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HEALTH PROMOTION AND LIFESTYLE CHANGE IN THE WORKPLACE

by

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Technical Paper prepared for the
Regional Office for Europe
of the
World Health Organization
Copenhagen, Denmark
February, 1983

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HED/HPR 2
3 June 1983

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I. WORKPLACE HEALTH PROMOTION: CONCEPTUAL ISSUES

Everyday, all over the world, millions of people come to work in factories, offices, shops and institutions. With their colleagues they share specific health risks due to environmental exposures, both physical and social, which exist in their work settings. With their peers they create norms of health practices within their work groups and organizations, initiate new colleagues into social networks, and reinforce conformity to these patterns. Indirectly they influence the health of their families and friends.

The health of employees also affects their performance and satisfaction with work. All work settings, whether intentionally or inadvertently, set policies for health practices. Organizations through climates and norms, incentives or disincentives for health practices, recruitment and selection, and hiring and promotion procedures reinforce health values.

In light of the dramatic escalation of health care costs in recent years and the likelihood that costs will increase even more, work settings provide an excellent intervention site for the prevention of disease and the promotion of individual and organizational health.

As part of the overall regional strategy for attaining the World Health Organization's goal of "Health for all by the year 2000", the European Region of the World Health Organization is attempting to reconceptualize its orientation to health education within a framework of health promotion. These develop-

ments are clearly articulated by Kickbusch (1981), who outlines four main conceptual reorientations in health education: from health prescription to health promotion; from individualistic behaviour modification to a systematic public health approach; from a medical orientation to recognition of lay competence and from authoritarian to supportive health education. As a consequence of this reconceptualization health promotion, preventive health education and supportive health education emerge as three major program areas.

The document conceptualizes health promotion as "essentially a social rather than a medical activity" (page 42) encompassing both individual lifestyle change and, perhaps even more importantly, normative and structural changes in the environmental and social context leading to a society which supports the promotion rather than the demotion of health. In other words, health promotion in the work place should be concerned not only with promoting healthier lifestyles in work settings but in promoting the health of the work setting or organization. Thus, health promotion is concerned with the promotion of both individual and organizational health in recognition of their mutual interdependence. A distinction is made in the WHO paper between health promotion and disease prevention (page 32). While it is tempting to separate the two definitions and ignore programs which are aimed primarily at the reduction of risk factors the document wisely suggests the need for more critical assessment of "the potential for, and appropriateness of, a definition of health promotion which excludes disease prevention..." (page 32).

Levi (1978) in referring to the W.H.O. definition of health remarked that "The promotion of health in this broad sense (one could equally refer to it as 'quality of life') must be one of the principle aims of all social activity, both central and local, including the important sector of working life and its conditions".

Health status therefore reflects policies not only of the health sector but, perhaps more crucially, non-health sectors of society. In fact this notion of "healthly public policy" in contrast to "public health policy" has been given a great deal of attention will be the focus of a conference on this theme planned for Toronto in 1984. There the impacts of transportation, energy, employment, urban design and economic housing, food and other sectors will be examined in relation to health status (Hancock, 1982).

While working life might provide income and an output of goods and services, these things are not ends in themselves; ultimately working life, as any social activity, is a way of ensuring physical, mental and social well being for the greatest number and for prmoting personal development through opportunities to use our talents to make social contacts and to satisfy human needs directly. Working life can lead to an improved quality of life (Peterfreund, 1980).

According to Buddhist teachings work has three functions:

1. To help a man/woman develop his/her faculties.
2. To overcome self-centredness by making him/her join with others in a common task.
3. To bring forth the goods and services needed for a becoming existence.

Unfortunately, for many people all over the world, unhealthy environmental, organizational and individual practices have made work physically and mentally hazardous. Fragmentation of the work process through mass production, separation of the worker from the product through automation, stimulus deprivation for workers assigned to boring and routine tasks, and increasing distances between production and consumption (though some would argue the distances may be reduced through computer-assisted production) have led to further deterioration in the quality of working life. For example Kittel, Kornitzer, and Dramaix (1980) in a Belgian study of male bank employees, followed two cohorts of clerks and executives initially free of coronary heart disease (CHD) for ten years. In the first cohort subjects worked in a private commerical bank which was undergoing major changes in management policy toward a more dynamic and competitive enterprise; subjects in the second cohort worked in a semi-public bank. They had fewer responsibilities, less competitiveness for promotion and fairly stable management policy. Over a ten year period the first cohort experienced a 50% higher rate of fatal or non-fatal myocardial infarction and sudden death then the second cohort. The incidence of these events was highest among men with higher levels of coronary risk factors.

Discussions, seminars, symposia, workshops, conferences and a great deal of intellectual debate have gone into developing an acceptable definition of health promotion. Most planners make a distinction between disease prevention and health promotion, though some distinguish between two aspects of health promotion: (a) disease prevention or postponement and (b) wellness improvement, where wellness is "something more positive than the mere absence of disease" (Collings, 1982). Disease prevention is generally targeted toward

individuals or groups who are deemed to be "at risk" for the development of a particular disease. Generally disease prevention activities are centered in medically- (physician and nurse) dominated settings using screening and other techniques of early detection to identify actual and potential disease states early enough in their natural history to increase the probability of effective treatment. Examples include mass screening for breast cancer using mammography, cervical cancer using pap smear, and immunization campaigns to guard against preventable communicable diseases.

In disease prevention, efforts are directed toward the removal or the reduction of the impact of a threat to health. Health promotion on the other hand focuses on healthy people and relies upon programs to enhance health or to help individuals achieve a higher functional level. Indeed, empirical support has been found for these two related but distinct clusters of behaviour. In a factor analytic study of health practices Tapp and Goldenthal (1982) found that clusters of habits related to health promotion (nutrition, exercise, rest and relaxation and personal health practices) was clearly different from one related more to the avoidance of risky health behaviours (tobacco use, alcohol use, road and water safety). Some specific definitions are presented in Chart 1.

CHART I: HEALTH PROMOTION AND DISEASE PREVENTION: SOME DEFINITIONS

Health Promotion

"The application of knowledge from basic, clinical and behavioural science to influence the practices of individuals, groups, families, and communities to prevent illness. Its principle strategy is to motivate individuals to learn to practice life-long positive health behaviour" (Kellogg Foundation).

"Any combination of health education and related organization, economical or political intervention designed to facilitate behavioural or environmental changes conducive to health" (Lawrence Green - Office of Health Information and Health Promotion, U.S. Department of Health and Human Services).

"The process of fostering awareness, influencing attitudes and identifying alternatives so that individuals can make informed choices and change their behaviour in order to achieve an optimum level of physical and mental health and improve their physical and social environment." (American Hospital Association)

"... interventions aimed towards socio-cultural and behavioural factors that affect health. It may include such efforts as health education, food and nutrition counselling, educational opportunities and programs to strengthen group and family support systems and the adoption of healthful living habits" (Romm, 1981).

Disease prevention includes primary prevention which "is the prevention of disease from occurring such as immunization; secondary prevention is the detection of disease before it becomes symptomatic such as screening for hypertension or cervical cancer" (Romm, 1981).

II. WHY PROMOTE HEALTH IN WORK SETTINGS?

In his introductory comments to a special issue on Worksite Health Promotion (Health Education Quarterly, 1982) Walter B. Wriston, Chairman of the task force on National Health of the Business Round Table and Chief Executive Officer of Citicorp in the U.S. makes the following observations with regard to the advantages of health promotion efforts both to employees and employers:

There are certainly advantages to employees in such on-the-job health promotion efforts. The programs are convenient, easy to communicate to staff members, and give them the chance to work with colleagues who can reinforce their good intentions and progress towards healthier living. At best, the programs have a spill over effort reaching dependence of the employees.

The advantages to the corporation are difficult to measure in terms of dollar benefits, but a subjective analysis points to high employee use, higher morale and a more effective staff, and a health care benefit that can actually save money for everyone involved (page 8).

In 1918 the U.S. National Industrial Conference Board in Boston, Massachusetts issued a report entitled "Sickness Insurance or Sickness Prevention". In their forward, the authors noted the following:

"Realizing the close relationship between national efficiency and health, the National Industrial Conference Board has attempted in this brief report to emphasize the enormous burden which sickness and physical disability place on society and industry and the imperative necessity for a thorough study of the practical possibilities of a program of sickness prevention with a view to its speedy adoption as a national policy."

The report asked "Shall the effort of the state and of private management be directed chiefly toward prevention of sickness, or, instead, toward relief through treatment and compensation after disability arises?"

The prevalence of a major diseases is presented along with an analysis of the contributions made by the work setting to each one. In general the report does not attribute much blame to the industries. Diseases among workers in large industrial centres are attributed to overcrowding, poor ventilation and poor lighting; most are viewed as preventable.

One of the first detailed comparative analyses of the costs of sickness prevention is also presented; in the words of the report "The problem in the case of such diseases and disabilities, therefore, is to determine whether their prevention would involve an expenditure out of proportion to the probable benefit" (page 13).

Both in the United States and Europe, a policy involving sickness insurance which compensates workers who have lost time due to sickness and illness, has been accompanied by increasing costs of sickness insurance as well as by dramatic increases in the number of days per insured member lost to work. For example, in Germany out of every one hundred insured wage earners in 1890, 36.7 were listed as sick at one time or another during the year; in 1913 the proportion was 45.6. Corresponding figures for Austria were 45.7 and 51.8.

Yet labour leaders were opposed national health insurance schemes, despite the fact that they were intended to benefit workers, on the grounds that a compulsory insurance scheme would weaken the individual's will to maintain his own health by providing only for relief in the case of sickness.

The report concludes with a recommendation to establish a National Health Commission which would examine current prevelance and patterns of illness and develop guidelines for a "sickness prevention program" including schemes for its administration, estimates of costs, and strategies for implementation. The main thrust of their efforts is to limit the need for sickness insurance by adopting programs for sickness prevention. As they indicated "... every dollar successfully and economically spent in preventive work is a dollar invested productive enterprise".

These historic arguments for health promotion are just as compelling today. Soaring claims for health insurance, Worker's Compensation benefits, losses in productivity due to absenteeism and illness, decreased productivity on the job, turnover, accidents and injuries, errors in decision making and judgement, are all affected by individual health which in turn reflects both individual and organizational factors. The following 7 reasons for health promotion are adapted from Ivancevich and Matteson (1980):

1. Humanitarian

If an organization can contribute to employee health and longevity through awareness and action, then it has an humanitarian responsibility to do so.

2. Cost

It has been estimated that stress-related problems account for approximately $10 to $12 billion annually in Canada in the form of absenteeism, lost productivity, and medical treatment services.Corporate managers are concerned about health costs. For example, expenditures on employee health rose from 38

million dollars in 1960 to 1.4 billion dollars in 1979 for General Motors, an increase from $84.00 per active employee to $2285 or, in terms of cost per vehicle from $10.00 to $219.00 (American Medical News, November 28, 1980). Interventions which can reduce these costs by even a fraction of a percent are likely to be cost-effective.

3. Performance

There is evidence to show that people who are physically and mentally fit are absent less often, make fewer errors, have fewer accidents, and have lower turnover rates than their less healthy counterparts.

Kasl (1978), in an excellent overview of relationships between occupational characteristics, work stress and health, notes that coronary heart disease rates vary in relation to difference occupations, job satisfaction, blue and white collar workers, machine-paced versus non-machine paced jobs, shift versus non-shift work, and so on. But blue collar workers in routine machine-paced jobs who view their work as dull and monotonous do not necessarily report more job satisfaction or dissatisfaction than do other blue collar workers. They do, however, respond with higher job satisfaction when their jobs are enlarged.

4. Oppportunity Costs/Opportunities Lost

People in poor health because of stress may be less creative and less inclined to take reasonable risks. It is likely that small gains in creativity and appropriate risk taking could be worth our effort.

5. Organizational Risks

When experienced, talented and loyal employees become seriously ill or die, it is difficult if not impossible to shift their job responsibilities to others. Productivity is almost always decreased during the transition.

6. Bench Strength

Individuals who die or retire prematurely signify significant waste of human and personal resources. The time, money, skills, ability and knowledge invested in such an individual is lost forever. In these difficult economic times, perhaps more than ever, companies are realizing that they must take special steps to safeguard employee health.

7. Preventive Medicine

In contrast to "disease medicine", preventive medicine places a major emphasis on the preservation of health and improvement in the quality of life. Organizations are expanding their concepts of employee health beyond the level of an annual physical exam by placing greater emphasis on the environmental and personal health risks their employees run and ways to improve corporate health.

Ivancevich and Matteson (1980) also present an interesting parallel between programs for preventive maintenance in relation to physical resources and programs of preventive health management in relation to human resources. Chart 2 compares these two approaches.

CHART 2

Preventive Maintenance Protecting Physical Resources

1. Equipment should not be overworked or mistreated.
2. Regular lubrication and checkup of parts is necessary to maintain high-level efficiency.
3. When work parts are worn or defective, some corrective action must be taken.
4. Older equipment needs more careful monitoring.
5. Operators should assume some responsibility for maintaining equipment.
6. Operators should be made aware of the risks and costs of downtime or failure.
7. Operators should be trained to determine symptoms of equipment malfunctions or when action must be taken.
8. Vibration, friction, or corrosion should be immediately checked by the operator and management and some action taken before major breakdown occurs.
9. Effective preventive maintenance costs money, but it is dollars well spent.
10. Preventive maintenance programs are more effective when supported by top management.

Preventive Health Management Protecting and Preserving Human Resources

1. Workers should not be manipulated, overloaded with work, or ignored.
2. Regular exercise and periodic checkups are necessary to keep workers healthy.
3. Through physical exams future problems or weaknesses can be detected and programs to minimize or eliminate the risks can be directed by physician.
4. Older workers need to be monitored more frequently than younger workers.
5. Each individual worker must assume some responsibility to maintain good physical and mental health.
6. Workers should understand the risks and costs of becoming or being ill.
7. Workers need to identify symptoms of stress or person-environment discrepancies. Self-awareness is an important step.
8. Constant tension, insomnia, headaches, or irritability are symptoms that the worker and his/her manager must both be on the lookout for before a health breakdown occurs.
9. Although effective preventive health management will cost money, the dollars spent may reduce the expenses involved in recruitment, selection, training, and replacement of premature personnel losses.
10. Preventive health management programs are more effective when supported by top management.

In order to support these claims the evidence must clearly show that: (a) poor health costs money; (b) health practices affect health; and (c) intervention programs affect health claims or costs. The assumption here is that health programs affect health costs by changing health practices; they may not do so, but may through overall improvement of staff morale and organizational climate contribute nevertheless to health cost reductions while leaving health practices unchanged. It depends of course on which "bottom line" one is looking at.

Rogers, Eaton and Bruhn (1981) and concluded that few evaluations have include appropriate cost analysis techniques for long-range follow-up of the effects of programs. Further details of these studies are presented in a subsequent section.

Beehrn and Newman (1978) review relationships between job stress, employee health and organizational effectiveness with the context of industrial/organizational psychology. Despite confusion in terminology realted to job stress, weak methodology within certain studies, and lack of systematic approaches to research they nevertheless conclude that the enormity of health costs, the clear connection between the work site and jobs as sources of stress and health costs, and the increasing literature and attention given to these matters require that an interdisciplinary approach to studying these matters is required. They urge industrial and organizational psychologist to examine how their specialty, whether it is job design, organizational development, leadership, organizational design, work motivation, job satisfaction or other. They suggest that "This entire effort would fit under the general rubric of research on the quality of working life" (page 697).

Popularized discussions of the influences of work settings on health are to be found in such journals as Psychology Today, and exemplified by papers such as "Can companies kill?" (Rice, 1981).

Jennings and Tager (1981) argue that health promotion or "wellness" in the work place is important and cost-effective. Despite the fact that such programs have not yet produced quantifiable reductions in employee health care costs in an overall sense. They are worth mounting if only to limit the increasing and staggering costs of medical care benefits paid by employers. Health benefit costs, according to Jennings and Tager (1981) have increased more than 800% over the past 25 years. High rates of premature death for example led to the introduction of employee health programs when management realized that cardiovascular diseases were responsible for the deaths of many executives before they reached retirement age. In addition, growing employee interest in health has led to demands for programs and in some cases, strong programs including fitness facilities at the work place have become a definite management recruitment advantage. Manuso (1977) reported a 716% increase in visits to a corporate health centre for stress-related presenting problems three months after management and work methods were precipitously changed. In decreasing order of frequency the majority of visits were for hypertension, functional gastrointestinal disorders, anxiety and muscular tension. Cobb (1974) found significant increases in norepinephrine excretion and in serum creatine, uric acid and cholesterol levels following job loss. At the same time U.S. business leaders are seeing more humanized working conditions and employee fitness programs in Japan associated with increased productivity while productivity lags in the U.S.

Another argument for "wellness" programs include attempts to forestall government bureaucratization of health care. For example the U.S. Chamber of Commerce and other business organizations who advocate wellness programs long with medical cost containment maybe taking the offensive to forestall or minimize what they perceive to be an increasing trend of government regulation in the areas of health and safety. On the other hand recent government cutbacks in these areas suggest that their fears may have been premature.

Health professionals are also beginning to realize the advantages of programs in the workplace. A stable population, an opportunity to introduce meaningful incentives, and an opportunity to conduct follow-up research provide strong incentives for health professional to become involved in these areas. The key requirement now is to provide businesses with sales messages in their own languages and in term of their own values.

Unemployment

While much of this section has focused on the promotion of health in the work place it should be noted that, particularly in these days of high and continuing unemployment health hazards to the unemployed are also increasing.

The British Medical Journal noted that unemployment could lead to a sequence of reactions resulting ultimately in significant physical and mental illness. They cite a number of studies to support their contentions including the studies of these phenomena by Brenner (1979) and by Kasl and Cobb (1970). For example Brenner showed correlations between continuing unemployment and increased death rates from heart and kidney disease, cirrohsis of the liver, and homicides

as well as increased admissions to mental hospitals and increases in prison sentences even after controlling for previous mental disorder and hospital admission rates. Kasl and Cobb found significant increases in physical and psychological disorders among men who had undergone the loss of a job in the automotive industry. Many of these studies have been summarized also in a recent paper on the relationship between unemployment and health by Ackerman and Vaeth (1978).

Similar findings have been reported in the United States by Brenner (1971, 1973). Recent figures released by Health and Welfare Canada show statistically significant relationships between age-standardized suicide rates and unemployment figures in Canada during the years 1959-79 for both males and females, especially those 15-24 years of age. During the period from 1966-79, compared with the period from 1959-66, males and females in the 15-24 age group experienced a three and a six fold increase in suicide rates respectively. These increases are particularly marked for males and parallel the increases in unemployment rates.

The implications of these studies for health promotion in the work place are numerous. Keeping the work force healthy may in fact decrease chances of unemployment among the unemployed. It maybe that when lay-offs must occur people with poor work and/or health records tend to be targets. People who suffer job loss may be even more susceptible to the negative health effects of unemployment. People suffering from health problems prior to unemployment may also be more likely to suffer <u>after</u> job loss. Therefore efforts to maintain or improve health of all workers will help everyone, but especially those who are

victims of unemployment. Recent research on recovery from coronary bypass surgery (Zyzanski, Rouse, Stanton and Jenkins, 1982) has shown relationships between economic indicators and the capacity to return to work following surgery among both men and women. They have also examined post-early retirement adjustment among these groups and found adjustment reflected the degree to which patients believe they had been properly prepared for early retirement by their physicians.

Health promotion programs should be conducted at the work site. For one thing direct benefits may accrue to the company not only through having healthier workers but by promoting more favourable perceptions of the company by employees, the public and health professionals and in reducing absenteeism, increasing productivity and coping with problems which might generally diminish employee effectiveness.

Organizational efforts to introduce and maintain health promotion programs, like individual efforts to change behaviour, require carefully planned sequences of awareness, intervention, maintenance and follow up for continued success. Programs by interested individuals to raise corporate awareness of health promotion and its potential, aided by local health groups which have credibility to corporate leadership are an important first step. It is critical that such efforts be viewed by senior decision makers as legitimate rather than "fringe" or "health nut" efforts.

Capturing and reinforcing (some would say "celebrating") interest shown by specific groups within the organization is essential to further success. Pilot projects maybe undertaken with minimal resources providing, once again, that overall senior support is present. Sometimes small pilot projects undertaken without senior support can lead to support if properly packaged and presented as a basis for next steps.

Initially most organizations will require outside expertise to help develop their programs; at the same time they must establish internal administrative structures and enlist the help of committed individuals to bridge the gap between external and internal energies.

Existing health and other human resource personnel can resist and kill programs in their infancy. It is essential that these individuals, if they do not endorse the programs, refrain from attacking them before they have had an opportunity to prove themselves. Traditionally occupational health physicians have been concerned with occupationally related illnesses and injuries at the work site and referral for routine health care for non occupational problems to private physicians. Some resistance to health promotion programs which appear to infringe on traditional medical "turf" must be expected and addressed by including community physician representatives on advisory committees.

Union and management interest in health promotion should be nelisted. The potential for labour to resist health promotion programs on the basis that they may uncover health risks prejudicial to workers, require increases in productivity without corresponding increases in salaries or benefits, and other matters can

provide obstructions at the outset which may never by removed. Thus involving union members on relevant advisory policy planning and implementation committees is essential to the early and continued development of successful programs.

Information systems must be developed which track not only individual performance but provide an aggregate picture of the program and accompanying changes in health practices for specific sub groups or divisions within an organization as well as being linked to data on costs in other areas of interest such as health claims, absenteeism, costs, injuries and other potential outcome data. Computer-based systems are probably best.

Linkages with community resources are essential. In many communities employees are referred to programs at their local community centres, YMCAs and so on. While these referral arrangements may be less expensive than in house programs they often prevent organizations from doing effective follow-up evaluation and tend to be used most by individuals who need them the least.

Evaluation must include measures of biomedical, economic, and cost-effectiveness factors. In these difficult times cost-effectiveness data are perhaps of greatest importance despite organizational interest in the social and moral and humanitarian value of health.

Whole programs may return significantly more to the company than their initial investment over the long run, initial absolute dollar expenditures must be taken into account in designing any new programs. Therefore while it is important to

have an overall program design, health promotion programs should be formulated on a modular basis to be phased in as economic conditions permit. For example while cost-effectiveness over the long rum maybe highest for smoking cessation programs, it may require a greater absolute expenditure to introduce such a program than it would to introduce a program of improved nutrition in the company cafeteria.

III. LIFESTYLE CHANGE AND HEALTH PROMOTION IN THE WORKPLACE: EMERGING DIRECTIONS

Programs for promoting health in organizational settings are receiving increasing attention in both the management and health literature. Specialists in organizational development and in behavioural medicine (Ivancevich and Matteson, 1980; Matteson and Ivancevich, 1982) argue that companies should mount integrated programs to help individuals alter unhealth habits in combination with efforts to change and improve organizational climate (see Appendix).

Programs are also beginning to develop within the context of improving the overall quality of working life, is an umbrella concept given to the experience and perception of work by employees as fostering good interpersonal communication, co-operation and support across all levels, encouraging personal autonomy, effectiveness and responsibility, and offering challenging by reasonable goals in a direct but uncontrolling manner (Peterfreund, 1980).

Health promotion programs in industry have also been recently described in special issues of Public Health Reports (1980) and in Health Education Quarterly (Fall, 1982). A recent edited volume by Parkinson (1982) entitled Managing Health Promotion in the Workplace presents an excellent overview of health promotion issues from the management perspective, seventeen capsule descriptions of company programs, and several technical background papers focusing on specific substructure and methodological issues including Health Risk Appraisal, Smoking Cessation and Stress Management.

The United States Department of Health, Education and Welfare sponsored a national conference on health promotion programs in occupational settings in 1979. The overall focus of the conference was on reducing the costs of health benefits to industries and labour organizations. It ws noted that such programs also had additional benefits including decreased absenteeism and increased productivity. Program components identified by the conference included nutrition and weight control, high blood pressure control, alcohol and drug abuse, stress management, smoking cessation, fitness and exercise, accidents and self-protective measures for optional program components including back pain, cardio-pulmonary resuscitation (CPR) and Heimlich maneuver program, preventive dental program and cancer risk reduction.

In 1981, the Department of Health and Human Services in the U.S. sponsored a review of health promotion and disease prevention (HPDP) in the workplace from 1979 - 1981 (Romm, 1981).

In general the review found that:

- most programs were initiated during the five year period 1976-1980.

- the most usual sponsor is company management; unions have not actively sponsored many programs.

- the most frequent elements of health promotion programs include smoking cessation, nutrition, stress management, physical fitness and employee assistance programs related to substance abuse.

- Disease prevention elements most often include screening, physical examinations and disease-specific programs, especially hypertension and diabetes.

- most frequently, programs are located in-house.

- both contract and community resource supports are involved.

- in large multi-site corporations there is a general lack of information on program participants, cost-benefit or outcome measures.

- most programs are voluntary

The report also noted reluctance of corporate management to invest in HPDP, perhaps viewed as a "fringe" activity during periods of economic recession, an unwillingness to release, even when available, hard data, especially where data maybe viewed as sensitive, for example relating to actual program expenditures, cost benefit analyses, numbers of participants and so on. Data which were available were often not considered reliable.

Charles Berry, former Chief Medical Director of the U.S. Space Program, in a report for the Health Insurance Association of America (Berry, 1981), looked at major causes of death and disabillity in the U.S. and suggested that employers

focus their efforts on factors involved with heart disease, cancer and accidents, the three leading causes of death. Large companies, should establish programs on the basis of local company experience with regard to death rates, use of health insurance, absenteeism, and turnover. A risk factor reduction approach should be followed in which the aim should be to alter specific health practices shown through research to be risk factors (i.e. a behaviour or practice which increases the risk of developing a specific condition though not necessarily a causal factor in and of itself).

Berry identifies several major and minor controllable risk factors. Major factors included elevated serum lipids (fats), cholesterol and triglycerides, high animal fat, total calories, refined sugar and salt diet, elevated blood pressure, cigarette smoking, sugar intolerance and obesity. Minor controllable risk factors included lack of exercise, excessive stress reactions (typified by the type "A" personality), and elevated uric acid.

Berry's focus is more on disease prevention than on health promotion. His suggested approach is to identify individual risk factors using screening programs which would help identify factors leading to disease development. He also advocates more education about relationships between risk factors and disease as well as methods to heighten individual motivation to reduce risk factors, and organizatrional programs to reward change.

Berry also presents steps to initiate a health promotion program and further resources for information. Unfortunately his almost exclusive focus on the individual and, particularly, upon disease prevention, ignores the promotion of

both individual and organizational health through alterations in environmental and organizational factors. While it is true that individuals do bear some responsibility for altering their health habits, the WHO European region draft documents and much of the current literature in the health promotion field indicate that programs targetted at individuals, whether disease promotion, prevention or health promotion are likely to succeed or if successful their gains unlikely to be maintained on follow up unless normative organizational changes are achieved as well.

Fielding (1979) takes a more comprehensive view and suggests the following programs be implemented:

1. Hypertension screening and follow-up
2. Smoking cessation programs
3. Exercise programs
4. Diet modification
5. Alcoholism groups
6. Auto safety programs

His approach for each program includes both personal and environmental factors. Under smoking cessation, for example, he suggests not only programs involving not only the smokers but also their peers, through provision of group support and,

where feasible, involvement of spouses. Fielding (1979) also notes that "equally important is the development of an environment at the worksite where non-smoking is considered the norm". Thus he suggests segregation of smokers and non-smokers and/or specialized designated areas for smokers if in fact smoking is permitted at all.

(It should be noted that this whole area is fraught with controversy. For example Fielding (1979) cites an example of the Johns Manville Company which banned smoking in its 14 plants which produce asbestos. It refused to hire smokers to work in asbestos operations because people who work in such plants and smoke have a 92 times greater chance of getting cancer.)

Jennings and Tager (1981) take a similar approach, with a focus on risk identification of both personal habits and medical conditions.

They suggest giving more attention to specific target populations for risk reduction efforts i.e. high risk groups composed of those with significant quantifiable hazardous health behaviours. Within this group they suggest identifying a high-yield sub-group — those high risk individuals most likely to respond to positive lifestyle change efforts.

One critical component of most health promotion programs is that of stress and its management (Schwartz, 1980; Weinstein, 1981). Stress, both as a concept and as a set of interventions, seems well equipped to capture the dynamic and transactional nature of individual behaviour in mutual interdependence with organizational influences.

Poor health and performance in organizations arise from discrepancies between an individual's ability, needs and expectations on the one hand, and the expectations, demands and opportunities perceived by the worker. The stresses themselves are reflected in behavioural, physiological and/or performance changes. Behavioural changes may include accidents, drug abuse, excessive

eating, drinking or smoking and changes in speech patterns. Cognitive and psychological effects may appear as difficulties in making decisions and concentrating, absentmindedness and mental blocks.

Physiological effects include increases in blood pressure and other indicators of stress such as elevated levels of urine catecholamines, blood lipids and corticosteriods. Physiological ill effects may be noted in any body system including cardiovascular, gastrointestinal, respiratory and others.

Performance indicators of stress may be seen in higher rates of absenteeism, turnover and accidents and in decreases in performance and productivity, lower morale and decreased commitment to the job or organization.

Ivancevich and Matteson (1980) address the specific issue of stress management broadening their suggestions to include both job-related and variety or organizational strategies:

- Stress inoculation training. This type of training focuses on developing the skills of participants to cope with stressor by helping them understand signals of stress, recognizing when they are under stress and developing concrete action steps for coping with it.

- Role analysis and clarification. In many instances stress results from inadequate understanding on the job. Staff need to understand more about the nature of their work and its place within the organization. On the other hand unclear roles and expectations may contribute to

these problems. Work over or under-load, overlapping roles and conflicts between roles (see Burke and Bradshaw, 1981) require both individual and organizational analysis. Arising from these analyses maybe improvements in job requirements, often labelled job enrichment, and changes in the nature of jobs themselves to make them more interesting and humane through job design strategies.

- Organizational climate. Organizational climate describes the overall culture of an organization, and includes management styles, norms and philosophies of the organization expressed through management decisions. Physical environment, bureaucratic red tape, level of participation and decision making, poor or inefficient communication systems and quality of relationships on the job all contribute to overall climate (Moos, Insel, & Humphrey, 1974).

- Participation in decision making. This factor has been given a great deal of attention in the management literature. It appears the individuals are best able to manage stress when given a level of participation with which they feel personally comfortable. In other words total participation may not be stress reducing for everyone. Particularly important is the note that workers should participate in decision which effect them directly.

- Management by objectives (MBO). MBO is both a philosophy of management and a management process that focuses on the setting of goals, action planning to achieve these goals, and periodic review

of the degree of goal attainment obtained (Ivancevich and Matteson, 1980).

In general goal-setting appears to help people manage stress. Goal setting appears in most stress management books and programs as a technique for managing stress. When combined with visualization techniques and relaxation methods it can be even more helpful (Western Centre for Preventive and Behavioural Medicine, 1981).

Modifying the physical environment. The physical environment as a structural source of stress is often overlooked now that, for the most part, gross physical inadequacies in working environments are believed to have been corrected in western industrialized society. Historical concerns with heat, ventilation and air quality in some industries such as coal mining, while extremely hazardous to health, should not overshadow today's less tangible but no less hazardous consequences of today's physical environments (Bell, 1981). Problems with certain kinds of lighting, increased levels of indoor air pollution in sealed buildings, (Evans & Jacobs, 1981) potential hazards of video display terminals, monotonous physical design, extreme levels of noise (Cohen & Weinstein, 1981), variations in temperature, vibration, and others are being increasingly cites as causes of stress which the individual, despite his/her efforts to manage them by changing individual behaviour cannot control (Baum, Singer, & Baum, 1981).

A major contributor to improvements in this area of sociotechnical change is ergonomics, the science of the interface between the person and machines. The aim of ergonomics is to design machines which are more responsive to human

physiology, anatomy and work patterns, as well as to improve work flow and the physical arrangement of desks, supplies, equipment and so on toconform to human rather than structural or custodial requirements. Many of these factors are also the object of study in the fields of environmental and architectural psychology which also study the influence of environmental design on human behaviour (see also Hinckle and Loring, 1977; Weinstein, 1980).

Kahn (1981) has also suggested some guidelines for job and organizational design in order to provide less stressful conditions:

1. Minimize unpredictability and ambiguity at work. Make the work situation as predictable as possible, in terms of job stability and certainty about the future. (Change can be predictable, too).

2. Minimize uncontrollable events at the individual level. That is, maximize the decisions that can be made autonomously by the individual, then the decisions that can be made directly by the primary group in which the individual works, and only then those decisions in which control must be by more distant representative arrangements. (Take into account differences in individual preferences).

3. Eliminate avoidance learning, that is, performance-or-punishment. Instead, recognize and reward successful performance, at both the group and the individual level.

4. Minimize physical stressors-excessive noise, extremes of temperature and light intensity, spatial and postural confinement, crowding and isolation.

5. Avoid recurring (daily) stresses. They are more damaging than the occasional peaks of demand.

6. Watch for negative affect (emotional response). Feelings of boredom and apathy, anger and hostility, and other kinds of emotional distress often precede more severe somatic and behavioural reactions to stress.

IV. EVALUATION RESEARCH AND COST-EFFECTIVENESS

Fielding (1980) outlines the crucial steps in health promotion evaluation as follows:

1. Define the organizational context.
2. Determine the target groups based on objectives.
3. Determine the target population.
4. Describe the intervention.
5. Describe the participants.
6. Describe the participation.
7. Determine the personal change outcomes.
8. Determine the attributable effects of the programs.
9. Determine the effects of the program on health services utilization.
10. Determine the effects of the program on disability and mortality.
11. Determine the effects of the program on productivity.
12. Measure program costs.

Other crucial issues in evaluation include methods for cost-benefit analyses, temporal problems in comparing costs and benefits, investment decisions, program comparability, and cause and effect inferences.

It is also important for evaluation to address broader social concerns relating to the motivations for participants to enter health promotion programs, psychological and social barriers or facilitators of change, influences of peers and organizational climate, and the impacts of health promotion progrms on families

and friends. These broader social issues must be addressed in broader social impact research.

Of 20 programs studied by a U.S. Government health promotion task force (Romm, 1981) only one program was found to be predicated on management interest in outcome variables such as increasing productivity, reducing absenteeism or lowering health care costs. Most goals were expressed directly in terms of the program's structure and process. Of 65 programs studied, 20 focused on disease prevention, 28 used simple screening and 6 had multiphasic testing. Twenty-three of the 65 programs used formal risk assessment/hazard assessment measures. In-house service delivery was seen in 43 of the 65 programs, but community and voluntary health resources were generally used as adjunct or referral resources.

The frequency of program activities defied consistent description, 15 of the 65 programs reported continuous ongoing programs, while 17 reported a mixture of continuous, regular short-term activities, one-shot efforts and mixtures of all of these. Little or no data were reported on actual target groups, participation rates, characteristics of participants. Apparently, unions have not been very focal about such programs, either in a supportive or in an adversarial fashion; apparently it is not high on their list of priorities. Generally the programs are not targeted for workers but, rather, at the corporate excecutive and mid-management levels.

In 1982 Jonathan Fielding, Co-Director of the Centre for Health Enhancement, Education and Research at the University of California at Los Angeles, examined effectiveness of interventions in the workplace for programs involving smoking cessation, hypertension control, physical fitness, and weight management. He concluded that smoking cessation programs were probably cost-beneficial and should be able to compete successfully with other employer investment dollars with respect to return on investment. Problems in evaluation designs for other interventions preclude definitive statements about the cost- effectiveness of all workplace interventions but careful reviews of the literature did allow some conclusions, as follows:

Hypertension

"...hypertension programs that include a mechanism for insuring continuing control, through onsite continuing treatment or referral and aggressive follow-up, are generally effective in reducing cardiovascular risk. Despite some suggestion that benefits to employees exceed costs, neither the methodology nor values for key variables have been sufficiently worked out to establish this point for most worksite situations." (Fielding, 1982, 908-909).

Smoking

"Probably the most important strategy is to combine the opportunity to participate in organized cessation activities with a clearly stated and publicized smoking policy and health education campaign with a discouraged smoking at the work site and make clear that the social norm of the company is a non-smoking environment."

A strong argument against even hiring smokers has been made by Weis (1981). He argues that companies squander up to $4500 per year (1981 dollars) on smokers. Smokers cost more through increased absenteeism, mortality, insurance, lost productivity, depreciation on furniture and equipment, and lower

employee morale. Absenteeism for men who smoke more than 40 cigarettes per day is almost twice as much as it is for men who have never smoked. Overall this relates to approximately 2.2 days absent per year for each smoker on the payroll. While one cannot assume that smoking is the cause of such absenteeism, the figures should lead to closer inspection. Mortality rates for smokers are from 70 - 270% higher than non-smokers, depending on dosage and age bracket and costs for accidental injury and related workers compensation costs are estimated at an additional $45.00 per year. Additional costs are incurred when smokers take time from their work to smoke or light their pipes, estimated at approximately 18.2 days loss per year or, according to Weis's figures, $1820 per year per smoker. Cigarette smoke and fire damage from cigarettes can cause damage to carpeting, draperies and precision machinery.

Fitness Programs

"Good analyses of cost and cost-effectiveness of corporation fitness programs have not yet appeared in the literature, and standardized methodology for assessing the costs association with these programs is lacking" (Fielding, 1982).

Cox, Shephard and Corey (1981) showed that employees who participated in an exercise program, relative to closely matched control subjects, showed gains in maximum oxygen intake and flexibility, loss of body fat, improvements in employment attitudes, decreased employee turnover, small productivity gains and absenteeism decreases of 22%. The authors assert that, given 20% participation rates in an exercise class, there is a potential for a 1% reduction of company payroll costs associated with reduced rates of turnover and absenteeism.

Of course the problem with this study and other like it is that one cannot be sure whether employees who volunteer for such programs are more fit or more disposed to show improvements than those who do not and, secondly, whether improvements noted result from actual changes in physical fitness or from improved working conditions.

Weight Reduction

"No published information is available on cost and cost-effectiveness of weight management in the occupational setting. Nevertheless the work site environment should be made more conducive to weight reduction and weight management by offering better food choices in work site cafeterias, reducing claorie-dense snacks in vending machines and installing scales to encourage self-monitoring of weight. The availability of regular exercise can also be a major adjunct to weight control. ...However, exercise alone will not cause sufficient changes in energy balance to cause substantial weight loss" (Fidding, 1982).

Stress Management

In a special issue of Public Health Reports Schwartz (1980) addressed changing concepts of health and illness as a background for stress management programs in the workplace.

He cites data from James S.J. Manuso, Ph.D., Director of the Emotional Health Program at the Equitable Life Assurance Society, who showed that job-related factors contributed to emotional problems of 58% of the men and 36% of the women in his Emotional Health program. Manuso estimated the average annual pre-treatment corporate costs of employing a person with chronic anxiety or headache to be $3,394.50, comprising four factors: visits to the employee health centre, time off from the job in order to visit the health centre, work

interference due to symptoms, and related interferences affecting bosses, co-workers and subordinates. After treatment these costs were $532.68, an average saving of $2,861.82 annually per employee. Manuso concluded that the cost-benefit ratio, taking into account dropout rates of approximately 23%, were around 1:5.52 for each of the first three years following treatment.

A series of studies by Peters and associates (1977a, 1977b) has shown that daily "relaxation response" breaks using the technique developed by Herbert Benson (1975), when compared with relaxation breaks or normal coffee breaks, produced improvements on self-reported measures of health, performance, well- being and decreases in blood pressure among factory workers in a manufacturing plant.

Conway, Ward, and Vickers (1981) found that employee perceptions of high stress were positively associated with habitual cigarette smoking and coffee drinking but not with chronic alcohol consumption. On the average more cigarette smoking and more coffee drinking occurred on days perceived as having "high stress" levels but less alcohol consumption.

Cost-Effectiveness

As we noted in an earlier section, mismanaged health and illness costs industry billions of dollars each year both directly and indirectly. According to Fielding (1979) the cost of smoking in the United States is estimated to be 27.5 billion dollars and of alcohol approximately 44.2 billion dollars: lost output due to disability from cardiovascular diseases is estimated at 8.1 billion dollars per year and annual lost wages due to cigarette-related illness about 3 billion dollars per year.

A variety of methods exist for saving money. Screening and intervention programs have been estimated by Marvin Kristein, Chief Health Economist of the American Health Foundation, to identify approximately one hundred individuals for every one thousand employees screened who have two or more coronary risk factors -- hypertension, who smoke, are obese, or have high levels of cholesterol. (cited in Fielding, 1979) In general these high risk individuals can account for between 40-60% of annual medical care spending on all employees. Kristein estimates that significant risk factor reductions could avert 2.5 heart attacks per year. Avoidable medical spending is estimated to be approximately $200.00 per year for each smoker; $200.00 - $60.00 per person per year for hypertension and $60.00 per person annually for a 20% reduction in cholesterol levels. If only one-quarter of the 100 high risk individuals could reduce the risk factors, then medical spending could be reduced by as much as 10-15% per year. Already several insurance companies are providing special group premium rates as a result of demonstrated reductions in smoking and several are offering special premium discounts to non- or previous-smokers and to regular exercisers.

The Motorola Corporation has shown costs saving are possible in return for a corporate health promotion effort. One hundred twenty male employees and their families were screened revealing 11 men at high risk of heart attack, specifically 20.2% chance of a coronary within six years. The intervention program reduced their risk to 8.5% after discounting the dollars saved and subtracting the program costs. The Health Evaluations and Longevity Planning (H.E.L.P.) Group, a non-profit Arizona Foundation which conducted the program, estimated net savings for 59 employees to be $3,861.00.

Rodnick (1982) found that counselling for 292 employees in a glass product laboratory using the Health Hazard Appraisal and a follow-up counselling session led to the following changes in risk factors over a one-year period: reduction in blood pressure, especially in those with mild hypertension, a decrease in cholesterol level in middle-aged men and women who initially were more sedentary, increased performance of breast self-examination by women, decreased alcohol consumption in men, and increased seat belt usage by men. These changes resulted in a significant reduction in risk age for men.

Inhouse medical departments are another way to save money, and are typified by the Gillette Razor company's experiences. For 24 years their program has provided a range of treatment and prevention programs. The physician's maintain office practices with hospital and medical school affiliations thus providing a continuum of care to employees. Despite an apparently high cost of operating the department - $710,000.00 in 1976 - the company estimates that it would have cost 1.9 million dollars to provide medical services at the worksite without such a department. Similar savings are reported by other companies.

For example, General Mills Incorporated estimates that its net annual savings are approximately $45,000.00 by having its own medical department; Continental Bank and Trust of Chicago reports a reduced turnover rate since 1974 when it introduced an occupational medicine program.

Unfortunately, occupational health coverage in industry is not widespread, at least in the U.S. For example the same American Medical New item showed that

services for industrial employee groups were provided by 10,000 physicians, of whom about 2600 were employed full time. Of the 2600 over one-fourth never saw a patient. Almost all of the physicians were located in establishments with more than 500 employees, approximately 11,500 in 1980. These work settings comprised less than 1% of the nation's 4.7 million work sites though they employed about 25% of the nation's 93 million non-militaryworkers. Almost without exception no organized preventive health programs existed for the rest of the workers (Kerr, 1976).

Alcohol-related counselling is another cost-effective intervention. Firestone Tire and Rubber Company estimated that savings of 1.7 million dollars or $2,350.00 per individual had been saved by the company for individuals and families involved in their programs for alcoholism.

Driver training is estimated to save significant costs in property damage, operating losses due to vehicle damage, and lost time due to injury; similar savings are attributed to drops in accident rates.

Exercise programs are an extremely popular part of the health promotion scene today Fielding gives several examples of health benefits, though no financial details, for several programs:

The National Aeronautics and Space Administration of the U.S. in 1968 introduced a three-times-a-week exercise program for men ae 35-55. 89% of the 259 participants reported improved stamina, more than 40% reported sounder

sleep, many quit or cut down on cigarette smoking and more than 60% lost weight, improvements were documented in medical tests.

In the Soviet Union, a study showed that people who exercised regularly produce more, visit the doctor less, and are less prone to industrial accidents than they were prior to exercising.

A regular exercise program for 847 state employees in Albany, New York, produced cardiac risk factor reductions, reductions in health problems, and in absenteeism.

More than 300 United States companies now employee full-time fitness directors. For example, General Foods provides exercise programs in 30 locations to 50,000 employees, its technical research division in Tarrytown, New York, has a fitness trail for jogging and exercises; its Maxwell House plant in New Jersey sends employees to a nearby Y.M.C.A.

Pepsico headquarters in suburban New York has two exercise rooms with speed bikes, jump ropes, exercise bikes, stall bars, universal gyms and electric treadmills employee may borrow bicycles for use on a cycling and jogging road surrounding the complex.

Additional programs are listed in the Appendix.

A number of companies are beginning offer incentives to employees for health promoting activities. For example, Vancouver City Savings and Credit Union in Vancouver, B. C. has recently issued an incentive schedule as follows:

Exercise

All activities are equated to "jog miles" per year.

100 miles	$50.00 cash
300 miles	Letter qualifying you to receive a 10% discount plus a credit up to an amount of $50.00 toward a pair of jogging/court shoes.
500 miles	We will reimburse you up to an amount of $50.00 for two tickets to a sporting/theatre event of your choice. Submit your ticket stubs after you have received your letter of authorization.
750 miles	Letter qualifying you to receive a 10% discount plus a credit up to an amount of $50.00 toward a training suit.
1000 miles	Dinner at a first class restaurant with other 1000 mile achievers.

Fitness - Weight Loss

(Lose by an approved weight loss method, i.e. Doctor's diet/Weight Watchers)

25 pounds	$50.00 cash
6 months	Keep your 25 lbs off for six months. Letter qualifying you to receive a 10% discount plus a credit up to an amount of $50.00 toward a pair of jogging/court shoes or a training suit.

12 months	Keep your 25 lbs off for 12 months. We will reimburse you up to an amount of $50.00 for two tickets to a sporting/theatre event of your choice. Submit your ticket stubs after you have received your letter of authorization.
50 pounds	Lose 50 lbs. Join the 1000 milers for dinner.

Fitness - Smoking

3 months	$50.00 cash
6 months	Letter qualifying you to receive a 10% discount plus a credit up to an amount of $50.00 toward a pair of jogging/court shoes or a training suit.
12 months	We will reimburse you up to an amount of $50.00 for two tickets to a sporting/theatre event of your choice. Submit your ticket stubs after you have received your letter of authorization.

Life insurance savings: Several life insurance companies are offering financial rewards for good health practices. As of 1976, 30 U.S. life insurance companies offered insurance for adult non-smokers at discount rates based on insuree statements. Apparently, actuarial experience for these companies has proven this practice to be worthwhile.

Fielding's (1982) general conclusion is optimistic: "In most cases employers will feel that their interest in the health of their employees justifies a significant investment to achieve this type of reduction, regardless of whether their return

will be higher than their average annual return on other invested funds."*

* By "this type of reduction" Fielding means, for example, programs to reduce the number of heart attacks per 1,000 male employees per year from 10 to 6, or to reduce chances of lung cancer from 1/200 per year to 1/2,000 per year.

V. PROMOTING HEALTH PROMOTION: ROLES AND STRATEGIES

Who should do what, and how to promote healthy lifestyles in the workplace? Treffert (1982) notes that wellness and health promotion are not new concepts. In China in the year 4678 B.W. (before wellness) the "Yellow Emperor" Huang Ti wrote:

"Sages here do not treat those who are already ill; they rather instruct those who are not yet ill ...the superior physician helps before the early budding of disease. The inferior physician begins to help when the disease has already developed. He helps when the destruction has already set in."

It is important not to add a set of new wise tales to the already burdensome lore of old ones. Given increasing public enthusiasm and support for health promotion, people may substitute slogans for data and beliefs for facts in their efforts to promote social change. For example, in referring to stress, Kobasa, Hilker, and Maddi (1979) argue that it is unrealistic for workers or management to expect to remove all sources of stress or health hazards from the work place or indeed from people's lives. In fact there is every reason to believe that a certain level of stress and hazard is essential for developing a sense of mastery over one's environment. Occupational medicine, they maintain, should not give in to employee's wishes to enlist its aid in the avoidance of all stress, especially during these troubles times. Occupational health departments and even proponents of health promotion must understand that certain individuals, perhaps more than we realize, can and will flourish under stressful circumstances. While we should not "blame the victim", we should not unrealistically expect to eliminate all stress by changing our organizations dramatically.

Roles

A survey of corporate health practices in British Columbia was recently carried out by the Western Centre Health Group (Poole, 1982). This survey asked 43 of B.C.'s leading companies what they were doing or planned to do about health promotion and what they knew about the costs and benefits of these types of activities. In general, the survey found that:

1. Few companies, only 9%, knew their health-related costs. Less than half of the companies were aware of the extent to which costs for absenteeism, turnover, reduced productivity or ineligibility for group insurance premium discounts.

2. Both management and employees feel that monitoring the health status of key personnel should be a priority area. Large companies are much more involved in these areas than smaller ones; 30% on their own medical staff while 7% use outside resources.

3. Smoking cessation is the most controversial and sensitive health area. Very few companies are willing to make a strong commitment to adopting non-smoking policies or to move in the direction of promotion of non-smoking.

4. Fitness Programs

   More companies already have or are planning to start exercise and recreation programs than any other initiative despite the fact that they

rank the importance of such programs 7th of 8 in importance behind insurance benefit programs, health monitoring and risk assessment for key personnel, improvements in the physical environment, stress management and others.

This finding was consistent with the fact that fitness programs are the most prevalent health promotion programs in work settings today. Yet, as Fielding (1982) has indicated, cost-effectiveness figures for these programs are by no means conclusive.

5. Employee Counselling

Of all programs, employee counselling programs and particularly those for alcohol and drug-related problems, are highly respected and cost-effective. These programs were controversial when introduced several years ago but have moved from initial grudging support by both management and unions to enthusiastic endorsement.

6. Stress Management

Large companies and increasingly medium and small companies see stress management as their next major area for development. Most feel that the skills learned can help employees not only to manage immediate stress but to increase their overall creativity, productivity and work satisfaction.

The survey suggests that, in general, companies in B.C. are willing to do things that are popular and acceptable (fitness programs) before they are willing to tackle more controversial though potentially more cost-effective programs (smoking cessation).

Larson (1980a) in a review of corporate costs of death, disease, and disability suggests that we save money first, by paying more attention to costs and, second, by shifting from "repair" to "prevention." Co-ordinated action by top management, personnel, operations and finance areas can lower or contain health care costs by negotiating special rates with hospitals, reviewing and auditing their claims processes, introducing screening programs for high risk conditions - cited as "the area with the most measurable long-term results," introducing rehabilitation programs, particularly for drug and alcohol abuse, and improving off-the-job safety education programs.

Larson (1980b) also suggests a shift from cost savings to cost prevention. This shift requires significant organizational action to augment the small but respectable gains which have been achieved through cost containment with little organizational change. As Larson indicates

> At some point, though, the glaring costs of the market at large come home. At that point, the corporation has a choice: continue to reap respectable but low-key returns from its actions, or reorganize to enter the market on the same scale as the other players. (1980b)

Top management may take a number of actions including joint lobbying with other companies to put pressure on health care institutions to provide more cost-effective services. Examples of successful efforts include the achievements of the Washington Business Group on Health (a lobbying body in Washington, D.C.) and the production by the U.S. Chamber of Commerce of a series of practical booklets entitled A National Health Care Strategy (more aptly named a corporate health care strategy). Larson also suggests that large organizations consider installing a type of manager called a "health programs" manager to co-ordinate all health-related management actions including programs to reduce health risk without infringing on the employee's right to choose his own lifestyle.

Harris (1979) suggests that staff incorporate training and development divisions have an opportunity to develop and implement important programs to promote employee health. His paper includes examples of programs mentioned elsewhere in this paper at Kimberly Clark Corporation, Control Data and elsewhere. In particular he points to the importance of companies which provide health promotion consultation services, and this might apply to gernment agencies as well including the World Health Organization, of practicing what they preach. He provides an excellent example of wellness or health promotion both individually and organizational in a brief profile of the Minnesota based Wilson Learning Corporation, a consulting and learning materials development firm.

Health Insurance

Labour unions, private industry, and other employers are re-examining the high costs of private health insurance. As Taylor (1981) notes "Health insurance has

become such a significant expense to employers and such a valuable fringe benefit to employees that it is often a major issue in collective bargaining agreements."

The U.S. government is interested in health insurance because, since health benefit contributions by employers are not taxable as income to the recipients and a tax deduction is allowed for part of the premium paid by the employee, many millions of dollars of potential tax revenue are lost each year. Indeed the U.S. Congress has even considered introducing bills to place a ceiling on employer contributions. Type of coverage varies significantly by industry and the degree to whcih workers are unionized. Average (mean) premiums per eligible employee are significantly higher for firms employing highly paid employees. Where high wage employees constitute a large percent of the work force, employees pay correspondingly less of the premium costs. Lower paid employees, more often associated with trade unions, tend to pay an increasing share of the premium and but to receive less coverage, especially for preventive services (Rossiter and Taylor 1982).

Fairley and Wilensky (in press) note that employees are seldom offered choice of benefit options. For example, only 18% or 11 million subscribers in group plans in the U.S. were offered more than one option in 1977. The limited availability of options probably limits the availability of health programs as well. Health Maintenance Organizations (HMO's) are often included in multiple options plans and, in turn, many support programs of disease prevention and health promotion. With limited options the focus tends to be on insurance for catastrophic illness or

for treatment of specific disorders. When employees are given more choice, despite the fact that employers will pay a significant share of the premium, almost as many employees choose the least expensive option as do the most expensive. In other words, employees do not value additional insurance benefits very highly. In the light of these findings, the authors do not suggest providing many more multiple options. Doing so would probably confuse the issue even more. They propose "a single, more generous plan for all employees with the increase in utilization and expenditures that such plans can be expected to induce." While they do not directly say so, a single inclusive plan could provide strong opportunities for health promotion.

Some would argue that there are disincentives to improving health in the work place. These arguments raise an implicit issue underlying all of health promotion which, if not approached directly, will be a major stumbling block to implementation. The issue is that since all workers will eventually become ill, usually in association with advancing age, the more survivors who retire, the greater the eventual burdens on the economy and the tax payer. If this is the case, then prevention is not cost-effective. Even though industry will save money by keeping employees healthy, the ultimate cost of caring for large numbers of elderly people will be borne by the tax payer.

The counter argument is that our aim is not to keep people healthy so that they can become ill in their old age. Rather, our intention is that individuals would enjoy healthy and productive lives all their lives and then, without prolonged chronic illness and associated high costs, die. This argument suggests that the mortality curve must be compressed (Fries, 1980).

The American Counsel of Life Insurance and the Health Insurance Association of America sponsored a conference on health education and promotion in 1980. The conference reviewed shifting paradigms in health education and disease prevention and focused on the role of business in promoting health. They noted that one way in which the insurance industry could both promote and benefit from health promotion, such as those outlined earlier in this paper, would be through preparation of actuarial studies and detailed risk tables to take risk factor status into account. Actuarial studies have shown that lower blood pressure is associated with lower risk of cardiovascular death. In addition, non-smoking status is associated with lower rates of diseases and death as well. Over twenty companies were noted as offering discounts on life insurance to non-smokers. Some insurances have extended similar discounts to auto insurance policies in the light of the experience that smokers have higher claim rates, while others are advertising life insurance premium discounts to those who regularly engage in exercise.

General Strategies

Gene E. Hollen, then a vice-president in charge of special projects at Johnson & Johnson Company (in Kotz and Fielding, 1980), suggested the following steps in mounting health promotion programs in the work place:

1. The program should emphasize health and the benefits of being well.
2. The program should be introduced gradually rather than with a campaign effort which peaks quickly and then dies out.

3. A program must be based on sound scientific information. Credibility of the information has to be established and employees educated about the possible harm of inadequate information.

4. The results must be measurable in order to determine changes in health and related economic costs and benefits.

5. Personal employee involvement is essential to bring about lifestyle changes. Hollen described the Johnson & Johnson "Live for Life" program, one of the leading examples of corporate efforts to promote health in the work place in North America. This program involves both individual and environmental changes. For example, task forces of workers have been involved in changing nutrition patterns in company cafeterias to improve the helpfulness of foods by introducing salad bars, breakfast programs and fresh fruit for dessert, displays of junk food have been reduced, more fish and fowl are being served and less beef is available, and calorie counts appear on all daily menus. An exercise task force, in addition to emphasizing aerobic fitness and various classes in exercise, has initiated the installation of showers for the staff in various locations. A task force on stress management has initiated the use of "quiet" rooms and stress reduction tapes for employees. Individual programs are initiated through the administration of a lifestyle questionnaire to volunteer employees, combined with health screening in relation to height, weight, blood pressure, cholesterol and HDL, lifestyle seminars in which health screening results are distributed and action groups are explained, which will focus on specific changes. Action groups of approximately 10 participants meet for courses on a weekly basis for 8 - 10 weeks to focus on specific changes

highlighted by their profile results. According to Hollen, weight loss had averaged about 13 pounds per participant, smoking groups had had high quit rates and stress groups reported successful results as well. These findings are reported in greater detail elsewhere (see Wilbur, 1979). While these efforts to alter individual lifestyles have been effective, some would argue that a more effective strategy is to alter organizational norms which ultimately can facilitate or frustrate individual efforts to change.

One of the leading proponents of a normative approach to health promotion is Robert Allen, President of the Human Resources Institute in Maryland. In a paper entitled "The corporate health-buying spree: Boon or Boondoggle?" (1980), Allen points out that, despite massive investments in fitness facilities and other individually oriented health promotion/disease prevention programs, both health educators and corporate executives are missing the need to focus on the organizational norms or culture to achieve "a real health revolution." Says Allen, "to achieve a real health revolution, we will need to switch our attention from an exclusive focus on the individual to one that also focuses on the health culture in which he or she lives".

Allen presents six reasons why organizational health programs fail:

1. Fragmentation of efforts: Individual programs aimed at smoking, fitness and so on, which take place in a fragmented way and in the absence of overall normative or culture change, are doomed to failure. "...companies that limit themselves to one or another specific program, no matter how

well selected or designed that program, will lose the opportunity to involve people who might be coming from a totally different direction" (page 12).

2. Overemphasis on initial motivation: Initial campaigns to involve people, while apparently successful in the short term, seldom lead to long term commitment. It is not getting people started that is the problem but keeping them going.

3. Misdirected emphasis on illness: Often the promotion of health is not emphasized but rather the avoidance of disease. While a focus on disease may help bring some people in, it leaves out people who define health as "not sick." A wellness or health promotion orientation broadens the target group.

4. Appeal to individual heroics: Allen decries an emphasis on individual responsibility which fails to acknowledge noting the tremendous influence that the group and the larger organization have on our behaviour. "...individual heroics, no matter how appealing they may be, cannot substitute for supportive human environments." (page 14)

5. Overemphasis on activities as opposed to results: No matter how successful lectures and screening programs might be, the danger is that people will become more caught up in the activities themselves than in evaluating the intended results.

6. A "we will do it for you" approach rather than a "together we can do it for ourselves attitude": Without careful involvement of employees in the design and delivery of a program, it is likely that the program will be unsuccessful.

Allen's comprehensive program called "Lifegain" involves the use of a series of instruments to assess individual health practices, organizational supports and norms for such efforts, and a four-phase change strategy to initiate and maintain individual and normative changes.

Corporate Attitudes Toward Health Care Costs

A report prepared by the Massachusetts Institute of Technology for the National Centre for Health Services Research (Sapolsky, Altman, Greene and Moore, 1980) notes that for most firms

"...health benefit costs are simply one small component of the wage bill. Seriously pressed they do not look for significant savings by carefully managing benefits, instead they seek to trim labour costs as a whole by laying off workers and/or shifting to other businesses." (page 25). In fact, they concluded "we found in our interviews that corporations were neither greatly concerned nor strongly motivated to do much about their health benefit costs. The opportunity for a close collaboration between business and government to contain health care costs simply does not seem to exist. To be sure, firms are no longer totally passive about health care costs; continual expenditure increases could provoke stronger action than that we have observed, however, firms are not now, nor are they likely to be, the force for system reform that some have imagined."

In addition to favorite approaches to contain costs such as benefit redesign to increase employee cost sharing, tightening of claims control, use of health maintenance organziations, and employer involvement in attempts to limit the local supply of expensive health services, the authors found increasing attention being given to possible cost savings to be incurred through health promotion and lifestyle modification programs. The survey revealed that, although most executives felt that claims for cost effectiveness were not yet proven, they nevertheless view preventive programs as "another benefit and a popular one at that." However, the authors also note

> "...it is possible to take these programs to their extreme, the capacity of chief executives in some corporations to impose their whims on the organization appear near boundless. Thus, we find headquarters staff entering teams in local marathons and enduring noon time sessions of alcoholics anonymous just because the boss is a reformed fatty or alcoholic."

Objectives and goals of health programs differ between industry and government, between management and unions, among industries and within industries themselves. A T & T has 23 operating units with 23 different medical departments each with different objectives and goals. In the U.S. the Occupational Safety and Health Administration and the National Institute of Occupational Safety and Health are focused on healthy environments, while the U.S. insurance industry endeavours to make it possible for physicians and health care facilities in the community to provide medical services to the worker and his family. These two approaches are the leading components of health care in the work place, with health promotion and disease prevention clearly in an embryonic stage.

Summary

Despite an explosion in the literature, not to mention admirable enthusiasm and even some notable expenditures, health promotion and disease prevention programs (HPDP) in the workplace have a long way to go. Problems with HPDP at this point include lack of definition of terms, goals and objectives, which are either too general or too restrictive, lack of agreement among experts, lack of hard data, lack of information about the extent, number and costs and benefits of programs. Strong support for such programs exists neither on the part of corporate management, although such support is slowly growing, nor on the part of unions. In fact, one suspects that some unions view efforts to increase the staff productivity, even through health promotion as another example of labour "selling out" to management.

VI. POLICY ISSUES AND RECOMMENDATIONS

The preceding chapters have reviewed emerging concepts of health promotion, the rationale for promoting health promotion in the work place, research on the impact and cost effectivenes of programs, and strategies for their introduction and maintenance. This section offers some recommendations for the European Region of WHO.

ISSUE: Health Promotion or Disease Prevention?

Confusion around the different conceptualizations of health promotion will continue for some time. The same activities may be viewed within a health promotion or a disease prevention framework, depending upon how one conceptualizes a total continuum of intervention. A hypertension screening and referral program designed to reduce the incidence of cardiovascular disease in a high risk target population might be labelled disease prevention. However, one could easily build upon such an approach to offer voluntary smoking cessation programs to others (including spouses) who wish to improve their health by changing health habits and lifestyles. Concurrently a program to alter organizational norms could include designation of non-smoking areas, media campaigns to promote smoking cessation and other systemic strategies.

Recommendation #1

The World Health Organization should support member states' efforts to promote health within the context of disease prevention, if such a strategy is likely to lead ultimately to the promotion of health in the general population. Rather than establishing a new and separate infrastructure, it should seek to capitalize on existing disease prevention efforts and to broaden both their mandates and their conceptual framework to encompass positive health wherever the opportunity arises.

ISSUE: **Awareness of Health Promotion Benefits**

Earlier sections provided data with regard to the impacts of lifestyles on health problems, the quality of working life, and productivity. These issues are, or should be, of concern to both employees and management. Literature which clearly spells out both the economic and human costs and benefits of promoting health in the work place is only now beginning to appear in a coherent fashion. Studies of both the impact and the cost of promoting or demoting health need to be pulled together and presented to appropriate governmental, labour and management decision-making bodies.

Recommendation #2

The World Health Organization, through its sponsorship of conferences and technical reports, should promote the awareness of these issues by government, labour and management, and the benefits to be achieved in paying attention to them.

Recommendation #3

The World Health Organization, in its work with developing societies, should aggressively point out the benefits of incorporating health promotion strategies into new industrial programs.

ISSUE: **Need for Program Typology**

Although the literature on health promotion and disease prevention is beginning to achieve some coherence, the lack of a programs typology acts as a barrier to comparative studies. Such a typology is essential if we are to catalogue and compare the structure, organizational impact, costs and outcomes of such programs across countries and institutions.

Recommendation #4

WHO should develop a typology of workplace health promotion programs for use in comparative studies. It should consider adopting which one includes the following possibilities:

- simple screening and referral to family physician
- a program as an integral part of a department of occupational health
- screening for hypertension or other specific health condition offered to all workers irrespective of their status
- behaviour modification initiated as a specific health promotion activity
- physical fitness program offered by a contractor free to the worker or for a specified fee
- multiple component health promotion program which is not uniform throughout the various sections of one industry

- short-term programs directed solely at the personnel in specialized trianing programs
- programs in which employees rather than management contribute to the initiation and implementation of the program
- program developed for a cluster of small plants.

ISSUE: **Stress and its management as cornerstone of Health Promotion**

Strategies for health promotion cluster broadly into those which emphasize individual behavioural change throuh education and training, and those which focus on contextual change through legislative and or organizational efforts. Research has been reviewed which seems to bridge the gap (e.g. Allen, 1980). Further, the concept of stress acknowledges both individual (stress reactions) and environmental (stressor) components; or related research on person-environment fit focuses on discrepancies between individual capacities and environmental demands (Levi, 1975).

Recommendation #5

The WHO sponsor a seris of conference/technical reports/discussions between labor and management on stress in the workplace, with stress as a cornerstone concept for Health Promotion.

ISSUE: **Need for an Integrated Research Framework for Research and Evaluation**

An integrated framework is needed for studying and improving basic relationships between environmental and personal factors and health status both on and off the job (Kasl, 1981).

If current fragmented efforts persits, communication gaps between traditional WHO public health and newer health promotion proponents are likely to widen.

One possible solution is to use the traditional public health conceptual triad of agent, environment and host both to analyze problems and to evaluate interventions. For example, Baum, Singer and Baum (1981) successfully used a variation of the triad in a review of psychological and physiological influences of the environment on stress, labelling their components the source of stress, medium for transmission and recipient. This framework has also been useful in relation to utilization of preventive health services (Weinstein, 1982) and tobacco use (Bass, 1982). The approach can be strengthened if we construct a matrix using the health education model proposed by Lawrence Green (1974) in relation to predisposing, enabling and reinforcing factors. Thus, for example, a predisposing environmental factor for health promotion might be a coherent government policy on smoking; an enabling environmental factor might be the incentives and disincentives for the tobacco industry to redirect its efforts; reinforcing environmental factors might inclulde cleaner air. Host-focused efforts could include a media campaign designed to assist individuals to learn specific ways in which to reduce cigarette use.

Recommendation #6

The World Health Organization should strengthen conceptual and programmatic linkages between emerging concepts of health promotion and the traditional public health framework of agent, host, and environment.

Recommendation #7

The World Health Organization should support exchanges of key personnel who are in a position to implement such frameworks within their local areas.

ISSUE: **Inadequate Data Base for Monitoring and Evaluation**

Data on health promotion efforts and their impact are being collected with increasing frequency but remain scattered or not yet accessible. National surveys in the U.S. and Canada are being planned cooperatively and the time is ripe for even broader international collaboration.

Recommendation #8

The World Health Organization should support the establishment of an International Inventory of Primary Data Bases on Health Promotion which could be available to member countries as a basis for their own programming and secondary analyses. The data base could also include access to consultation and training resources.

ISSUE: Labor-Management Collaboration

Connections between health promotion programs and efforts to improve the quality of working life are scattered and weak. Health promotion is still regarded by many employees as a tool of management to increase worker productivity. Yet there are encouraging signs. Many employee assistance programs have achieved acceptance by both labour and management because they have helped employees who might otherwise be unfit for work due to alcohol or related problems to keep their jobs. Similarly, labour groups are beginning to commission studies of lifestyle effects on health in the work place (McVeigh, 1982) as a basis for labour negotiations.

During difficult economic times, there are also signs of increased labour and management co-operation on programs of work sharing in some industrial sectors. These programs should be noted for their potential to provide a cooperative base for health promotion activity. A recent WHO - assisted conference in Rome provides an excellent example of how time might be done the theme of the 1983 Meeting of the Society of Behavioural Medicine, held in Baltimore, was "Behavioural Medicine in Industry".

Recommendation #9

The World Health Organization should strategically build its health promotion program upon those areas where labour and management have already begun co-operative efforts, such as employee assistance programs and, in some areas, programs to improve the quality of working life.

Recommendation #10

The World Health Organization should document examples of collaborative efforts related to health promotion and, together with international labor and managment organizations, sponsor an international conference on this topic, possibly by satellite telecommunication. These efforts might involve the joint co-operation of World Health Organization and, perhaps, international labour and/or management organizations.

ISSUE: **Need for Health Promotion Index**

Work settings differ in their commitment to health promotion programs. Just as we regularly rate companies on the basis of their economic status, it might be possible to develop ways to rate industries or companies or government organizations on the degree to which they support employee health. (We may have much to learn from restaurant and hotel guides and their rating systems in this respect.)

Methods to assess levels of commitment would serve to motivate organizations and provide base line measurements against which to evaluate future efforts.

Elements of a scale might include per capita health insurance premiums, workers compensation, sickness and accident claims, prevalence rates of non-smoking, fitness and exercise participation, levels of hypertension, alcohol consumption rates, tranquilizer use rates, and so on. Insurance companies might be

particularly interested in differential ratings as a basis for setting group insurance rates.

Recommendation #11

The World Health Organization should develop an index of health promotion commitment which can be used by member countries to assess work settings across the nation. The index should be simple, but allow numerical comparison within and across industrial sectors. It should also be capable of linkage to macroeconomic and health indicators.

ISSUE: Health Promotion by the Workplace

Paradoxically, some organizations which sponsor health promotion programs by virtue of their products or marketing practices, negate the value of programs (eg. tobacco companies that sponsor fitness/health program).

Recommendation #12

WHO should encourage member states to maintain files of such companies and vigorously extoll their health promotion efforts while also publically pointing out their paradoxical behaviour. Where such companies are multi-national, WHO should undertake the publicity.

Recommendation #13

WHO itself should undertake a model health promotion program for its employees, beginning with the European office.

The foregoing issues and recommendations support the targets outlined in the draft report of the Copenhagen task force on target setting (dated 5 November 1982).

1. A comprehensive review in each member's state by the year 1985 of the volume, distribution and conditions of all kinds of work; the impact of unemployment on the well-being of the population; and retirement and pension policies and service.

2. The development in each member's state of employment policies to insure the productive employment and maintenance of living standards for persons of working age; sufficiently flexible conditions of employment to enable all men and women to combine a working life with balanced and satisfying family life; a

monitoring system to identify and eliminate by legislative, fiscal and other measures working conditions and/or occupational hazards which are harmful to the physical, mental and social health of workers and of the communities in which worker's work places are located; policies and programs to insure the participation of workers in the organization of work; flexible and sufficient retirement programs which provide options for early and late retirement and for gradual withdrawal from full-time work to meet the circumstances of each individual; and policies and programs to encourage the possibility of past-retirement participation in community services and activities, and for participation in program development of support services for the elderly.

APPENDIX

HEALTH PROMOTION IN THE WORK PLACE: SOME PROGRAM EXAMPLES

Kimberly-Clark Corporation

Kimberly-Clark employs approximately 4,500 employees in the Fox Valley in Neenah, Wisconsin. A 2.5 million dollar multi-phasic testing and physical fitness facility were constructed to support the program in a Health Services Centre. It houses a medical staff of 22. The program includes 5 phases: a health history, multi-phasic screening (weight, height, blood pressure, percent body fat, lung function test, blood count, blood chemistry profile, and liver and kidney function tests); physical examination and exercise test, health review and recommendations, use of the physical fitness facility. The program gives special emphasis to the development of cardiovascular fitness to reduce the likelihood of heart attack and stroke. Participation is voluntary and without cost and is presented as "in addition to the conventional benefits of medical and hospitalization insurance" (from company brochure).

Control Data Corporation

Control Data offers Staywell, a program of health screening, a Health Risk Profile, one hour introductory courses on alcohol, drugs, fitness, breast self-examination, weight control, tobacco and other health-related topics, multi-session lifestyle change courses, post-course formation of support groups and task forces to study the work site environment and initial wellness projects. Control Data is marketing these services to other corporations (see Naditch, 1979).

International Business Machines (IBM)

I.B.M. has developed a health education program based on the principles of avoiding hiring specialists, providing field coverage, permitting family and retirees participation where space is available, letting employee interest determine the level of activity, use of community facilities and resources, and minimizing the effects on business operations.

Their corporate health care strategy had five objectives: individual responsibility, voluntary participation, privacy, company assistance, and cost effectiveness.

Johnson & Johnson Company

The Live for Life program is a comprehensive health enhancement package including information on diet, exercise, smoking, weight control and stress. Measurements to monitor health and choices for improving lifestyles are provided within a supportive environment. The aim is a positive attitude toward health and the opportunity to explore new associations with fellow workers (see Wilbur, 1979).

Sentry Insurance

The Sentry Insurance Company of Stevens Point, Wisconsin has a total "fitness program" for all its employees. The program is based upon the U.S. Surgeon General's report, "Healthy People" and involves an emphasis on fitness which includes not only physical exercise but diet and weight control, good health habits, and stress management. Work schedules are flexible allowing employee

use of their physical fitness laboratory and exercise facilities.

The facilities are open not only to the company's 2400 employees but also to spouses, dependents, "significant others" of single employees, and retired employees.

Metropolitan Life Insurance Company

Metropolitan Life Insurance has operated since 1977 a Center for Health Help for its employees. They have also published a series of pamphlets called the "Staywell" covering topics such as alcohol and health, stress and your health, exercise, weight control, and a personal health record. Their Center is viewed as a place for employees to receive "educational self-help activities, individual counselling, resources, and audio visual materials on health-related topics such as cholesterol reduction, high blood pressure control, diabetes, nutrition, reduction of heart risks, exercise, smoking cessation, breast cancer, prepared parenting, fitness and stress management (from company brochure, 1979).

Sherer Brothers Lumber Company

This medium-sized Minneapolic Company emphasizes environmental changes and offers free fruit for snacks, an exercise program, nutritious lunches, and has removed salt shakers, sugar, cand machines, butter and coffee from their cateteria. They also provide "well pay" where employees receive 2 hours bonus pay each month they are not absent or late.

Electroscientific Industries

This Portland, Oregon firm recently purchased a school near its offices and turned the gym into a "body shop" which features more than a dozen fitness options for employees who pay a small monthly fee to use the facility. Also offered are classes in nutrition, stress management and smoking cessation.

General Mills, Incorporated (Minneapolis, Minnesota)

General Mills has sponsored a number of health promotion activities, including: cardiopulmonary resuscitation, first aid, hypertension, smoking cessation, wellness screening, and employee assistance.

A number of other companies emphasize fitness programs, though not within the context of a comprehensive health promotion program. These include:

Phillips Petroleum

Northern Natural Gas Company

General Foods

Pepsico

Xerox Corporation

North American Rockwell

Exxon Corporation

General Dynamics (San Diego)

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