AMERICAN JOURNAL of
Health Promotion

Volume 7, Number 1
September/October 1992

Occupational Mental Health Promotion: A Prevention Agenda Based on Education and Treatment

James Campbell Quick
Jordan Barab
Jonathan Fielding
Joseph J. Hurrell, Jr.
John M. Ivancevich
A. David Mangelsdorff
Kenneth R. Pelletier
Jonathan Raymond
Daniel C. Smith
Veronica Vaccaro
Steven Weiss

APA/NIOSH Health Promotion Panel
1990 Work and Well-Being Conference

Stress Management

Occupational Mental Health Promotion: A Prevention Agenda Based on Education and Treatment

The American Psychological Association/National Institute for Occupational Safety and Health, Health Promotion Panel, 1990 Work and Well-Being Conference

Abstract

Purpose of the Review. *Psychological disorders are one of the 10 leading work-related diseases and injuries in the United States according to the National Institute for Occupational Safety and Health. This article addresses occupational mental health and preventive stress management in the workplace. The individual and organizational costs are briefly considered with concern for reducing the burden of suffering associated with these problems.*

Search Method. *As an American Psychological Association interdisciplinary panel, we searched the psychological, medical, public health, and organizational literature. We selected articles relevant to the problem of psychological disorders in the workplace and to enhancing occupational mental health and preventive stress management.*

Important Findings. *The panel proposed a national agenda of education and treatment, combined with a program of evaluation research, for addressing these issues. Target populations are identified, and the need for collaboration among a variety of national constituencies is considered. Advancing occupational mental health and promoting skills in preventive stress management is considered in the context of comprehensive health promotion.*

Major Conclusions. *The panel concluded that there is a pressing need to: 1) set a 'gold' standard concerning the current state of knowledge in the domains of occupational mental health and stress management; 2) identify Diagnostically Related Groups (DRGs) which are stress-related; 3) establish assessment standards for stress and mental health; 4) set guidelines for reasonable interventions; and 5) establish acceptable post-outcome criteria. (Am J Health Promot, 1992; 7(1):37-44)*

Key Words: Education, Occupational Mental Health, Prevention, Stress Management

James Campbell Quick, Ph.D., APA/NIOSH Panel Chairman, Arlington, Texas. Members of the APA/NIOSH Health Promotion Panel at the time of this study included Jordan Barab, M.A., Washington, D.C.; Jonathan Fielding, M.D., M.B.A., M.P.H., Los Angeles, California; J. J. Hurrell, Ph.D., M.A., Cincinnati, Ohio; John M. Ivancevich, M.B.A., D.B.A., Houston, Texas; A. David Mangelsdorff, Ph.D., M.P.H., San Antonio, Texas; Kenneth R. Pelletier, Ph.D., Stanford, California; Jonathan Raymond, Ph.D., M.A., Wenham, Massachusetts; Daniel C. Smith, M.A., M.B.A., St. Louis, Missouri; Veronica Vaccaro, M.S., Washington, D.C.; Steven Weiss, Ph.D., Arlington, Virginia.

Send reprint requests to James Campbell Quick, Ph.D., Professor, University of Texas at Arlington, Department of Management, College of Business Administration, Box 19467, Arlington, Texas 76019-0467.

This manuscript was submitted on September 16, 1991, revised, and accepted for publication on June 20, 1992.

INTRODUCTION

The purpose of this article is to set forth an emerging plan for enhancing occupational mental health and stress management skills for people at work. Occupational mental health is a rubric for creating psychologically healthy work environments. Stress management skills refer to the behavioral and/or cognitive skills used to manage work stressors and employees' response to them. We do not use "stress" in the pejorative; we believe stress may fuel peak performance and high achievement. We use **dis**tress for the negative. The authors used manual and computer searches of the public health, psychological, medical, and organization literature. Theoretical, research, and review articles were selected if they related to the problem of psychological disorders in the workplace or to enhancing occupational mental health and stress management.

WORK AND MENTAL HEALTH

The Problem

Eisenberg and Parron[1] focused attention on the national burden of suffering produced by mental disorders in their contribution to the U.S. Surgeon General's report, *Healthy People.* Levi's[2] contribution to the same report estimated 15% of the U.S. population is in need of mental health services at any one time. Ac-

cording to the American Psychiatric Association,[3] work-related occupational factors are etiologic agents for psychological disorders. Hence, work and occupational factors contribute to the psychological suffering in the population, whose prevalence was reported by Sauter, Murphy, and Hurrell[4] to equal that of hypertension. Yet three studies found mental health care and/or treatment for distressful behaviors (i.e., alcohol and drug abuse) reduced subsequent somaticizing and/or overutilization of other medical services.[5-7]

The failure to attend to occupational mental health and stress management skills has substantial direct economic costs and lost output costs. Over a 20-year period, the Kaiser-Permanente Health Plan found that 60% of all physician visits were by patients who had nothing physically wrong with them, and another 20% to 30% of physician visits were by patients who had physical illnesses with a stress-related component.[5] Jacobson's[8] national survey of 48 Fortune 1000 companies ranked "improve mental health" as the third highest health priority, yet mental health initiatives are not in the top six worksite health promotion program activities or supporting policies.[9] Why the discrepancy between what is needed and what is available? Cost may be one consideration.

The chronic diseases, such as hypertension, have replaced the acute and infectious diseases in the United States during the twentieth century as the leading causes of death.[10,11] This trend may accelerate with changing demographics (i.e., the aging of the adult population) in the United States during the 1990s and early twenty-first century. Stress, psychosocial, and behavioral risk factors play important roles in chronic health disorders.[12-14] While the United States does not have a national strategy for improving stress management skills nor occupational mental health among working populations, there are increasing humanitarian and utilitarian (i.e., financial and economic) motivations for the development of such a national agenda.[12,15] We need to work toward 1) performance enhancement in the worksite; 2) reduction in health care utilization; and 3) improvement of workforce health and well-being.

The Worksite

Ilgen[15] argues that the worksite, where health care costs have become a major concern for employers, provides a particularly fine setting within which to address health.[16] Raymond, Wood, and Patrick[17] suggest that the worksite has been overlooked as a prime locus of activity advancing healthful lifestyles. Fielding[18] proposes 10 priority research challenges to pursue in strengthening scientific knowledge about worksite health promotion.

As the largest purchasers of health services, corporations have three reasons for concern with occupational mental health. First, it has utility if it helps reduce other medical costs. Second, some courts hold corporations legally liable for managing, preventing, or compensating employees for job distress.[19] Ivancevich and his associates cite *Carter v. General Motors.*[20] The court accepted job-related psychological illness as a disabling injury. Third, corporations face a shortage of highly skilled labor, a vital resource.

Is the collision of profits and people inevitable?[21] Are the humanitarian concern for employee occupational mental health and the utilitarian motivations of work organizations mutually exclusive? Or, is there some common ground which may be found for humanitarian and utilitarian interests?

Prevention

An agenda for advancing occupational mental health and stress management should be based on the public health notions of prevention. Prevention programs, such as public sanitation and personal hygiene efforts in the early 1900s as well as the vaccines developed later in the century, have helped extend life expectancy in the United States during the twentieth century by 50%.[1,2,9,15,22] If prevention contributes to improved physical health, then it may also be helpful in improving occupational mental health and stress management. The three stages of prevention (i.e., primary, secondary, and tertiary) are generally understood and accepted within the public health community for specific acute and infectious diseases. We use the following conventions as translations of these accepted ideas. *Primary prevention* concerns interventions aimed at eliminating, reducing, or altering worksite demands (stressors) and occupational mental health risks. An example would be task redesign programs. From a public health standpoint, this is the preferred and first point of intervention. *Secondary prevention* concerns approaches designed to teach individuals new skills for managing inevitable or unavoidable worksite demands (stressors) and occupational mental health risks. Examples would be corporate fitness programs and relaxation training. *Tertiary prevention* concerns treatment activities intended to alleviate suffering or dysfunction resulting from worksite demands (stressors) and occupational mental health risks. Examples would be psychological counseling or traumatic stress debriefings.

Work Design/Redesign

The first concern in advancing occupational mental health and stress management in the workplace must be to address the environmental and psychosocial aspects of the design of work. This means changing the psychosocial demands and stressors created by the worksite.[2,15,21,23-26] This includes addressing organizational, environmental, policy, and task redesign issues to enhance the psychological health of the workers. Landy and his associates[27] recommend improved work design through 1) increased control for people over the work and the work environment, 2) reduced uncertainty for people with regard to work and the work environment, and 3) conflict management in the work environment, recognizing that not all conflict is bad nor destructive.[28] Further, detrimental corporate policies and procedures should be eliminated

along with unnecessary, unreasonable, and detrimental work demands. The redesign of work can be complimented with educational and treatment initiatives for the successful enhancement of occupational mental health and stress management.

OCCUPATIONAL MENTAL HEALTH PROMOTION THROUGH EDUCATION AND TREATMENT

Work design programs aim to eliminate work-related health risks; comprehensive health promotion and lifestyle change programs aim to establish a 'strong and resistent host' within the individual.[29] Physical fitness and exercise have been the centerpiece of corporate health promotion programs in the United States and Canada.[30-32] North Americans are world leaders in the use of exercise and fitness for health promotion, especially in a corporate wellness with programs such as Johnson & Johnson's "Live for Life"; AT&T's "TLC"; and Control Data's "Staywell."[33,34] These programs can be a beneficial point of departure in promoting employee occupational mental health and psychological well-being. Prevention and treatment activities should be integrated into a comprehensive health promotion approach.[1,35] However, overall worker knowledge and skills related to mental health issues, such as early signs of problems with co-workers, has been found quite lacking.[36] Hence, the educational component is an essential foundation for the prevention agenda.

The Educational Component

Education is a form of primary and secondary prevention. That is, it informs people about the health risks to avoid as well as informs them of ways in which they may alter how they respond to inevitable or unalterable occupational mental health risks. There are three essential content areas to be addressed through education and training in the worksite. The relationship of these to target populations will be addressed later in the article.

1. *Awareness and appreciation of psychological disorders* as occupational health problems in the workplace and their relationship to organizational-level outcomes.
2. *Understanding of work (and non-work) risks and demands* which adversely impact occupational mental health.
3. *Recognition of individual signs and organizational symptoms* of mismanaged stress and impaired occupational mental health as early warnings of workplace problems.

The purpose of the educational component will be to shape occupational health psychology attitudes and behavior; overcome stereotypes and stigmas; and promote early recognition and response to budding mental health disorders. Television, the mass media, computers, and other vehicles may be considered in elevating awareness and knowledge concerning mental health issues so as to ultimately change health behaviors.[37-39] The Surgeon General's campaign against smoking and the "Just Say NO" campaign against drugs are examples of mass educational programs targeting health behaviors. Ultimately, the goal is to establish social norms which will alter individual behavior.[38] For example, a beneficial social norm concerning exercise behavior has evolved in the U.S. over the last 20 years. It has been a key ingredient in the success of corporate exercise/fitness programs.

The worksite education component should be supported by and extend from university-based graduate education programs, both at the masters and doctoral levels, in occupational health psychology and preventive stress management.[17,40] These programs need to blend the fields of mental health and psychology with training in public health. Curriculum development in the past 10 years should be the point of departure for this emerging university-based graduate education. The first required stress course at a medical school in the United States was developed by Ron Nathan,[41] a clinical psychologist. Graduate courses in stress and work, self-regulation, behavioral epidemiology, and preventive stress management have been developed in departments of management, social work, and schools of public health.[42,43]

These graduate courses are part of an emerging educational curriculum which addresses a variety of questions through objective knowledge-based, self-assessment, and skill-based education[44,45] as well as through an emphasis on both theory, applied research, and practice.[17] The issues addressed in these graduate courses are listed in Table 1.

For the transference of a developed body of knowledge and skills to worksite educational settings, Pelletier and Lutz[46] suggest a modularized program concept based on a literature review of objective, outcome studies. Their modularized

Table 1

Issues to Address in Graduate Stress Courses

- The psychophysiology of stress
- The components of occupational mental health and psychological well-being at work
- The environmental and self-induced . . .
  - . . . causes of stress
  - . . . risks to occupational mental health
- The medical, psychological, and/or behavioral costs of distress and suboptimal occupational mental health
- Methods to strengthen the individual to more successfully manage the demands of stressful environments
- Lifestyle prevention and intervention strategies that enhance stress management skills and occupational mental health functioning
- Developmental, cognitive, and social skills that enhance individual resistance to environmental demands and occupational mental health risks

program concept includes at least one stress management technique such as diaphragmatic breathing, an evaluation to determine the program's efficacy, and an emphasis on the programs not being used as substitutes for correcting work design flaws.

As Raymond, Wood, and Patrick[17] have emphasized, education in occupational health psychology requires interdisciplinary collaboration and multidisciplinary approaches. While enhancing occupational mental health and stress management in the worksite may be rooted in occupational health psychology, public health, business administration, nursing, and organizational behavior, other disciplines may well need to be incorporated as the field grows.

The Treatment Component

Regardless of how effectively work design strategies are carried out and educational initiative pursued for purposes of primary and secondary prevention, there will be a need for treatment of those who suffer. The treatment component should involve the specification of mental health care and psychological treatment interventions/services which may be made available to the specific organizational populations.

We should point out here the preventive role of therapy or treatment within an organizational context. That is, therapy or treatment with one executive or one manager within an organization may have a second-order effect of providing primary prevention for the employees reporting to that executive or manager. Therefore, the role of treatment and healing those in distress should not be discounted in terms of its potentially broader effects within a social system such as an organization.

The treatment component should be an extension of the educational component of the agenda. For example, Doherty[47] argues that workers can be successfully treated for depression if employers recognize early warning symptoms and encourage treatment. (Supervisors and coworkers need to be included in this early-recognition, early-warning system.) While early detection and the encouragement of treatment require knowledge of symptoms as well as possible referral sources for treatment, the generally supportive nature of a work environment may play an importantly therapeutic role in and of itself. Education, treatment, and an emotionally supportive worksite can work together in fulfilling the agenda.

The treatment component here is not intended to deal with major mental health disorders such as severe mental deficiency, serious schizophrenia, and some of the serious developmental problems.[1] Rather the targets are the range of affective and stress-related occupational mental health issues amenable to worksite or outpatient intervention. Key components of such treatment programs, using a variation of Pelletier and Lutz's[46] approach to stress management intervention in the worksite, would include: 1) identification of symptomatic and high-risk individuals (to include screening out those with major mental disorders); 2) appropriate referral and/or treatment of individuals; 3) symptom-directed treatment by appropriate professionals; 4) follow-up to assure treatment effectiveness; and 5) evaluation of health improvement and cost efficacy.

Within the workplace, substance abuse disorders and depression are among the most prevalent forms of distress for which a treatment response is required. There are, however, real "stigma" dilemmas for individuals who become "identified" through the screening process mentioned above. Care with our language as well as care in our treatment of individuals becomes very critical at this juncture.

A final key issue under the rubric of treatment concerns confidentiality. If individuals who are in need of and seek treatment do not feel secure that their situation will be 1) kept confidential within the caregiving system so that 2) there will be no repercussions which adversely impact their employment, then the treatment services simply will not be used. Policies, procedures, and practices need to be implemented to insure confidentiality so that the system is viewed as trustworthy *and* so that active outreach efforts to draw those in need within the program will be understood as based on positive motives.

Target Populations

Most organizations and worksites organize their employment populations based upon some combination of functional categories and hierarchical distinctions. To use this somewhat classical scheme for the identification of target populations within the worksite would lead to a scheme such as operating level employees, first line supervisors, middle management, and top level management.

Some argue that the health risks and health service needs of these hierarchical populations are quite different.[21,48,49] While there may be validity in using this scheme, an alternative way of identifying and serving worksite populations needs to at least be considered.

For example, there is epidemiological evidence that significant differences in life expectancy, mortality, and morbidity exist in the country by race and sex.[50,51] Given the changing demographics of the worksite, it may be most appropriate to organize educational and treatment initiatives to target populations based on risks and symptoms. Hence, example target populations from this perspective might be women; minority groups; older workers (i.e., later career stages); those subject to reorganizations; and single heads of households.

While care must be exercised with regard to discrimination, there is evidence that differences do exist in risks and symptoms among some groups identified above.[49,52-57] Friedman and Gray[58] recommend different and specific benefits packages for employees depending upon family and career cycle circumstances. They argue that employees have the need for greater education in these areas because their risks and needs are quite different.

EVALUATION RESEARCH: AN ESSENTIAL INGREDIENT

Funding the educational and treatment agenda outlined above should depend on the establishment of evaluation research designs aimed at developing criteria data. The key questions which should drive the evaluation research component are: 1) Is there a return on the human resource investment made in mental health education and treatment? 2) How should the return be measured?

In a review of 26 worksite health promotion and disease prevention programs, Pelletier[59] examines the characteristics of the evaluations such as existence of a comparison group, evaluation period, outcome measures, research design, and the self-selection issue. Based on that review, it is evident that comprehensive health promotion programs are both health and cost effective.

The evaluation research studies of current fitness and wellness programs show that the payoff periods are often long and uncertain.[60] In their evaluation of the Tenneco exercise program, Baum, Bernacki, and Tsai[60] found lower illness absences among the exercisers and significantly lower ambulatory health care costs. However, they note some apparent "absence proneness" among the nonexercisers even before entering the program which demonstrates the operation of selection bias. Hence, the need for caution in interpreting the results.

Bly, Jones, and Richardson,[61] in evaluating the Live for Life Program at Johnson & Johnson, found that participants had lower mean in-patient health care cost increases and lower rates of increase in hospital days. However, health promotion programs with exercise and fitness as the central components are not the only programs to have been evaluated. Stern[62] reports a review of EAPs in terms of utilization, cost-benefit, and success rates. She reports that the often cited McDonnell Douglas study focused on the reduced health claims money saved and lower absentee rates of its EAP "graduates."

Fielding[12] has indicated that return on investment of health promotion programs is usually approached from a cost-benefit standpoint. He reviewed four corporate health promotion/disease prevention programs and concluded that, while no one successful model existed, seven important keys for success could be identified. These are listed in Table 2.

Table 2

Seven Keys for Successful Health Promotion Programs

- long-term commitment
- top management support
- employee involvement
- professional leadership
- clearly defined objectives
- careful planning
- family involvement

While descriptive research of this nature may be a useful point of departure, building rigorous natural scientific as well as idiographic scientific designs will be essential. Excellent research designs and results can be achieved in field settings despite the occurrence of unplanned and uncontrolled events or the presence of alternative causal factors which impact individuals and organizations. Where attributing causality in field research is complicated and problematic, idiographic research designs may be employed.

Should health promotion programs of any kind be held to the use of utilitarian and economic criteria alone in their evaluation? Warner, Wickizer, Wolfe, Schildroth, and Samuelson[63] are somewhat cautious and circumspect in reviewing the literature published through 1986 concerning the profitability claims of most health promotion programs. Given the tremendous health and economic toll of preventable illness and the prospect of reducing the toll through changing behavior, they recommend the pursuit of a rigorous, research-based body of knowledge in this regard.

Humanitarian and utilitarian criteria are both of importance in the design of evaluation research programs. Specific criteria such as illness, absenteeism, and health care cost reflect the concern for individual health and well-being as well as organizational costs and performance. In addition, attention to the criteria of morbidity and mortality in the context of long-term evaluation of program impact is important.[64]

Large scale evaluation programs which compare group-oriented, competitive, environmentally-based, and multiple risk factor programs must be developed.[65] The designs should be longitudinal in nature and developed in concert with work redesign proposals and epidemiological/surveillance evidence. Particular attention should be devoted to more comprehensive, as opposed to risk specific, programs given some of the etiological difficulties in the mental health arena.[1]

NATIONAL CONSTITUENCIES AND RESPONSIBILITIES

In advocating health promotion as a public health strategy for the decade of the 1990s, Green and Kreuter[11] proposed that a combined set of private sector, independent sector, federal, and global initiatives are essential for the execution of the strategy. The advancement of mental health in the worksite will require the combined efforts of at least seven major constituents, each with differing interests and responsibilities.

The Constituents

The seven major constituents with direct interests in occupational mental health promotion and stress management in the worksite are: 1) employees and employee groups; 2) private sector organizations; 3) health care providers; 4) health insurance companies; 5) federal and state government; 6) trade and professional associations; and 7) universities and educational institutions. Some of the interests are of a more humanitarian nature (e.g., employees and employee groups) while others are of a more utilitarian nature (e.g., health insurance companies). Hence, all share some common ground based upon the intersection of their

interests.

Educational institutions have a somewhat different set of goals in the issues of occupational mental health and stress management in the worksite. Academic agendas lie in the areas of curriculum development for health care and business professionals as well as research agendas related to the health risks, health promotion, program effectiveness, and so on.

The Responsibilities

For health promotion through education and treatment to be effective, the various national constituents must accept a combination of individual as well as shared responsibility for implementation and evaluation. The notions of partnership and collaboration are crucial in this regard. For example, partnerships can be formed between government agencies and academic institutions, private sector companies and labor unions, and insurers to design and implement research to:

- improve our understanding of health risk factors,
- develop valid, reliable measures for risk assessment, and
- evaluate the effectiveness of strategy components.

Pelletier, Klehr, and McPhee[66,67] have already reported a combined effort of a consortium of private sector companies, such as AT&T and Bank of America, working collaboratively with the Center for Disease Prevention of the Stanford University School of Medicine. Doherty[47] reported a good example of a private sector/government sector partnership which was funded by NIMH (The D/ART Worksite Program). In this program, employers are taking steps against untreated depression by affecting awareness and recognition as well as ensuring that appropriate and well-managed care is made available.

Components of effective employer efforts include:

- employee education for health promotion/disease prevention,
- management training,
- employee assistance services,
- redesign benefit programs and their management,
- data collection for decision making,
- integration of corporate health related services, and
- attention to organizational health.

Efforts where there is a sharing of interests, expertise, and resources are essential to the long-term success of any national strategy for the advancement of mental health in the workplace. Natural alliances may also be most effective, where mutual concerns provide the driving force for success.

The federal government, in collaboration with other constituents, must play an integral role in setting national policy with regard to mental health in the workplace, followed by publishing and promoting strategies for the fulfillment of the policy. Another role may be that of providing some incentives for program implementation, such as tax credits, while expecting other constituents to play important roles in direct funding of programs.

Leadership Role

Advancing occupational mental health and stress management skills in the workplace will require that a leadership role be assumed by a professional organization, such as the American Psychological Association, with the express purpose of achieving five objectives.

1. Set a 'gold' standard. There is a need to establish an official, professional position concerning the current state of knowledge in the domains of occupational mental health and stress management. Because of the active, dynamic nature of research and scholarship in these domains, the knowledge standard will change over time. However, there is sufficient circumstantial, if not causal, knowledge developed in North America and parts of Europe, notably Sweden, to argue for a prominent role of psychosocial workplace factors and stress-related factors in health. Specifying what we know, and what we still need to learn, is an essential first objective.

2. Identify Diagnostically Related Groups (DRGs) which are stress-related. Employers and professionals alike have searched for operational definitions of mental health and stress for some period of time. The present DRG standards provide a basis from which to identify what is stress-related. For example, Wade and her associates[68] have begun to specify medical diagnoses potentially related to stress. Ultimately, it would be desirable to establish what proportion (e.g., 20% or 80%) of the disorder is stress-related.

3. Establish assessment standards for stress and mental health. When we assess an employee's psychological and behavioral health in the workplace, what standards are to be used? Professionally, the assessment standards for medical well-being are more advanced than for psychological and behavioral well-being. In addition to the individual assessment in the workplace, reasonable assessment of what constitutes work-related distress is needed. Work-related standards for psychosocial risks should complement the existing ones for physical safety.

4. Set guidelines for reasonable interventions. The state of the art in stress management skills is such that an extraordinarily wide range of interventions are advocated under the rubric of 'stress management.' While some of these may be very intuitively appealing, rigorous evaluation research may not lend support to their efficacy; or evaluation research may uncover only certain parameters within which the interventions are effective. The guidelines need not spell out the list of possible interventions so much as establish the standards against which interventions may be examined.

5. Establish acceptable post-outcome criteria. Finally, there is a need to agree upon post-outcome criteria so that the efficacy of interventions can in fact be rigorously evaluated. In the domains of occupational mental health and stress management, there is a need to establish the minimum

levels of healthy functioning using psychological, behavioral, as well as job performance/accommodation criteria.[69] First, the content of these criteria need to be agreed upon. Second, questions must be considered such as: How large an effect is expected? Over what period of time? With how much long-term effect?

The fields of occupational mental health and preventive stress management are evolutionary points where a national leadership role must be assumed for achievement of an effective integration among their wide range of professionals. The well-being of individuals in the workplace depends upon it.

CONCLUSION

While the population of the United States is not in the first rank of developed nations when it comes to life expectancy at birth, we have enjoyed much success in advancing the war on morbidity and mortality during the twentieth century: witness the 50% increase in life expectancy during this century, from under 50 years of age at the turn of the century to 75+ years as of 1988. This has largely been the result of the success of the public health notions of prevention employed in the war against the acute diseases.

It is now time to focus more attention on the mental health of our population, with specific attention to occupational mental health and stress management of our working population. Advances in the workplace may then be transferred into the larger population through family and community systems. As Senator Cohen[70] has argued, our public health enemies have shifted from the acute and infectious diseases to the chronic and debilitating ones. Cohen also says the public health battlefield must now include the workplace because businesses are the dominant organizational form of twentieth century America. The quality of life in the workplace can be advanced through education and treatment activities founded on the public health notions of prevention, thus easing the burden of suffering individually and collectively.

SO WHAT? Implications for Health Promotion Practitioners and Researchers

This review seems to indicate action is warranted to address psychological disorders as one of the 10 leading work-related diseases and injuries in the United States. Further, the review seems to indicate that a combined agenda of education and treatment is the appropriate basis for action. Practitioners should work with employers to educate employees about early warning signs of psychological distress at work such as depression. They should also help employers identify unnecessary occupational mental health risks such as high degrees of uncertainty and educate employers about prevention and treatment methods for normal people experiencing psychological distress at work. Researchers can incorporate occupational mental health variables into their evaluation research designs for health promotion programs. They can also work with concerned constituencies in evaluation research programs to examine the effectiveness of interventions for occupational mental health and preventive stress management.

References

1. Eisenberg, L., Parron, D. Strategies for the prevention of mental disorders. In: Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention. D. Hamburg, E. Nightengale, V. Kalmar (Eds.). Washington, D.C.: Department of Health, Education, and Welfare, 1979; 135-155.
2. Levi, L. Psychosocial factors in preventive medicine. In: Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention. D. Hamburg, E. Nightengale, V. Kalmar (Eds.). Washington, D.C.: Department of Health, Education, and Welfare, 1979; 207-252.
3. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, 3rd edition. Washington, D.C., 1980.
4. Sauter, S., Murphy, L., Hurrell, J. Prevention of work related psychological distress: A national strategy proposed by the National Institute of Occupational Safety and Health. American Psychologist, 1990; 45:1146-1158.
5. Cummings, N., VandenBos, G. The twenty years Kaiser-Permanente experience with psychotherapy and medical utilization: Implications for national health policy and national health insurance. National Political Quarterly, 1981; 1:159-175.
6. Jones, K., Vischi, R. Impact of alcohol, drug abuse and mental health treatment on medical care utilization: A review of the research literature. Supplement to Medical Care, 1979; 17:iii-82.
7. Mumford, E., Schlesinger, H., Glass, G., Patrick, C., Cuerdon, T. A new look at evidence about reduced cost of medical utilization following mental health treatment. American Journal of Psychology, 1984; 141:1145-1158.
8. Jacobson, M. Employers zero in on future health. Business & Health, 1988; 10:36-39.
9. U. S. Government. Disease Prevention and Health Promotion: The Facts. Washington, D.C.: Office of Disease Prevention and Health Promotion Prevention Report, 1989.
10. Foss, L., Rothenberg, K. The Second Medical Revolution: From Biomedical to Infomedical. Boston: New Science Library, 1987.
11. Green, L., Kreuter, M. Health promotion as a public health strategy for the 1990s. Annual Review of Public Health, 1990; 11:319-334.
12. Fielding, J. Health promotion and disease prevention at the worksite. Annual Review of Public Health, 1984; 5:237-265.
13. Pelletier, K. Mind as Healer, Mind as Slayer: A Holistic Approach to Preventing Stress Disorders. New York: Delacorte Press, 1977.
14. Quick, J. C., Quick, J. D. Organizational Stress and Preventive Management. New York: McGraw-Hill Book Company, 1984.
15. Ilgen, D. Health issues at work: Opportunities for industrial/organizational psychology. American Psychologist, 1990; 45:273-283.
16. Nathan, P. The worksite as a setting for health promotion and positive lifestyle change. In: Behavioral Health: A Handbook of Health Enhancement and Disease Prevention. J. Matarazzo, S. Weiss, A. Herd, N. Miller, S. Weiss (Eds.). New York: John Wiley, 1984: 1061-1063.
17. Raymond, J., Wood, D., Patrick, W. Psychology doctoral training in work and health. American Psychologist, 1990; 45:1159-1161.
18. Fielding, J. The challenges of work-place health promotion. In: Health at Work. S. Weiss, J. Fielding, A. Baum (Eds.). Hillsdale, New Jersey: Erlbaum, 1990; 13-28.
19. Ivancevich, J., Matteson, M., Richards, E. Who's liable for stress on the job? Harvard Business Review, 1985; 64:60-72.
20. Carter v. General Motors Corporation. 361 Michigan 577, 106 N.W. 2nd 105: 1960.
21. Winpisinger, W. A labor view of stress management. In: Work Stress: Health Care Systems in the Workplace. J. C. Quick, R. Bhagat, J. Dalton, J. D. Quick (Eds.). New York: Praeger Scientific, 1987; 210-216.
22. Quick, J. C. An ounce of prevention is worth a pound of cure. Stress Medicine, 1989; 5:207-210.
23. Gardell, B. Autonomy and participation at work. In: Society, stress and disease, vol. 4: Working life. L. Levi (Ed.). Oxford, England: Oxford University Press, 1981.
24. Gardell, B. Efficiency and health hazards in mechanized work. In: Work stress: Health care systems in the workplace. J. C. Quick, R. Bhagat, J. Dalton, J. D. Quick (Eds.). New York: Praeger Scientific, 1987; 50-71.
25. Ivancevich, J., Matteson, M., Freedman, S., Phillips, J. Worksite stress management interventions. American Psychologist, 1990; 45:252-261.
26. Kryder, S. Organizational development in worksite health promotion programming. Fitness in Business, 1988; 8:3-9.
27. Landy, F., Davis, H., Graddick, M., Gutek, B., Jackson, S., Kahn, R., LeGrande, D., Salvendy, G., Schleifer, L., Schott, F., Smith, M., Warshaw, L. Work Design and Stress.

Work and Well-Being Conference. Washington, D.C.: American Psychological Association, 1990.
28. Sauter, S., Hurrell, J., Cooper, C. Job Control and Worker Health. New York: John Wiley & Sons, 1989.
29. Wegman, D., Fine, L. Occupational health in the 1990s. Annual Review of Public Health, 1990; 11:89-103.
30. Eakin, J., Gotay, C., Rademaker, A., Cowell, J. Factors associated with enrollment in an employee fitness center. Journal of Occupational Medicine, 1988; 30:633-637.
31. Gebhardt, D., Crump, C. Employee fitness and wellness programs in the workplace. American Psychologist, 1990; 45:262-272.
32. O'Donnell, M., Ainsworth, T. Health promotion in the workplace. New York: John Wiley & Sons, 1984.
33. Collingwood, T. Personal communication on July 3. Institute for Aerobics Research, Dallas, Texas, 1990.
34. Weiss, S., Fielding, J., Baun, W. Health at Work. Hillsdale, New Jersey: Erlbaum, 1990.
35. DeCarlo, D. Legal insight. National Council on Compensation Insurance, New York, 1985.
36. Neal, M., Singer, J., Schwartz, J., Schwartz, G. Yale-NIOSH occupational stress project. New Haven: Yale Press, 1983.
37. DeLeon, P., VandenBos, G. Public health policy and behavioral health. In: Behavioral Health: A Handbook of Health Enhancement and Disease Prevention. J. Matarazzo, S. Weiss, A. Herd, N. Miller, S. Weiss (Eds.). New York: John Wiley & Sons, 1984; 150-163.
38. Flora, J., Maibach, E. The role of media across four levels of health promotion intervention. Annual Review of Public Health, 1989; 10:181-201.
39. Gustafson, D., Bosworth, K., Chewning, B., Hawkins, R. Computer-based health promotion: Combining technological advances with problem-solving techniques to effect successful health behavior changes. Annual Review of Public Health, 1987; 8:387-415.
40. Quick, J. Testimony for the American Psychological Association before the U.S. Public Health Service and the Institute of Medicine, National Academy of Sciences on the Health Objectives for the Nation, Year 2000. Houston, Texas, 1988.
41. Nathan, R., et al. Effects of stress management course on grades and health of first-year medical students. Journal of Medical Education, 1987; 62:514-517.
42. University of Houston. Graduate and Professional Studies 1990-1992. Houston, Texas, 1990; 83.
43. University of Texas at Arlington. Graduate Catalog 1990-1992. Arlington, Texas, 1990; 167,208.
44. Quick, J. C. Development of program standards. In: Proceedings of the 7th Combat Stress Conference: Training for Psychic Trauma. D. Mangelsdorff (Ed.). U.S. Army Health Services Command, San Antonio, 1990; 116-120.
45. Stoto, M., Behrens, R., Rosemont, C. Healthy People 2000: Citizens Chart the Course. Washington, D.C.: National Academy Press, 1990.
46. Pelletier, K., Lutz, R. Healthy people — healthy business: A critical review of stress management programs in the workplace. American Journal of Health Promotion, 1988; 2(3):5-12,19.
47. Doherty, K. The good news about depression. Business & Health, 1989; 3:1-4.
48. Moss, L. Management stress. Reading, Massachusetts: Addison-Wesley, 1981.
49. Shostak, A. Blue-Collar Stress. Reading, Massachusetts: Addison-Wesley, 1980.
50. Matarazzo, J., Weiss, S., Herd, J., Miller, N., Weiss, S. Behavioral Health: A Handbook of Health Enhancement and Disease Prevention. New York: John Wiley and Sons, 1984.
51. Matarazzo, J. Behavioral health: A 1990 challenge for the health sciences professions. In: Behavioral Health: A Handbook of Health Enhancement and Disease Prevention. J. Matarazzo, S. Weiss, A. Herd, N. Miller, S. Weiss (Eds.). New York: John Wiley, 1984; 3-40.
52. Hurrell, J., McLaney, M., Murphy, L. The middle years: Career stage differences. Prevention in Human Services, 1990; 8:179-203.
53. Matteson, M., Ivancevich, J. Merger and acquisition stress: Fear and uncertainty at mid-career. Prevention in Human Services, 1990; 8:138-158.
54. Nelson, D., Quick, J. C., Hitt, M. Men and women of the personnel profession: Some differences and similarities in their stress. Stress Medicine, 1989; 5:145-152.
55. U. S. Government. Disease prevention/Health promotion: THE FACTS. Office of Disease Prevention and Health Promotion. Palo Alto, California: Bull Publishing, 1988.
56. Verbrugge, L. Recent, present, and future health of American adults. Annual Review of Public Health, 1989; 10:333-361.
57. Verbrugge, L. Gender, aging, and health. In: Aging and health: Perspectives on gender, race, ethnicity, and class. K. Markides (Ed.). Newbury Park, California: Sage, 1989; 23-78.
58. Friedman, D., Gray, W. A Life Cycle Approach to Family Benefits and Policies. New York: The Conference Board, 1989.
59. Pelletier, K. A review and analysis of the health and cost-effective outcome studies of comprehensive health promotion and disease prevention programs. American Journal of Health Promotion, 1991; 5(4):311-315.
60. Baum, W., Bernacki, E., Tsai, S. A preliminary investigation: Effect of a corporate fitness program on absenteeism and health care cost. Journal of Occupational Medicine, 1986; 28:826-830.
61. Bly, J., Jones, R., Richardson, J. Impact of worksite health promotion on health care costs and utilization. Journal of the American Medical Association, 1986; 256:3235-3240.
62. Stern, L. Why EAPs are worth the investment. Business & Health, 1990; 5:14-19.
63. Warner, K., Wickizer, T., Wolfe, R., Schildroth, J., Samuelson, M. Journal of Occupational Medicine, 1988; 30:106-112.
64. McLeroy, K., Green, L., Mullen, K., Foshee, V. Assessing the effects of health promotion in worksites: A review of the stress program evaluations. Health Education Quarterly, 1984; 11:379-401.
65. Mullen, P. Health promotion and patient education benefits for employees. Annual Review of Public Health, 1988; 9:305-332.
66. Pelletier, K., Klehr, N., McPhee, S. Town and gown: A lesson in collaboration. Business & Health, 1988; 2:34-38.
67. Pelletier, K., Klehr, N., McPhee, S. Developing workplace health promotion programs through university and corporate collaboration: A review of the corporate health promotion research program. American Journal of Health Promotion, 1988; 2(4):75-81.
68. Wade, S., Hillman, H., Goetzel, R., Fielding, J., Knight, K. Stress-Related Utilization and Costs. Johnson & Johnson Health Management, Santa Monica, California, Corporate report.
69. Mancuso, L. Reasonable accomodation for workers with psychiatric disabilities. Psychological Rehabilitation Journal, 1990; 14:3-19.
70. Cohen, W. Health promotion in the workplace: A prescription for good health. American Psychologist, 1985; 40:213-216.