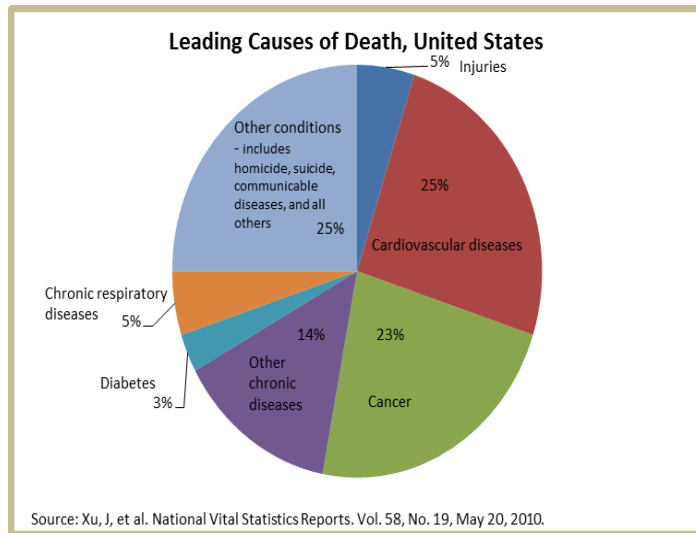# Mental Health and Chronic Diseases

Background

Chronic diseases are non-communicable illnesses that are prolonged in duration, do not resolve spontaneously, and are rarely cured completely. They are the leading cause of death and disability in the United States. They cause 7 out of 10 deaths each year and are among the most preventable and treatable of all health problems (see figure below). Chronic diseases include illness such as heart disease, diabetes, cancer, and arthritis.[1]

Leading Causes of Death, United States

- Injuries 5%
- Cardiovascular diseases 25%
- Cancer 23%
- Other chronic diseases 14%
- Diabetes 3%
- Chronic respiratory diseases 5%
- Other conditions - includes homicide, suicide, communicable diseases, and all others 25%

Source: Xu, J, et al. National Vital Statistics Reports. Vol. 58, No. 19, May 20, 2010.

Mental health disorders are medical conditions that disrupt a person's thinking, feeling, mood, ability to relate to others and daily functioning. They are medical conditions that often result in a reduced ability to cope with the routine daily activities such as going to work or raising a family. Just like chronic diseases, mental health disorders are treatable. Most people diagnosed with a serious mental health disorder can receive relief from their symptoms by following a treatment plan specifically designed for them by a trained psychologist or psychiatrist. Mental health disorders are not exclusive to those who exhibit a lack of personal strength, personality traits like being shy, or have a certain socioeconomic status. Mental health disorders include illnesses such as major depression, bipolar disorder, obsessive compulsive disorder, and post-traumatic stress disorder.

One common finding is that people who suffer from a chronic disease are more likely to also suffer from depression.[2] Scientists have yet to determine if having a chronic disease increases the prevalence of depression or depression increases the risk of obtaining a chronic disease. Regardless of the cause, chronic diseases and mental health disorders are treatable and employers can use multiple strategies to make their work environments more supportive of overall physical and mental health and general well-being.

What causes mental health disorders and chronic diseases?

While cause(s) for mental health disorders are unknown, there are certain factors that can increase an individual's risk of developing a mental health disorder. The risks and causes of chronic diseases are much more well-established. Below is a list of the common risk factors for mental health and chronic diseases.
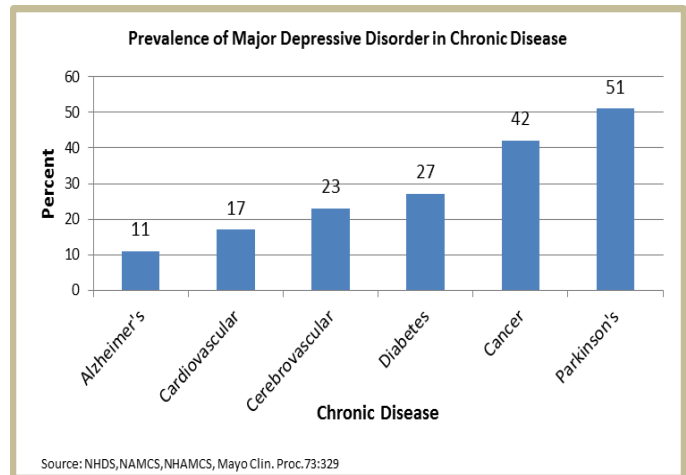
Mental Health	Chronic Disease	
Risk Factors[3]	Modifiable Risk Factors[1,4]	Non Modifiable Risk Factors[4]
Family history	Poor Eating Habits	Age
Stressful life conditions	Lack of Physical Activity	Family History
Having a chronic disease	Tobacco Use	
Traumatic experience	Excessive Alcohol Use	
Use of illegal drugs	Environmental Factors	
Childhood abuse or neglect	Socioeconomic Status	
Lack of social support		

Relationship between mental health, chronic disease, and injury

Both mental health disorders and chronic diseases are common and disabling. These conditions can affect anyone, regardless of age, culture, race/ethnicity, gender, or income. In 2009, 145 million people— almost half of all Americans— were living with a chronic condition.[5] Approximately 26% of American adults aged 18 years and older suffer from a diagnosable mental disorder in a given year.[6] Arthritis, as a chronic condition, and depression, as a mental health illness, are both leading causes of disability worldwide.

Many other associations exist between mental illness and cardiovascular disease, diabetes, obesity, asthma, and arthritis to name a few.[2,8] For example, the chart to the right shows the prevalence of major depressive disorder and other common chronic diseases. Depression is found to co-occur in 17% of cardiovascular cases, 23% of cerebrovascular cases, and with 27% of diabetes patients and more than 40% of individuals with cancer.[9,10] The relationship between mental health, chronic disease and injury is significant. Many examples exist of individuals with a chronic condition or risk factor and an increased risk for mental illness such as the risk for tobacco use is about twice as high for those with mental illness compared to the general population.[7] Injuries, both intentional such as homicide and suicide and unintentional such as motor vehicle accidents, are 2—6 times higher for persons with a history of mental illness than those without a history.[11,12]

Prevalence of Major Depressive Disorder in Chronic Disease

Chronic Disease	Percent
Alzheimer's	11
Cardiovascular	17
Cerebrovascular	23
Diabetes	27
Cancer	42
Parkinson's	51

Source: NHDS, NAMCS, NHAMCS, Mayo Clin. Proc. 73:329

Issue

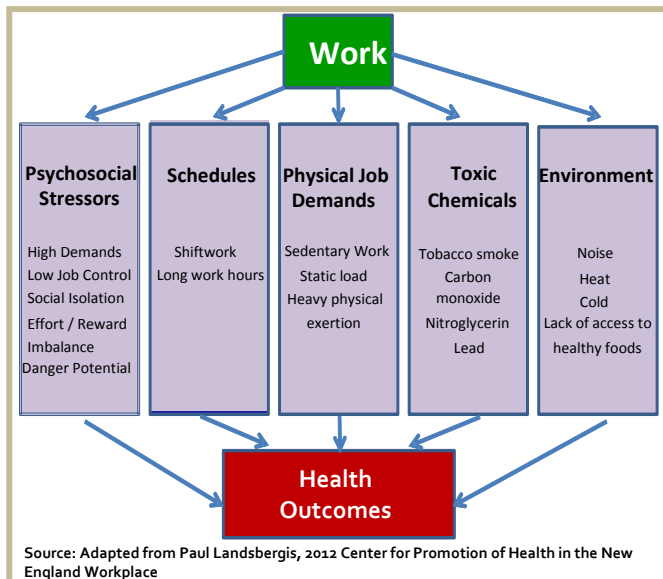### *How does mental health and chronic disease affect employees and the workplace?*

The cost to treat those with chronic diseases is approximately 75% of the total national health expenditures.[1] Expenses related to cardiovascular disease alone were estimated to be $503 billion in 2010.[13]

Direct and indirect costs associated with mental health are also costly. The Agency for Healthcare Research and Quality found that in 2006, $57.5 billion was spent on mental health care in the Unites States.[14] It is estimated that about one-third of those with mental illnesses are employed.[15] One study estimates nearly a quarter of the U.S. workforce (28 million workers aged 18—54 years) experience a mental or substance abuse disorder.[16] The most common mental illnesses in the workplace are alcohol abuse or dependence (9% of workers); major depression (8%); and social anxiety disorder (7%). Most importantly for employees and employers is that 71% of workers with mental illnesses have never sought help from a medical or mental health specialist for their symptoms.

For depression in particular, approximately 80% of persons with depression report some level of functional impairment because of their depression, and 27% reported serious difficulties in work and home life.[17] The condition can also have a large effect on productivity. In a 3 month period, patients with depression miss an average of 4.8 workdays and suffer 11.5 days of reduced productivity.[18] Depression alone is estimated to cause 200 million lost workdays each year at a cost to employers of $17 to $44 billion.[19,20]

Employers and employees have, in turn, had to bear the burden of rising health care costs. There has been a 97% increase in premiums for employer-sponsored health coverage since 2002.[21] Most of the financial burden of mental health disorders is not from the cost to treat the illness. It is because of income loss from unemployment, expenses for social supports, and indirect costs—such as workers' compensation, short-and long-term disability, presenteeism (the measurable extent to which health symptoms, conditions, and diseases adversely affect the work productivity of individuals who choose to remain at work) and absenteeism.[14,22]

Complications because of untreated chronic diseases and mental health disorders are the primary cause of missed work and increased presenteeism. Even though there have been increased attention on mental health in recent years, social stigma and discrimination associated with mental illnesses remains a significant barrier to an individual's health and employment. These issues often affect whether or not an individual will apply for a job or promotion when qualified. Stigma and discrimination may also prevent an employee from seeking help contributing to presenteeism and absenteeism and if treatment is sought out it may complicate the transition back to work. Both managers and coworkers alike are often unaware or uncertain how to interact with someone recovering from a mental health disorder.

Source: Adapted from Paul Landsbergis, 2012 Center for Promotion of Health in the New England Workplace

Many employees will not voluntarily disclose that they suffer from a chronic disease or mental health disorder for fear of being stigmatized. This burden leads to added stress that can exacerbate their condition. In addition, not divulging this information prevents the employer from understanding to what extent some of these health issues are problems and subsequently taking action, such as changing the work environment through a workplace health program.

For example, some instances of this include how organizing and structuring work can contribute to job related stress that can put the individual at an increased risk for chronic disease such as cardiovascular disease (see figure to the left). These organizational stressors include psychosocial stressors such as high job demands, low job control for the worker, or social isolation; scheduling issues including shiftwork or long hours;, the physical demands of work whether the position is mostly sedentary or involves heavy physical exertion; exposure to hazardous chemicals such as tobacco smoke or lead; and the broader work environmental conditions (e.g., noise, heat, cold, little access to healthy food).

Through a workplace health program, employers can identify and take steps to improve the work environment to minimize the effect these organizational factors have on employee physical and mental health.

Opportunity

Although both chronic disease and mental health disorders are common, strategies exist that can prevent or effectively treat the conditions. Modifiable risk behaviors (i.e., tobacco use, physical inactivity, and poor nutrition) that contribute to a number of chronic diseases and mental health disorders can be targeted and a point of emphasis of a workplace health program. It is never too late to address both modifiable individual risk factors and environmental risk factors like job stressors. For those that need treatment for more serious disease, the benefits component of a comprehensive workplace health program can provide access to professional therapy, medications, self-help, and community support programs.

What are the best practices for maintaining employees' mental health and chronic disease status?

The Substance Abuse and Mental Health Services Administration has developed a tool kit to help workplaces become more mental health-friendly. It describes program and practice strategies that address overall well-being by placing emphasis on both physical and mental health. The main elements of a Mental Health-Friendly Workplace include—[23]

- A workforce where diversity is valued.
- Health care that treats mental illnesses with the same urgency as physical illnesses.
- Programs and practices that promote and support employee health-wellness and work-life balance.
- Training for managers and supervisors in mental health workplace issues, including identifying problems and processes for referral and evaluation.
- Protections for the confidentiality of employee health information.
- An Employee Assistance Program (EAP) or other appropriate referral resources to assist managers and employees.
- Support for employees who seek treatment or who require hospitalization such as disability leave and planning for a return to work.
- Regular communication and education to all employees regarding health and wellness, and similar topics that promote a climate of acceptance that reduces stigma and discrimination in the workplace.

Successful programs take a comprehensive approach to health. A comprehensive program includes education, early detection and screening, program integration, and changes to the work environment to encourage healthy behaviors. The example below shows how both employers and employees can take steps to prevent and reduce work-related stress.

Establishing a workplace culture that recognizes employees for their good work, values each individual, requires that management actions are consistent with company values, and provides career development opportunities for employees, enhances employee self-confidence and productivity. Offering stress-reduction classes and employee options such as physical activity programs improve employees' physical and emotional resiliency and helps them recognize and manage their own stress responses.[24] Stress is better tolerated when employees protect their overall health through healthy behaviors such as physical activity.

EAPs can play a critical role in reducing individual employee stress related to family caregiving or other work-life balance issues. EAPs are designed to offer confidential short-term counseling and information to employees for work and personal concerns that may affect workplace performance. These programs may be in-house or contracted services for counseling, education, and referral. EAPs may include information on child and elder care services, support groups, stress reduction classes, alcohol and substance misuse treatment, mental health including depression, marital counseling, management consultation, and a variety of other important topics for managers and employees. EAPs provide support for all levels of employees from the front line to management personnel and often for employee family members as well.

Employers can use various policy approaches that can decrease the stress effects of shiftwork and long work hours such as interference with family life through organizational change. The amount of time workers spend with family and friends depends on the flexibility of their work schedule and other social and leisure time commitments. Employers can consider several strategies to design work schedules to improve work-life balance, worker satisfaction, and productivity. There is currently a limited amount of knowledge and research regarding shiftwork schedules and these strategies are only suggestions. It is important to remember that alterations to shift schedules affect all aspects of work and home life, so caution should be exercised when considering these strategies including: planning some free weekends, examining start and end times, and keeping the schedule regular and predictable.
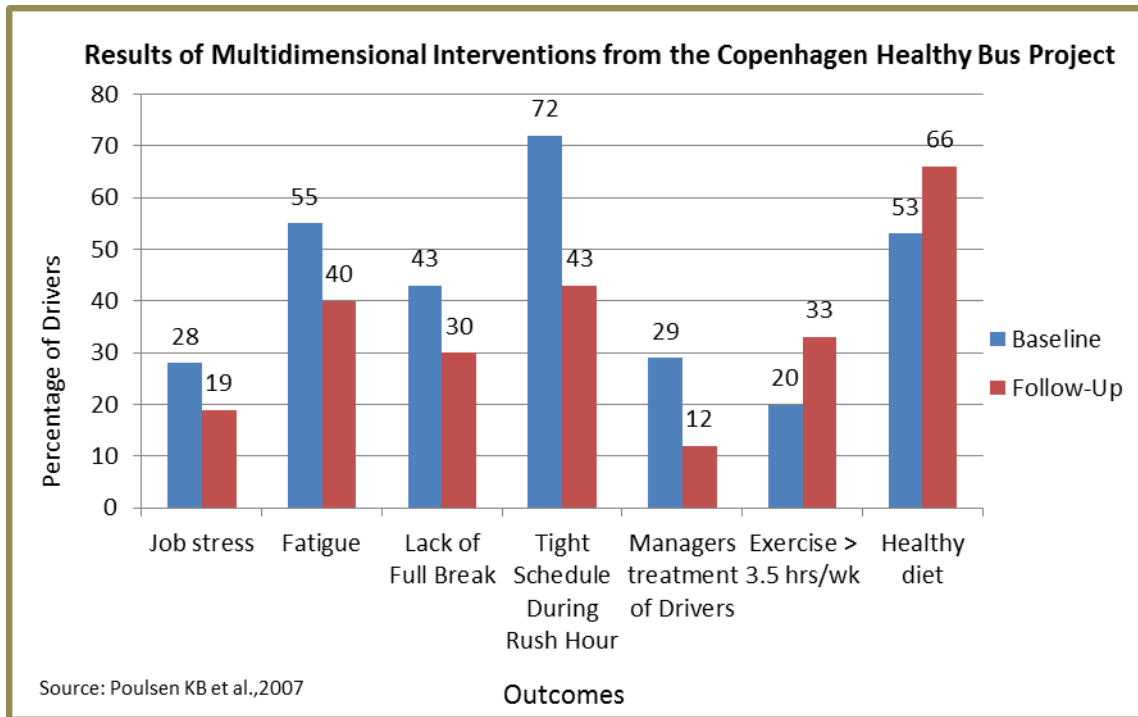
Success Story

The Copenhagen Healthy Bus Project (1999—2004) was an action research project that introduced more than 200 interventions to improve the health, well-being, and work environment of more than 3,000 Danish bus drivers in the greater Copenhagen area.[25] Drivers have consistently been shown to be at increased risk of heart disease, hypertension, cancer, and job stress due in part to the lack of control drivers have over their routes, schedules, and daily traffic. Because of the combination of physical and mental health risk factors found among this group of workers, researchers decided to test comprehensive interventions that would focus on four main domains: 1) lifestyle; 2) psychosocial factors (i.e., occupational stress); 3) the physical work environment; and 4) how work was organized in a large-scale intervention study. One of the main project goals was to identify how employers could influence job function and how to help companies provide the kinds of support that would reduce stress and chronic diseases.

A key component to the design of the interventions was in building relationships and trust among stakeholders. These included the driver and their union representatives, employers, and Copenhagen Traffic, that are responsible for the overall management of public bus services. Initially they all viewed health in terms of individual responsibility and tied primarily to lifestyle. Over time the concepts of how physical health, mental health, and the organizational work environment influence overall health moved the stakeholders into a stage of readiness to change the poor health outcomes among drivers that had persisted for 50 years and addressed comprehensively many health issues that are related at multiple levels—both individually and organizationally.

The worksite health interventions included—[26]

- Testing more flexible work schedules.
- Better communication between management and drivers.
- Smoking cessation program.
- Nutrition courses.
- Providing fresh fruit in each garage.

- Educating managers in personnel management and communication.
- Self-defense course.
- "Know your bus" physical work environment.
- More resources for bus preventive maintenance.
- Joint labor-management meetings.

4

The figure below shows how employees were able to see decreases in job stress and fatigue as well as increases in healthy lifestyle measures such as diet and exercise. In addition, the work environment positively changed with employee perceptions of their relationship to management improving and a decrease in the percentage of drivers who did not take their breaks. Over time, sustained improvement in these areas can lower drivers' risk for costly chronic disease and mental health disorders while improving the efficiency and profitability of the transportation industry in Denmark.

Results of Multidimensional Interventions from the Copenhagen Healthy Bus Project
Source: Poulsen KB et al.,2007

Resources

- CDC Workplace Health Promotion Depression (http://www.cdc.gov/workplacehealthpromotion/implementation/topics/depression.html)

- CDC Mental Health Overview (http://www.cdc.gov/mentalhealth/)

- National Institute for Occupational Safety and Health (NIOSH) Stress at Work (http://www.cdc.gov/niosh/topics/stress/)

- Substance Abuse and Mental Health Services Administration (SAMHSA) - Workplaces That Thrive: A Resource for Creating Mental Health-Friendly Work Environments by the Substance Abuse and Mental Health Services Administration (http://www.promoteacceptance.samhsa.gov/publications/business_resource.aspx)

- The Guide to Community Preventive Services Mental Health & Mental Illness (http://www.thecommunityguide.org/mentalhealth/index.html)

- American Heart Association Depression and Heart Health (http://www.heart.org/HEARTORG/Conditions/More/MyHeartandStrokeNews/Depression-and-Heart-Health_UCM_440444_Article.jsp)

- American Diabetes Association Mental Health (http://www.diabetes.org/living-with-diabetes/complications/mental-health/)

- Partnership for Workplace Mental Health (http://www.workplacementalhealth.org/Business-Case.aspx)

  - Depression Cost Calculator – (http://www.workplacementalhealth.org/Business-Case/Depression-Calculator.aspx)

  - Employer case studies (http://www.workplacementalhealth.org/Pages/EmployerInnovations/Search.aspx)

- National Alliance on Mental Illness (http://www.nami.org/)
.
- National Institute of Mental Health (http://www.nimh.nih.gov/index.shtml)

References

1. Centers for Disease Control and Prevention. *Chronic Diseases: the Power to Prevent, the Call to Control, At-a-Glance 2009*. Atlanta, GA: U.S. Department of Health and Human Services, 2009. http://www.cdc.gov/chronicdisease/resources/publications/aag/pdf/chronic.pdf.

2. Chapman DP, Perry GS, Strine TW. The vital link between chronic disease and depressive disorders. Prev Chronic Dis [serial online] 2005; 2(1). http://www.cdc.gov/pcd/issues/2005/jan/04_0066.htm. Accessed September 20, 2012.

3. Mayo Clinic. Mental Health Risk Factors Web Site. http://www.mayoclinic.com/health/mental-illness/DS01104/DSECTION=risk-factors. Accessed September 20, 2012.

4. World Health Organization. *Facing the Facts #1: Chronic Diseases and Their Common Risk Factors* http://www.who.int/chp/chronic_disease_report/media/Factsheet1.pdf. Accessed October 4, 2012.

5. Anderson G. *Chronic Care: Making the Case for Ongoing Care*. Princeton, NJ: Robert Wood Johnson Foundation; 2010. http://www.rwjf.org/content/dam/web-assets/2010/01/chronic-care. Accessed October 4, 2012.

6. Kessler RC, Chiu WT, Demler O, Walters EE. Prevalence, severity, and comorbidity of 12-month DSM-IV Disorders in the National Comorbidity Survey Replication. *Arch Gen Psych.* 2005;62:617-27.

7. 7.American Epilepsy Society; Centers for Disease Control and Prevention; Chronic Disease Directors; Epilepsy Foundation; National Association of Epilepsy Centers. *Living Well with Epilepsy II: Priorities for a Public Health Agenda on Epilepsy. Report of the National Conference on Public Health and Epilepsy, 2003*. Landover: Epilepsy Foundation; 2003. http://www.cdc.gov/epilepsy/pdfs/living_well_2003.pdf. Accessed September 20, 2012.

8. Daniels, EC. ABCD Community Health Worker Training Program. Presented at: Society for Public Health Education Meeting: November, 2009: Washington, DC.

9. American Heart Association. Depression and Heart Health Web Site; http://www.heart.org/HEARTORG/Conditions/More/MyHeartandStrokeNews/Depression-and-Heart-Health_UCM_440444_Article.jsp. Accessed September 21, 2012.

10. Lasser K, Boyd JW, Woolhandler S, Himmelstein DU, McCormick D, Bor DH. Smoking and mental illness: a population-based prevalence study. *JAMA.* 2000; 284(20):2606-10.

11. Wan JJ, Morabito DJ, Khaw L, Knudson MM, Dicker RA. Mental illness as an independent risk factor for unintentional injury and injury recidivism. *J Trauma.* 2006;61(6):1299-304.

12. Hiroeh U, Appleby L, Mortensen PB, Dunn G. Death by homicide, suicide and other unnatural causes in people with mental illness: a population-based study. *Lancet.* 2001;358(9299):2110-2.

13. Sorensen, G, Landsbergis, P, et al. Preventing chronic disease in the workplace: a workshop report and recommendations. *Am J of Public Health.* December 201;: 101(1):pp.196-207.

14. Soni, A. *The Five Most Costly Conditions, 1996 and 2006: Estimates for the U.S. Civilian Noninstitutionalized Population. Statistical Brief #248*. Rockville, MD: Agency for Healthcare Research and Quality; 2009. http://www.meps.ahrq.gov/mepsweb/data_files/publications/st248/stat248.pdf.

15. Kaye, H.S. *Employment and Social Participation Among People with Mental Health Disabilities*. San Francisco: CA: National Disability Statistics and Policy Forum; 2002.

16. Herz, RP, Baker, CL. *The Impact of Mental Disorders on Work, Pfizer Facts series, June 2002*. This report is an analysis of the National Comorbidity Survey data, 1990-1992, Institute for Social Research, University of Michigan, funded by the National Institute of Mental Health and the National Institute of Drug Abuse, and the W.T. Grant Foundation; 2002.

17. Pratt LA, Brody DJ. *Depression in the United States household population, 2005—2006*. Hyattsville: National Center for Health Statistics: NCHS Data Brief No. 7; 2008. http://www.cdc.gov/nchs/data/databriefs/db07.htm.

18. Valenstein M, Vijan S, Zeber JE, Boehm K, Buttar A. The cost-utility of screening for depression in primary care. *Ann Intern Med.* 2001; 134: 345-360.

19. Leopold RS. *A Year in the Life of a Million American Workers*. New York, New York: MetLife Disability Group; 2001.

20. Stewart WF, Ricci JA, Chee E, Hahn SR, Morganstein D. Cost of lost productive work time among US workers with depression. *JAMA*. 2003;289(23):3135-3144.

21. Claxton G, et.al. Employer health benefits annual survey. The Henry J. Kaiser Family Foundation Web site. www.kff.org. Accessed July 6, 2012.

22. Chapman LS. Presenteeism and its role in worksite health promotion. Am J Health Promot. 2005;19(4): suppl 1-8.

23. Substance Abuse and Mental Health Services Administration. *Workplaces That Thrive: A Resource for Creating Mental Health-Friendly Work Environments*. SAMHSA Pub. No. P040478M. Rockville, MD: Center for Mental Health Services, Substance Abuse and Mental Health Services Administration; 2004.

24. Centers for Disease Control and Prevention. *STRESS...At Work. National Institute for Occupational Safety and Health*. Cincinnati: NIOSH Publication No. 99-101; 1999.http://www.cdc.gov/niosh/docs/99-101/.

25. Poulsen KB. The Healthy Bus project in Denmark: need for an action potential assessment. *Health Promot Int.* 2004;19(2):205-13.

26. Poulsen KB, Jensen SH, Bach E, Schostak JF. Using action research to improve health and the work environment for 3500 municipal bus drivers. *Educational Action Research* 2007; 15(1): 75–106.