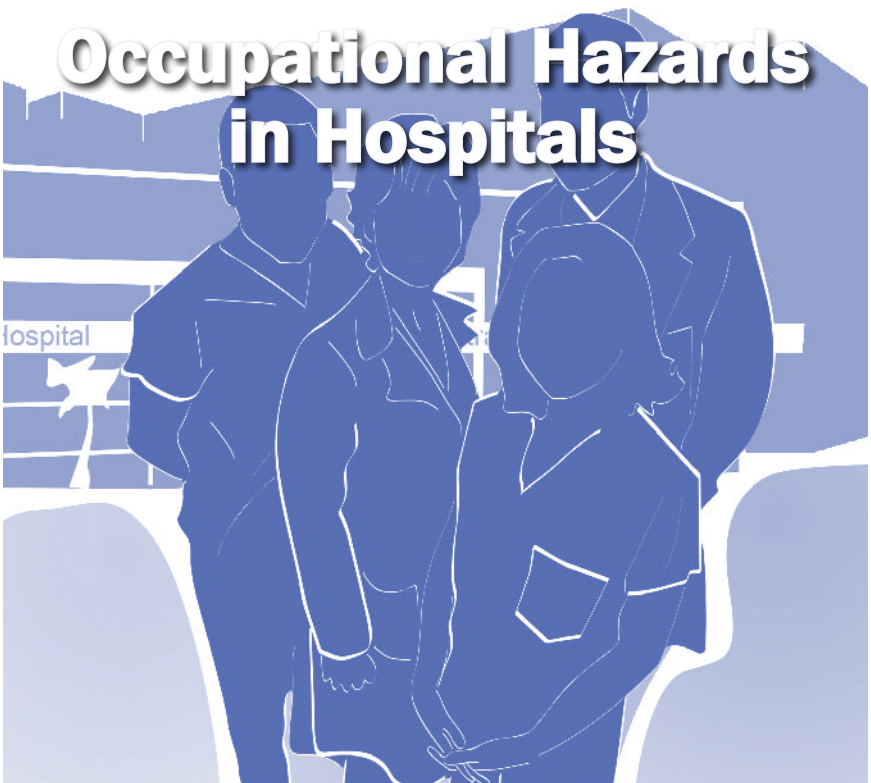




# EXPOSURE TO STRESS

## Occupational Hazards in Hospitals



DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Centers for Disease Control and Prevention  
National Institute for Occupational Safety and Health



**NIOSH**



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## Contents

Introduction . . . . .	1
What causes occupational stress? . . . . .	1
What are the potential adverse health effects of occupational stress? . . . . .	3
How can stress be controlled in the workplace? . . . .	4
Case reports . . . . .	7
Conclusions. . . . .	9
More information about occupational stress . . . . .	10



# Exposure to Stress

## Introduction

Occupational stress has been a long-standing concern of the health care industry. Studies indicate that health care workers have higher rates of substance abuse and suicide than other professions and elevated rates of depression and anxiety linked to job stress. In addition to psychological distress, other outcomes of job stress include burnout, absenteeism, employee intent to leave, reduced patient satisfaction, and diagnosis and treatment errors.

The purpose of this brochure is to

- identify the sources of occupational stress,
- identify the adverse health effects of occupational stress, and
- recommend work practices to reduce occupational stress.

## What causes occupational stress?

The National Institute for Occupational Safety and Health (NIOSH) defines occupational stress as “the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker.”

The following workplace factors (job stressors) can result in stress:

- Job or task demands (work overload, lack of task control, role ambiguity)

- Organizational factors (poor interpersonal relations, unfair management practices)
- Financial and economic factors
- Conflict between work and family roles and responsibilities
- Training and career development issues (lack of opportunity for growth or promotion)
- Poor organizational climate (lack of management commitment to core values, conflicting communication styles, etc.)

Stressors common in health care settings include the following:

- Inadequate staffing levels
- Long work hours
- Shift work
- Role ambiguity
- Exposure to infectious and hazardous substances

Stressors vary among health care occupations and even within occupations, depending on the task being performed.

In general, studies of nurses have found the following factors to be linked with stress:

- Work overload
- Time pressure
- Lack of social support at work (especially from supervisors, head nurses, and higher management)
- Exposure to infectious diseases
- Needlestick injuries
- Exposure to work-related violence or threats
- Sleep deprivation



- Role ambiguity and conflict
- Understaffing
- Career development issues
- Dealing with difficult or seriously ill patients

Among physicians, the following factors are associated with stress:

- Long hours
- Excessive workload
- Dealing with death and dying
- Interpersonal conflicts with other staff
- Patient expectations
- Threat of malpractice litigation


The quality of patient care provided by a hospital may also affect health care worker stress. Beliefs about whether the institution provides high quality care may influence the perceived stress of job pressures and workload because higher quality care maybe reflected in greater support and availability of resources.

## **What are the potential adverse health effects of occupational stress?**

Stress may be associated with the following types of reactions:

- Psychological (irritability, job dissatisfaction, depression)
- Behavioral (sleep problems, absenteeism)
- Physical (headache, upset stomach, changes in blood pressure)

An acute traumatic event could cause post traumatic stress disorder (PTSD). Not every traumatized person develops full-blown or even minor PTSD.



Although individual factors (such as coping strategies) and social resources can modify the reaction to occupational stressors to some degree, working conditions can play a major role in placing workers at risk for developing health problems.

## **How can stress be controlled in the workplace?**

As a general rule, actions to reduce job stress should give top priority to organizational changes that improve working conditions. But even the most conscientious efforts to improve working conditions are unlikely to eliminate stress completely for all workers. For this reason, a combination of organizational change and stress management is often the most successful approach for reducing stress at work.

### **Organizational Change Intervention**

The most effective way of reducing occupational stress is to eliminate the stressors by redesigning jobs or making organizational changes. Organizations should take the following measures:

- Ensure that the workload is in line with workers' capabilities and resources
- Clearly define workers' roles and responsibilities
- Give workers opportunities to participate in decisions and actions affecting their jobs
- Improve communication
- Reduce uncertainty about career development and future employment prospects
- Provide opportunities for social interaction among workers

The most commonly implemented organizational interventions in health care settings include

- team processes,
- multidisciplinary health care teams, and
- multi-component interventions.

**Team process** or worker participatory methods give workers opportunities to participate in decisions and actions affecting their jobs. Workers receive clear information about their tasks and role in the department. Team-based approaches to redesign patient care delivery systems or to provide care (e.g., team nursing), have been successful in improving job satisfaction and reducing turnover, absenteeism, and job stress.

**Multidisciplinary health care teams** (e.g., composed of doctors, nurses, managers, pharmacists, psychologists, etc.) have become increasingly common in acute, long-term, and primary care settings. Teams can accomplish the following:

- Allow services to be delivered efficiently, without sacrificing quality
- Save time (a team can perform activities concurrently that one worker would need to provide sequentially)
- Promote innovation by exchanging ideas
- Integrate and link information in ways that individuals cannot

**Multicomponent interventions** are broad-based and may include

- risk assessment,
- intervention techniques, and
- education.

Successful organizational stress interventions have several things in common:

- Involving workers at all stages of the intervention
- Providing workers with the authority to develop, implement, and evaluate the intervention
- Significant commitment from top management and buy-in from middle management
- An organizational culture that supports stress interventions
- Periodic evaluations of the stress intervention

Without these components (in particular, management support) it is not likely that the intervention will succeed.

## **Stress Management Intervention**

Occupational stress interventions can focus either on organizational change or the worker. Worker-focused interventions often consist of stress management techniques such as the following:

- Training in coping strategies
- Progressive relaxation
- Biofeedback
- Cognitive-behavioral techniques
- Time management
- Interpersonal skills

Another type of intervention that has shown promise for reducing stress among health care workers is innovative coping, or the development and application by workers of strategies like changes in work methods or skill development to reduce excessive demands.

The goal of these techniques is to help the worker deal more effectively with occupational stress. Worker-focused interventions have been the most common form of stress reduction in U.S. workplaces. Although worker interventions can help workers deal with stress more effectively, they do not remove the sources of workplace stress, and thus may lose effectiveness over time.

Mental health support intervention may be needed in the event of a significant event at a health care organization [see Case 2].

## Case Reports

### Case 1

Researchers evaluated a participative intervention program at an acute care hospital [Bourbonnais et. al 2006]. A baseline (initial) risk evaluation was conducted at an acute care “experimental” hospital and a similar size acute care “control” hospital using a 30 minute telephone interview with employees to obtain answers pertaining to psychological demands, reward at work, social support, psychological distress, burnout and sleeping problems. Similar stress indices were measured at both the experimental and control hospitals.

A participative intervention program was then implemented at the experimental hospital. This program used a participative problem solving process including an intervention team of employees led by an external moderator. The intervention team held regularly scheduled meetings over several months to identify adverse working conditions and recommended solutions ranked according to

priority and feasibility. Hospital management assisted the intervention team with implementation of several of the recommendations.

One year after the intervention, the telephone survey was repeated at both hospitals and there was a significant reduction in sleeping problems and work-related burnout in the hospital with the intervention team versus the control hospital.

## **Case 2**

The 2003 outbreak of Severe Acute Respiratory Syndrome (SARS) in Hong Kong, Singapore, and Toronto, Canada led to psychological impacts and increased stress in the health care profession. In Toronto, 43% of the cases were health care workers; 3 of the infected workers died. The SARS outbreak substantially changed working conditions and the perception of personal danger. In Toronto, modifications of infection control procedures and public health recommendations changed day to day, increasing uncertainty. Outpatient clinics were closed, surgeries cancelled, nonessential staff told to stay home, use of masks, gloves, and gowns were mandatory, and thousands of people were quarantined. Interpersonal isolation was high as staff members were discouraged from interacting with colleagues outside of the hospital, staff meetings were cancelled, and eating and drinking, which require removing a face mask, were done alone or outside the hospital.

The infected and quarantined health care workers

- experienced interpersonal isolation,
- expressed concern about the infectious risk to staff caring for them,
- expressed fear about the potential lethality of the illness, and

- expressed anger because their risk of infectious exposure had not been recognized earlier.

Medical residents working during the SARS outbreak at a teaching hospital expressed anxiety over

- variability of available information,
- perceived poor communications, and
- the balance between personal safety and duty-to-care.

Health care workers who experience a significant event such as SARS, will benefit from timely communication of relevant information. Efforts to overcome interpersonal isolation should include effective risk communications using emails, Web sites, and video and audio conferencing.

## Conclusions

Health care occupations have long been known to be highly stressful and associated with higher rates of psychological distress than many other occupations. Health care workers are exposed to a number of stressors, ranging from work overload, time pressures, and lack of role clarity to dealing with infectious diseases and difficult and ill, helpless patients. Such stressors can lead to physical and psychological symptoms, absenteeism, turnover, and medical errors. However, the literature points to both organizational and worker-focused interventions that can successfully reduce stress among health care workers. Although organizational interventions (because they address the sources of stress) are preferred, interventions that combine worker and organizational components may have the broadest appeal as they provide both long-term prevention and short-term treatment components.

## More Information about Occupational Stress

- Visit the NIOSH Job Stress topic page: [www.cdc.gov/niosh/topics/stress/](http://www.cdc.gov/niosh/topics/stress/)
- To locate a psychologist or consultant in your area, visit the American Psychological Association Web site: [www.apahelpcenter.org/](http://www.apahelpcenter.org/) or phone 1-800-964-2000
- For more information about post traumatic stress syndrome, visit the National Institute of Mental Health Web site: [www.nimh.nih.gov/health/topics](http://www.nimh.nih.gov/health/topics)

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National Institute for Occupational Safety and Health  
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