Integration of Medical Care and Worksite Health Promotion

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This article examines the role of worksite health promotion in the context of the changing American workplace and the rapidly evolving U.S. health care system. Societal changes are altering the structure, incentives for, and locations of work, as well as the organization and provision of health care services. These changes—including trends toward corporate downsizing and part-time employment, desktop computing and telecommuting, and increasing employer health costs—provide opportunities to retool the role of health promotion in the workplace and to better integrate medical care and preventive services for employees and their dependents.

For many years, medical and health promotion perspectives developed along parallel but separate tracks, owing to the different emphasis they placed on curative and preventive strategies and the tensions between these alternative, yet complementary, approaches to health care.1 Recently, the need to reduce rapidly escalating health costs, the shift toward outpatient services and managed care, and the emergence of community care networks have created a more favorable climate for collaboration among physicians, hospital administrators, and health promotion specialists.2,3 Clearly, the prospects for meeting the Healthy People 2000 goals for the nation and achieving a more cost-effective health care system will be improved to the extent that medical and disease prevention strategies can be better integrated in the coming years.4

Our discussion of the expanding interplay between medical and health promotion focuses primarily on the worksite—an arena that is especially amenable to the development and delivery of more integrated approaches to health care. Worksites are those settings in which one or more individuals engage in work-related tasks, including the offices, factories, warehouses, and other facilities and work environments of home workers. Worksite efforts have a high degree of leverage for influencing the health of the population. More than 110 million persons are employed in the United States and an additional 100 million of their dependents are potentially affected by worksite health programs, and many adults spend a substantial portion of time at work each week (nearly one third of their waking hours).5,6 Moreover, worksite health programs are likely to assume increasing importance in the national debate about managed care, since many large self-insured corporations have implemented and evaluated alternative plans for managing employee health costs during the past decade. This extensive corporate database can help inform future efforts to develop managed care models that are maximally effective with regard to their health and cost benefits.7

Prevalence and Effectiveness of Worksites Health Programs

During the past 15 years, worksite health promotion programs in the United States expanded rapidly in response to regulatory, economic, and social forces.8 A major incentive for employer investment in worksite health promotion has been the rapid and sustained increase in health benefit costs since the late 1970s, despite substantial corporate investments in a variety of cost-control strategies.9 In recent years, corporations paid an estimated 30% to 40% of the national health expenditures, the total of which grew from about 6% of the gross national product in 1969 to nearly 16% in 1992.10 Health promotion programming has been employed as a national effort to prevent the high-cost illnesses that consume the majority of corporate health benefit dollars.11 Employers' investment in health promotion programs is supported by a growing number of well-designed epidemiologic studies relating modifiable risk factors for heart disease, cancer, stroke, and common causes of morbidity, such as lower back and repetitive strain injuries. Public policy statements, such as the Surgeon General's 1979 report on health promotion and disease prevention12 and the 1961 publication of Healthy People: National Health Promotion and Disease Prevention Objectives,13 have emphasized the potential benefits of investment in disease prevention and health promotion programs. A national survey of 1358 workplaces in 1985 indicated that two thirds of the participating companies (with 50 or more employees) offered at least one health promotion activity.14 Smoking cessation, health risk appraisals, back care, stress management, and physical fitness programs were the most frequently cited health promotion activities at these workplaces. Sponsors and dependents of workers, as well as retirees, were found to have less access to corporate health promotion programs than employees. Specifically, all permanent employees were eligible to participate in health promotion ac-

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tivities at 85.4% of the workplaces, whereas sponsors and dependents were eligible for these programs at only 50.1%, and retirees at 28.4%, of the participating companies.

A second national survey of 1967 revealed that, by 1967, 89% of the companies sampled offered at least one health promotion activity. Other activities mentioned most frequently in the 1962 survey included injury prevention, physical fitness, smoking control, and stress management. With the prevalence of workplace smoking policies increasing by 118% between 1965 and 1992. Both the 1982 and 1993 surveys indicated that larger companies sponsor a broader array of health promotion activities than smaller ones. In 1992, for example, work- sites with 750 or more employees were twice as likely to offer cancer screening programs than companies with fewer than 100 workers, and about three times as likely to provide blood pressure control, physical fitness, and weight management programs. As corporate investments in workplace wellness programs grew during the 1980s, scientific efforts to evaluate the health and cost benefits of these initiatives also expanded. Between 1980 and 1998, 93 peer-reviewed studies evaluated the effectiveness of workplace health programs. Two recent reviews of these evaluations found converging evidence of improved health outcomes related to smoking cessation, weight loss, and con- sistent use of services after employees' participation in work- site health programs.118 A review of the 11 programs that were evaluated in terms of cost-effectiveness of cost-benefit criteria, only one failed to indicate a positive return on investment. Evaluations ranged from 6 months to 6 years, with the studies of longest duration, the largest number of participants, and the most rigorous research design (randomized control trials) occurring since 1991.

Specific health promotion strategies that show promise for being both health- and cost-effective include (1) intensive multiple encounter offering a high level of initial and continuing participation among employees in workplace health programs, (2) using all employees but providing higher levels of program intensity to those with identified medical risk factors, (3) employee participation in health risk appraisal and lifestyle change programs, (4) comprehensive worksite health programs that provide multiple, periodically updated program offerings targeting a wide range of risk factors, and (5) employer policies that encourage the workplace and requiring the use of safety belts in all employer vehicles and company-sponsored trips, and (6) personalized telephone contacts, counseling, and feedback to recruits employees in medical screening to detect diseases and encourage their adherence to recommended lifestyle changes.

LIMITATIONS EVIDENT IN EARLIER WORKSITE HEALTH PROGRAMS

Although evaluative studies have documented the health and financial benefits of worksite health programs, they also reveal some important shortcomings in earlier interventions. First, most corporate health programs implemented to date have been limited rather than comprehensive in scope. These programs have emphasized risk-factor reduction strategies (e.g., smoking cessation, stress management, health risk appraisals) but have not integrated disease prevention and safety programs with organizational policies to enhance the physical and social quality of the workplace. Second, previous worksite interventions (especially during the 1970s and early 1980s) emphasized primary prevention efforts to achieve wellness and re- duce illness, while neglecting oppor- tunities to minimize health promotion with secondary prevention (early detection and treatment of disease) and tertiary prevention (averting recurrence). Ideally, employers could offer workplace wellness programs in conjunction with a variety of preventive services (e.g., periodic physical examinations and screening for hypertension, high cholesterol level, and cancer risk) and rehabilitative programs to facilitate workers' recovery from cardiac events, back injuries, and other medical problems. An encouraging trend in this regard is the higher per- centage of companies that offered some forms of preventive service between 1985 (54% of 1992) and 1992 (57% of 1992). Prev- entive services at the worksite are of- ten provided in piecemeal fashion, rather than as part of a more comprehensive approach that integrates health promo- tion strategies with diagnostic and rehabilitative services.

Third, workplace health remains have been unevenly distributed among dif- ferent segments of the labor force. In general, access to preventive health programs has been greatest among perma- nent employees who work for large companies in single workplace. For other groups, such as highly mobile workers (e.g., salespeople, sales personnel) or those employed by small businesses, residing in rural areas, and working in small indus- tries, access to health screenings, vaccination, and manufacturing, the availability of workplace health programs has been more limited. Access to corporate health programs also has been lower among physically or mentally unemployed individuals, employees dependent on retired, and individuals whose social, cultural, or educational backgrounds make them less likely to access commonly used health promotion programs.

Fourth, although there is increasing evidence of the health and cost benefits of certain interventions (e.g., personalized counseling and follow-up services to en- hance employees' hypertension control, weight loss, and smoking cessation; health risk appraisal and behavioral change programs), many worksite- based programs implemented in pre- vious years have not been rigorously evaluated for their health- and cost-effec- tiveness. Among those programs that have been evaluated, the conclusiveness of research findings is limited by methodological constraints, such as non- random assignment of workers to inter- vention and control groups, the use of narrowly circumscribed measures to evaluate employee health status, and the lack of standardized criteria for calibrating the cost-effectiveness of worksite pro- grams.

Finally, as companies expand their efforts to reduce employee health costs through managed care, health risk app-raisals, mental health counseling, and medical surveillance programs, potential conflicts of interest can arise be- tween employers' financial concerns, en- employees' health care needs, and health professions' concerns about patients' well-being.

PROGRAMMATIC CHALLENGES FOR HEALTH PROMOTION

The limitations evident in earlier health promotion programs suggest several strategies for improving the design and evaluation of future worksite initiatives. Four general categories of programmatic directions for the future are as follows: (1) the development of closer ties between worksite health promotion programs and medical service providers; (2) the estab- lishment of ethical standards for work- site health promotion that ensure privacy and job security; (3) the integra- tion of corporate policies, environmental enhancements, and behavioral change strategies to create healthier workplaces that are responsive to community needs; and (4) the development of improved methods for evaluating the health out- comes and cost-effectiveness of corporate wellness policies and programs.

Integration of Worksite Health Promotion With the Medical Care System

The organization of health services in the United States is rapidly evolving
toward a managed care system that will place increasing emphasis on cost containment and the development of community-wide partnerships among physicians, hospitals, insurance carriers, and employer organizations for more integrated health care provision. These ongoing changes afford unique opportunities to better integrate worksite health promotion programs with medical care services.

Linking Primary, Secondary, and Tertiary Prevention Efforts

A comprehensive strategy for health promotion and disease prevention that includes preventive health services at the worksite should complement and reinforce the medical services provided by physicians working in nonoccupational health care settings. For instance, a physician whose patient is returning to work after coronary bypass surgery could collaborate with worksite health professionals to develop a plan for monitoring the employee's physiologic status at work, facilitating his or her compliance with prescribed medication regimens, and encouraging the development and maintenance of improved health habits (eg, through stress management, smoking cessation, physical fitness, and a low-fat diet). This approach has been implemented effectively in the cardiac rehabilitation program at Stanford (Calif) University for recovering patients at the worksite.26

At the same time, corporate programs that enhance health-related knowledge and health risk appraisals could identify employees at greatest risk for adverse health outcomes.24,27,28 One example of a worksite-based preventive services program that could be integrated with corporate health promotion programs is the wellness program at the University of Pittsburgh.29 Additional examples of worksite-based preventive services that could be integrated with corporate health promotion programs include on-site health fairs, nutrition counseling and education, smoking cessation programs, and cholesterol screening.

Developing Innovative Applications of New Provision Technologies

An important priority is the development of new technologies for providing cost-effective and convenient health care for worksite employees. Examples include medical surveillance and risk-assessment programs that can be conducted by computer and encourage changes in individual health habits, behavior, self-care, and use of health care services. For instance, one study conducted by the Michigan Prevention Research Center, community intervention units designed to assist unemployed workers through counseling and job placement services, decreased social disconnection and yielded significant mental health benefits and reemployment rates among program participants, relative to those in the control group.34

One program consisting of health risk assessments mailed at 6-month intervals, combined with self-care instructional materials and personalized recommendation letters emphasizing behavioral risk reduction, achieved improved in program health risk scores of 18.1% at 18 months and 20.0% at 30 months among participants aged 44 years and younger.35 This same program resulted in lower rates of medical insurance claims related to cancer and other chronic conditions (see attached printed materials only) and self-reported use of medical services from baseline.35

Also, telecommunication technologies, such as Internet intranets and bulletin boards, electronic mail, fax, video-based computer interactive systems, and interactive cable television (eg, the National Health Network), could be used more widely in corporate settings to encourage employee participation in worksite wellness activities and to deliver multimedia educational programs on risk-factor reduction, disease prevention, and environmental health and safety.36

Improving Access to Populations That Are Difficult to Reach—Future worksite health initiatives should ensure greater access among employees who are relatively difficult to reach and should be tailored to the unique needs of small and medium-sized companies, as well as those of larger corporations. One study demonstrated the effectiveness of health promotion programs in small companies, offering the greater opportunities for personalization of health education and goal setting in small vs large organizations.37 Yet, small businesses generally offer fewer health promotion programs than larger companies; because of their relative lack of staff, financial resources, and economies of scale. These barriers to health promotion programming in small firms may be lowered as managed care providers increase outreach programs for small and medium-sized companies and wellness activities available within their employee health programs, and as legislative reforms require companies of all sizes to establish worksite injury and illness prevention programs.33,38

Programs that can effectively reach highly mobile workers, those based in rural locations, uninsured workers, spouses of dependents, and retirees are additional priorities, as are those that address the needs of workers temporarily or chronically unemployed, because of corporate downsizing, layoffs, and health care closures. In a study conducted by the Michigan Prevention Research Center, community intervention units designed to assist unemployed workers through counseling and job placement services, decreased social disconnection and yielded significant mental health benefits and reemployment gains among program participants, relative to those in the control group.34

Also, studies of employee risk appraisal and medical surveillance programs indicate that mail and telephone contacts initiated by access and health educators are effective in reducing behavioral risks for workers and their dependents.35 Therefore, these same strategies can be used to provide medical and preventive services to migrant and rural workers, dependent and retirees located away from centralized worksites and communities with limited health care access.

Finally, corporate health initiatives should be organized to address better the needs of racially and ethnically diverse populations and incorporate strategies for the successful implementation of these underserved groups in health enhancement programs (eg, through the development of multilingual and culturally sensitive health communications).39

Integrating Health Promotion and Disease Prevention Into Corporate Benefits Plans—Many companies that establish their own health benefit plans (as frequently occurs in large corporations) do not include health promotion and clinical preventive services among the benefits provided to employees and dependents. For example, immunizations for children are often omitted from corporate health plans, and even when they are included, many children remain unvaccinated, highlighting the need for closer coordination between worksite benefit plans and clinical service providers.40 To correct these deficiencies, companies that provide health promotion and disease prevention programs should include preventive services and health promotion activities for which effective programs have been well documented.50 Companies should also expand their efforts to educate employees about the importance of access to preventive services. The cost-effectiveness of integrating health promotion programs into corporate benefit plans was demonstrated in a 5-year pilot program involving these services for approximately 4,000 employees in Birmingham, Ala.51 That program, which combined yearly medical screening, health education, preventive services, and physician referrals for high-risk employees, held the costs of benefits constant while they increased in other areas of the plan. The average medical benefits expenses per Birmingham employee were 29% (or $505) higher than the state average at the outset of the study, were 39% (or $522) lower than the state average by the fifth year of the program.52

Developing Worksite Health Programs That Are Appropriate and Managed Care—Worksite health programs that are responsive to worker needs and have the potential to improve managed care ap-
provisions of health services delivery (e.g., partnerships among employer corpora-
tions, health maintenance organi-
izations, exclusive and preferred provider organizations) are a priority. Es-
pecially needed are programs that (1) better integrate health promotion and disease prevention strategies with the medical service delivery systems currently em- plished by health maintenance organi-
izations and preferred provider or-
ganizations (24-26), (2) establish policies and procedures within employer and health maintenance organizations to ensure that the quality of patient care and pre-
ventive services is maintained at a high level and not compromised by financial cost containment goals (27). Further evalu-
ate the capacity of worksite health pro-
motion and disease prevention programs to reduce the use of medical services by employees, referees, and their depen-
dents, and the financial costs of health insurance claims (28-30) and (3) create new alliances among hospitals, insurance car-
riers, employer organizations, and pri-
mary care service providers, with a mutu-
ally shared risk relative to capitated health programs. (29) The development of corporate wellness coalitions (such as the Bay Area and Washington Area Business Groups on Health) and evalua-
tions of worksite health programs based on community vs. enterprise program approaches are important directions for the future.

Strengthening Ethical Standards To Protect Employee Privacy and Job Security

The development and linkage of en-
forced care, health risk appraisal, em-
ployee assistance, and medical surveil-
ance programs at the worksite may pose a variety of ethical dilemmas for physi-
cians and other health professionals employed by or working in employer organizations. A major problem is how to protect confidential health informa-
tion when dissemination of that infor-
mation, intentional or inadvertent, can adversely affect an employee's job situ-
ation and lead to resentment, lack of advancement, or loss of professional cer-
ification. Potential Conflicts of Interest Between Management and Health Profes-
sionals.—There is a fundamental ten-
ent of employer management, desire to maximize workers' productivity and re-
duce their health benefit costs, and phy-
sicians' responsibility toward the law to protect employees' privacy and en-
sure the confidentiality of all health in-
formation. For example, management may want to know whether frequent absences are caused by the acquired immunodeficiency syn-
drome or some other progressive dis-
ease that requires staff replacement; or whether employees who are at highest risk for coronary artery disease are tak-
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medical care and worker health promotion—Stokes et al 1139
reduction program that encompassed both changes in lifestyle and medication resulted in significantly greater reductions in the progression of athlerosclerotic disease during a 4-year period than did medical treatment alone.6,7 Similarly, an intervention that combined health education, follow-up counseling, and corporate efforts to establish health communication networks and support groups, medical interventions, environmental enhancements, and health-supportive facilities planning have been implemented and evaluated to date.10 The workplace health programs developed by certain large companies, such as AT&T, Kansas City, Mo, and Johnson & Johnson, New Brunswick, N.J., are exceptions to this trend, although, even in these cases, the health and cost efficacy of environmental change strategies have not been assessed.11,12

The goal of creating healthy companies through multifaceted interventions suggests some important tasks for the future. Corporate health programs should integrate and evaluate the joint effects of "active" and "passive" interventions on employee well-being.9 Active intervention includes a variety of behaviors to modify personal and corporate exposures (e.g., smoking cessation, exercise, and dietary interventions) that require voluntary and sustained effort by individuals to achieve the desired health benefits. Passive interventions include organizational policies and environmental changes (e.g., establishing smoke-free workplaces, flex-time, and job-sharing programs, physical fitness facilities) that require little or no effort on the part of individuals. The joint effects of these different interventions on employee health need to be evaluated in future research.

Also, occupational and behavioral surveys on employees at the workplace are becoming commonplace in the United States, yet little is known about the causes and prevention of occupational injuries at work.9 Between 1980 and 1989, homicide was the leading cause of death among women and the third leading cause of death for all workers.9,10 Corporate health promotion programs that teach employees conflict resolution and stress management strategies may help reduce the stressfulness of work environments and play an important role in ameliorating workplace violence.9

Important priorities for the future are to

(1) Identify major risk factors for workplace violence (e.g., working alone or in small numbers, late at night or during early-morning hours, and in high-crime neighborhoods); and
(2) Develop and implement workplace violence prevention programs that integrate behavioral, organizational, and technical strategies (e.g., modification of work schedules and procedures, provision of employee training programs for crisis intervention, enhancements of surveillance and emergency response systems).

Health Consequences of Corporate Downsizing, Job Strain, and Unemployment. The economic recession of the 1980s and early 1990s increased the unemploy- ment rate among US workers and promoted major changes in corporate structures, including downsizing, "re-engineering," and a shift from full-time to part-time work in many sectors of the economy. These changes have placed greater job demands on employees, who are often asked to work more for less compensation. At the same time, employees are confronted by more frequent changes in the physical environment and location of their workplaces and the threat of job displacement through workplace reorganization.13,14

The duality of the models of occupational stress suggests that high-demand jobs, which afford minimal opportunities for advancement and social interaction, are the greatest psychological stressors and variability to stress-related diseases. These occupational health risks can be expected to become more severe during times of rapid organizational and technological change. Moreover, the higher levels of stress and interpersonal strains brought about by corporate restructuring seem to impinging on job loss may increase the incidence of emotional distress and workplace violence.9,15

The socioeconomic and technological changes that have transformed the US workplace in recent years pose several challenges for workers, health promotion, first, high-strain jobs can be redesigned to achieve a better balance between workers' psychological needs for autonomy, the day-to-day demands of their work, and the performance criteria of their employers.9,15 Second, employers should develop new resources to provide support and assistance for workers coping with job insecurity, relocation, and reemployment.16 Third, employee assistance programs, which provide workers and dependents with a variety of assessment, counseling, referral, and case management services for substance abuse, mental health, and other problems, should be integrated with workplace health promotion programs.17,18 Finally, corporate programs to assist employees who have lost their jobs as they make the transition to new careers should be developed and evaluated for their effectiveness in preventing mental health problems associated with unemployment.19,20

Improved Methods for Evaluating the Health Outcomes of Workplace Programs and Cost-effectiveness

The development of more rigorous approaches to evaluating the health and cost-effectiveness of corporate wellness programs will provide a stronger empiric basis for maximizing the effectiveness of these initiatives. A key criterion for judging the value of corporate wellness programs is the extent to which they result in improved health outcomes (i.e., the health-effectiveness of the programs). Earlier studies of workplace health programs often have used divergent and unstandardized measures to assess changes in employees' health status as a function of their participation in these programs. Therefore, a priority for the future is to develop benchmarked program evaluations that can incorporate diverse measures of the health impacts of workplace interventions (e.g., biomedical, behavioral, and psychosocial indices of employee health). By using a wider array of measurement strategies, future evaluations of corporate health programs will be better able to test hypothesized links between behavioral and environmental interventions and the improvement of employee health outcomes and workplace violence.9,15

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Another important direction is to develop improved methods for evaluating the health outcomes of workplace programs.9,15,16

The anticipated cost-effectiveness of workplace interventions is an important factor in corporate decisions to implement, discontinue, or postpone health promotion programs. Cost-effectiveness is defined as net program costs expended per unit of benefit achieved. The cost-effectiveness of workplace health interventions during a 6-month to 3-year period has been increasingly demonstrable.9,15,16 Future evaluations of the cost-effectiveness of workplace health programs should incorporate a wider array of productivity and organizational effectiveness criteria that has been used in the past (e.g., reflecting the quantity, quality, and timeliness of employees' work performance; aggregate rates of
CONCLUSIONS

Recent and impending changes in the US health-care system and refinements in methods for improving employer- and individual-sponsored health-care programs suggest a need for achieving a more thorough integration of workplace health promotion and medical care services that has been possible in the past. A growing body of research testifies to the effectiveness of many workplace health promotion programs in reducing illness risks, improving employee wellbeing, and lowering employers' health benefit costs. Also, capitalized health promotion have established shared incentives for cost containment among physicians, hospitals, insurance companies, and employer organizations. As community care networks emerge, the success of health plans and other medical settings will depend on how well they establish partnerships for health promotion with local businesses, government agencies, and schools, and a strong reputation for high-quality patient care. Likewise, health educa- tion and self-care programs provided by nonmedical personnel can benefit hospitals and physicians by reducing the demand for inpatient care and enabling them to focus on medical services that are of highest priority to the community.

More than ever before, physicians, hospitals, employer organizations, and public agencies share a common stake in providing affordable, accountable, and accessible health care. For example, the social epidemic of chronic disease, acquired immunodeficiency syndrome, neighborhood and workplace violence, and unintended pregnancies have placed an enormous burden on the effectiveness of the past two decades.10,11 The initiatives outlined herein can help reduce the economic and human toll associated with these contemporary health problems by fostering a more integrative approach to health improvement and a more cost-effective health care system.

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