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Stalled TB rule leaves hospitals confused about respirator compliance

At least initial fit-testing required, EH experts say

With a pending tuberculosis standard now stalled, hospitals face confusion as they try to comply with existing requirements for their respiratory protection programs.

Annual fit-testing, a controversial aspect of the tuberculosis standard proposed by the Occupational Safety and Health Administration (OSHA), is currently required for all respirator use except in TB prevention. Current OSHA regulations do, however, require hospitals to provide at least initial fit-testing for employees who may provide direct care to tuberculosis patients.

"We are now under seven different guidelines [including a respiratory protection standard and compliance directives] in order to figure out what we're supposed to do in hospitals," says **Larry Lindesmith**, MD, FACOEM, FCCP, medical director of employee health and safety at Gundersen Lutheran Medical Center in La Crosse, WI.

"Depending on how you read as many as seven different guidelines, it's no surprise we end up with different approaches in different places."

This confusion is a major justification for a new TB standard, he says. "They were making good progress towards it being a reasonable standard in their final drafting," says Lindesmith, who saw a draft version. However, under the Bush administration, Lindesmith and others expect the TB standard to be stalled, at best.

A recent Institute of Medicine (IOM) report and the Centers for Disease Control and Prevention

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Respiratory Fit-testing: A Glossary

USER SEAL CHECK
Also called a fit-check. In this procedure, the user performs a simple maneuver to determine if the seal is adequate in an approximate, qualitative fashion. For example, the user may obstruct the inlet ports and attempt to inhale; passage of air implies that there is significant leakage at the facial sealing surface. The individual performs this type of assessment each time he or she dons a mask.

QUANTITATIVE FIT-TESTING
A probe inside the mask measures leakage of a marker material placed in the surrounding air. It requires the assistance of a trained industrial hygienist or someone with equivalent technical skills. It is generally not feasible with single use/ disposable respirators.

QUALITATIVE FIT-TESTING
A substance such as saccharin or Bitrex (an extremely bitter compound) is sprayed into the air, and the user is asked whether he or she detects it.

(CDC) announcement that TB guidelines are being revised further clouded the future of the TB standard. The IOM panel said the proposed OSHA standard didn't allow enough flexibility and was based on flawed estimates of the TB risk.[1] **(See *Hospital Employee Health,* March 2001, p. 31.)**

Qualitative fit-testing involves releasing saccharin or Bitrex (a bitter substance) into the air and asking the respirator-wearer whether he or she detects it.

According to **Gregory Wagner**, MD, director of the division of respiratory disease studies at the National Institute for Occupational Safety and Health (NIOSH), that is a minimal test necessary to make sure the respirator conforms to CDC guidelines. "Anybody who is required to wear a respirator should be fit-tested on a regular basis," he says. "If someone's wearing a respirator, they ought to have some reasonable assurance it's going to be effective." **(See NIOSH fit-testing form., inserted in this issue.)**

To make this procedure more feasible, Lindesmith recommends that hospitals streamline the number of employees that might need to wear respirators to care for TB patients.[2] That is what Lindesmith does at Gundersen Lutheran,

which treats two or fewer TB patients a year.

Out of 6,000 employees at the medical center, "our initial list had 1,000 people who might be exposed. We've cut that down to 300," he says. "That's still way too many."

Yet hospitals around the country struggle with just the initial fit-test. "It's very cumbersome to do the test," says **Jill McElvey**, RN, MSN, employee health coordinator at South Georgia Medical Center in Valdosta. "It's real subjective whether the employee tells you they smell the saccharin."

Is fit-testing really necessary? Does it improve worker protection against TB? The answer is no, according to critics of the proposed TB standard, such as the Association for Professionals in Infection Control (APIC) in Washington, DC.

"Certified respirators and fit-testing have not been established to be necessary in controlling TB transmission in health care facilities," asserts **Rachel Stricof**, MPH, a member of the APIC TB task force. "That is not to say that respiratory protection may not be necessary," says Stricof, who is an epidemiologist in the New York (state) Department of Health in Albany. "The air in the room of an infectious TB patient may pose a significant risk to persons entering, and therefore, some level of respiratory protection should be used. The question is how much is enough? And what can be done to increase the likelihood that workers use the respiratory protective device properly?"

Stricof argues that simple fit-checking, in which workers check the seal, and efforts to improve comfort and use of respiratory protection are more important than fit-tests. In a survey of 41 nurses at a hospital that had experienced a TB outbreak, Stricof and her colleagues found

Basic requirements of a fit-test program

This is an excerpt from the National Institute for Occupational Safety and Health (NIOSH) *TB Respiratory Protection Program in Healthcare Facilities: Administrator's Guide* (September 1999).

A fit-test must be conducted to determine which brand, model, and size of respirator fits the user adequately and to ensure that the user knows when the respirator fits properly. Such knowledge is important because TB aerosol can leak around the facepiece into the respirator and be inhaled if the respirator does not fit the user's face.

In the Dec. 11, 1998, *Mortality and Morbidity Weekly Report*, NIOSH found that fit-testing "N95 respirators is essential in programs employing these respirators and can eliminate poorly fitting respirators, ensuring at least the expected level of protection. Without surrogate fit-testing, average exposure for the 25-person panel was reduced to 33% of the ambient level, which is much less protection than expected of this class of respirators (i.e., exposure reduced to <10% of ambient levels). However, when fit-tested first, the panel received substantially greater protection than normally expected (the average exposure was reduced to 4% of the ambient level). Without fit- testing, persons unknowingly may have poor face seals, resulting in excessive leakage and exposure." Fit-testing is also required by OSHA [29 CFR 1910.139(e)(5)].

Determining facepiece fit involves qualitative fit-testing (QLFT) or quantitative fit-testing (QNFT). A QLFT test relies on the wearer's subjective response to taste, odor, or irritation. A QNFT uses another means of detecting facepiece leakage and does not require the wearer's subjective response.

Respirator models have inherently different fitting characteristics. Moreover, each of the several brands that are marketed has slightly different fitting characteristics. Although every manufacturer designs facepieces to fit the broadest possible section of the working population, no single respirator fits everyone. Therefore, more than one brand or model, and various sizes of a given type of respirator should be purchased to take advantage of the different fitting characteristics of each and to increase the chances of properly fitting all workers.

Having more than one facepiece from which to choose also gives the worker a better chance of finding a respirator that provides reasonable comfort and good protection.

The respirator program administrator must decide whether to use QLFT or QNFT procedures. After fit-testing, a wallet-sized card should be provided to the respirator user showing the worker's name, date, type, brand, model, and size of respirator.

Conduct a risk assessment for the entire facility and for specific areas within the facility. The elements of the risk assessment are included [in the guide] for complete information on how to conduct the assessment. Perform a follow-up risk assessment at the intervals indicated by the most recent risk assessment (using the table from the Centers for Disease Control and Prevention guidelines included in the administrator's guide). Determine who must wear a respirator and be included in the program. ■

that 42% were not consistently wearing the respirators "in an appropriate manner."[3]

APIC's criticisms of fit-testing gained some steam from the IOM report, *Tuberculosis in the Workplace*, which recommended that fit-testing requirements be linked to the level of TB risk. The report noted studies that showed weaknesses of the quantitative fit-tests. One study cited by the panel indicated that education and fit-checks were more effective than fit-tests.

"There was concern about overreliance on fit-testing," explains IOM panel member **Scott Barnhardt**, MD, MPH, medical director of Harborview Medical Center in Seattle. "But there was equal concern that for respirator programs to be effective and not provide workers with false reassurance of protection, you needed to have reasonable respirator programs that include components of education and training of the workers and fit-testing. It really was a matter of balance."

Better fitting respirators for everyone

Wagner notes that NIOSH researchers are continuing to investigate the effectiveness of fit-tests. He agrees with the IOM panel that more work needs to be done with manufacturers to create better fitting respirators in general. "I welcomed their finding and suggestion that attention should be paid to the inherent fitting characteristics of respirators," he says. "Overall, I thought the report was supportive of the need for worker health protection, and supportive of the potential of an OSHA rule to be able to contribute to that."

Meanwhile, beyond the controversies surrounding fit-testing, one consensus emerges: Despite declining TB rates nationwide, hospitals need to maintain vigilance on identification and isolation of TB patients.

"The major failure in the 1980s [when TB outbreaks occurred] was relaxing the vigilance with which we tried to identify and isolate patients, both on an outpatient basis and an inpatient basis," says Barnhardt.

[Editor's note: Detailed information on establishing a respiratory protection program is available in the NIOSH Administrator's Guide *(Publication 99-134). NIOSH also has created an instructional video, "Respirators: Your TB Defense" (Video library #214), available from the NIOSH Publications Office via e-mail (pubstaft@cdc.gov). Web site: http://www.cdc.gov/niosh/nioshmail.html. Telephone: (800) 35NIOSH or (800) 356-4674.]*

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New privacy rules leave EH records unprotected

Occupational groups urge Congress to close gap

New privacy rules will have a major impact on how hospitals handle medical information, but will leave employee health records largely unprotected.

The rules enacted by the Department of Health and Human Services (HHS), designed to guard against misuse of medical information, largely apply to transactions that are conducted electronically. Since employees do not file medical claims when they receive immunizations or seek opinions from hospital employee health professionals, those records would not fall under the rule's provisions, says **Kae Livsey**, RN, MPH, public policy and advocacy manager for the American Association of Occupational Health Nurses (AAOHN) in Atlanta.

AAOHN and the American College of Occupational and Environmental Medicine urged Congress to extend privacy protection to such employee health records.

"What we would like to see is legislation that would extend the protections of this rule to all health care providers regardless of whether or not they're engaged in what are called 'standard transactions,'" says Livsey.

According to the rules, which stem from the Health Insurance Portability and Accountability Act of 1996, hospitals, health plans, and other providers must:

• Educate patients on privacy, including a written explanation of how the information will be used and disclosed.

• Provide patients access to records and a history of all disclosures, and allow them to make amendments.

• Receive specific consent for nonroutine and nonhealth care uses of information and allow patients to restrict the use and disclosure of information.

• Provide the minimum amount of information necessary for disclosure for purposes other than treatment.

• Adopt written privacy procedures and ensure that "business associates" likewise protect patient privacy.

• Train employees and designate a privacy officer.

• Establish grievance procedures for privacy complaints.

At a Congressional hearing in February, a representative of the American Hospital Association asserted that the privacy regulation would be prohibitively expensive and burdensome.

"It is essential to fix requirements in the privacy rule that could impede patient care or disrupt essential hospital operations, and to that end, Congress should encourage HHS to re-open portions of the new privacy rule for comment," said **John Houston**, information services director, data security officer, and assistant counsel for the UPMC Health System in Pittsburgh.

Additional staff will be required

Tracking disclosures would require hospitals to install new information technology, Houston said. The regulation would require the hiring of additional staff to handle privacy issues and re-open contracts with "attorneys, auditors, vendors, suppliers, and consultants, to include the hospital's privacy practices with which each business associate must comply," Houston said.

Meanwhile, the AAOHN pointed out that the rules leave significant gaps that may require legislation to correct.

An employee's medical information in a company wellness program or pre-placement physical wouldn't be covered by privacy rules, notes Livsey. In fact, if another physician treated a patient for breast cancer, then sent the employee back to work on restricted duty, the information would no longer be covered, she says. "Once that information is sent to the employee health nurse, since the employee health nurse is not a covered entity, the information isn't anymore, either." ■

Meningitis deaths spark concerns for workers

CDC asks hospitals to report lab-based infections

The deaths of two laboratory workers who acquired meningococcal infection from exposure to patient samples has led to a review by the Centers for Disease Control and Prevention (CDC) in Atlanta.

The CDC is asking for information on cases of laboratory-acquired meningococcal infection that occurred within the past 15 years. It also will consider whether any changes are necessary in the current guidelines for handling meningococcal samples.

"Based on the data we're getting from these cases, we're revisiting the guidelines and seeing if any clarifications or additional recommendations need to be made," says **Jim Sejvar**, MD, epidemiologist in CDC's meningitis and special pathogens branch.

"Our suspicion is that a lot of cases do go unreported," Sejvar says. "Essentially, what we're trying to do is to find all the cases we can identify and look for common threads among these cases so we can assess risk factors."

The CDC guidelines currently rate meningococcus (*Neisseria meningitidis*) as a biohazard level 2. Lab workers should wear gloves and lab coats and should use a biological safety cabinet when "mechanical manipulations that have high aerosol potential are performed." Workers who have a blood exposure should receive chemoprophylaxis with penicillin, and those with mucosal exposure should be treated with rifampin, according to the CDC.[1]

The CDC does not recommend the routine immunization of lab workers, unless they work with high concentrations or large quantities of the organism, such as in a research lab.

Yet the deaths last year in Alabama and Michigan involved experienced lab workers with good technique who were performing routine tasks with patient samples.

In the Alabama case, a 12-year-old girl came to a Huntsville hospital complaining of nausea, cough, headache, and high fever. She had some decreased alertness, and a physician ordered a lumbar puncture to test for meningitis.

The day after the hospital lab had taken the samples and cultured them, a laboratory worker

came in to perform some additional tasks of subculturing (which he did in the containment hood) and removing additional blood samples for gram stains (done outside a hood).

When the lab worker developed fever and joint aches three days later, it wasn't immediately identified as possible meningitis. The next day, his symptoms of nausea, pain, lethargy, and weakness escalated, and his body temperature dropped. He died within hours of coming to the hospital's emergency department.

The worker, who was the laboratory safety officer, was known to be "meticulous," says state epidemiologist **J.P. Lofgren**, MD.

At the time he worked with the samples, he had a sinus infection, and that could be related to the transmission, explains **Brian Whitley**, MPH, epidemiologist with the Alabama Department of Public Health in Montgomery. "The best guess by the people in the lab was that since he had a runny nose for a while that he might have been working with the organism, gotten it on his hands, and wiped his nose. That's purely speculative."

The Michigan case was equally startling. A longtime laboratory worker with the state's Department of Community Health was working with ear fluid from a 19-year-old Michigan State University student who had died of toxic shock syndrome. The ear fluid contained meningococcus, although the girl did not have any symptoms of meningococcal infection.

"She had excellent technique," says **Geralyn Lasher**, director of communications for the Michigan Department of Community Health. "She was very thorough and complete. She reported no incidents of anything out of the ordinary."

Two days after working with the sample, the lab worker developed symptoms. The next day, she went to the emergency department with labored breathing and died hours later.

CDC testing confirmed that the strain that infected the Alabama and Michigan lab workers was the same as the strain of their patient samples.

The Michigan Department of Community Health has since changed its procedures for its laboratory, making them more stringent than the CDC guidelines.

Meningococcus is being treated as a Level 3 organism, requiring lab work to occur under a biological containment hood with an air filter. Lab workers have been immunized, although the vaccine doesn't cover all strains of the organism, Lasher says.

[Editor's note: To report any known cases of laboratory-acquired meningococcal infection, contact Jim Sejvar, MD, Meningitis and Special Pathogens Branch, at (404) 639-0887 or JSejvar@cdc.gov.]

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Save with ergo lifts — or your money back

Guarantee programs add incentives to ergonomics

Some people are so sure you're going to save money with ergonomics, they're willing to guarantee it.

Vendors of ergonomics equipment are offering money-back guarantees based on estimated cost-savings from reduced injuries. Some hospitals around the country are also receiving discounts on workers' compensation premiums.

"It's our way of creating an incentive for them to purchase equipment and to help fund the purchase," says **Peggy Swirczek**, CHSP, director of loss prevention services at the Michigan Health and Hospital Association (MHHA) in Lansing.

In most cases, the discounts are linked to an overall ergonomics program, which includes a risk assessment, employee training, and management commitment, in addition to equipment purchase.

"The secret behind trying to get the ultimate results is by making a coordinated effort," says **Don Maynes**, president and chairman of Donald P. Maynes and Associates, a loss prevention consulting firm based in Altoona, IA, that offers an ergonomic risk management product that is endorsed by the American Hospital Association.

The incentives to implement ergonomics come in many forms.

In Michigan, the MHHA offers discounts of up to 15% through its Model Loss Control Program in the group self-insurance fund, including a 10% discount off premiums for the purchase of mechanical lifts in the prior 12 months.

Such incentives may make a difference at a time when hospitals are faced with so many cost pressures, says Swirczek. "They may not have been able to make [the purchase of lifting equipment] a

priority," she says. "This gives them that added incentive to push them over the edge."

Swirczek recommends hospitals provide approximately one mechanical lift for every 15 to 20 patients, if at least half of them are partially dependent. The number of lifts would be higher in units with highly dependent patients, such as the intensive care unit.

Hospitals concerned about the bottom line can keep this in mind: Mechanical lifts pay for themselves in reduced injuries, including fewer claims and lost workdays. And that's guaranteed.

Maynes guarantees that workers' compensation claims will be reduced by the total cost of the ergonomics program — including equipment, training, and other consulting fees — "or the facility is reimbursed dollar for dollar for every cent that the program costs them up to 100%, allowing them to keep the equipment and any and all services we have rendered. "It's a no-cost type of scenario," he says.

The program usually spans a three-year period. For example, the Jim Thorpe Rehabilitation Hospital in Oklahoma City spent $140,000 on its ergonomic equipment and program. In the first year, claims dropped from $107,000 to $64,000, for a savings of $43,000. By the third year, claims had fallen to a mere $6,000. The three-year savings equaled $231,000.

After three years, the company usually passes on responsibilities to an in-house ergonomics coordinator — someone who maintains the commitment to the program and ensures that equipment is used properly. "You really are serving as a change agent," says Maynes. "In order to make sure that culture is appropriately adopted to the new ideas, you need to be there."

You can reduce injuries by 60%

Equipment manufacturers also have taken the same approach of providing more than just machines and offering money-back guarantees.

Arjo of Roselle, IL, has a back injury prevention program that guarantees a reduction in back injuries of 30% or more with the mechanical lift and repositioning equipment. Anyone who doesn't receive that benefit or isn't satisfied with the products can return them for a complete refund.

"If you follow our program, we will guarantee a 30% reduction in the number of incidents," says **Andrew Hepburn**, vice president for Diligence Services at Arjo.

With the company's new Diligence program, a clinical coordinator comes for monthly training and mentoring visits. The company guarantees a 60% reduction in incidents for a three-year period.

"If you teach [employees] a better way to use the equipment, it becomes a valuable tool in the daily routine," says Hepburn, who notes that some employers have reduced injuries by 100%.

Assessment, training key to program

One benefit of these programs lies in the assessment and training. To implement a guarantee, the vendor has to supply more than just a collection of equipment.

Hill-Rom, a medical equipment company based in Batesville, IN, offers an evaluation, reviewing the needs for policy changes, training, and other aspects of a full ergonomics program. "It's not enough to just put the equipment out there," says **Rick Barker**, CPE, manager of patient and caregiver safety. "It takes good policies and employees [who understand] not just how to use the equipment but why they should use the equipment."

The company views its guarantee as a "risk-sharing agreement." After an evaluation that includes the past injury records and existing ergonomics program, the company would outline how much the hospital can expect to save each year with the equipment and other ergonomics improvements.

If the agreement states the hospital will save at least 30% in musculoskeletal disorder injury-related costs in a year, and the actual savings are 20%, the company refunds the difference, either through a direct payment or additional equipment, says Barker.

The guarantee can't exceed the purchase price of Hill-Rom products. "If they purchased $200,000 of equipment, that would be the top end of what we guaranteed," he says.

"Facilities closer to average or higher costs than average are going to see a much bigger opportunity to improve," he says. "With that bigger opportunity to improve, there's going to be a greater [potential benefit]."

Of course, there are criteria. Participating hospitals must start out with "good historical injury cause data, so that they can track and understand the things that have caused injuries in the past," says Barker. After all, if you don't have detailed information about your current and past injuries, you may not know how your future performance compares.

Hill-Rom also expects "strong upper management support to the injury reduction process as a whole," says Barker.

"It's also necessary that they fully implement the product recommendations and the program recommendations that we bring to the process," says Barker. "Those program elements would include things like developing an ergonomics plan, having specific policies and procedures in place, training for their safety committee, and training for their employees in ergonomics."

It's up to the hospital to make sure employees use the equipment. "If people weren't using the product properly at the time injuries occurred or they're not consistently utilizing it, there's language in the guarantee clause that allows excluding cases," Barker says.

[Editor's note: For more information on ergonomics guarantees, contact Don Maynes at www.costsprogram.com or (888) 844-2678; Andrew Hepburn at www.arjo.com or (800) 323-1245, ext. 4875; or Rick Barker at (800) 445-2114, ext. 8793.] ■

Looking for ergonomic solutions? Ask employees

Hospital gives workers a voice in advisory teams

Ergonomic solutions to back injuries are often purely technological. Change a work station, use a lifting device, and the hazard goes away.

But to tackle more complex issues of work practice, involvement of frontline workers may be the key to success, according to research at the Washington University School of Medicine in St. Louis. Researchers are still compiling follow-up data, but preliminary results show sustained reductions in injury rates with employee-based advisory teams.

"No one is really as aware of the working conditions as the people who are actually doing the work," explains **Bradley Evanoff**, MD, assistant professor of medicine.

Washington University developed Employee-Management Advisory Teams (E-MATs) to give employees a voice in identifying risks and possible solutions. For some employees, such as housekeepers and orderlies, it was the first time anyone had formally asked their opinion and given them a chance to change their work environment.

Just focusing on those other workers represented a new direction. Ergonomics in a hospital setting often begins and ends with patient handling. "We forget about a lot of other hospital jobs — housekeeping, dietary, maintenance, security. At least in our hospital system, those are all very high injury rate positions," says Evanoff. "You think about patient care, but you forget about the fact that people are pushing big laundry and cleaning carts around the hospital and have a fairly high rate of injury."

How you set up advisory teams may be critical to their success, says Evanoff. They operate through consensus-building and rely on strong management support as well as worker buy-in.

"It's important to have representatives of both the line workers and management," he explains. "It's important for them to be excused from work tasks during the time they're participating."

The teams at Barnes-Jewish Hospitals were composed of two to four workers, one or two supervisors, and up to three technical support staff members. They met at least once a month and had up to two hours of work time per week to complete tasks related to E-MATs.

Before they began, team members needed some instruction on team building as well as technical information on ergonomics. Evanoff and his colleagues developed an E-MAT manual, explaining the basics of the program. **(See excerpt, p. 45.)**

In the most effective groups, team members alternated roles taking minutes and leading discussion or investigation of an issue.

"If one of the members had a problem they identified and knew the issue, they might take it on and be the lead person," says **Paula Bohr**, PhD, OTR/L, assistant professor at the Washington University School of Medicine and director of the university's Occupational Health and Ergonomics Laboratory.

The E-MATs had no trouble identifying areas of concern. A team from the intensive care unit complained about the noise level from the patient monitors. When environmental health experts came in with monitoring equipment, they discovered noise levels above recommended levels — and high enough to cause hearing damage.

The team was able to lower the volume on monitors while maintaining patient safety, says Bohr.

Housekeepers addressed problems with disposal, from overfilled containers to improper

What Do Employee Advisory Teams Do?

Employee Management Advisory Teams (EMATs), created by Washington University School of Medicine and Barnes-Jewish Hospitals in St. Louis, have flexibility to determine how they want to identify and solve workplace hazards. But here are some basic activities conducted by the teams:

- ✔ **Workplace inspections:** Team members complete a formal assessment of the workplace using a safety checklist and interviewing other employees.
- ✔ **Incident investigations:** At least one team member investigates accidents or "near-miss" accidents to identify possible interventions to prevent a recurrence.
- ✔ **Evaluation of purchasing practices:** E-MATs may provide input into purchasing of new equipment.
- ✔ **Records review:** E-MATs review injury and illness data, makes recommendations on changes in record keeping, and determines if interventions are successful.
- ✔ **Rules and procedures review:** E-MATs may review existing rules and procedures that relate to a problem being investigated. Procedures related to specific problems may be reviewed annually to determine their effectiveness.
- ✔ **Training:** E-MATs recommend training and education related to musculoskeletal disorders or risks and coordinates those programs. That may include a safety awareness campaign.
- ✔ **Gathering information:** E-MATs help develop resource material related to specific problems.

handling of materials. "People were not disposing properly of the containers that had chemicals, or they were putting broken glass in containers," says Bohr.

E-MATs provided input to the hospital safety committee that ultimately resulted in the hospital deciding to purchase containers that could not be punctured by glass waste. The hospital also hired a service to empty sharps disposal containers, and clearly marked all disposal instructions.

"[E-MATs] gave the frontline workers a mechanism for input in changing the way their job was done," says Bohr. "They had somebody besides an administrator to go to [and] say, 'We're having trouble with this' or 'This isn't working.'"

Evanoff and Bohr are still collecting follow-up data to determine the impact of E-MATs on injury rates. They note that some hazards will require the expertise of an ergonomist. But E-MATs have created a successful new avenue for problem solving, they say.

"If people are involved in designing [a solution], they're invested in it and they're more likely to comply with it," says Evanoff. ■

GUEST COLUMN

Power in the numbers: Tracking disability costs

Cost model offers simple way to estimate costs

By **Richard Bolmen**
Workers' Compensation
and Disability Consultant
MBR Group
Oakland, CA

Hospitals have begun to realize that the cost of disabilities and the resulting toll on productivity is staggering. To combat that potential financial drain, they must increase their focus on the effective management of human capital and the impact of employee disability and absence on the bottom line. After all, while employees are your most valuable assets, they also represent one of your most significant operational and financial liabilities.

Just how much is employee disability and absence costing you? That question is a difficult one. Most managers are hard-pressed to justify the internal and external resources needed to develop a full-fledged absence and disability management program. Yet at the same time, senior financial officers are requesting their human resources (HR) and benefits managers to document and substantiate those costs — and to find ways to stem the financial hemorrhage.

To know your costs, you need reliable data, benchmarks, and a metric for conducting the necessary calculations. This particularly is the case as it relates to nonoccupational absence and disability costs. The task of collecting and quantifying disability-related costs may seem insurmountable. Regardless of the obstacles, there are fundamental steps that can be taken to establish

a methodology for collecting the data, developing cost models and saving opportunities, and ensuring efficacy of the measurement tools.

What will you measure?

Data efficacy is critical. Before developing a quantitative assessment of disability or absence-related costs, you first need to identify and categorize the various components of the cost model.

What exactly are you trying to measure? Are you collecting data to measure absence, disability costs, medical costs, lost productivity, or other related costs? Are you concerned about total costs of disability, which would include nonwork-related injuries and illnesses? The answer will determine what data you need for your cost calculations.

For example, if you want to quantify absences resulting from nonoccupational related injuries, you must establish those data sets. To determine the cost of nonoccupational absence, your data sources would include short-term disability, long-term disability, employee absence data, and lost workdays by diagnostic category. You would need to collect data from both internal and external sources, such as the insurer, broker, short-term and long-term disability carrier, and health plan data.

Once you have established the potential sources of data, you need a collection methodology to ensure consistent collection of data across the organization and data reproducibility. This is particularly important for organizations with multiple locations and different HR and benefits processes. You also will determine the accuracy, availability, reliability and relative importance of each data set.

What do we mean by "total cost of disability"? In its simplest iteration, a total cost of disability model consists of the following three components: direct costs, hidden or indirect costs, and disability management costs.

Direct costs are those costs paid directly by the employer and should be relatively easy to quantify. The hidden and indirect costs include much less tangible data relative to productivity and profitability losses associated with absence and disability.

Here are examples of total cost of disability cost factors:

- **Direct costs:** Workers' compensation, short-term and long-term disability premiums, sick leave, disability-related medical costs, overtime, salary continuation, FICA, and lost workday benefit costs.
- **Hidden costs:** Training and hiring, productivity losses, absenteeism, morale, increased supervision, overstaffing, underutilization of human capital, and lost business opportunities.
- **Disability management costs:** Wellness programs, employee assistance programs, health and safety programs, claims administration, return-to-work programs, and disability management staffing costs.

This is not an all-inclusive list. Therefore, the first step in developing our total cost model is agreeing upon and defining each of the components, which make up the qualitative model. This sounds much easier than it truly is, particularly when one considers the different languages and terminology spoken by risk management, workers' compensation, and employee benefits. You also need to reach a consensus regarding the definitions of each of the terms listed.

Once you establish your data collection and define what you are measuring, you have the fundamental building blocks for a quantitative model.

Step I: The UNUM model

You can start with a broad brush look at your total cost of disability, based on a model developed by UNUM, a major disability insurer, in conjunction with economists from Rutgers University in New Brunswick, NJ.

The March 1998 UNUM study on the total cost of disability included 26 diverse employers, $10.8 billion of covered payroll, and 298,000 employees.

The data and metrics collected in the UNUM study are designed to provide a "quick and dirty" total cost of disability calculation.

Although these numbers don't relate specifically to health care, they provide a general framework. With higher-than-average occupational illness and injury rates, hospitals may actually have higher total disability costs.

UNUM's 1998 study determined that, for their study group, the total cost of disability averaged 8.6% of payroll. As a percentage of payroll, direct costs accounted for 4.5%, hidden costs were 3%, and disability management costs were 1.1%.

As a percentage of the total disability dollar, direct costs account for 52%, hidden costs for 35%, and disability management costs for 13%. The UNUM study also measured total disability

costs on the basis of total cost per employee. The average costs from the study were as follows:

- **Direct costs:** $1,537 per employee.
- **Hidden costs:** $971 per employee.
- **Disability management costs:** $352 per employee.
- **Total cost of disability:** $2,860 per employee.

With this information, the total cost of disability for any given year can be easily estimated by obtaining the total number of employees (full-time equivalents) and the total payroll for those employees and applying the UNUM cost factors listed above. This can be collected for an entire corporation or compared on a division basis.

This is the first step toward quantifying your total cost of disability. However, this is also the least accurate of the models relative to quantifying your company's total cost of disability.

Your next step involves quantifying all of the cost components within each cost category (direct, hidden, and disability management) with actual data from your hospital. However, as you will find during the development of your model, some data may take more time to develop and collect, in the short term, than the data are worth. For those items, estimates should suffice.

The development of the ultimate total cost of disability model, in which all of the metrics are representative of an organization's specific data, can be a long and arduous process. You may choose to begin with data that are easier to obtain, such as workers' compensation, sick leave, and medical claims.

While documenting and quantifying the costs are important, this is only a starting point. Actual cost savings result from developing and implementing programs that proactively manage the

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Editor: **Michele Marill**, (404) 636-6021, (marill@mindspring.com).
Vice President/Group Publisher: **Brenda Mooney**, (404) 262-5403, (brenda.mooney@ahcpub.com).
Editorial Group Head: **Coles McKagen**, (404) 262-5420, (coles.mckagen@ahcpub.com).
Production Editor: **Ann Duncan**.

Editorial Questions

For questions or comments call **Michele Marill** at (404) 636-6021.

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occupational and nonoccupational injury process for your employees. This not only minimizes disabilities and absence resulting from these injuries, it also provides a mechanism to preserve the assets of the corporation and of that employee's primary financial interest — the family. Without this process, the metrics are meaningless.

[Editor's note: More information on UNUM is available on the Web site: www.unum.com. Richard Bolmen can be reached at (510) 531-7211 or rbolmen @mbrgoup.com.] ■

Survival skills a focus of AOHC conference

Can EH improve productivity, lower stress?

Disability and lost productivity. Stress and medical mistakes. Mergers and employee stress. The 2001 American Occupational Health Conference, to be held in San Francisco, aims to help employee health professionals cope with the realities of a tight labor market and cost-conscious administrators.

The American Association of Occupational Health Nurses (AAOHN) in Atlanta and physicians with the American College of Occupational and Environmental Medicine in Arlington Heights, IL, will sponsor the April 20-27 conference in San Francisco.

The conference offers networking opportunities at a time when many occupational health professionals are feeling squeezed by cost pressures, notes **Kathleen Golden McAndrew**, MSN, ARNP, COHN-S, CCM, who is a member of AAOHN's board of directors and executive director for health services at the University of Massachusetts-Boston.

Workshops and special section meetings give hospital employee health professionals a chance to address their specific challenges, she says.

"What we're looking at is how we're going to keep ourselves intact and alive to help other people," says McAndrew. "It's going to be a challenge."

[Editor's note: More information is available on the Web sites: www.aaohn.org and www.acoem.org. Or contact AAOHN at (770) 455-7757.] ■

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. ■

TB Respiratory Protection Program in Health Care Facilities Administrator's Guide

Fit-Testing Record for Respirator Users

Employee: _____

Job Title: _____

SS#: _____

Date of Birth: _____

Employer:_____

Employer Phone Number: _____

Age:_____Height: _____Weight: _____

Description of condition requiring RPE use: _____

_____

Fit-Testing Record

PE Manufacturer _____

Model Number _____

Facepiece Type and Size_____

NIOSH Approval Number _____

Cartridge Type _____

NIOSH Approval Number _____

Medical Restriction Noted by Physician? ☐ Yes ☐ No

Odor Detection Adequate? ☐ Yes ☐ No

Date Fit-Tested_____

Test Atmosphere _____

Pass/Fail_____

Comments _____

_____

_____

_____
Signature of Fit-Tester

_____
Date

Source: National Institute for Occupational Safety and Health, Washington, DC. Web: http://www.cdc.gov/niosh/99-143.html.