practiced in the selection and maintenance of a work force. In recent years, its purpose has moved beyond the identification of workers who are free of contagious diseases and capable of performing the job. Predictive screening now attempts to identify those at risk of developing a medical impairment in the future (Rothstein, 1989).

Genetic testing is the most controversial form of predictive screening. Numerous genetic tests are now available and others expected to become available in the future include tests for hypertension, dyslexia, atherosclerosis, cancer, manic depression, schizophrenia, diabetes, multiple sclerosis, Alzheimer's disease, and Type 1 diabetes. At issue is what should be done with the information gained from the tests. Fetal testing can detect genetic disorders that may help parents make family planning decisions. And monitoring workers for exposure to harmful chemicals in the work place can draw attention to problems such as alterations in their genetic makeup. Nevertheless, genetic testing raises ethical and procedural questions. The use of such tests in the process of medical insurance underwriting particularly has been questioned (Frieden, 1991).

Genetic information and epidemiological risk factors could enhance insurers' ability to perform actuarial rating in underwriting health, life, and disability policies. Since insurers use actuarial ratings to predict their costs over the life of an insurance policy, the strategic use of information about future events is the key to profitability. For this reason, health and life insurance companies typically require access to the medical records of people seeking coverage. Failure to disclose preexisting medical conditions may result in loss of coverage.

Genetic tests differ from other diagnostic tests to the degree that technology outpaces knowledge. Laboratories may perform genetic tests long before their diagnostic or predictive abilities can be validated (Pokorski, 1990). Nevertheless, there may be pressure for insurance companies to use such data even though they are inconclusive. Testing for a genetic disease may predict an illness but give little evidence about the course it will take or the eventual costs (Stipp, 1990).

Predicted rates of the occurrence of medical conditions among individuals with certain test results cannot be used to determine the probability that any one individual will develop a particular condition. Rather, individual odds vary, reflecting differences in lifestyles and other factors. There is a distinction between tests that diagnose existing or developing conditions and those that predict rates of occurrence in large populations.

The passage of the Americans with Disabilities Act (ADA) leaves in question the legality of genetic tests and other medical examinations for certain purposes. ADA, which takes full effect in July 1992, prohibits discrimination against disabled persons and those who are perceived as disabled in areas relating to employment. In addition to applying to employees' or applicants' current physical condition, future conditions could be at issue. Failure to employ an applicant who has a genetic defect could be a violation of ADA (Frieden, 1991).

Prenatal Care

Childbearing is an issue that affects most employers. **In 1990, nearly 40.7 million women of childbearing age (16–44) were in the labor force** (U.S. Department of Labor, 1991). **A high proportion of these women can be expected to become pregnant, remain on the job during pregnancy, and return to work shortly after delivery.** A 1988 Census Bureau survey found that 66 percent of the women aged 18–44 who had a child during the previous year were employed at the time of the survey (U.S. Department of Commerce, 1988).

The goal of prenatal care is a healthy baby and healthy mother. Prenatal care encompasses a wide range of preventive, diagnostic, and therapeutic services throughout the course of pregnancy. Preventive components include screening for potentially harmful conditions in the mother and fetus; education and counseling; and, at times, the prescription of nutritional supplements. **Lower rates of maternal mortality, infant mortality, and low birth weight are clearly associated with comprehensive prenatal care.** Although there is strong evidence that early care is the most effective means of preventing low birth weight and related health problems that put children at risk for poor development, the extent of its effectiveness for any given population is uncertain (Brown, 1988).

There is a direct relationship between maternal weight gain and infant birth weight. A pregnant woman requires a diet adequate in energy and nutrients for her baby's and her own health. Babies born weighing less than 5 pounds, 8 ounces are considered to have low birth weight and are 40 times more likely to die during their first month of life than babies of normal weight. They are two to three times more likely to suffer from chronic handicapping conditions such as blindness, deafness, and mental retardation later in life.

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One study estimated that for every $1 spent on prenatal care, $3.38 is saved in health costs involved with caring for low birth-weight infants requiring expensive medical care.

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The U.S. infant mortality rate was 10.0 per 1,000 live births in 1988 (U.S. Department of Health and Human Services, 1991b).[4] Twenty-three other industrialized nations had a better record.

The impact of low birth weight can be reduced after birth, but life-saving medical technology is expensive. For example, neonatal intensive care costs for a low birth-weight baby are approximately $10,000 per case (U.S. Department of Health and Human Services, 1991c). In contrast, prenatal care can cost as little as $500 per case (Chiles, 1990). **One study estimated that for every $1 spent on prenatal care, $3.38 is saved in health costs involved with caring for low birth-weight infants requiring expensive medical care** (Brown, 1988). The Office of Technology Assessment has estimated that for every low birth-weight birth averted by early and frequent prenatal care, the U.S. health care system saves between $14,000 and $30,000 in newborn, first year, and long-term health care costs

[4]Infant mortality figures refer to babies who are born alive but die before their first birthday.

(Gibbons, 1988). The lifetime custodial cost of caring for a low birth-weight baby can reach $500,000 (Chiles, 1990).

Health Consequences of Smoking

Cigarette smoking during pregnancy accounts for 20 percent to 30 percent of low birth-weight babies, up to 14 percent of preterm deliveries, and about 10 percent of all infant deaths. If women stop smoking early in their pregnancy, fetal and infant death may be reduced by 10 percent, saving 4,000 infants a year (U.S. Department of Health and Human Services, 1991c). Studies have shown that if maternal smoking were eliminated, there could be a 25 percent reduction in low birth-weight births and a 10 percent reduction in infant mortality (Kleinman and Madans, 1985, and Kleinman et al., 1988). The Centers for Disease Control estimate that each $1 spent on smoking cessation programs for pregnant women could save $5 on the cost of hospital care for low birth-weight infants.

The Surgeon General's report on *The Health Consequences of Involuntary Smoking* (U.S. Department of Health and Human Services, 1986) **describes the inhalation of tobacco smoke during active cigarette smoking as the largest single preventable cause of death and disability for the U.S. population.**[5] Smoking-related deaths exceed deaths resulting from alcohol, cocaine, crack, heroin, homicide, suicide, fires, car accidents, and acquired immunodeficiency syndrome (AIDS)—combined (Kelly Communications, 1991). **Annual costs to the health care system of smoking-related illnesses exceed $65 billion and are increasing at the rate of 22 percent to 25 percent per year** (U.S. Department of Health and Human Services, 1991c). Tobacco use is a major risk factor for diseases of the heart and blood vessels; chronic bronchitis and emphysema; cancers of the lung, larynx, pharynx, oral cavity, esophagus, pancreas, and bladder; and other problems such as respiratory infections and stomach ulcers (U.S. Department of Health and Human Services, 1991c). Health benefits of quitting smoking relate to all of the major smoking-related diseases. According to the Surgeon General, there are major health benefits for men and women of all ages who quit smoking. **Former smokers have a longer life expectancy than continuing smokers, and their risks of cancer, heart attack, stroke, and chronic lung disease are decreased. Women who stop smoking before pregnancy or during the first three to four months of pregnancy reduce their risk of having a low birth-weight baby to that of women who never smoked** (Novello, 1990).

Employers' Response to Smoking in the Work Place

Despite the abundance of data about the health effects of smoking on both active and passive smokers, smoking in the work place was essentially unregulated until the 1980s (Rothstein, 1989). **During the past decade, a number of employers have attempted to control employee behavior through self-help smoking cessation programs and smoke-free environments.** According to one survey, more than one-half of the nation's businesses currently offer employees a smoking cessation program (Hay Management Group, 1990).

Some work place smoking restrictions have occurred in response to state legislation. **Thirty-four states restrict**

[5]Canada has recognized the importance of lowering the prevalence of smoking to limit tobacco-related illnesses. Its aggressive nonsmoking campaign designed for presmokers has multiple parts: "Break Free" prevention messages directed at 10–14 year olds; rock music commercials designed to reinforce teen-agers' decision not to smoke; bans on cigarette advertising; package labeling listing all toxic substances, with large print warnings in both French and English; warning statements that tobacco smoke can harm nonsmokers, smoking during pregnancy can harm the baby, smoking is addictive, and smoking is a major cause of stroke and the major cause of fatal lung disease, lung cancer, and heart disease. The Canadian government also imposes high federal taxes on tobacco products. Taxes represent 70 percent of the price of a package of cigarettes, in contrast to 30 percent in the United States. The Canadian plan to control smoking assumes a price elasticity such that every 10 percent rise in price is expected to induce a 12 percent drop in the number of teen-age smokers. The government campaign has been successful in reducing smoking but has been at least temporarily halted by a court order based on a challenge by the tobacco industry. Until the federal government decides whether to appeal, the industry is again free to advertise tobacco products.

smoking in public work places. Alaska, Connecticut, Florida, Iowa, Maine, Minnesota, Montana, Nebraska, New Hampshire, New Jersey, New York, Rhode Island, Utah, Vermont, Wisconsin, and the District of Columbia limit or prohibit smoking in private work places (table 2). In addition, some city and county governments have enacted work place restrictions applicable to the private sector.

Proponents of smoke-free work sites argue that smokers have higher rates of absenteeism, lower productivity, and higher medical claims for themselves and their families than do nonsmokers (Coalition for a Healthy California, n.d.). **The involuntary inhalation of smoke in the work place also is receiving attention as a health hazard possibly resulting in greater absenteeism and reduced productivity among nonsmokers.** In 1990, the Environmental Protection Agency issued a draft report identifying secondary tobacco smoke as a Class A carcinogen, that is, one known to cause cancer in humans. The report also describes secondary smoke as a major source of indoor air pollution.[6]

Although the prevalence of smoking among adults has declined considerably during the past 25 years, disproportionate numbers of those who do smoke are women and minorities (U.S. Department of Health and Human Services, 1991c). Since these population groups are increasing disproportionately in the labor force, issues surrounding smoking in the work place are likely to accelerate.

Effectiveness of Smoking Policies—Smoking policies have multiple effects (U.S. Department of Health and Human Services, 1986). In addition to reducing environmental tobacco smoke exposure, they may alter smoking behavior and public attitudes about tobacco use, thus contributing to a reduction of smoking in the United States. To date, however, there has been limited systematic evaluation of policies restricting smoking in public places or work places.

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Smoking restrictions, such as those that attempt to prohibit off-the-job smoking, are being challenged by smokers who believe that denying the freedom to smoke is discrimination.

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One study used existing smoking-related data from eight surveys of nonphysician employees of a large medical care program to evaluate the impact of a smoking ban implemented at 11 work sites during 1985. The sites were in the northwest region of the Kaiser Permanente Medical Care Program's administrative center, two hospitals, and several medical office facilities. The ban was supported by most employees and was successful in reducing, but not eliminating, the presence of smoke in the work environment. Although there was a reduction of 1.4 cigarettes per day by smokers during working hours, there were no short-term effects on smoking prevalence or attempts to quit. The employees appeared to have compensated for their reduced smoking during working hours by increased smoking at other times. The study concluded that the findings support theories of nicotine dependence. The authors suggest that the most opportune time for a quit-smoking campaign may be during the early phases of a policy change (Mullooly et al., 1990).

A study of occupational factors and pregnancy outcomes among women seeking prenatal care was carried out in Sweden from 1980 to 1983. Data were collected on active and passive exposure to tobacco smoke in the home and the work place during the first trimester of

[6] In 1986, the Surgeon General announced that passive smoking is a source of lung cancer and recommended that Congress ban work place smoking. In 1989, the Department of Labor's (DOL) Occupational Safety and Health Administration (OSHA) acknowledged that available data suggested that exposure to a sufficient amount of sidestream smoke may present a significant risk of excess deaths to those exposed. OSHA now recommends that employers ban smoking in the work place. Furthermore, it has asked employers to offer smoking cessation programs and incentives to encourage employees to stop smoking.

Table 2
States[a] with Laws Restricting Smoking In Public and Private Work Places, 1990

State	Public	Private	State	Public	Private
Alabama			Montana	X	X
Alaska	X	X	Nebraska	X	X
Arizona	X		Nevada	X	
Arkansas			New Hampshire	X	X
California	X		New Jersey	X	X
Colorado	X		New Mexico	X	
Connecticut	X	X	New York	X	X
Delaware	X		North Carolina		
District of Columbia	X[b]	X	North Dakota	X	
Florida	X	X	Ohio	X	
Georgia			Oklahoma	X	
Hawaii	X		Oregon	X	
Idaho	X		Pennsylvania		
Illinois			Rhode Island	X	X
Indiana	X		South Carolina		
Iowa	X	X	South Dakota		
Kansas	X		Tennessee		
Kentucky			Texas		
Louisiana			Utah	X	X
Maine	X	X	Vermont	X	X
Maryland	X		Virginia	X	
Massachusetts	X		Washington	X	
Michigan	X		West Virginia		
Minnesota	X	X	Wisconsin	X	X
Mississippi			Wyoming		
Missouri					

Source: Tobacco-Free America, *State Legislated Actions on Tobacco Issues* (Washington, DC: Tobacco-Free America Legislative Clearinghouse, 1990).
[a]Also includes the District of Columbia.
[b]Excludes federal office buildings.

pregnancy. The nonsmoking working women who reported spending most of their time at work in rooms with smokers experienced more intrauterine deaths and preterm births than did the women who were not exposed to tobacco smoke. Among smokers, the risk of intrauterine death was increased after the 12th week. Among nonsmokers, exposure to passive smoke in the work place was most clearly associated with first-trimester fetal loss (Ahlborg and Bodin, 1991).

Smoking restrictions, such as those that attempt to prohibit off-the-job smoking, are being challenged by smokers who believe that denying the freedom to smoke is discrimination. Bills intended to protect the rights of smokers have been passed in a number of states. In 1990, Colorado, Kentucky, and Tennessee passed legislation designed to prohibit employers from discriminating against smokers in their hiring policies (Tobacco-Free America, 1990).

The Role of Insurance Companies—For several years, insurance companies have offered nonsmokers discounts on individual policies. In 1990, King County Medical (KCM) Blue Shield in Seattle, the major health care insurer in the state of Washington, began offering a rate discount for groups with smoke-free work places and coverage for smoking cessation programs. Discounts of up to 15 percent are available to groups in firms that prohibit smoking in indoor work areas and in which 90 percent of the work force has not smoked for at least a year. The program is administered on an honor system. Groups file a certificate stating that they qualify for the discount. In groups with fewer than 25 employees, each nonsmoking employee also submits a certificate. To help employers reach smoke-free status, KCM added a smoking cessation benefit to its plans without a rate increase. The company covers 75 percent of the cost of a smoking cessation program, to a $500 lifetime maximum. Although the program is too new for statistical evaluation, the insurer believes that it is working and has recently renewed the offer (King County Medical Blue Shield, 1991).

In other instances, a surcharge is placed on smokers' health insurance policies to discourage smoking.[7] One company reportedly charges smokers an extra $10 a month for health insurance (Crenshaw, 1990). Other companies use a system of fines for smokers. Another strategy to reduce costs involves cash incentives for each full month of total abstention from tobacco use. One company pays employees $6 a month and spouses $5 a month for abstention (Spencer's Research Reports, 1990).

Prevention's Role in Health Care Promotion

In the United States, disease prevention has brought better health and longer life expectancy during this century. Public health efforts have nearly eliminated typhoid, diphtheria, and gastroenteritis. Vaccines and antibiotics now can control many previously fatal infectious diseases (Russell, 1986). Although there is substantial evidence that personal habits such as smoking, exercise, and diet are important to good health, few empirical studies have attempted to assess the costs and benefits of health promotion programs that influence these lifestyle choices. Such studies are complex to conduct and evaluate because they must measure both short- and long-term implications.

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Economists argue that although health promotion programs are socially beneficial, any cost savings may be offset by greater spending elsewhere. The prolongation of life through prevention of possibly controllable illnesses may increase the use of pension and health benefits.

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Economists argue that although health promotion programs are socially beneficial, any cost savings may be offset by greater spending elsewhere. The prolongation of life through prevention of possibly controllable illnesses may increase the use of pension and health benefits. One study concluded that, although nonsmokers subsidize smokers' medical care and group life insurance, smokers subsidize nonsmokers' pensions and nursing home payments (Manning et al., 1989).

An exploration of the policy debates surrounding smallpox and measles vaccines, drug therapy for high blood pressure, and exercise found that such interventions rarely reduce long-term medical expenditures (Russell, 1986). Several other studies have linked better health habits with substantially lower short-term morbidity.

[7] A 1989 survey notes that just 4 of 976 companies surveyed had lifestyle-based contribution rates (Hewitt Associates, 1989).

One study involved 15,000 Control Data Corporation employees over a three-year period. The analytical data base was created from available information on behavioral health characteristics, health care claims, and demographic characteristics. One record was developed for each employee, using medical claims and utilization data classified by age, sex, and type of service for each behavioral health characteristic and risk level. The findings showed that persons who did not exercise had 114 percent higher nonmaternity claims costs, used 30 percent more hospital days, and were 41 percent more likely to have annual claims of more than $5,000 than those who exercised the equivalent of climbing 15 flights of stairs or walking 1.5 miles four or more times a week. Forty-eight percent more of the employees who were more than 30 percent above desirable weight had major claims. These employees' medical claims averaged 11 percent higher than those of employees whose weight was considered normal, and they used 45 percent more hospital days. The greatest difference in medical claims was between smokers and nonsmokers. Those who smoked an average of one or more packs a day had 118 percent higher claims costs than did nonsmokers. Twenty-four percent more people with high cholesterol levels had claims of more than $5,000. Cholesterol risk levels were determined based on National Institutes of Health recommendations (Milliman and Robertson, Inc., 1987).

Another study used quasi-experimentation to measure one index of the health and weight loss program at the Kimberly-Clark Corporation. Sick leave absence data collected on 33 program participants were compared with 33 matched counterparts over 18-month preintervention and postintervention periods. There was no apparent association between program participation and sick leave absenteeism. Nevertheless, the authors concluded that there are both measurable and unmeasurable motives for initiating a health promotion intervention. The success of such programs should be evaluated from a multidimensional perspective, including nonmonetary motives. Careful attention to methodology can help assure the reliability of future evaluative efforts and may prevent the premature cancellation of viable programs (Smith et al., 1990). It is difficult to quantify quality-of-life benefits.

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Campbell Soup Company first introduced a companywide no-smoking policy to promote product cleanliness, then expanded it to include subsidies for smoking cessation.

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The Southern California Edison Company gives financial incentives to employees and their spouses to reduce their health risks through a preventive health account that provides $100 toward the use of preventive services. A Good Health Rebate provides cash incentives for participants who are within the company's screening guidelines for five cardiovascular risk factors or who undertake a program to reduce any elevated risk factors. Although the program is voluntary, the company annually screens more than 45 percent of eligible plan participants for the Good Health Rebate. Company expectations are that gains in employees' health and savings for the health plans will be evident in the future (Peevey, 1991).

A study by The Travelers and the University of Michigan at one large company found that the health claims of employees who smoked averaged $285 more per year than those of nonsmokers.

Campbell Soup Company first introduced a companywide no-smoking policy to promote product cleanliness, then expanded it to include subsidies for smoking cessation. The company estimates its annual return rate to be between 25 percent and 50 percent, i.e., for every dollar invested per year, there is a $0.25 to

$0.50 reduction in health care costs (Spencer's Research Reports, 1985).

A number of employer-sponsored prenatal programs are successfully controlling costs of pregnancy complications and low birth-weight babies. Burlington Industries found that many of their pregnant employees were not obtaining adequate prenatal care. An internal study found that 1,905 infants under age one accounted for provider charges of $4.2 million over a 22-month period. Of this total, 67 infants accounted for $2.5 million and 6 infants accounted for $800,000. In response to these findings, Burlington instituted a prevention-oriented strategy with an incentive program for obtaining prenatal care, medical case management for pregnant employees, and a maternal and child health education program. According to the company, health risk management positively affects the quantity and quality of employees' work and quality of life (Chiles, 1988b).

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Southern Bell and IBM are examples of companies that offer comprehensive maternal and child health policies, including leaves of absence.

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After instituting a prenatal education program for employees, the Sunbeam Appliance Corporation found that there were no low birth-weight babies born to women during the program's first year. Although it is not clear from the report on the program how many employees had low birth-weight babies before the program began, the average cost of insuring maternity service, including nursery charges, decreased 83 percent from the previous year (Spencer's Research Reports, 1987).

Wang Laboratories found that 40 percent of their medical claims of $25,000 or more were for children, with more than one-half of these claims made for children under age two. These findings prompted the development of a medical case management program that helps direct parents and their sick children through the treatment process (Chiles, 1988b).

Johnson & Johnson's "Live for Life" health promotion program includes exercise, smoking cessation, pregnancy education, and nutrition programs at the work site. In a three-year evaluation of the program's cost effectiveness, involving 8,000 employees, the company found that the program cost more than it saved during the first year, broke even in the second year, and saved enough money during the third year to pay back the first year's losses (Templin, 1990). Southern Bell and IBM are examples of companies that offer comprehensive maternal and child health policies, including leaves of absence (Chiles, 1988b).

◆ Health Promotion as Public Policy

The place of health promotion and disease prevention on the public policy agenda was defined for the coming decade with the publication of *Healthy People 2000, National Health Promotion and Disease Prevention Objectives,* which announces a national strategy for improving the nation's health (U.S. Department of Health and Human Services, 1991c). The report establishes three priority areas: health promotion, health protection, and disease prevention.[8] Health promotion is related to individual lifestyle. Health protection involves environmental or regulatory measures designed to protect large population groups. Preventive services are described as those in clinical settings and include counseling, screening, immunizations, and chemoprophylactic interventions such as

[8]More than 10,000 people, including 300 national organizations and all state health departments were involved in the development of the national goals. The Public Health Service served as "leader, convener, and facilitator" over a three-year period, during which some 1,000 health professionals and others from across the country provided testimony. The resulting 700 page consensus report expands an earlier set of objectives published in 1980.

adding fluoride to drinking water. Priority objectives of the national health plan are the improvement of maternal and infant health and the reduction of heart disease and stroke, cancer, diabetes and other chronic disabling conditions, human immunodeficiency virus (HIV) infection, sexually transmitted diseases, and infectious diseases. The report addresses the special health needs of minorities and women—issues expected to become increasingly important to employers as greater numbers of these groups enter the work force (U.S. Department of Health and Human Services, 1991c). The recommendations reinforce those of the National Commission to Prevent Infant Mortality, which was established by Congress in July 1987 to address the issues of maternal and child health. The commission has focused on reviews of existing programs and policies directed at the health of women of childbearing age and their infants (Chiles, 1988a).[9]

Additional prevention strategies are being considered in proposed legislation. For example, the Medicare Preventive Benefits Act of 1991 (H.R. 2565, S. 1231), introduced in June 1991, would amend the Social Security Act by adding preventive health services to the Medicare program. The proposed measure would permit reimbursement for colorectal cancer screening and pay for routine annual mammography and flu vaccinations. Tetanus vaccinations would be covered every 10 years.

The Medicare Preventive Benefits Act of 1991 has been incorporated into subsequent legislation (H.R. 3626, S. 1872) introduced by House Ways and Means Committee Chairman Dan Rostenkowski (D-IL) and Senate Finance Committee Chairman Lloyd Bentsen (R-TX), respectively. The new legislation also contains provisions requiring insurers to offer small groups a minimum benefit package that includes prevention benefits.

Legislation (H.R. 3402) introduced by Rep. Henry Waxman (D-CA) earlier this year reauthorizes two health promotion/disease prevention programs administered by the Department of Health and Human Services. The first—the Office of Disease Prevention and Health Promotion—supports a number of preventive health activities, including the establishment of a national health promotion/disease prevention agenda for the nation. The second—the Centers for Research and Demonstration for Health Promotion and Disease Prevention—provides funds to academic public health researchers for the development and evaluation of innovative methods for the incorporation of preventive health measures into the health systems. The authority of these programs expired on September 30.

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A healthy work force can mean lower workers' compensation, fewer claims for disability and health insurance, less turnover, reduced absenteeism, and increased productivity.

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H.R. 3402 reauthorizes both programs for five fiscal years, FY 1992–FY 1996. For FY 1992, the funding level for each program is the same as it was for FY 1991—$10 million. For FY 1993–1996, the funding level is set at "such sums as may be necessary."

◆ Conclusion

Although the idea of health promotion can be traced to ancient times, the term itself has been popularized in recent years. **There has been an increasing recognition that medicine constitutes only one factor in the**

[9]The 15-member commission includes members of Congress, the Secretary of Health and Human Services, the Comptroller General of the United States, representatives of state governments, and experts in maternal and child health. In creating the commission, Congress called on the private sector to help address the issues of maternal and child health. Participants in the early planning included Southern Bell Corporation, American Stock Exchange, Johnson & Johnson, IBM Corporation, Burlington Industries, and the Washington Business Group on Health.

advancement of health. Many diseases emerge from living patterns and conditions and the ways people cope with them. Wellness is a concept beyond disease control; it relates to individual choices in diet, the use of alcohol and tobacco, and exercise.

Effective programs will be tailored to the work force and consider needs by geographic region as well as by ethnicity, sex, and race. They will also address retirees' and dependents' needs. With increasing numbers of women in the work force, issues surrounding prenatal and infant care will gain attention.

A healthy work force can mean lower workers' compensation, fewer claims for disability and health insurance, less turnover, reduced absenteeism, and increased productivity.

Successful health promotion efforts are already in existence. They range from information strategies to complex programs to alter workers' lifestyles. Smoking cessation programs are among the most prevalent. EAPs are gaining new popularity as one part of a total health plan strategy. Medical screening and its use in insurance underwriting is likely to stimulate further debate as technologies outpace knowledge in this controversial area of health care.

In the 1990s, health promotion is high on the public policy agenda as a strategy for improving Americans' health. The concept addresses concerns about health care costs and the relationship between employees' personal health problems and job productivity. Health promotion efforts also reflect a growing awareness of the benefits of good health and fitness.

This *Issue Brief* was written by Nancy Saltford, an EBRI Fellow, with assistance from the Institute's research and education staffs.

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