

Health Promotion and Disease Prevention: A Look at Demand Management Programs

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- This *Issue Brief* describes employers' efforts to contain health expenditures through demand management programs. These programs are designed to reduce utilization by focusing on disease prevention and health promotion. Demand management includes work site health promotion, wellness programs, and access management. Work site health promotion is a comprehensive approach to improving health and includes awareness, health education, behavioral change, and organizational health initiatives. Wellness programs usually include stress management, smoking cessation, weight management, back care, health screenings, nutrition education, work place safety, prenatal and well baby care, CPR and first aid classes, and employee assistance programs (EAPs). These programs are often viewed positively by workers and can have long-term benefits for employers above and beyond health care cost containment. Demand management can benefit employers by increasing productivity, employee retention, and employee morale and by reducing turnover, absenteeism, future medical claims, and ultimately expenditures on health care.
- Even though a growing number of employers are offering wellness programs, only 37 percent of full-time workers employed in medium and large private establishments were eligible for wellness programs by 1993. However, a recent survey found that 88 percent of major employers have introduced some form of health promotion, disease prevention, or early intervention initiative to encourage healthy lifestyles among their salaried employees.
- Distinctions must be drawn between short- and long-term strategies. Demand management can be thought of as a short-term strategy when the focus of the program is on creating more appropriate and efficient health care utilization. Disease prevention is characterized by longer-term health improvement objectives. Whether the purpose is to reduce utilization in the short term or in the long term, the ultimate goal remains the same: to reduce health care expenditures while improving overall health. This goal can be achieved through the use of health risk appraisals, organizational health risk appraisals, high risk programs, awareness programs, medical call centers, return to work programs, EAPs, and smoking cessation programs.
- Studies of a health promotion program's cost effectiveness must disentangle the effects of many competing factors on cost effectiveness. For example, a health risk appraisal program may identify health problems of which the patient and the health care provider were unaware, resulting in the treatment of these health problems. At the same time, the employer may have switched from a nonmanaged pharmaceutical program to a managed program with incentives for participants to utilize generic and/or mail order drugs. As a result, when evaluating a health promotion program, the long-run impact on the program's cost effectiveness is most important.

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Introduction

The most significant change in the health care financing and delivery

system in the past 10 years has been the increased use of managed care and approaches to managed health. Record numbers of individuals are enrolling in managed care plans, in both the private and public sectors. As of July 1995, 53.3 million individuals were enrolled in health maintenance organizations (HMOs), including 5.0 million who were enrolled in a plan with a point-of-service (POS) option (The InterStudy, 1996). In addition, an estimated 91 million individuals were enrolled in preferred provider organizations (PPOs) by year-end 1995 (American Association of Health Plans, 1996). As a result, a growing percentage of the insured population is covered by health plans with capitated arrangements, i.e., plans that reimburse health care providers a set fee to care for each enrolled patient, regardless of the health status of the patient population.¹

The broad-based move to managed care and managed health was, in large part, driven by high rates of health care inflation during the 1970s and 1980s. In addition, the government has become increasingly interested in moving Medicare and Medicaid beneficiaries into managed care in the hope of reducing spending growth rates. Between 1970 and 1994, the share of the federal budget represented by total health spending increased from 9 percent to 20 percent. Combined

employer and employee Medicare payroll taxes increased during this period from 1.2 percent of payroll to 2.9.² As the objective of a balanced budget has taken hold, the ability to pay for increased health spending with borrowing has come under pressure, resulting in a greater desire to move to “new” health delivery and payment approaches that will hold down future tax increases. With the Medicare Part A program now running annual deficits, and with the prospect of the trust fund becoming exhausted within five years, the pressure for innovation grows.

Employers saw growth in the percentage of total compensation spent on group health insurance increase from 2 percent in 1970 to 6 percent in 1994. During the same period, employer expenditures for voluntary retirement pension and savings programs declined, and real wage growth slowed dramatically. Employers fear that, if health care cost inflation in both mandatory and voluntary programs cannot be slowed or reduced, it will continue to crowd out other worthy compensation programs.

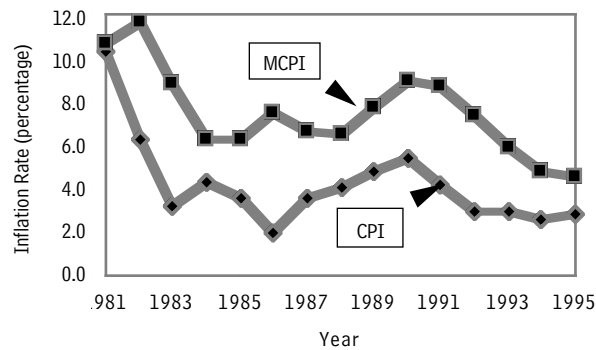
Pressure from government and employers will, as a result, continue to drive change. This will frequently serve to increase individuals’ share of health insurance premiums, limit individual choice in health care financed by others, and put pressure on employers and government to focus on quality as well as cost. Dynamic change is guaranteed for decades to come as this search for value continues.

The move to managed care and managed health has, in part, been responsible for slowing increases in health insurance premiums and out-of-pocket costs. One survey found that total spending on health benefits increased a modest 2.1 percent during calendar year 1995, while the total cost of providing health care benefits to active employees increased 0.2 percent (Foster Higgins, 1996). The cost of providing health care benefits to active workers in traditional fee-for-service arrangements increased 4.4 percent in 1995. The cost of providing POS plans increased 3.4 percent, that of

¹ As of July 1, 1995, capitation accounted for 45 percent of all reimbursements to primary care physicians, 20 percent of all reimbursements to specialists, and 11 percent of all reimbursements to providers of hospital services (The InterStudy, 1996). While capitation puts the health care provider at risk, a number of capitated arrangements include safeguards to minimize the risk of losses. For example, specific medical procedures, such as immunizations and obstetrics, are often carved out of the capitation schedule. In addition, the provision of stop-loss coverage minimizes the risk associated with capitation.

² In addition, the maximum taxable amount of annual earnings was substantially increased in 1991 and was completely removed in 1994.

Chart 1
COMPARISON OF CONSUMER PRICE INDEX (CPI)
AND MEDICAL CONSUMER PRICE INDEX (MCPI), 1981-1995



Source: Employee Benefit Research Institute.

providing PPOs decreased 2.1 percent, and that of providing HMOs decreased 3.8 percent.

While employer initiatives to reduce health benefit costs have been very successful in controlling the rising level of premiums for health insurance, in part because of growth in capitation arrangements and other important cost management strategies, it is unclear whether the increased use of managed care has significantly affected overall health care costs. Between 1981 and 1995, health care cost inflation consistently outpaced overall inflation, resulting in continued increases in resources devoted to health care (chart 1).³ At the same time, because of the increased use of capitation, health care providers assumed a level of risk never experienced in a fee-for-service environment. As a result, employers, health plans, and health care providers are increasingly turning their attention to other means of reducing health care costs.

This *Issue Brief* describes one area of increased interest: demand management. **The purpose of demand management is to reduce expenditures on health care by reducing utilization through disease prevention and self-care medical programs. Demand management includes work site health promotion, wellness programs, and access management. Work site health promotion is a comprehensive approach to improving health and includes awareness, health education, behavioral change, and organizational health initiatives. Wellness programs usually include stress management, smoking cessation, weight management, back care, health screenings, nutrition education, work place safety, prenatal and well baby care, CPR and first aid classes, and employee assistance programs (EAPs).** These programs are often viewed

positively by workers and can have long-term benefits to employers beyond health care cost containment.

Demand management can benefit employers by increasing productivity, employee retention, and employee morale and by reducing turnover, absenteeism, future medical claims, and ultimately expenditures on health care.

Program Growth

Employers responded to ever-increasing health care costs and health insurance costs

in the late 1970s by recognizing the importance of disease prevention and health promotion, and they slowly started emphasizing wellness programs and self-care (Lovato, Green, and Stainbrook, 1994). The most popular wellness services offered through the work place include high blood pressure screening, fitness, health screenings, stress management, and nutrition counseling (chart 2). Other wellness program services employers offer include communication facilitation, smoking cessation, and CPR classes. Even though a growing number of employers are offering wellness programs, only 37 percent of full-time workers employed in medium and large private establishments were eligible for wellness programs in 1993 (table 1). However, a recent survey found that 88 percent of major employers have introduced some form of disease prevention, health promotion, or early intervention initiative to encourage healthy lifestyles among their salaried employees (Hewitt Associates, 1996). Education and training and health risk assessments were among the most popular initiatives offered.

Robbins and Hall (1970) and Lalonde (1974) set the stage for the evolution of disease prevention and health promotion programs. Robbins and Hall developed a coherent framework to estimate risk in a practice

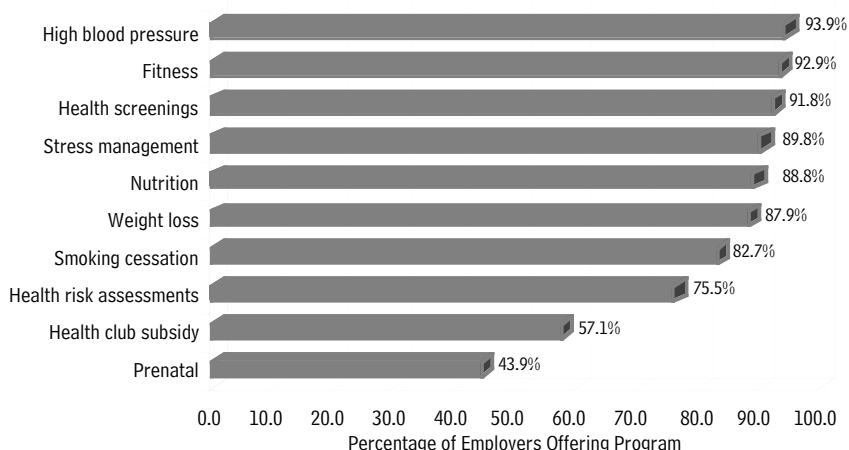
³ Even though there are known flaws in the measurement of overall inflation and health care cost inflation, relative to one another, these two indices can paint an important picture of trends in costs.

setting. This framework was then used to communicate risk to patients in an understandable

manner. Essentially, Robbins and Hall prescribed the development of the diagnosis of risk, instead of the treatment of risk. Lalonde envisioned that health status is determined by four major elements: human biology, health care delivery, environmental risks, and lifestyle hazards. Human biology includes all aspects of health developed in the human body as a consequence of basic biology. Health care delivery refers to the organizational aspects of the health care industry. Environmental risks include externalities that affect the human body over which individuals have little or no control. Lifestyle hazards refer to decisions individuals make concerning their own behavior that potentially affect their health status. For health problems related to human biology, environmental risks, and lifestyle hazards the health care system acts as a “catchment net.” Most efforts and expenditures aimed at improving health have been focused on health care delivery. However, it is just as important to get someone “not in pain” to become partners with health care providers in order to prevent future pain as it is to convince a person “in pain” to see a provider. Other publications also helped to stimulate interest among employers and policymakers (Berry, 1981; McKerney, 1980; and Parkinson, 1992).

In 1979, the Public Health Service initiated a health strategy to prevent unnecessary disease and disability and to achieve a better quality of life for all Americans (U.S. Department of Health and Human Services, 1991). The prevention initiative presented a national strategy for significantly improving the health of the American people during the 1990s “through modification of the lifestyle and environmental factors that are major determinants of chronic disease and

Chart 2
TYPES OF WELLNESS PROGRAMS OFFERED AMONG EMPLOYERS OFFERING PROGRAMS, 1995



Source: Employee Benefit Research Institute.

disability.” The strategy was designed to achieve three goals by the year 2000: increased life expectancy, reduction in

health status disparities, and increased access to preventive health care. Targets were set in the following 22 priority areas.

- Physical activity and fitness
- Nutrition
- Smoking cessation
- Drug and alcohol cessation
- Family planning
- Mental health and mental disorders
- Violent and abusive behavior
- Educational and community-based programs
- Unintentional injuries
- Occupational safety and health
- Environmental health
- Food and drug safety
- Oral health
- Maternal and infant health
- Heart disease and stroke
- Cancer
- Diabetes and chronic disabling conditions
- HIV infection
- Sexually transmitted diseases
- Immunization and infectious diseases
- Clinical and preventive services
- Surveillance and data systems

As of 1994, 8 percent of the objectives had surpassed the year 2000 targets, and progress had been made on 41 percent of the targets (U.S. Department of Health and Human Services, 1995).

Employers give a range of reasons for implementing health promotion programs. There is a general interest in increasing productivity, reducing absenteeism, increasing morale, enhancing the quality of life, lowering health risk, and promoting overall employee well-being. Employers use various criteria to set priori-

Table 1
PERCENTAGE OF FULL-TIME EMPLOYEES ELIGIBLE FOR HEALTH PROMOTION PROGRAMS

Program	Medium and Large Private Establishments				State and Local Governments		Small Private Establishments	
	1988	1989	1991	1993	1990	1992	1990	1992
In-house infirmary	35%	36%	34%	32%	18%	17%	5%	2%
Wellness programs	17	23	35	37	29	30	6	7
Employee assistance programs	43	49	56	62	59	63	15	17
Subsidized exercise facility	25	28	26	27	15	15	6	7

Source: U.S. Department of Labor, Bureau of Labor Statistics, *Employee Benefits in Medium and Large Firms*, 1988 and 1989 (Washington, DC: U.S. Government Printing Office, 1989 and 1990); *Employee Benefits in Medium and Large Private Establishments*, 1991 and 1993 (Washington, DC: U.S. Government Printing Office, 1993 and 1995); *Employee Benefits in State and Local Governments*, 1990 and 1992 (Washington, DC: U.S. Government Printing Office, 1993 and 1995); *Employee Benefits in Small Private Establishments*, 1990 and 1992 (Washington, DC: U.S. Government Printing Office, 1991 and 1994).

ties in disease prevention and health promotion programs, some of the most common of which are as follows (Lovato, Green, and Stainbrook, 1994):

- Cost-benefit and cost-effectiveness considerations
- Prior demonstration of benefits at comparable sites
- Time frame for the realization of benefits
- Relevance of the program to health costs and risks in the company
- Employee interest in the program
- Possible negative effects of the program

Savings estimates are difficult to disentangle from the compound effects of plans designed to reduce utilization, price discounts based on high-volume purchasing, 24-hour coverage, and medical risk screening programs. However, evidence is starting to mount suggesting that employers and employees do benefit from health promotion programs.

Surveys by Pelletier (1991 and 1993) find strong evidence of the positive effects of health benefits and a positive return in cost effectiveness. In addition, employers are reporting significant reductions in health risks and self-health perception, and direct cost savings have been achieved from decreases in smoking and drinking, weight reduction, and increased physical fitness (U.S. Department of Health and Human Services, 1993).

Strategies

Distinctions must be drawn between short- and long-term strategies. Demand

management can be thought of as a short-term strategy when the focus of the program is on creating more appropriate and efficient health care utilization (Terry, Sullivan, and Wegleitner, 1996). Disease prevention is characterized by longer-term health improvement

objectives. Whether the purpose is to reduce utilization in the short term or in the long term, the ultimate goal remains the same: to reduce health care expenditures while improving overall health. This section explores various demand management and disease prevention strategies that employers are using to reduce health care expenditures and improve overall health. It also presents evidence of these programs' effectiveness.

Health Risk Appraisal

Health risk appraisals (HRAs) are the first step in motivating workers to take a more active role in improving their health. Health assessments are conducted for each individual in an organization. One common HRA asks employees to fill out a questionnaire addressing modifiable health risk behaviors, such as diet, stress level, and amount of exercise, and conditions that scientific evidence has strongly linked to major medical conditions and causes of death. This information is combined with an on-site evaluation of height, weight, blood pressure, cholesterol, and high-density lipoprotein.^{4,5} Some employers have also initiated drug screening and cancer screening programs. Employees are then given their health risk factor profile, a report that identifies key health risk areas. HRAs are often used to educate employees and to identify those at high risk of cancer, cardiovascular disease, or suicide.

Organizational Health Risk Appraisal

Many large employers field surveys of their work-

⁴ See Schaeffer et al. (1994) for a sample questionnaire.

⁵ One criticism of health risk appraisals is that they underestimate risk because questions are usually not asked about unmodifiable health risk factors such as past health problems and family history of disease.

ers in order to conduct an organizational assessment. A subsample of workers is usually surveyed to provide an organization with important planning information and to set a baseline from which the organization can measure program effectiveness. Organizational health risk appraisals are increasingly used to identify areas of potential exposure to employers. For example, these appraisals may find that white collar workers have a greater need for weight reduction than blue collar workers within the same organization. In addition, an appraisal may find that normal building noise may be a factor that affects worker productivity.

High Risk Programs

Many employers implement programs designed to identify the small percentage of health care users who account for a high percentage of health care costs, in order to reduce the worker population's health risks in relation to a specific chronic disease. These programs are useful because they allow employers to predict which individuals will become high risk (high cost) users of health care, enabling the employer to promote risk reduction behavior prior to the onset of the disease. Higher cost individuals tend to have greater health risks. Examples of health risk indicators include arthritis, back pain, blood pressure, chronic conditions, diabetes, heart problems, smoking, and overweight. One program, for example, classified workers with high blood pressure or high cholesterol, tobacco users, and those who were 30 percent or more above their ideal weight as individuals at high risk for cardiovascular disease (Leutzinger et al., 1996). Employees who met the high-risk criteria were requested to participate in a study to reduce the risk of cardiovascular disease. Participants were randomly assigned to a counseling group and a referral group. The counseling group received monthly counseling and mailings and was encouraged to use the company-sponsored exercise facilities and to participate in an incentive program that

awarded prizes to participants. Participants in the referral group were strongly encouraged to visit their physicians for diagnosis and treatment of the conditions. After the program had continued for almost two years, it was found that the percentage of participants making improvements was much higher for the counseling group, with a forecasted benefit:cost ratio of \$3.24 to \$1 after five years.

Awareness Programs

Awareness programs are designed to encourage and persuade workers to address serious risk factors. These programs are necessary because workers are not likely to change their behavior just because they understand their health risk. Additional education is often needed. Awareness programs can take the form of brown bag lunches, educational displays, use of interactive computers, patient education materials, mailings to the home, and in-office posters.

Medical Call Centers

Medical call centers, also known as telephone triage, are used by employers, physician groups, health care providers, and health plans to steer patients to the most appropriate setting for care to prevent them from self-selecting an unnecessary, potentially more expensive, setting such as an emergency room. Medical call centers have become an important tool in managing health care costs. It has been estimated that 43 percent of emergency room visits were nonurgent in 1990, and in many cases, patients with nonurgent conditions frequently used an emergency room for after-hours care (U.S. General Accounting Office, 1993).⁶ On enrollment in a health plan, partici-

⁶ Nonurgent care is defined as an illness or injury that is neither life- or limb-threatening nor time sensitive. These illnesses and injuries can usually be treated in a less expensive setting, if it is available.

Many employers are concerned about worker absenteeism. In 1991, over 65 million work days were lost due to occupational injuries and illnesses, up from 45.2 million in 1985.

pants typically receive information packets with instructions to call an 800 number before going to an emergency room. Health plan participants are typically instructed to call the medical call center “after” hours, i.e., during evening and weekend hours, when their primary care physician’s office is typically closed.⁷ They usually speak directly to registered nurses, who ask a standard set of questions about the problem, assist them in determining if urgent care is needed, discuss the setting for the care, and give appropriate advice if treatment with a health care provider is not urgent.

Savings from implementing a medical call center are potentially large. It has been found that between 64 percent and 80 percent of all telephone calls have averted an emergency room visit. Some physicians are quick to embrace medical call centers because they allow physicians to concentrate their time with patients who urgently need care. However, other physicians criticize the centers, contending that registered nurses, assisted by computer software, are not a good substitute for physicians, who are in the business of practicing medicine. One alternative to medical call centers may be the use of small copayments for emergency room care. A recent study found that the introduction of a \$25–\$35 copayment for the use of emergency room care was associated with a 15 percent decline in use, mostly among patients with conditions that were considered unlikely to present an emergency (Selby, Fireman, and Swain, 1996).

Return to Work Programs

Some employers have implemented programs to reduce absenteeism from work. In one case, a health plan sponsor targeted employees with heart conditions

who were away from work. By providing education and exercise based on a stress test, medical

evaluation, and job demands, over the course of a four-year period the average time that employees were away from work because of a heart condition fell from 7.5 months to 2 months (Olson, 1996). Savings from lost wages over the four-year period were estimated at over \$1 million.

Reducing Absenteeism

Many employers are concerned about worker absenteeism. In 1991, over 65 million work days were lost due to occupational injuries and illnesses, up from 45.2 million in 1985 (U.S. Department of Labor, 1988 and 1993).⁸

There is a natural connection between worker absenteeism and work site health promotion programs. In theory, a more healthy work force could be expected to be sick less often. To the degree that work site health promotion programs increase employee health status, the incidence of absenteeism should be reduced. Workers’ absenteeism due to both occupational and nonoccupational injuries and illnesses results in both direct and indirect costs to employers. Lower absenteeism rates improve worker productivity, lower the costs of hiring substitute workers, and lower medical claims costs. They should also reduce the indirect costs associated with productivity loss due to training replacement workers.

A number of studies have examined the relationship between absenteeism and work site health promotion interventions. Lynch et al. (1990) found that employees who joined a work place fitness center had fewer absences than nonmembers, even after taking into account the fact that members had fewer absences before the program started. In other words, the program resulted in an even larger absentee rate differential between members and nonmembers. Another study showed that frequent vigorous exercise also resulted in a reduction in absenteeism (Conrad et al., 1988).

⁷ Many health care providers provide alternative phone numbers directing health plan participants to other health care providers or medical call centers during nonbusiness hours.

⁸ This does not include nonoccupational injuries or illnesses.

Some studies of the relationship between absenteeism and risk for cardiovascular disease have found that workers in the high-risk group had 2.5 times the rate of absenteeism of workers with a low risk for cardiovascular disease (Tucker et al., 1990).

Reductions in absenteeism can yield significant savings for employers. A study conducted by the DuPont Company found that savings from the work site health promotion program were enough to offset program costs, and the return on the investment increased over time (Bertera, 1990).

Employee Assistance Programs

Employers are increasingly using EAPs as a strategy for health care cost management and as a tool for improving employee productivity, morale, and job satisfaction; reducing absenteeism and turnover; and improving corporate image. EAPs provide counseling services directed toward acute problems that affect job performance. These programs were originally designed to identify and address the problem of employee alcohol abuse and, later, drug abuse. Today, alcohol abuse and drug abuse continue to be a major focus of many EAPs; however, counseling is also being offered for stress management, family and marital problems, work place violence, pressures from child and elder care responsibilities, and coping with the effects of company downsizing.

An increasing percentage of employers are offering EAPs. In 1993, 62 percent of workers in medium and large private establishments were eligible for these programs, compared with 43 percent in 1988 (table 1). Employers concerned with their employees' physical and mental health may offer in-house or outside counseling services and/or provide information on such problems as substance abuse, smoking, and stress through seminars, classes, or written materials.

Employers often provide coverage in their health plans for the treatment of substance abuse and mental

health problems in addition to offering EAPs. This coverage is frequently provided within the framework of an integrated program that includes an EAP as well as a network of behavioral health care providers.

If employees are to seek out the services of an EAP, the program must be structured to guarantee confidentiality and trust. Communication with employees about the program needs to emphasize the EAP's role in assisting those who need help. Confidentiality of medical records is very important. Employees need to be assured that, by participating in the EAP, they are not jeopardizing their jobs. Confidentiality makes the collection of information for evaluating the EAP difficult. However, employers will need a way to measure an EAP's use, the program's effects on job performance, and how employees feel about the program.

Smoking Cessation Programs

There is an extremely strong correlation between smoking and cancer, heart disease, stroke, and lung disease. Studies suggest that smokers alone cost between \$278 and \$878 more a year than nonsmokers (Yen, Edington, and Witting, 1991). Increased rates of disease result in higher health insurance premiums for smokers as well as increased disability claims, workers' compensation claims, and unemployment compensation claims. In addition, the indirect costs of smoking include time lost for smoking rituals, extra cleanup costs, damage to furniture and equipment and inefficiencies and errors related to factors such as high carbon monoxide levels, eye irritation, and sickness on the job. The latter can also lead to increased absenteeism, reduced productivity, and the employer's increased exposure to liability and compensation claims associated with occupational illnesses related to the effects of second-hand smoke (Lovato, Green, and Stainbrook, 1994). As a result, employers and health plan sponsors have an economic incentive to reduce the number of smokers and have taken steps to eliminate

smoking in the work place through smoking cessation programs and all-out bans on smoking.

Problems in Measurement

A number of competing factors can stand in the way of an objective,

scientific evaluation of a health promotion program's cost effectiveness (Whitmer, 1996). Among them are employer efforts that result in:

- **changing from indemnity to managed care plans,**
- **redesigning plans to give workers financial incentives to reduce utilization,**
- **joining employer coalitions to take advantage of high-volume purchasing, and**
- **adopting managed care programs for workers' compensation.**

Studies of a health promotion program's cost effectiveness must disentangle the effects of many competing factors on cost effectiveness. For example, a health risk appraisal program may identify health problems of which the patient and the health care provider were unaware, resulting in the treatment of these health problems. At the same time, the employer may have switched from a nonmanaged pharmaceutical program to a managed program with incentives for participants to utilize generic and/or mail order drugs. Newly identified health problems may be treated with costly procedures and/or prescription drugs. While it is less costly to treat a health problem during the early stages, when all health risk appraisals are conducted within a short time frame a health plan sponsor may experience a short-run increase in health care costs, followed by a long-term reduction in these costs as a result of the health promotion program. The short-run cost increase may or may not be offset by cost savings from the increased use of prescription and/or mail order drugs. Alternatively, short-run costs may decrease. It is possible that lower-

risk individuals will reduce utilization of health care to a level that results in a net decrease in health care expenditures even while high-risk workers increase their use of health care. As a result, when evaluating a health promotion program, the long-run impact on the program's cost effectiveness is most important.

Whitmer (1996) shows that a health promotion program's cost effectiveness can be measured a number of ways, including the following:

- determining the impact on overall medical expenses,
- retrospective comparison of specific risk factors with medical costs, and
- modifying measurable risk factors.

In addition, a prospective analysis of medical expenditures before and after the implementation of a work site health promotion program allows researchers to separate the program's causes and effects.

Determining the impact on overall medical expenses is the most important outcome in evaluating a health promotion program's cost effectiveness. Unfortunately, it may also be the most difficult to measure if researchers do not have access to adequate claims data. As previously mentioned, a number of competing factors may all contribute to employer spending on medical care. Some researchers have attempted experiments in which workers were randomly assigned to a program group and a control group. Employers could then compare the two groups' costs and utilization of health care in order to determine the health promotion program's cost effectiveness.

Retrospective analysis allows an employer to make comparisons between low-risk individuals and high-risk individuals. Comparisons of health care expenditures and utilization rates can be made in order to determine the average cost difference between the two groups and the factors responsible for the difference. This information can be useful in designing a health promotion program that fits the needs of the high-risk and low-risk groups.

Health risk assessments must be conducted repeatedly over time in order for high-risk individuals to

see risk reduction results from behavior modification. Employers can use the information from the followup health risk appraisals to measure the cost savings from behavior modification and to design and improve health promotion programs.

Confidentiality

Some employers, unions, health plan sponsors, and workers, as well as government policymakers, are reluctant to endorse demand management programs for a number of reasons. **Health risk appraisals are criticized because they collect information that many people would otherwise keep confidential, such as smoking, drinking, drug habits, attendance records, and medical claims history. Employers are also concerned about liability for occupational injuries and illnesses experienced by employees while participating in physical fitness programs.** In addition, health risk appraisals may increase an employer's liability for medical claims if health problems related to the work place are identified.

Concern over confidentiality has ramifications for evaluations of demand management programs. If workers believe that health risk appraisals are confidential, they will be more likely to participate in a program and more likely to report accurate information. As a result, to the degree that employers and sponsors of demand management programs keep medical records and other reports confidential, researchers evaluating these programs can be sure that they have good data. Alternatively, any perceived risk in keeping information confidential may result in inaccurate reporting of information and consequently a biased evaluation of the demand management program. Potential breaches of confidentiality may also reduce the number of participants in the study if the program is voluntary. This may result in only a selected

sample of individuals participating in the study and may bias the evaluation if the selected sample is not representative of the working population.

Conclusion

Employers, health plan sponsors, and health plan participants have reacted to ever-increasing health care costs by placing strong emphasis on managed care and, increasingly, on managed health. While managed care can claim significant success in reining in ever-increasing health insurance premiums, health care costs continue to rise. As a result, employers and health plan sponsors have turned their attention to the demand side of the health care industry. Demand management, which includes work site health promotion, wellness programs, and access management, reduces expenditures on health care by reducing utilization through disease prevention and self-care medical programs. **Recent evidence suggests that demand management is an effective means of improving health and reducing health care costs. However, more time is needed to study the long-term impact of demand management programs on disease prevention.**

There is growing concern about the limitations of demand management programs. Most studies of demand management programs' cost effectiveness have been limited to large businesses for two reasons. First, because large employers are more likely than small employers to implement a demand management program, workers in large firms are more likely to have access to these programs (table 1). Second, large employers also have the means to evaluate a demand management program. In order to have large effects on the overall U.S. population, small employers will have to adopt demand management programs, because over one-half of all private-sector workers are employed in firms with fewer than 500 employees (Fronstin and Rheem,

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1996). In addition, the uninsured and individuals covered by publicly financed health insurance plans, such as Medicare and Medicaid, will also need access to interventions that will result in improved health. This need will assure continued public policy initiatives aimed at strengthening value in Medicare and Medicaid and in "protecting" individual rights in the voluntary health marketplace. This could also lead to new discussion of expanded government regulation and mandates if managed care and managed health initiatives do not produce the cost, quality, and value balance being sought today.

There is also concern over demand management programs because improved health status can have unintended effects on other programs. If, for example, demand management improves not only current health status but also mortality rates, employers and the government will experience an increased payout of retirement income streams such as defined benefit payments from employers and Social Security payments from the government. While expenditures on health care may be lower in the long run, overall expenditures may be higher if people live longer.

There is a large and growing literature on demand management programs' cost effectiveness. Whether positive outcomes have been validly measured and evaluated is still of concern. Many factors influence an individual's need to visit a health care provider and the resulting health care costs. Individual health status represents a portion of the variability in costs. Other factors include individual health perceptions, health beliefs, and social and cultural influences (Lynch, 1994). As a result, health care costs should not be used as the only outcome measure of a health promotion program's cost effectiveness.

The search for innovations by the government and all other economic agents in the health system will continue as long as there is real aggregate growth in health expenditures, a large uninsured population, and pressures tied to uncompensated care. Demographics, including the aging of the population and high rates of

immigration, seem to assure that these issues—and challenges—will not go away.

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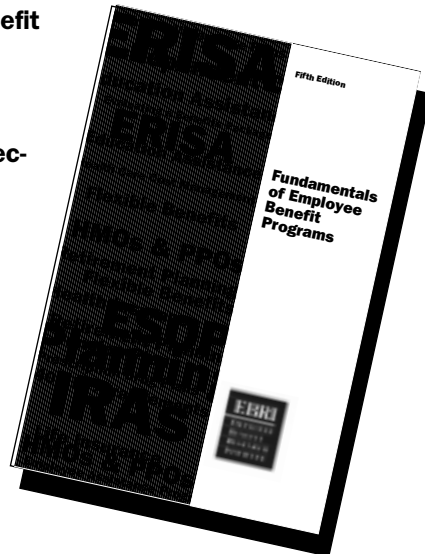
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