Occupational Health Management™

A monthly advisory for occupational health programs

AHC Media LLC

INSIDE

■ Light duty gaining acceptance as plus for workers, employers 52

■ Small, significant changes can lessen layoff stress to the heart 53

■ OSHA nears final rule on employer-provided protective equipment 54

■ NIOSH advocates designing prevention into sites 56

■ Study: Too much overtime risky, but prior health woes are worse 56

■ Largest U.S. insurer's bonuses depend on members' health 57

■ Drug-resistant TB poses new threat to health workers . . . 58

Statement of Financial Disclosure: Allison Mechem Weaver (Editor), Coles McKagen (Associate Publisher), Joy Dickinson (Senior Managing), and Deborah V. DiBenedetto (Nurse Planner) report no consultant, stockholder, speaker's bureau, research, or other financial relationships with companies having ties to this field of study.

MAY 2007
VOL. 17, NO. 5 • (pages 49-60)

Downsizing and layoffs affect health, safety of those who stay

Occ health manager knows firsthand effects of cutbacks

Tamara Blow knows firsthand the stressful effects downsizing can have on workers who escape the layoffs and keep their jobs. "I've seen it; it's happening to me right now," says Blow, MSA, RN, COHN-S/CM, CBN, occupational health manager at a manufacturing site in Virginia that employs more than 6,000 people. Blow, who requested that her company name not be used, recently learned that her site's former medical director will not be replaced, so she and her staff will be taking up the slack.

Research and experience have shown that the threat of layoffs, and the related long workdays, not only take a mental toll on those effected, but they also can lead to deteriorating health and increased safety risks. Blow has seen this impact in her own work group and in other departments where layoffs have occurred or were anticipated. "Especially in salaried employees, I see a high degree of depression" when downsizing threats arise, says Blow.

Since the downsizing trend emerged in the 1980s, she has seen employees increase their rate of occupational injury. "Whether it's because they're distracted or depressed, they get injured," Blow says. There are a significant number of lacerations, for example, when layoffs are occurring, she says. Also, employees take care of everything that's bothering them physically, but they don't address the mental stress, Blow says. "Those who are left behind are faced with doing more with less, and that creates mental stress,"

EXECUTIVE SUMMARY

Employees who keep their jobs after a layoff suffer work-related stress from the loss of co-workers, added workload, and feeling their own jobs are not secure.

- Employees who remain at work are at risk for depression.
- Workers who keep their jobs after layoffs report more safety violations and near-miss incidents.
- Occupational health's role is to keep employees educated about the effects of employment changes on their health and communicate with management to keep employers informed about the health impact of business decisions.

she says.

Data supports that observation, says researcher **Mika Kivimaki**, PhD, of the Epidemiology and Public Health Department at the University College London (UK). "Employees who remained in work after downsizing may be at increased risk of being prescribed psychotropic drugs," Kivimaki notes. "In other words, enforced [layoffs] may boost mental health problems among those who keep their jobs," he explains. Kivimaki and colleagues published a study on the effects of layoffs on the workers left behind in the January 2007 Journal of Epidemiology and Community Health.[1]

Stress over jobs leads to safety risks

Work psychologists at the Washington State University examined 237 employees in two food-processing plants, assessing attitudinal outcomes such as job satisfaction, employee knowledge regarding appropriate safety behaviors, and employee motivation to comply with organizational safety policies, in conjunction with self-reported safety violations, on-the-job accidents, and workplace injuries.

In one plant, an entire shift had been laid off, and focus-group interviews showed employees expected the plant to be entirely phased out. In the other, the swing shift was being eliminated in favor of a night shift, and employees who could not make the change were expected to lose their jobs. Overall plant production was expected to remain the same in both facilities, however.

The workers first responded to survey instruments immediately after the shift changes and layoffs were announced, and then again six months later. The results were disconcerting for professionals concerned with employee safety. "This study produced important initial evidence that job security is related to meaningful safety outcome measures, such as safety knowledge, safety motivation, and to reported compliance with safety policy," noted lead author **Tahira M. Probst**, PhD.[2] "The thing that really struck me the most was the relationship between being dissatisfied with your job security and how that affected your levels of safety policy knowledge — and your motivation to comply," says Probst, assistant professor of psychology at Washington State University in Vancouver. "That was the biggest contribution of this study: showing the direct relationship." This study, she notes, was the first to link together perceptions of security and these outcomes.

Blow says layoff-related anxiety affects different employees in different ways, and the occupational health manager should be as prepared as possible for the various outcomes. "You have that 20% who seem that they will always be high performers, no matter what, and can do more with less," she says. "But the other 70-80% of the worker population gets a lot of stress-related illnesses, depression."

Gender and ethnic background also seem to be factors in how employees respond to layoffs and how much of a safety impact they have, Blow says. "Women will admit to depression more readily than men will," she says. Being a woman also seems to contribute to how much the layoffs will affect them, Blow says. "Women feel that they are at a disadvantage in corporate America and believe that when layoffs come up, they will either be the first to go in a downsizing or that if they stay, they will have more work put on them and won't be compensated equally for it," she says. "And I can speak to that personally."

Occupational Health Management™ (ISSN# 1082-5339) is published monthly by AHC Media LLC, 3525 Piedmont Road, Building Six, Piedmont Center, Suite 400, Atlanta, GA 30305. Telephone: (404) 262-7436. Periodical postage paid at Atlanta, GA 30304. POSTMASTER: Send address changes to **Occupational Health Management**™, P.O. Box 740059, Atlanta, GA 30374.

AHC Media LLC is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation.

This activity has been approved for 15 nursing contact hours using a 60-minute contact hour.

Provider approved by the California Board of Registered Nursing, Provider #14749, for 15 Contact Hours.

This activity is intended for occupational nurses, occupational health managers and directors. It is in effect for 36 months from the date of publication.

Opinions expressed are not necessarily those of this publication. Mention of products or services does not constitute endorsement. Clinical, legal, tax, and other comments are offered for general guidance only; professional counsel should be sought for specific situations.

Subscriber Information

Customer Service: (800) 688-2421 or fax (800) 284-3291, (customer service@ahcmedia.com). Hours: 8:30-6:00 M-Th; 8:30-4:30 F.

Subscription rates: U.S.A., one year (12 issues), $489. Add $9.95 for shipping & handling. Outside U.S., add $30 per year, total prepaid in U.S. funds. Discounts are available for group subscriptions. For pricing information, call Tria Kreutzer at (404) 262-5482. Missing issues will be fulfilled by customer service free of charge when contacted within one month of the missing issue date. **Back issues**, when available, are $82 each. (GST registration number R128870672.)

Editor: **Allison Mechem Weaver.**
Senior Vice President/Group Publisher: **Brenda Mooney**, (404) 262-5403, (brenda.mooney@ahcmedia.com).
Associate Publisher: **Coles McKagen**, (404) 262-5420, (coles.mckagen@ahcmedia.com).
Senior Managing Editor: **Joy Dickinson**, (229) 551-9195, (joy.dickinson@ahcmedia.com).
Production Editor: **Ami Sutaria**.

Editorial Questions

For questions or comments, call **Leslin Hamlin** at (404) 262-5416.

An employee at Blow's worksite who was not downsized but was feeling the stress of staff reductions around her did not acknowledge the symptoms until they became physical and very serious, she says. The woman, who is African American, began feeling depression, recalls Blow, who is African American. Among African Americans, mental illness is a stigma, she says. "So her productivity was declining, but she didn't say anything until finally she had physical manifestations," Blow says. "Her kidneys were shot, and she had cardiac symptoms, and then she felt that she could say something because it was physical, not mental, by that time."

Blow has seen her own department shrink over the years as the result of mergers and downsizing, and she points out that even among employee health professionals who are trained to spot and help remedy job-related stress in others, the effect was noticeable. "You begin to feel isolated and divided, and the stages of change and stress can show up visually — people walk differently, almost like zombies, and there's a lot of anger, and errors start being made that weren't there before," she says.

A swift, proactive response is crucial, she points out. "I sat down with them and told them that they are valued, that their decisions and input matter, and that I would do whatever I could to make sure changes were communicated to them as soon as I knew of them," Blow recounts. "There is a strong correlation between feeling valued and part of a team, and job performance and safety." Blow says that morale improved after she communicated to her staff that she would keep them in the communications loop, but that any department manager needs to be attuned to the effects job insecurity can have on production and in safety and error rates. **(See "Use business skills to help management focus on employees," p. 52)**

Kivimaki says his previous research on municipal organizations showed that in downsized groups, cuts resulted in greater levels of job demands and job insecurity, along with declines in perceived job control, in those workers remaining.[3] "We have previously also shown organizational downsizing to be a strong predictor of stress-related physical health outcomes, including cardiovascular mortality," he adds.[4]

Besides increased risks of illness, Probst says her surveys demonstrated that the added pressure to perform can lead to safety compromises. It is possible, Probst wrote, that employees who have to juggle competing job demands of production, quality, and safety may feel pressured to cut safety corners to keep their production numbers up, especially if they fear losing their job and are not actively rewarded for safe behavior. "These results suggest that organizations not only need to consider the effects that employee job insecurity has on the job satisfaction, health, and turnover intentions of employees, but also need to consider the possibility that job insecurity can have potentially dangerous implications for employee safety attitudes and behaviors," she noted.[2]

Keep an eye on increased sick time

If your workplace is anticipating layoffs —- or cutbacks have already taken place — monitor sick time and leaves taken under the Family and Medical Leave Act (FMLA) as a marker of worker health, Blow suggests.

Especially in her hourly employees, Blow sees a marked increase in FMLA usage. "Also look for, especially, increased complaints related to cardiac and back pain, migraines, and re-emergence of chronic diseases that might have been in remission, such as lupus," she says. "I have seen a strong correlation between job stress and chronic illnesses coming back."

References

1. Kivimaki M, Honkonen T, Wahlbeck K, et al. Organisational downsizing and increased use of psychotropic drugs among employees who remain in employment. *J Epidemiol Community Health* 2007; 61:154-158.

2. Probst TM, Brubaker TL. The effects of job insecurity on employee safety outcomes: Cross-sectional and longitudinal explorations. *J Occupational Health Psych* 2001; 6:139-159.

3. Kivimaki M, Vahtera J, Elovainio M, et al. Human costs of organizational downsizing: Comparing health trends between leavers and stayers. *Am J Community Psychol* 2003; 32:57-67.

4. Kivimaki M, Virtanen M, Elovainio M, et al. Work stress in the etiology of coronary heart disease — A meta-analysis. *Scand J Work Environ Health* 2006; 32:431-442. ■

SOURCE

For more information, contact:

• **Tamara Y. Blow**, MSA, RN, COHN-S/CM, CBN, Occupational Health Services Manager, Richmond, VA. Phone: (804) 274-5805. E-mail: Tamara.Y.Blow@pmusa.com.

Light duty gaining acceptance for workers

Tailoring light duty to job, employee aids success

EXECUTIVE SUMMARY

Employers and workers are more accepting than in the past of light duty as a positive means of getting a sick or injured worker back to work, occupational health managers say. To make light duty a "plus" at your worksite, they suggest:

- Before assigning alternate work, look at the employee's regular job and see if components of it still can be performed while the worker is on restricted status.
- Sit down with the employee and make the employee, supervisor, and nurse understand the worker's limitations and capabilities.
- If the employee can't perform the regular job, consider an assignment to a different department. By doing that, the employee doesn't feel guilty for not carrying out his or her usual duties, and the other department gets extra help.

When an employee at your facility reports back after an injury or illness with a physician's order for "light duty" in hand, is the prescription a guide to what the employee can do, what he or she can't do, or a chance to look at the employee's ability to contribute in a new way?

Denise Zoe Gillen, RN, BSN, MBA, COHN-S/CM, practice leader in integrated health and productivity management for Mendham, NJ-based Risk Navigation Group, subscribes to the last approach.

"Now we oftentimes use 'transitional' or 'alternate duty' instead of 'light duty,' because to say they are assigned to 'transitional duty' means they are in transition — that what they are doing is not 'light' work, but is an assignment made so they don't have to do tasks they're not physically capable of doing," she says.

When the employee is a nurse, Gillen says she first looks at the nurse's regular job, to see if it can be broken down into components and a new, less physically demanding version created from the individual parts. "If you break down the tasks of their job, then you can say, 'they can maybe only lift 10 to 20% of what they ordinarily can, but they can do all the other components of their job,'" Gillen explains.

That type of change means a floor nurse's ability to do her regular duties is going to be much more affected by limitations on lifting than a nurse who works in the neonatal intensive care unit (NICU), for example. "You always have to consider the employer and the setting when an employee returns on light duty," she says. "So even if a nurse has limits on what they can lift, a

Use business skills to help management focus on workers

Good business skills, as well as good clinical skills, are valuable for occupational health leaders when a company is in flux, says **Tamara Blow**, MSA, RN, COHN-S/CM, CBN, occupational health manager at a manufacturing site in Virginia that employs more than 6,000 people.

"If you have a good relationship with management, and you have data and statistics that you can use to articulate the hidden costs that downsizing has on employees, that is a wonderful thing to be able to use to work with management before downsizing takes place," Blow says. A lot of employers may find that they have downsized departments and not saved money, she says. The reason? "Because of the severance they pay to the laid off employees, the cost of overtime and outsourcing to continue the production at the levels before the layoffs, and because a lot of times they have to maintain the same amount of infrastructure to keep production going," Blow says.

Occupational health managers who are involved in management decisions can act ahead of time to bring in employee assistance providers before downsizing takes place, rather than afterward for crisis management, which not only gives employees time to prepare and adjust, but sends the message to all employees that the company cares about what happens to them and that their welfare is not being overlooked.

"What occupational health managers have to do is to partner with management and show them why they need to trust us with this information ahead of time, and communicate with us for better outcomes," Blow explains. "It encourages morale and pays off for the employer if the company shows they acknowledge the stress involved and the value of the work/life balance." **(See steps to lessen stress on employee hearts, p. 53.)**

Small, significant changes can cut layoff stress to heart

If layoffs are looming at your workplace, there are steps you can take to help reduce the affect the stressful atmosphere has on employees' hearts, according to a year-long study of workers at DuPont Corp.[1]

Stress management programs offered at companies where workers faced layoffs achieved "small but significant" changes in heart rate variability as well as decreases in arterial blood pressure, according to a report in the February 2007 *Hypertension: Journal of the American Heart Association.*

After participating in the year-long stress management program, office workers at a DuPont Corp. subsidiary in Milan, Italy, that was downsizing its workforce by 10% achieved lower stress scores than they had before beginning the stress management program. "And we were able to achieve these results in a working environment, without impinging on productivity, and with zero cost to the company," according to **Massimo Pagani**, MD, a senior author of the study and professor of medicine at the University of Milan. "By addressing stress at work, where stress occurs, rather than in a clinic, we may be able to prevent these workers from becoming patients."

Workers facing layoffs were compared to a control group of 79 healthy volunteers who worked outside of the company and reported no work-related stress. Electrocardiograms and tests of nervous responses demonstrated that, as expected, workers facing layoffs were feeling more stress and their heart rhythm was showing signs of that stress.

After baseline assessment, workers were offered the chance to take part in weekly, one-hour stress management sessions or to be part of a less aggressive education program that included articles and e-mails about stress management, along with services from the company's medical department. The weekly stress management sessions focused on mental relaxation techniques as well as cognitive restructuring exercises and coping skills to face life stressors, including work-related stress.

After a year, Pagani reported, "the stress management program induced a significant, small reduction in arterial pressure, and clear changes in ECG derived stress indices. Our study provides a potential model for the assessment of work-related stress at an individual level and suggests that stress management programs can be implemented at the worksite."

Reference

1. Lucini D, Riva S, Pizzinelli P, et al. Stress manageat the worksite: Reversal of symptoms profile and cardiovascular dysregulation. *Hypertension* 2007; 49:291-297.

NICU nurse is not going to be lifting 50 or 100 pounds," and so limits on lifting would not necessarily be a factor in whether or not that nurse could return to his or her original assignment.

What's 'light' depends on job, employee

The scenario Gillen describes — an employee returning to work to his or her same job, but doing only the parts of it that he or she is capable of — is what the U.S. Department of Labor refers to as "limited duty" in its workers' compensation laws. Many employers use the terms "light duty," "limited duty," "modified duty," or "transitional duty" interchangeably, while others apply one — usually limited duty — to employees returning from a job-related injury or illness, and another — light duty — to employees returning from a non-work-related condition.

The Department of Labor says limited duty includes duties and responsibilities that are part of an employee's regular position and that meet the employee's work capabilities as determined by his or her doctor. Light duty includes responsibilities and duties that are outside the employee's regular job description but that meet the work capabilities set out by the physician.

But the real meaning of light or limited duty is determined by the employee's regular job. What is light duty for one person might be heavy work for another, depending on the job, setting, and physical limitations, Gillen points out. "Depending on the employer, it's a good idea to develop job tasks by position ahead of time, so if you're in health care, for example, break down the job tasks of your nurses by where they work and what their duties are," she says.

Judy Van Houten, RN, COHN-S, CCM, manager of occupational medicine services at Glendale (CA) Adventist Medical Center, says the occupational health nurse "has to wear two hats" when working with employees returning on light duty. "I'm looking at it from a clinical point of view," she explains. "I have to give the employer or the supervisor the restrictions, and at the same time tell the employee what he or she can or can't do."

The light-duty prescription can be taken as a positive, as in "this is what this employee CAN do," but most often is taken as its negative meaning: "This is what this employee CANNOT do," she says

Being comfortable with light duty and understanding what it means can be different things. Often, supervisors — or the employees themselves -- might have incorrect ideas about what light duty is and is not. "There are often differing perceptions of what the employee's restrictions and limitations are, and there's often a difference between what the restricted person thinks they can do or not do, what the job demands are, and what the employer's expectations are," says Van Houten.

Gillen says the occupational health nurse or case manager can help clarify those distinctions. "The case manager or occupational health nurse's job is to explain the role of the nurse as well as what everything means and to let the employee know that when the doctor puts you on light duty, it doesn't mean you can't work, but it does mean we don't want you to do too much and thereby limit your recovery time," says Gillen. The idea is to help the employee not only become functional at work again, but also to be functional at home, she adds.

Typically at Glendale Adventist, Van Houten says, nurses who return to work on limited duty are placed in a different are of the hospital until they are ready to go back to their regular jobs. "The method to the madness is in a couple of things," she explains. "If they are in a different department and not their home department, the employee is not burdened with the guilt of feeling like they are not doing their jobs and are not a member of the team." The second part is that it becomes a positive for the department where the employee is temporarily assigned, because they get an extra set of hands for free, Van Houten says. Pay for light duty comes out of a separate cost center for modified duty and transitional work, so neither department carries the expense of paying the employee's salary.

Finally, while it makes financial sense in most cases for the employer to find light duty for an injured worker to return to, and occupational health experts say recovery is hastened when workers can get back to work, providing light duty to employees is not something employers are required to do.

But light duty doesn't have to feel like a bad thing to the employer or employee. "Light duty has gained a lot more acceptance from the supervisors' and employers' points of view," Van Houten says. "There are fewer and fewer employers who, when they get a [light duty note] from the doctor, throw up their hands and say to the employee, 'Don't come back until you're 100%!' More of them are OK with limited duty, and more employees are OK with doing limited duty." ■

SOURCES

For more information on approaches to light duty, contact:

• **Denise Zoe Gillen**, RN, BSN, MBA, COHN-S/CM, Practice Leader, Integrated Health and Productivity Management, Risk Navigation Group, 10729 Malaguena Lane NE, Albuquerque NM 87111. Phone: (505) 833-1543. Email: dgillen@risknavigation.com.

• **Judy Van Houten**, RN, COHN-S, CCM, Manager, Occupational Medicine Services, Glendale Adventist Medical Center, Glendale, CA. Email: vanhouja@ah.org.

Final rule near on PPE provided by employer

Occ health urges prevention before equipment

A Department of Labor rule that would require employers to pay for certain personal protection equipment (PPE) will become a final Occupational Safety and Health Administration (OSHA) rule by November.

The rule proposed 10 years ago has been needed to clarify who will supply necessary safety equipment to workers in industries that put them at different worksites, according to **Susan Randolph**, MSN, RN, COHN-S, FAAOHN, clinical instructor of occupational health nursing at the University of North Carolina at Chapel Hill and past president of the American Association of Occupational Health Nursing (AAOHN).

Randolph explains that whereas workers who are at a fixed site generally have PPE supplied by their employers, people who move from site to site often are expected to provide their own PPE. They, along with workers in the meatpacking, poultry, and construction industries and groups that are historically most vulnerable to injury, such as low-wage and immigrant workers, are expected to especially benefit from the rule.

EXECUTIVE SUMMARY

Ten years after it was announced, a final rule is expected by November 2007 addressing employers' responsibilities to provide personal protective equipment (PPE) for employees.

- The rule is expected to especially benefit workers who move from site to site, as well as those in the meatpacking, poultry, and construction industries and groups who historically are most vulnerable to injury such as low-wage and immigrant workers, all of whom might be expected to provide their own PPE.
- PPE included in the rule as being covered by employers include respirators, chemical-resistant clothing, metal mesh gloves, lifelines, lanyards, safety glasses, and face shields -- all important, according to the American Association of Occupational Health Nurses, but no substitute for preventive measures that can eliminate or reduce the need for PPE.

Debate over who would pay for the equipment and what equipment would fall under the rule resulted in the rule languishing for 10 years after it was first announced by OSHA in 1997. "If an employee works for several different companies, and if I am employer number one, do I want to pay for equipment that that employee is going to use at employer number two? I can see how that would be a sticking point," Randolph concedes.

Of equal concern to occupational health nurses, she says, would be establishing how the PPE — regardless of who is paying for it — is monitored for wear and proper use. "If there is the expectation that the employee is going to bring his or her own PPE, who is making sure it's an appropriate PPE? That's the whole piece — making sure it's appropriate, to protect against the hazard, and that it's being maintained," she adds. "Someone needs to be making sure that equipment is in good shape, that it's being used correctly, and that it's being inspected."

Lawsuit forced OSHA action

The announcement that OSHA would finalize the PPE rule came just weeks after the AFL-CIO and the United Food and Commercial Workers unions filed suit against the Department of Labor for failing to finalize the rule. The U.S. Court of Appeals for the District of Columbia ordered the Bush administration in February to respond to the suit within 30 days. Instead, Labor Secretary Elaine Chao asked the court to postpone acting on the suit and announced the rule would be made final no later than November.

"This rulemaking has taken far too long," said AFL-CIO President John Sweeney in a prepared statement. PPE included in the rule as being covered by employers include respirators, chemical-resistant clothing, metal mesh gloves, lifelines, lanyards, safety glasses, and face shields — all important safety equipment, Randolph agrees, but to an occupational health nurse, PPE should be workers' last line of defense against injury and exposure.

AAOHN provided input during the comment period after OSHA proposed the rule in 1999, in which it supported the rule requiring employers to provide PPE, but Randolph expressed concern that PPE might lead to less emphasis on prevention. "The need for PPE is identified based on the hazard, but ideally you minimize the hazard through other means and use the PPE as a last resort," she says. "You want to engineer out the hazards and eliminate them, so you're eliminating the need for an employee to do something like wear PPE."

That's not always possible, Randolph concedes. "So sometimes PPE is required to protect the worker from hazards, and in that case, to protect the worker, the company should provide it," she says. "And a lot of [data on when and where PPE is required] is specified in standards — respiratory, hearing, and pathogen standards that set out what is needed to protect employees from getting injured or hurt doing the job."

For every job there needs to be a hazard assessment, Randolph points out, and PPE matched to the hazards identified. "Along with that there has to be [provisions for] care and maintenance of the PPE, education for employees about why they have to wear it and how to wear it correctly," she adds. "There needs to be observation, whether it's the occupational health nurse doing walkthroughs

SOURCE

For more information on the final rule, contact:

• **Susan A. Randolph**, MSN, RN, COHN-S, FAAOHN, Clinical Instructor, Occupational Health Nursing Program, University of North Carolina at Chapel Hill, 1700 Airport Road, CB 7502, Room 337, Chapel Hill, NC 27599-7502. Phone: (919) 966-0979. Email: susan.randolph@unc.edu.

or a supervisor checking to make sure that if people aren't doing what they are supposed to [to protect themselves], that they are reminded."

[Editor's note: To read the proposed Occupational Safety and Health Administration (OSHA) rule on employer provided personal protective equipment, go to www.osha.gov. At A-Z Site Index, click on "P," then on "Personal Protective Equipment (PPE)." Click "What OSHA Standards Apply?" Under "Federal Registers," Click on "Employer Payment for Personal Protective Equipment. Notice 69:41221-41225, (2004, July 8)"] ■

NIOSH advocates designing prevention into processes

Initiative draws on health care, employers, designers

Bringing occupational safety and health into the initial design of workplaces, equipment, and processes is the goal of a proposed national strategy to create "Prevention through Design" (PtD).

While **John Howard**, MD, MPH, JD, LLM, director of the Washington, DC-based National Institute for Occupational Safety and Health (NIOSH), announced the PtD initiative in late 2006, he recently described the idea behind "designing prevention." "PtD means investing that ounce of prevention by incorporating occupational health and safety up front in designing the features and contents of a workplace," Howard said in prepared remarks announcing an upcoming roundtable on the initiative. **(See resource box, below)** "It means saving a pound of cure through smart planning in the very early design phase to prevent or minimize work-related hazards associated with the construction, manufacture, use, maintenance, and disposal of facilities, material, and equipment."

NIOSH has joined with the American Society of Safety Engineers, the Center to Protect Workers' Rights, the National Safety Council, the Occupational Safety and Health Administration, and human resources organizations to form the PtD National Initiative. The goal is to bring together engineers, architects, and other designers with employers, the worker community, government agencies, occupational safety and health professionals, insurers, and others to develop a national strategy and to identify achievable endpoints.

Occupational health and safety professionals have long known that it's better, easier, and cheaper to make a process or worksite safer at the start than it is to fix it after safety issues crop up. Unfortunately, safety issues sometimes aren't known until a process is online or a site is up and running, and what's learned from those issues is not incorporated into design until the next generation of equipment. The premise of the PtD initiative is that investing in research to evaluate the human-factor components will pay off in safer and improved designs that are more compatible with human capacities, according to NIOSH.

The PtD initiative is an attempt to apply what we know about safety and health at the earliest design stage, to make an informed effort, and to seek expert input at the design stage before it is put into use, Howard explained. "Little concentrated emphasis has been focused on this part of the hierarchy of prevention at the national level," he says. "There's a growing knowledge base, a number of experts, a range of tools, and a market-driven demand for mainstreaming prevention-through-design into normal practice for many, if not all, industry sectors." ■

RESOURCE

The National Institute for Occupational Safety and Health (NIOSH) is hosting a PtD workshop July 9-11, 2007, at its headquarters in Washington, DC, bringing together more than 300 leaders from all stakeholders in the initiative. For information on the workshop, go to the NIOSH web site, www.cdc.gov/NIOSH. Click on "Conferences," then scroll down to July 9. Contact Richard Rinehart at NIOSH for more information about the conference and PtD; E-mail: RRinehart@cdc.gov.

Too much overtime risky, prior health woes are worse

Long workdays alone as harmful as believed?

Working extended overtime hours for a long period of time has been shown to increase health and safety risks, but an occupational medicine study indicates that factors such as previous health problems carry a much greater risk to workers' health.

Employee health and productivity consultant **Harris Allen Jr.**, PhD, of the Harris Allen Group, a Brookline, MA-based group that conducts research on measuring and managing the public's experiences, viewpoints, and behaviors on health, health care, productivity, and safety issues. Allen says the results of his sampling of 2,800 workers indicates the assumption that each hour of work above 40 hours a week increases health and safety risks may only be partly right.[1]

"In fact, no adverse effects were found until the 60-hour-per-week mark," says Allen. "Even then, the effects were limited to an increased risk of workers' compensation episodes for hourly female employees with a history of workers' comp episodes, and to an increased risk of new musculoskeletal diagnoses for older workers."

Allen says his study raises doubts about across-the-board restrictions on work hours and suggests that in some cases such directives sacrifice productivity and competitiveness unnecessarily.

Using a database of information on a sample of workers at a heavy manufacturer, Allen and his colleagues analyzed the effects of work hours on health, safety, and productivity outcomes. At the time of the study, the company had a policy of strongly encouraging but not mandating overtime, resulting in an employee average of more than 43 work hours per week.

In Allen's findings, while some employees working 60 or more hours posted a higher rate of injuries and other health problems, those with other job and demographic characteristics working 60 or more hours per week did not show the added risk. Nor did employees working more moderate overtime (48 to 59 hours) face more risk, regardless of their job and demographic characteristics.

The researchers said overtime was unrelated to presenteeism, when employees are at work but performing at diminished levels.

The biggest factors in employee performance, health, and safety were ones that existed before the employees clocked overtime hours: pay and other benefits, demographics, and prior health and disease status. According to William B. Bunn III, MD, a co-author of the report Allen's group prepared on their findings,[1] "Although work hours are a factor, they should be considered alongside previous health and other factors that comprise the larger context within which employee health, productivity, and safety outcomes are determined. On both the research and policy fronts, more emphasis needs to be focused on prior health and other antecedents to the number of hours worked that better predict employee safety, lost productivity, and future health."

Reference

1. Allen HM Jr., Slavin T, Bunn WB III. Do long workhours impact health, safety, and productivity at a heavy manufacturer? *J Occup Environ Med* 2007; 49:148-171. ■

Largest U.S. insurer's bonuses depend on health

WellPoint to pit bonuses against health of insured

The largest health insurer in the United States is saying its employees' bonuses are going to partially depend on the health of employees at companies it covers, but the reward to insured members will be measured in wellness, a company spokesman says.

Indianapolis-based WellPoint created a stir in April when it announced that 5% of the annual bonus it pays to its 42,000 employees will be linked to measurements of its 34 million customers' health in 20 clinical areas. The novel approach was hailed by some as evidence of an insurance provider putting its money behind its methods. Some critics wondered whether insured members who didn't meet goals set by the index might find themselves dropped from the insurer's membership rolls.

The latter is not at all the intent, says WellPoint spokesman **James Kappel**. "Absolutely not," says Kappel. "The bottom line is this program is designed to improve our members' health by measuring the quality of the care our members are receiving."

The initiative relies on a "member health index" (MHI) to measure broad categories such as patient safety or care management and to tell whether care has improved for most patients, but especially those dealing with chronic conditions such as diabetes, asthma, or high blood pressure. If the index reaches an improvement goal set by the company, WellPoint's employees will see the result in their bonus check.

The MHI focuses on prevention and screening, care management, clinical outcomes, and patient safety. Together, the measures will be combined in a proprietary statistical model to determine the

quality of health care the company's members receive year after year. For example, for members who have diabetes, the index will help to measure if they are getting necessary eye exams, maintaining their blood sugar level to reduce complications, and having their blood pressure level controlled. For children, the index will measure if they received their immunizations.

Kappel says that with the MHI effort, WellPoint is seeking to better measure how well its members are keeping up with their health conditions and how well the company is doing in providing them the tools to stay healthy. "There is a gap in care that people are receiving," he says. Only 55% of people are receiving the health care they need, Kappel maintains. "We already have more than 2,000 nurse counselors and care counselors who work with our members to manage their care and to better understand what programs are available to them," he says. "The information we receive will give us a measurement of how well we are doing, and that is going to be directly linked to our employees' compensation."

Kappel says MHI will track preventative care, such as breast cancer screenings and childhood immunizations; emergency department visits for complications of chronic conditions (an indication that the patient could be doing more in the way of managing their condition before reaching a crisis point); and hospital patient safety indexes.

Sam Nussbaum, MD, WellPoint's executive vice president and chief medical officer, says the initiative is "basically all or nothing for our company this year." "We're either going to achieve it, or we're not going to achieve it," he says. Linking employee bonuses to care improvements will "get everyone energized about improving health care in our company." ■

Drug-resistant TB poses new threat to HCWs

Strain is 'practically untreatable'

An extensively drug-resistant strain of tuberculosis (XDR-TB) is virtually untreatable and poses a threat to worldwide TB control. Protecting health care workers from this new threat will require vigilant adherence to infection control principles, TB experts say.

Currently, the strain is extremely rare in the United States, representing just 3% of the 1.2% of TB cases that are reported to be multidrug resistant. Yet a recent outbreak in South Africa among HIV-infected individuals revealed its deadly potential: the TB strain killed 52 of 53 infected patients in a single rural hospital.[1]

XDR-TB is defined as TB that is resistant to isoniazid and rifampicin, the preferred drugs to treat tuberculosis, as well as at least one injectable second-line drug (capreomycin, kanamycin, and amikacin) and one fluoroquinolone.[2]

"You can just imagine that [if] any health care worker would become infected with one of these extensively drug resistant organisms, there's a very good chance of having a form of TB that's practically untreatable," says **Reynard McDonald**, MD, medical director of the Global TB Institute at the New Jersey Medical School in Newark.

Only about 10% of those who are TB-infected eventually develop the disease, but the risk is highest for the immunosuppressed, including people who are HIV-positive, transplant patients, or taking steroids.

The infection control precautions used for XDR-TB are the same as for other strains, says **Peter Cegielski**, MD, MPH, team leader for drug resistant tuberculosis in the international branch of the Division of TB Elimination at the Centers for Disease Control and Prevention in Atlanta. However, because of the potential risk, "individuals who are particularly susceptible might want to take measures to work in areas where they're less likely to come into contact with TB patients," Cegielski notes.

Health care workers should be educated about the risk of multidrug-resistant TB and XDR-TB and reminded of the importance of rapid TB diagnosis, protective measures, and treatment of latent TB infection, he says.

Better drugs, surveillance data needed

How would you treat a health care worker with a known exposure to XDR-TB? That would be a troubling question, says McDonald.

"If they were involved in the management of someone who clearly had XDR-TB and they converted their skin test after coming into contact with that patient, you [might] think their tuberculin skin test conversion was related to XDR," he says.

If they were immunosuppressed, you most

certainly would want to try to give them protection, "but what in the world would you use?" he says. "There is no data to guide you about what is appropriate treatment for these individuals."

Meanwhile, public health officials seek better surveillance data on multidrug-resistant TB to help assess and monitor the spread of XDR-TB. "It's critical that health care workers fulfill their responsibility for ensuring that tuberculosis cases are reported properly, including the results of test for suspectibility," says Cegielski. "It appears that the data we have are incomplete."

Overall, tuberculosis in the United States is at its lowest level since reporting began in 1953. In 2005, there were 14,097 cases, or a rate of 4.8 cases per 100,000 people. Multidrug-resistant TB also has declined significantly since CDC and others began combating a resurgence of TB in the early 1990s. However, the decline in TB cases has slowed significantly in recent years.

XDR-TB now has been detected in 27 countries, including Canada, Japan, and Norway, and the World Health Organization has convened a Global Task Force on XDR-TB. "We need to be continue to be vigilant [regarding] tuberculosis in health care settings, both inpatient and outpatient," says Cegielski. "Individuals with prolonged cough — more than two weeks — should be treated as potentially infectious cases."

XDR-TB threatens to derail the public health goal of eliminating tuberculosis in the United States and globally. "Clearly, better drugs and newer drugs are urgently needed," he says.

References

1. Gandhi NR, Moll A, Sturm AW, et al. Extensively drug-resistant tuberculosis as a cause of death in patients coinfected with tuberculosis and HIV in a rural area of South Africa. *Lancet* 2006; 368:1,575-1,580.

2. Centers for Disease Control and Prevention. Notice to Readers: Revised definition of Extensively Drug-Resistant Tuberculosis. *MMWR* 2006; 55:1,176. ■

NEWS BRIEF

OSHA reports high injury/illness rates

More than 14,000 employers have been notified that their worksite injury and illness rates are higher than average — and that the Occupational Safety and Health Administration (OSHA) is watching.

In a letter sent to the employers in March, OSHA offered its help to any that wanted to proactively take steps to reduce their injury and illness rates. Workplaces with high injury and illness rates were identified by OSHA through employer-reported data from a 2006 survey that gathered 2005 data from 80,000 sites. The workplaces identified had 5.3 or more injuries or illnesses resulting in days away from work, restricted work activity, or job transfer (DART) for every 100 full-time workers. The national average during 2005 was 2.4 DART instances for every 100 workers.

OSHA says the list does not designate any employers earmarked for future inspections; the agency will announce targeted inspections later in 2007. The 14,201 sites are listed alphabetically by state on OSHA's Web site at www.osha.gov/as/opa/foia/hot_13.html.

CE Objectives

The CE objectives for *Occupational Health Management* are to help nurses and other occupational health professionals to:

- Develop employee wellness and prevention programs to improve employee health and productivity.
- Identify employee health trends and issues.
- Comply with OSHA and other federal regulations regarding employee health and safety.

COMING IN FUTURE MONTHS

- Hospital flu vaccine program cited for excellence: How they did it
- New tools to help smokers quit
- Evolving role of occ health management
- Alternative approaches to wellness

CE Instructions

Nurses and other professionals participate in this continuing education program by reading the issue, using the provided references for further research, and studying the questions at the end of the issue.

Participants should select what they believe to be the correct answers, then refer to the list of correct answers to test their knowledge. To clarify confusion surrounding any questions answered incorrectly, please consult the source material.

After completing this semester's activity, you must complete the evaluation form provided in the June issue and return it in the reply envelope provided in order to receive a letter of credit. When your evaluation is received, a letter of credit will be mailed to you.

CE *questions*

17. According to researchers and occupational health managers, employees who retain their jobs despite company layoffs:

    A. May experience stress related to additional work resulting from manpower cutbacks.

    B. May see a re-emergence of chronic illnesses previously in remission.

    C. Report increased cardiac and depression symptoms.

    D. Risk an increase in safety-related events.

    E. All of the above

18. Providing light duty to any injured or ill employee who requests it is something employers are legally required to offer.

    A. True

    B. False

19. The American Association of Occupational Health Nurses (AAOHN) position on the final rule on employer-provided personal protection equipment (PPE), expected from the Occupational Health and Safety Administration in late 2007, can best be described as:

    A. AAOHN welcomes the rule as the best means of preventing worksite injuries.

    B. AAOHN voiced opposition to the rule as unnecessary in light of other prevention efforts.

    C. AAOHN believes that while efforts to prevent safety hazards ahead of time are preferable to leaving it up to employees to use PPE, the rule is necessary to ensure worker safety.

    D. None of the above.

20. According to the Harris Allen Group survey of the health effects of overtime, which of the following statements does the study indicate is true?

    A. Working 60 or more hours per week did not by itself create health risks.

    B. Regardless of health risks, employees working more moderate overtime (48 to 59 hours) face more risk.

    C. Each hour of work above 40 hours a week increases health and safety risks.

    D. Amount of overtime strongly correlates to presenteeism.

Answers: 17. E; 18. B; 19. C; 20. A.