



Hospital Employee Health[®]

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Tackle the hardest task: Changing behavior to make safety a priority

HCWs need to know safety is priority

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Lift equipment sits unused in a closet. Safety needles are deposited in a sharps container without being activated. An employee fails to put on goggles when there's a risk of a body fluid splash.

As these common problems reveal, safety devices alone can't create safety. Rather, employees must "buy-in" to the safety program and believe that safety is a priority — for their managers, CEO, and themselves.

Both research and practice have demonstrated the benefits of a focus on the safety environment as a way to improve employee compliance.

An as-yet-unpublished study of 2,000 nurses in 13 health care facilities found a link between nurse-physician collaboration and nursing management and blood and body fluid exposures, musculoskeletal disorders, and lost workday injuries. Another study of 837 nurses in 39 intensive care units at 23 hospitals around the country had similar findings.

"Across the board, it's the systems approach that is most important," says co-author **Pat Stone**, PhD, MPH, RN, assistant professor of nursing at Columbia University in New York City.

"When you have employees who are committed to an organization and a work environment that is healthy for the employee, then a lot of other [positive] things happen," she says. "If people aren't feeling it's a supportive environment . . . they're more likely to take shortcuts."

At Mercy Medical Center-North Iowa in Mason City, lift equipment once sat idle while nurses injured themselves in patient transfers. But then the hospital decided to focus on safety, with highly visible support from the CEO, an imperative to managers, additional equipment and hiring of an ergonomist, and a marketing campaign aimed at employees.

"We decided we needed to change the climate of the hospital," says employee health nurse **Jenean Wolterman**, RN, BSN, MA. "You can buy all the equipment you want and people don't use it. We decided to start focusing on safety."

In 2004, the hospital had 35 injuries related to patient transfers. In

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2005, there were just 17. The severity dropped as well. In 2001, the hospital had 126 lost workdays due to patient transfer injuries; in 2005, there were just 13.

"We're trying to make a difference. It's really beginning to show," says Wolterman. "People are working safer; they're beginning to understand the importance of working in a safe environment."

Prevention means fighting human nature

Why is it so hard to get employees to use the safety equipment? After all, it's their health that you're trying to safeguard.

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It's partly a matter of human nature, says **Robyn Gershon**, MS, DrPH, an occupational health researcher who has studied the safety climate. It took time for drivers to begin wearing seat belts even after being told they would prevent injury and death, she notes. Now, seat belt use is commonplace (though not 100%). Likewise, it took time for nurses, physicians, and dentists to get used to wearing gloves.

In that context, it's more understandable that nurses don't always activate sharps safety devices or use a lift. "There are many barriers to compliance," says Gershon, who is an associate professor at the Mailman School of Public Health at Columbia University. "One of them is time constraints. One is a cost-to-benefit ratio in the health care worker's mind that somehow is putting it in the negative column."

The best solution to compliance is "to engineer [the problem] out," Gershon suggests. A ceiling lift always is in the room. A needleless system won't cause a needlestick. Or, at least, make compliance as convenient as possible. One example: Providing pocket-sized hand hygiene gels.

In some cases, the injuries reveal a problem with a product. At Tampa (FL) General Hospital, needlesticks dropped but then hit a plateau after the hospital introduced safer devices. Employee health discovered problems with stocking; they provided a manual with the Pyxis numbers next to pictures of the devices, says **JoAnn Shea**, MSN, ARNP, director of employee health and wellness.

They also learned that nurses were being stuck by safety butterfly devices when they tried to attach the wrong Vacutainer. The hospital purchased butterfly devices with an attached Vacutainer, Shea says.

CEO puts weight behind safety

At Mercy Medical Center-North Iowa, president and CEO James FitzPatrick made it clear that safety was a key goal for the hospital. He wanted to create a climate with safety as a job expectation. No one was to lift more than 50 pounds without the use of lift equipment.

He put some heat behind that imperative. Managers' annual incentive pay is tied to improvements in patient handling injuries. A new safe lifting policy includes possible disciplinary action for employees who repeatedly fail to use lift equipment.

But the primary focus is on support, education,

and encouragement of health care workers. “[Discipline] is in the policy in case we need it, but our goal right now is to show our employees that we care about them and we’re trying to work in their behalf,” says Wolterman.

Using a rebate from their workers’ compensation premiums, the hospital purchased new lift equipment and patient transfer devices. “We interviewed all the managers and their charge nurses and asked them to tell us what type of equipment they thought they would utilize,” she says.

Nurses had an opportunity to provide feedback on equipment during a safety fair. The hospital also hired a full-time ergonomics specialist, who reviewed jobs and job tasks to determine the physical demand.

“We made a decision tree to help people determine which equipment should be used [in different circumstances],” she says. “We also made a map of where all the equipment is kept in the hospital.” For example, the hospital has bariatric lifts, but they aren’t available in every unit.

The hospital has implemented other measures, such as functional ability assessments at pre-placement exams and an office prototype with sample devices that enable computer-based employees to select the best chair and keyboard.

Feedback is an important component. In the monthly employee newsletter, Wolterman provides information about the type and number of injuries that have occurred. FitzPatrick also speaks about the hospital’s safety record during employee forums.

Meanwhile, a “Simon Says” marketing campaign, using either a cartoon “Simon” or photos of a boy with his teddy bear, reminds employees that they need to use the safety devices.

“We’re constantly putting safety issues in front of people,” says Wolterman. “We’re trying to maintain a focus on that.”

Engaged employees are safer

Beyond safety initiatives, Mercy Medical Center has invested in wellness programs as a way to create more “engaged” employees. Engagement is “not just being satisfied with your job; it’s being 100% committed to your job,” says **Kelly Putnam**, MA, health promotion coordinator.

One nursing unit designated a room as a quiet, soothing space for stressed-out nurses. They decorated it with “healing” colors and comfortable furniture, and provided aromatherapy and soft music.

The billing department, with more than 120

employees at risk of repetitive injuries from their data entry jobs, takes a break twice a day and joins in group stretching. “They’re anecdotally reporting that they have less numbness, less pain, and they love doing it,” says Putnam.

The hospital measures the level of engagement among employees with a survey by Princeton, NJ-based Gallup Consulting. It asks about issues such as their relationship with their supervisor and whether they feel they have the tools they need to do their job. If employees are considering a job change, they are encouraged to look for another position within the hospital, says Putnam. “At the root of the compliance issue is engagement,” she says. “If you’ve got an engaged work force, they’re going to be compliant [with safety].” ■

How to get employees to ‘buy-in’ to safety program

From TB skin tests and immunizations to use of safety devices, it’s often a struggle to convince health care workers to comply with the rules and policies that are designed to keep them safe from harm. There are no easy answers, but employee health experts offer these tips:

- **Make it easy to comply.** Employees make a quick cost-benefit decision. Even a minute or two may seem unacceptable to them while they’re busy with patient care, says **Robyn Gershon**, MS, DrPH, associate professor of sociomedical sciences at the Columbia University Mailman School of Public Health. You need to focus on efficiency. Ceiling lifts, which are always available, will bring better compliance than lifts stored in a closet down the hall. Flu immunizations offered in their unit will receive a better response from HCWs than immunizations offered in the cafeteria or some other central location.

- **Get managers onboard.** Employees will respond to the priorities of their supervisors. If they perceive that safety is important, then they may be more willing to take the extra steps necessary to protect themselves. Also, a positive supervisor-employee relationship is linked to lower injury rates, says **Pat Stone**, PhD, MPH, RN, assistant professor of nursing at Columbia.

- **Provide adequate training.** A one-time demonstration of the new lift or needle device may not be enough for everyone. You should make sure that employees are comfortable with

new safety equipment, experts say. For example, at Mercy Medical Center-North Iowa in Mason City nurses receive competency testing every year on patient handling equipment.

- **Change equipment, if necessary.** If you check your sharps disposal boxes and find a particular device is not often activated, maybe there's a reason. Solicit input from nurses or phlebotomists and find out if they're dissatisfied with a product. Feedback to vendors about a product can sometimes lead to improvements in product design.

- **Find a link with patient care.** Health care workers put their patients first. If you make it clear that by protecting themselves, they also are protecting their patients, they may be more likely to comply. You also may want to emphasize patient comfort when introducing new equipment. For example, some patients appreciate the stability provided by mechanical lifts rather than the hands of multiple caregivers.

- **Avoid a punitive approach.** It's tempting to crack down on employees who don't use safety equipment, but take care not to drive some issues "underground." You don't want to create an atmosphere in which employees are afraid to report injuries, says Gershon. In some cases, a tough approach may be warranted. For example, many hospitals require employees to receive their annual TB screen before they can have their annual performance evaluation or raise. ■

Hospital seeks to boost staff's safety awareness

Needlesticks level off despite new devices

When needles began to level off at BJC Healthcare in St. Louis, it was time to jump-start the sharps safety program. Injuries occurred despite the health system's use of safety devices.

The solution: An educational PowerPoint program that could be accessed on-line or presented at teaching sessions.

"We want to keep working toward reducing needlestick injuries," says **Nancy Gemeinhart**, RN, BSN, CIC, manager of occupational infection control. "We wanted to make sure that our staff continued to receive proper education in how to use the devices."

Sharps awareness reminds employees of the

importance of the safety features. Posters accompany the program to illustrate how to activate the devices — and what *not* to do. "Gemmy," a gem-shaped mascot that represents the many dimensions of occupational health, holds a target and urges employees, "Don't become a target."

Employees also take a post-test to demonstrate that they have mastered the material. Meanwhile, BJC continues to search for better devices that will be easier to use and more readily accepted by employees.

"It's a constant learning process," says **Carol Gavwiner**, RN, supervisor of occupational health and workers compensation at St. Louis Children's Hospital, a BJC hospital. "As the new devices come on board, whether it's something totally different or a newer, better version, we realize this is going to be a constant process." ■

Break the cycle of pain and MSDs in sonography

Awkward postures lead to MSDs

Standing in an awkward posture, reaching across a patient, pressing on a transducer, twisting to look at a monitor — the daily tasks of sonographers put them at risk of musculoskeletal injury.

In fact, some 84% of sonographers suffer from pain, according to a 1995 survey of 3,000 sonographers in the United States conducted by the Health Care Benefit Trust of Vancouver/British Columbia.¹ Although sonographers represent a small portion of the health care work force, the potential for costly, career-ending injury is high. Hospitals are now trying to address these injuries with changes in equipment, training, and scheduling.

"These people have years of pain and discomfort while they're scanning," says **Joan Baker**, MSR, RDMS, RDCS, FSDMS, a former sonographer and director of global marketing for Sound Ergonomics, a consulting firm based in Kenmore, WA. "They ignore it until it gets to the point where they cannot ignore it — for example, when the hand will no longer hold on to the transducer and the pain is excruciating."

For an individual hospital, musculoskeletal disorder (MSD) injuries may mean the loss of valuable employees. At Baystate Health in Springfield, MA, safety director **John Murray**, CHMM, CSP, CIH, became alarmed when seven

sonographers suffered significant injuries in 2003.

"Sonographers are very, very difficult employees to recruit," he says. "We need to keep the ones we've got healthy."

Meanwhile, the length of time for each scan has been decreasing, a trend influenced by financial pressures and improved technology. This often means more scanning and fewer breaks for sonographers, says Baker, "often causing more pain and discomfort, which may eventually lead to a career-ending injury."

Look for multifaceted solution

There's no single answer to the ergonomic issues of sonographers, no one piece of equipment or change in practice that will eliminate the risk. Rather, hospitals need to evaluate the work environment and seek individualized solutions, says Baker.

For example, the sonographer's arm should not be more than 30 degrees abducted from the body. However, during scans, sonographers are often 70 to 90 degrees abducted. The strain and fatigue from maintaining that position can lead to shoulder and neck injuries, Baker says.

Overreaching and exerting pressure while in a static posture also can lead to pain, strain, and injuries. "If you have a multifaceted problem, you're going to have a multifaceted solution," she says.

At Baystate, Murray worked with Sound Ergonomics to implement changes in technique, as well as to adjust equipment. For example, the hospital purchased arm rests and repositioned equipment as much as possible. Ergonomists helped the sonographers adopt a better posture while scanning. As the ultrasound equipment is updated, the hospital will seek adjustable units that have ergonomic features, he says.

Ideally, the sonographer should have an adjustable chair and the patient should be on an adjustable exam table, says Baker. An office-style chair isn't suitable; the chair should be high enough so the sonographer can keep his or her arm by his or her side. Adjustable ultrasound equipment also is available, with a separate monitor and keyboard that can be situated for ease of use. Lighter, balanced transducers also reduce the risk of repetitive wrist strain, Baker says.

"One of our big interventions was the almost complete elimination of bedside sonography," says Murray. The hospital beds were typically too wide or too low for the sonographer to achieve a

comfortable position. Now, those bedside exams are used only when there is "an end-of-life issue or a person who is substantially encumbered with traction equipment," he says.

With the changes, Baystate experienced just one sonography injury in 2005 and one so far in 2006.

Redesigning the schedule

Schedule changes provided important relief as part of an injury prevention program at Kaiser Permanente/Colorado in Denver. Through a labor management partnership, employees and supervisors worked with a facilitator to conduct a root-cause analysis of the sonography injuries and brainstorm solutions.

One finding: Sonographers were skipping breaks to extend their lunch period. Sonographers also said they sometimes didn't have enough time to complete the exam as well as paperwork and other assigned tasks.

"We decided to redesign the master schedule," says radiology director **Don Rueschhoff**, MA, RT. "I talked to them about how much time they needed. We came up with a schedule with one less patient but more break times.

"We had to add additional sonographers and one more machine to make up for the difference. We were willing to do that because it keeps everybody on the job longer," he says.

Wrist and shoulder injuries were most prevalent among the sonographers, Rueschhoff says. By videotaping the sonographers at work, ergonomists helped them adjust their posture and add support cushions.

Giving them more time

Longer exam times give sonographers time for stretching in between patients. And a supervising sonographer manages the schedule and observes sonographers to maintain a focus on safety.

Buy-in from employees and a trusting environment helped lead to lower injury rates, says Rueschhoff. Last year, there was just one injury among the 14 sonographers.

"We're trying to influence a very open and honest environment," he says. "[We tell them,] 'Let us know if you're in pain.'"

It's important to address the pain and discomfort, Murray agrees. "Don't wait. When these issues start to crop up, you have to act on them rapidly."

(Editor's note: More information on ergonomics and sonography is available on the Sound Ergonomics web site, www.soundergonomics.com.)

Reference

1. Pike I, Russo A, Berkowitz J, et al. The prevalence of musculoskeletal disorders and related work and personal factors among diagnostic medical sonographers. *Journal of Diagnostic Medical Sonography* 1997; 13:219-227. ■

Best practices to reduce MSD injuries

The Plano, TX-based Society for Diagnostic Medical Sonography developed industry standards, including these best practices for sonographers, at a consensus conference in May 2003. The standards are available at www.sdms.org.

1. Minimize sustained bending, twisting, reaching, lifting, pressure, and awkward postures; alternate sitting and standing and vary scanning techniques and transducer grips.
2. Adjust all equipment to suit user's size and have accessories on hand before beginning to scan.
3. Use measures to reduce arm abduction and forward and backward reach to include: instructing the patient to move as close to the user as possible, adjust the table and chair, and use arm supports.
4. Relax muscles periodically throughout the day:
 - a. Stretch hand, wrist, shoulder muscles, and spine.
 - b. Take mini breaks during the procedure.
 - c. Take meal breaks separate from work-related tasks.
 - d. Refocus eyes on distant objects.
 - e. Vary procedures, tasks, and skills as much as reasonably possible.
5. Use correct body mechanics when moving patients, wheelchairs, beds, stretchers, and ultrasound equipment.
 - a. Correct body mechanic guidelines are available from employers or regulatory bodies.
6. Report and document any persistent pain to employer and seek competent medical advice.
7. Maintain a good level of physical fitness in order to perform the demanding work tasks required.
8. Collaborate with employers on staffing solutions that allow sufficient time away from work. ■

Getting it right: How to improve record keeping

Mistakes can lead to over- or underreporting

Underreporting injuries makes it more difficult to evaluate and correct hazards. But overreporting on the U.S. Occupational Safety and Health Administration (OSHA) log can inflate your incidence rate.

Meanwhile, mistakes in record keeping can lead to citations. Record keeping is one of the top 10 standards cited during OSHA inspections of hospitals. In fact, record keeping can be one of the most confusing aspects of occupational health.

"With record keeping, there are lots of gray areas," says **Julie Nussbaum**, senior workplace safety editor at J.J. Keller & Associates in Neenah, WI. "OSHA can lay down the basic requirements of what is recordable and what's not. But how many workplace incidents fit nicely into [a category]?"

OSHA audits the logs of 250 employers a year for quality assurance in record keeping. Two of the top issues that arise involve restricted work duty and work-relatedness of injuries, says OSHA economist **Dave Schmidt**. "We've concluded that about 90% are doing a good job and giving us good numbers," he says. "We do find errors. These are two of the big areas."

For example, suppose an employee has a back injury and can no longer lift more than 20 pounds. If the employer adjusts her job tasks so lifting is no longer required, the injury still must be reported on the log, says Schmidt. However, if lifting was never required in the job and the physician merely diagnosed her strain but didn't provide any prescription-strength medications or other treatment, then the incident would not be recordable.

"It has to affect the routine job functions the employee would be expected to do at least once a week," Schmidt says.

Similarly, various scenarios can bring questions about work-relatedness — for example, if the employee is off-duty but on hospital property. "There are so many scenarios out there; basically, there's always going to be some gray area," Schmidt says.

Distinguishing between first aid and medical treatment also is difficult for employers, says Nussbaum. When in doubt, many employee health professionals just go ahead and record an injury on the OSHA 300 log. If you do, don't worry that

those injury rates will be used to determine which workplaces are “high incidence” and subject to targeted inspections. OSHA only looks at incidents that involve days away from work, job transfer or restricted duty, Schmidt says.

But while you want to monitor and address your injuries, you don’t want to inflate your record keeping.

Nussbaum, who spoke at the spring conference of the Atlanta-based American Association of Occupational Health Nurses (AAOHN), and Schmidt shared record-keeping advice with *Hospital Employee Health*. We supplemented that information with background from OSHA letters of interpretation and its “Recordkeeping Handbook” published in 2005. (See editor’s note for more information on obtaining help with record keeping.)

• **How do I determine if an injury is “first aid only”?**

OSHA specifies a list of treatments that it considers to be “first aid.” That includes using a bandage for wound covering, hot or cold packs for a sore muscle, or massage. If an employee gets treatment from a physical therapist or a chiropractor for work-related pain, that is a recordable injury, according to OSHA. (If the visit is only diagnostic or the treatment is only “first aid,” such as suggesting exercises, then it is not recordable.)

So is taking nonprescription medicine at prescription-level strength. For example, a single-dose of naproxen sodium (such as Aleve) that is greater than 220 mg is prescription strength, OSHA says.

“If someone has a cut and you apply a prescription-strength antibiotic, that makes it recordable,” notes Nussbaum.

Providing an immunization — other than tetanus — after an exposure would make an incident recordable, she notes.

• **What about needlesticks and other possible bloodborne pathogen exposures?**

OSHA requires the reporting of all needlesticks and “cuts from sharp objects that are contaminated with another person’s blood or other potentially infectious material.” A needlestick with a clean needle is not recordable. A splash or spray of blood or body fluids is not recordable unless the employee takes prophylactic medications or develops an illness related to the exposure.

The OSHA 300 log can be used as the sharps injury log if “you enter the type and brand of the device causing the sharps injury on the log and you maintain your records in a way that segregates sharps injuries from other types of work-related

injuries and illnesses, or allows sharps injuries to be easily separated,” OSHA says.

• **Doesn’t HIPAA restrict me from putting employee information on the log?**

No. HIPAA doesn’t apply to OSHA. However, OSHA outlines “privacy concern cases” in which an employer may not place the employee’s name on the log. Instead, the employer must enter “privacy concern case” on the log and keep a separate list of the privacy concern case numbers and employee names. Privacy concern cases comprise: “an injury or illness to an intimate body part or the reproductive system; an injury or illness resulting from a sexual assault; mental illnesses; HIV infection, hepatitis, or tuberculosis; needlestick injuries and cuts from sharp objects that are contaminated with another person’s blood or other potentially infectious material.” An employee also may request privacy and ask for his or her name not to be entered on the log.

You must remove names from the log if you provide the log to someone other than government representatives, employees, former employees or their authorized representative (such as a union official), public health or law enforcement authorities, safety consultants, or for the processing of a workers’ compensation or medical claim.

• **Do I record injuries of nonemployees, such as contract workers, medical students, or volunteers?**

When contract workers are under your “day-to-day supervision,” you are responsible for all OSHA injury and illness record keeping, according to OSHA. If students are paid, then there is an “employee-employer relationship” and record keeping is required. You don’t have to record injuries and illnesses for unpaid workers.

• **How do you handle a nonwork-related injury, such as a back injury, that is aggravated by work?**

You have to record a “significant aggravation” as a work-related injury if the employee suffers death, loss of consciousness, or one or more days away from work, restricted duty, or job transfer that wouldn’t have occurred otherwise. Also, medical treatment that wasn’t previously necessary or a change in medical treatment would make the incident recordable, OSHA says.

[Editor’s note: The OSHA “Recordkeeping Handbook” is available at www.osha.gov/Publications/recordkeeping/OSHA_3245_REVISED.pdf. You can get answers to record keeping questions from your area or regional OSHA office or from OSHA’s Office of Statistical Analysis. Contact Mark Kitzmiller, (202) 693-2291.] ■

Make the most of your occ health software

On-line training, updates keep you current

Suppose you want to know how many employees have gone 11 months or more since their last tuberculosis screening test. Can your software spit out that list? Can you send it in an encrypted, confidential format to managers?

Or suppose the mumps outbreak has forced you to review the vaccination status of your employees. How easily can you retrieve a list of employees who have only had one dose of vaccine?

Occupational health software is designed to make your job easier. But many employee health professionals use only a fraction of the capability of their software. You can get more out of your existing software — or you may need to switch to software that will better suit your needs — says **Joe Fanucchi**, MD, FACOEM, an occupational medicine physician who created MediTrax, where he now is president and medical director of the Alamo, CA-based company.

“You want the software to support your workflow and increase your productivity and efficiency,” says Fanucchi, who was scheduled to speak at the October conference of the Association of Occupational Health Professionals in Healthcare in Sacramento, CA.

Ironically, it’s hard to find the time to learn how to use a tool that will help with time management.

“As a general rule, if they want to enhance the use of the system that they have, they should get more training,” says **William Newkirk**, MD, FACPM, medical director of occupational medicine at Redington-Fairview General Hospital in Skowhegan, ME, and founder and director of research for Occupational Health Research, which produces Systoc and StolaSystem software.

“Almost all the systems have more features than they’re using,” he says. “It’s almost always a training issue.”

Your vendor should provide training, but it doesn’t have to come in hands-on, time-consuming sessions. On-line training has become popular because it is time-efficient, Newkirk says. For example, the vendor may offer live, on-line classes at noon. The company also may offer training support by phone and a mechanism to communicate with other users.

You also may need to periodically assess your

current use of the software and your unmet needs or future needs. Newkirk and Fanucchi offer this advice for busy employee health professionals who need to get more out of their occupational health software:

- **Find out about the capabilities of your current software.**

“Get an overview of what the software will do in its entirety and begin integrating it bit by bit,” advises Newkirk.

Perhaps you’ve always used your occ health software to track TB skin tests. Can you also set up reminders for respirator fit-tests? Can you easily calculate your needlestick rates and compare them to a benchmark, such as data from EPINet at the International Health Care Worker Safety Center at the University of Virginia in Charlottesville?

“You constantly have to be thinking, ‘What sort of data am I keeping, what form is it in, and how am I going to retrieve it and analyze it?’” says Newkirk.

- **Keep your software updated.**

The U.S. Occupational Safety and Health Administration changes its rules, the Centers for Disease Control and Prevention issues new guidelines, the Joint Commission on Accreditation of Healthcare Organizations devises new standards. Your software should be able to keep up.

“Occupational medicine software always has to bend to go to places no one ever envisioned it would go,” says Newkirk.

Some vendors will provide updates automatically. The vendor also may provide software news on its web site or by e-mail. It’s important to know how and when you receive updates, and what those updates cover.

For example, when OSHA issued new record-keeping rules on hearing loss, software companies quickly created new templates for reporting and tracking that information.

- **Ask your vendor to customize your software as needed.**

While your software has been designed to provide the basic tracking and analysis of injuries and immunizations, you may need something new. For example, you may need a method of tracking consent forms and declination statements for influenza vaccination. Your annual support agreement may include a provision for creating customized databases or reports.

“If it’s something that everybody could use, we just go ahead and implement it and we don’t charge,” says Fanucchi.

Your software should include an interface with

Occupational health software vendors

Here are some vendors of occupational health software. This list is not comprehensive; other software vendors may provide products suitable for employee health departments.

- **Medgate**, 95 St. Clair Ave. W., Suite 1700, Toronto, Ontario M4V 1N6F, Canada. Phone: (800) 276-9120. Web site: www.medgate.com. E-mail: contactus@medgate.com.

- **MediTrax**, 943 Ina Drive, Alamo, CA 94507. Phone: (800) 626-4701. Web site: www.meditrax.com. E-mail: info@meditrax.com.

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- **STIX** by Integritas Inc., 2600 Garden Road, Suite 112, Monterey, CA 93940. Phone: (800) 458-2486. Web site: www.integritas.com. E-mail: sales@integritas.com.

- **Systoc and StolaSystem** by Occupational Health Research, P.O. Box 900, Skowhegan, ME 04976. Phone: (800) 444-8432. Web site: www.systoc.com. E-mail: sales@systoc.com. ■

the hospital's human resources software. For example, you should be able to retrieve demographic information for analysis (Are your needlesticks occurring among new or long-time employees?), as well as employee information (job transfers, new employees, address changes, etc). You or your support staff should not have to key in the employee information.

- **Build in privacy protections.**

Just putting a password on your computer doesn't mean it is protected, says Fanucchi. Too often, the passwords are predictable (such as

your child or your dog's name), he says. Or they are ubiquitous (such as admin or occmed).

"It's disheartening the number of times I have gone into places and they say, 'We all use the same password,'" he says.

Change your passwords often, and make sure e-mails that contain sensitive information are encrypted, Fanucchi advises. ■



JOURNAL REVIEW

The burden of occ injury: As bad as diabetes

Research reveals impact of work factors

Schulte PA. **Characterizing the burden of occupational injury and disease.** *J Occup Environ Med* 2005; 47:607-622.

Rosenman KD, Kalush A, Reilly MJ, et al. **How much work-related injury and illness is missed by the current national surveillance system?** *J Occup Environ Med* 2006; 48:357-365.

The burden of occupational injury and illness is much greater than commonly believed. In fact, at an estimated cost of more than \$120 billion, we spend five times as much on direct and indirect costs related to occupational injury and illness as we do on HIV/AIDS and three times more than the cost of Alzheimer's disease.

That is the conclusion of researchers who are trying to quantify — and publicize — the impact of occupational morbidity and mortality. While other serious diseases gain the limelight, very little attention is paid to occupational exposures as contributing factors or as opportunities for prevention.

"People don't distinguish the occupational component from other components," says **Paul Schulte**, PhD, an epidemiologist and director of the Education and Information Division at National Institute for Occupational Safety and Health (NIOSH) in Cincinnati who conducted a review of 38 studies of the burden of occupational injury and illness.

Even primary care physicians too often overlook occupational issues, says Schulte. "Many general practicing physicians don't have the time or the

training to take an occupational history. They don't necessarily consider occupation, unless it might be a signature kind of disease [such as pneumoconiosis among coal miners]."

In his literature review, Schulte found that the morbidity and mortality from occupational injury and illness ranks amid other well-recognized concerns, such as diabetes and motor vehicle accidents. Occupational factors contribute significantly to other diseases such as cardiovascular disease, cancer, and chronic obstructive pulmonary disease.

To look beyond workers' compensation claims data and reported occupational injury and illness, researchers calculated "attributable risk," the proportion of disease attribution to occupational factors. "It's still relatively new science to figure out the cost of occupational disease," says Schulte. "There are methodological assumptions that are made."

Schulte cites one researcher who attributes 55,000 deaths a year to occupational illness and injury. Another researcher estimates the worldwide burden to be 100 million injuries, 11 million diseases, and 800,000 deaths. "The World Health Organization has only recently started to examine the burden of disease for selected occupational risk factors," he notes. For example, the WHO found that 37% of low back pain and 11% of asthma can be attributed to occupational factors.

Injuries and illnesses also represent a significant psychosocial burden, he notes. NIOSH has been sponsoring research on the impact of work-related stress. For example, studies show a link between staffing, stress, and needlestick injuries. Conversely, occupational injury and illness can impact family dynamics and emotional health, Schulte notes.

If the burden of occupational injury and illness is underappreciated, it may be in part because of significant underreporting. "We don't have good surveillance of the prevalence of occupational disease and injury and the prevalence of exposure to the hazards related to these," says Schulte. "Until we have that, we will continue to have an underestimation."

That concern was highlighted in another study, in which **Kenneth Rosenman**, MD, and colleagues from Michigan State University in East Lansing compared the work-related injuries and illnesses in four databases with data from the Bureau of Labor Statistics. To prevent duplication, the researchers matched the cases in the varying databases by name, company, and other identifiers.

The database matching, which included workers'

CE questions

13. According to a study involving 2,000 nurses at 13 health care facilities, what workplace organizational factors are linked to bloodborne pathogen exposures and musculoskeletal disorders?
 - A. Staffing level
 - B. Size of the employee health department
 - C. Proportion of contract workers
 - D. Nurse-physician communication and nursing management
14. According to a survey of 3,000 U.S. sonographers conducted by the Health Care Benefit Trust, what percentage of them work in pain?
 - A. 36%
 - B. 53%
 - C. 84%
 - D. 95%
15. Which of the following is recordable on the OSHA 300 log?
 - A. Prescription-strength dose of a nonprescription drug
 - B. A job restriction that doesn't affect the employee's usual job tasks
 - C. A splash or spray of blood or body fluid without follow-up treatment
 - D. Cold or hot packs for a sprain
16. According to William Newkirk, MD, FACPM, what is the most common need for employee health professionals who want to make better use of their occupational health software?
 - A. Better data entry
 - B. More training
 - C. Software technical support
 - D. New software

Answer Key: 13. D; 14. C; 15. A; 16. B.

CE instructions

Nurses 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 with the **December** issue, you must complete the evaluation form provided in that issue and return it in the reply envelope provided to receive a credit letter. ■

compensation data, indicated there were 79,400 injuries and illnesses that resulted in at least seven missed workdays in Michigan from 1999 to 2001. The BLS estimated there were 30,800 injuries and illnesses with seven missed workdays during that timeframe. The overall injuries and illnesses also were greatly underestimated: 869,034 injuries and illnesses per year in Michigan during the three-year period, according to the database analysis, compared with a BLS estimate of 281,567 per year. In comparing databases, the authors used person-to-person matching with Social Security numbers.

"The BLS estimate of work-related injuries and illness is equivalent to one in 15 workers a year in Michigan with a work-related injury or illness, whereas our estimate is one in five," the researchers noted.

They recommended the development of a more comprehensive surveillance system. A better understanding of the burden of occupational health and safety could influence the allocation of resources and the priorities, they noted.

Schulte says he concurs. "The more we can show that [occupational injury and illness] is a true risk factor in health care costs, the more we can support investments in that area," he says. ■

Fit for duty: Lift team relieves nurses' backs

Hospital emphasizes fitness of lift employees

Patients are getting heavier and sicker, nurses are getting older, and hospitals are facing a nursing shortage. Faced with those realities, Miami Valley Hospital in Dayton, OH, sought a way to spare nurses' backs — and to keep them working at the bedside.

Its answer has been to develop lift teams with employees who maintain a high level of physical fitness and take the burden off the nurses. Two teams cover the 800-bed medical center from 6 a.m. to midnight.

In 10,000 patient-handling assists in its first year, there were no injuries of lift team members, says **Patricia O'Malley**, RN, CCRN, CNS, PhD, nurse researcher with the Center of Nursing Excellence at Miami Valley Hospital, which has magnet hospital status. Meanwhile, lower-back and shoulder injuries of nurses decreased by 70% in that year.

"The lift team has shown and demonstrated remarkable outcomes over the past 34 or 36 months," she says.

They also serve as "ambassadors" to the patients and have been warmly accepted, O'Malley says. "We have patients come in just to visit the lift team to say hello."

The focus on physical fitness is an unusual aspect of the Miami Valley lift team. **William Charney**, DOH, a noted industrial hygienist who pioneered the lift team concept, emphasizes that lift team members must use equipment to lift without a risk of injury.

Miami Valley has lift equipment and the lift team members must take annual competency exams on its use. But they are not required to use the equipment, says O'Malley. "They use it when they need it."

Lift team members may be men or women, but they all must pass the firefighters' fitness test before they're hired and every year thereafter. They receive special training in lifting and must work in pairs, she says. They also undergo an evaluation by the hospital's medical director of employee health and quarterly observations by an ergonomist.

"It's important for us as an organization to protect them from injury," says O'Malley.

Miami Valley developed the program after nurses in the coronary intensive care unit raised concerns about back strain. They specifically asked about lift teams. Nurses previously had not used the lift equipment provided by the hospital, O'Malley says. "We felt the equipment alone wasn't enough to reduce the stress on our nurses' backs and shoulders," she says.

An interdisciplinary team, which included an ergonomic consultant and the medical director and nurse manager of employee health, developed

COMING IN FUTURE MONTHS

■ Managing the employee side of infection control concerns

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the lift team concept. It is funded by the Miami Valley Hospital Foundation.

The first pair began on the day shift with six units that had the highest injury rates. The program soon expanded to cover the entire hospital, including the flight pad.

Nurses contact the lift team directly, and stat calls receive immediate attention. "We've never had a complaint from the staff that they took too long," O'Malley says. ■

OSHA sets final respirator protection factors

The U.S. Occupational Safety and Health Administration finalized the assigned protection factors (APFs) for respirator protection programs. The APF for N95 filtering facepiece respirators will remain at 10, which means that 10% of contaminated air could penetrate the mask even when it is properly fitted.

Some respiratory protection experts had argued that the N95s are not that effective and should have received an APF of five, which would have indicated that 20% of contaminated air could penetrate the mask. That was also the view of a panel of industry representatives and respiratory protection experts who met as the ANSI Z88.2 committee, accredited by the American National Standards Institute and sponsored by the American Industrial Hygiene Association. ■

CE objectives

After reading each issue of *Hospital Employee Health*, the nurse will be able to do the following:

- **identify** particular clinical, administrative, or regulatory issues related to the care of hospital employees;
- **describe** how those issues affect health care workers, hospitals, or the health care industry in general;
- **cite** practical solutions to problems associated with the issue, based on overall expert guidelines from the Centers for Disease Control and Prevention, the National Institute for Occupational Safety and Health, the U.S. Occupational Safety and Health Administration, or other authorities, or based on independent recommendations from clinicians at individual institutions. ■

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