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Small organizations can employ occ-health practices effectively

Occupational health considerations can help small business grow safely

For a small business just starting out, occupational health likely is something that is pushed pretty far down the list when it comes to budgeting resources.

"Most small businesses are just concerned with the bottom line when they start out, just getting some profits coming in the door," observes **Beverly DaCosta Tobias**, MBA, RN, COHN-S, CCM, FAAOHN, an occupational health consultant in San Jose, CA. "It's not that they don't care, but it's a budgetary matter."

Small businesses are the backbone of the American work force. The National Institute for Occupational Safety and Health (NIOSH) reports that nearly 98% of all private industrial companies in the United States have fewer than 100 employees and that 55% of all workers in private industry are employed in these companies.

Even though many small employers don't think they can afford to spend money on a workplace health and safety program based on OSHA mandates, Tobias and others in the occ-health field are quick to point out that very few can afford not to put at least some measures in from the beginning. Small businesses think, "OSHA compliance" and feel overwhelmed, she says.

"If you employ under 10 people, OSHA will say, 'Do it anyway, because it is a good thing to do,' but won't require it," Tobias points out. "But it's a good thing to just post the [OSHA] regulations, even if you have only one employee. People need to know that their employer is there for them."

OSHA consult one way to start

OSHA offers free consultations for small businesses. Working through the states, consultants — at the employer's request — will do an evaluation of a workplace to determine potential hazards at the work sites, and make suggestions for improving occupational safety and health management systems. The consultation is separate from the inspection and enforcement arm of OSHA; however, if during the evaluation serious safety risks are identified, a plan for abating the risk is created and must be satisfactorily followed through within a set time, or the employer risks having the matter

referred to an enforcement officer.

"OSHA consults will come to small business and say, 'You don't have to do these things at this point, until you grow,' but it's a good idea to have [the measures] in place; because when you do grow, it will be one less thing to worry about and it will be easier to have your program grow along with your business, rather than starting up later," Tobias says.

An OSHA consult, while free, is not the only avenue for companies to go for an evaluation of how their safety program is doing, or for suggestions on putting one in place.

According to the American Association of Occupational Health Nurses (AAOHN), most small businesses work with occ-health consultants in setting up and maintaining a health and safety program for their employees. When working with a small employer, Tobias says she starts off just like OSHA consultants do — with an audit of the workplace.

"I do an audit and make recommendations, and sometimes I find that ones who only employ a few people are doing things already; other times I find ones who aren't doing anything," she says. "Some have implemented at least some things that are required by their city, state, or OSHA, so it's only a matter of going in and reviewing to see what's there and what is working and what they need to change.

"Then there are people who are just raw — who have zip, nada in place. They say, 'First aid kit? I should really buy Band-Aids?'"

Recognizing the value

Tobias says the employers she has worked with usually are well aware of their employees' safety, but can't see how they can afford to be in compliance with safety standards. An important point Tobias tries to make with those companies is that the money they spend on their employees' health and safety translates into dollars coming back in later.

"What happens at work directly influences how people do their work," she points out. "Many are not aware of the whole ergonomics issue. Many [ergonomics steps] don't have to be expensive; for example, if you have a receptionist, or someone multitasking as office assistant or receptionist, just make sure their workplace is comfortable, their seat is set up right, their space is adequate.

"Even in small space, make sure basic safety is observed — then, you have it there, and you can expand it as you grow rather than trying to start when you reach 500 employees and OSHA comes in or the fire department comes in to check on what you're doing."

OSHA estimates that workplaces that establish safety and health management systems reduce their injury and illness costs by 20%-40%. Conversely, businesses spend $171 billion a year on costs associated with occupational injuries and illness, expenditures that come out of company profits and can comprise as much as 5% of a company's total costs.

"I just try to get [employers] to compare convenience vs. what it costs to fix it," says Tobias, referring on the costs of injury, illness, missed work, and penalties for OSHA violations.

"Employees will make things safe or ergonomically correct for themselves," she points out. "Even in a large company, if someone is using a screwdriver all the time and it's causing a callus, he will

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tape it up. They will fix it themselves. That's when the employer needs to jump in and fix it.

"Lots of employers will say they don't want to pay $187 for new equipment, but I ask them if they'd rather pay a workers' compensation claim that will break them."

Start with basics with some employers

Many new business owners start out with plenty of knowledge about their specialty — manufacturing, sales, food service — but no experience with worker health and safety.

"Most have heard of this OSHA stuff, but don't know what it is," says Tobias. "Others have heard of it but don't think it's important until something happens."

She uses as an example a client she has worked with. The community-based, nonprofit, mental health service has fewer than 100 employees, and was neglecting their safety.

"They're providing fantastic services to the community in terms of mental health, but one thing they're not looking at is health and safety of their own employees," she says. "What I have to do is go in and try to help them see that. See how they can make sure their employees are safe. Especially, in this case, some of the people who come in are not very nice people. How do they protect the staff? Are there barriers to their safe work practices?"

Lots of employers just need to start with the rudimentary step of putting up evacuation plans and the OSHA guidelines for reporting injuries, Tobias says. Posting that information is not only good from a safety standpoint, but also lets employees know that the employer is doing what he or she can to give them a safe work site.

"A lot of what is most effective might not cost anything at all," Tobias tells companies.

Some cost-saving — and goodwill-fostering — steps that an employer might take include having one or two employees take first aid and cardiopulmonary resuscitation training, and establishing a relationship with a nearby first aid clinic. The latter step not only tells employees that the company is concerned that they receive prompt care when needed, but can help companies save money that might otherwise be spent on claims if the employees take their injuries to their private physician.

Tobias finds that employers' willingness to invest in creating a healthy workplace is sometimes based on their ability to look at the big picture.

Sample Job Hazard Analysis Form

Job Title:	Job Location:	Analyst:	Date:
Task #	Task Description:		
Hazard Type:	Hazard Description:		
Consequence:	Hazard Controls:		
Rationale or Comment:			

Source: Occupational Safety and Health Administration. Job Hazard Analysis. Washington, DC; 2002.

"Some say they don't want to be bothered, but then an employee shoots himself in the hand with a nail gun, and then they decide they want to look at safety measures. I try to tell them how much they and the employees stand to gain if they put the safety measures in place before that happens," she says.

When occupational health consultants get calls from employers after an accident already has occurred, damage control and prevention steps are in order.

Making provisions for the injured employee to return to work to do limited duty not only makes the employee feel that he is cared for, but he is able to perform work for the employer and continue to receive income.

While OSHA has some blanket requirements for all employers of a certain size, every worksite is different and has different inherent risks.

An office setting has ergonomic issues; a manufacturer might have more pressing high-risk

areas. Tobias said employers, occupational health, and insurers should work together to determine what the actual risks are in each setting, and tailor insurance that truly applies to that company.

When a new or growing company puts together its business plan to present to a bank for funding, safety measures need to be included in that plan, Tobias tells clients. OSHA has created a sample job hazard evaluation form that can be useful in evaluating each position or job within an organization. **(See form, p. 123.)**

"How many masks do they need? What's the combustibility of the things around [employees]? If I'm going to do welding, I need to have all my office supplies in a separate area, so I need to make provisions for that. If my employees need aprons, or other safety equipment, that needs to be included," Tobias says.

Making these determinations at the outset helps ensure the employer has enough funding to give their employees a safe environment with the protective equipment necessary, she says.

Employees, too, need to be made aware of risks and necessary safety measures. They should be told, and reminded, of the absolute necessity of knowing and following safety requirements, adhering to safe practices, and using safety and protective equipment, Tobias says.

Companies that start off in the founder's garage need to take into account many of the same safety and health questions that will be more important as the company grows, Tobias says.

"Even if they start off in the garage and don't get insurance until they get out of the garage, there are still regulatory things to comply with. And as they grow, they need to reassess. Sometimes you'll see a large employer doing things as if they were still a five-person company, when they really need to be under the auspices of someone familiar with safety," she says.

"And I think insurers need to do a better job when they insure small businesses for liability. They need to ask questions that tell them what the company's liability really is, so the coverage is really what the company needs," Tobias concludes.

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• ***Occupational Safety and Health Administration**. Web site: www.osha.gov/dcsp/smallbusiness/consult.html.]* ■

OSHA makes respirator fit-testing more difficult

Another protocol added

Recent changes to OSHA requirements related to tuberculosis and respirator fit testing have prompted concern from many health care professionals who are responsible for the health and safety, including fit testing, of health care facility employees, a recent survey of occupational health nurses reveals.

And in August, OSHA announced an additional requirement to its quantitative fit-testing procedure. The new fit-testing protocol, referred to as the Controlled Negative Pressure (CNP) REDON protocol, requires three different test exercises followed by two redonnings of the respirator.

Background

In 1998, OSHA updated the 1971 Respiratory Protection, requiring workers who need respirators when they are exposed to hazardous airborne biological or chemical agents to be fit tested annually to ensure a proper facial seal.

Tuberculosis was excluded because OSHA was planning to issue a tuberculosis standard that would include rules for respirator use. In January 2004, OSHA announced that because the proposed tuberculosis standard was deemed unnecessary, respirator use for tuberculosis would instead be covered under the 1998 Respiratory Protection Standard. Enforcement of the new standard became effective in July.

The number of cases of tuberculosis in the United States has dropped by 40% in the last 11 years, according to data from the CDC.[1] The most recent high number of reported cases was 26,673 in 1992; the number of reported cases in 2003 was 14,874. OSHA cited the dramatic drop as one reason it elected to drop the tuberculosis standard.

To meet the OSHA standard, facilities must revise their respiratory protection programs to comply with the OSHA standard, conduct annual respiratory fit-testing, and perform a medical evaluation and annual training for employees using respirators. The AAOHN survey indicates that the majority of the work required to bring facilities into compliance will fall on employee health staff.

AAOHN and the Association of Occupational Health Professionals (AOHP) called for a new

respirator standard that takes into account the unique needs of employees in the health care industry, citing the difficulty a large hospital would have fit-testing potentially hundreds of employees every year. Also, the groups said, airborne exposures in hospitals are less likely to be tuberculosis, and more likely to be infectious microbes. Besides hospitals, other health care facilities affected include nursing homes, correctional facilities, and substance abuse clinics.

The United American Nurses union spoke out in favor of the new protocol, despite the cost in time and dollars, because of the expected protection it could extend to health care workers.

OSHA has estimated that the national total cost of compliance will be more than $11 million, with 90% of that cost going toward fit-testing and training on the respirators.

The Joint Commission for Accreditation of Healthcare Organizations (JCAHO) requires accredited facilities to adhere to OSHA standards, and recently entered into an alliance with OSHA to concentrate efforts on reducing health care workers' exposure to airborne pathogens.

In response to member complaints about the new regulations, the AAOHN surveyed occupational and environmental health nurses and infection control professionals in hospital settings to gain information about compliance practices related to the new OSHA requirements.

According to the survey, 69% of respondents reported a high level of difficulty complying with the new OSHA requirement. Of these, a majority (75%) work in nongovernment not-for-profit hospitals, are responsible for fit-testing between 500 and 5,000 individuals (61%), and have an employee health staff of three or smaller (69%).

"AAOHN had heard from its members, particularly those in health care facilities, about their concerns related to compliance with the new general respirator requirement," says **Susan A. Randolph**, MSN, RN, COHN-S, FAAOHN, AAOHN president.

Participants were asked to provide information about their compliance practices as they relate to the types of hospitals in which they work, the number of employees for whom they are responsible, the size of their employee health staff and who administers their respirator fit tests. Answers to these questions were evaluated and compared to analyze whether or not these factors contribute to a high level of difficulty with compliance.

According to AAOHN's survey, respirator fit testing is typically handled internally; Eighty percent of respondents indicated that employee health services, or employee health services in combination with other hospital departments, administers its facility's respirator program, compared to 7% whose facilities use outside vendors.

OSHA standards directors announced earlier this year that fit-testing — on average, a 10- to 15-minute process per person — will be expected to be an annual event to ensure respirators continue to fit workers as they age and gain or lose weight.

In the AAOHN survey, respondents in employee health programs responsible for 1,000-5,000 employees indicated they have the most challenging time with fit testing, averaging 7.4 on a difficulty scale of 1-10, with 10 being extremely difficult. By contrast, respondents with fewer than 100 employees indicated the least difficulty with fit testing, with an average difficulty rating of 5.6. Those nurses operating with 3 or fewer employee health staff indicate they have the most challenging time with fit testing, averaging 7.4 on the difficulty scale. In most of these cases (53%), the employee health staff are solely responsible for fit testing.

As far as which model is most used for assessing tuberculosis risk, according to the survey, in all facility types except investor-owned, for-profit hospitals, CDC's 1994 Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-Care Facilities is used more than any other risk-assessment model (43% of federal government, 67% of long-term care facilities, 56% of nongovernment, not-for-profit, and 49% of state/local government facilities use CDC guidelines). In investor-owned, for-profit hospitals; however, 57% of respondents use OSHA's risk-assessment model.

To read the OSHA protocol for CNP REDON respirator fit test, go to www.osha.gov; click on *"Federal Register,"* then "Date of publication," then "2004." Under August 4, 2004, see "Controlled Negative Pressure REDON Fit Testing Protocol [1910]."

Reference

1. Centers for Disease Control and Prevention Surveillance Reports. *Reported Tuberculosis in the United States, 2003.* Atlanta: U.S. Department of Health and Human Services; September 2004. Accessed at www.cdc.gov/nchstp/tb/surv/surv2003/default.htm.

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Call center rings up WC savings

Nurses respond to injuries, input reports

You can't manage workers' compensation costs if you can't track those costs. That basic truth led OSF Saint Francis Medical Center in Peoria to rethink its system, beginning with the first report of a work-related injury.

Instead of filling out a paper form and handing it to a manager, injured employees now dial a call center and talk to a trained nurse. She logs the information about the injury and schedules an appointment for the employee at the most appropriate level of care.

This more efficient method, which directs employees to hospital-based care rather than private physicians, has saved OSF Saint Francis more than $41,000. It has provided more accurate information about the cost of injuries and enabled the hospital to respond more quickly to unsafe conditions.

The hospital now has a database of workers' compensation information. Previously, analyzing injury trends meant flipping through stacks of paperwork. Now, managers easily can determine their most frequent injury, whether the injury rate is going up or down, and how much the injuries are costing the hospital.

"Knowledge is power. I really believe that," says **Christine Abercrombie**, RN, BS, COHN-S, regional manager for occupational health, who will present the new reporting and tracking system at the upcoming conference of the Association of Occupational Health Professionals in Healthcare (AOHP).

"By using this, we have data in which to make decisions as to where we are going to focus our energies," she points out.

The old system at OSF Saint Francis led to nothing but frustration. Sometimes the workers' compensation case manager didn't even know about a work-related injury until she saw an emergency department (ED) bill; and the ED may not even have been an appropriate place of treatment for the injury.

"We surveyed managers; we surveyed injured workers; and we found out no one was happy with the process," says **Denise Strode**, RN, COHN-S/CM, clinical case manager at the OSF Saint Francis Center for Occupational Health and executive president of AOHP.

The hospital used the Six Sigma approach to quality improvement — using an interdisciplinary team to "define, measure, analyze, improve, and control" a problem.

Staff discovered that 71% of the accident reports did not comply with reporting requirements either in timeliness or information gathered. Some 70%-82% of ED visits following work-related injuries did not need that level of treatment. Cases involving private physicians

Financial Cost by Total Cost

Cause	# Cases	Avg. Cost	Total Cost
Needlestick/blood exposure	234	$685.92	$160,504.10
Push/pull	25	6,068.11	151,702.67
Patient lift/care	74	1,204.15	89,106.99
Trip/fall	38	925.30	35,161.45
Item lift	21	873.85	18,350.94
Pinch	10	1,797.79	17,977.94
Strike blow — stationary object	19	643.62	12,228.84
Trip/fall on equipment	7	1,444.96	10,114.74
Bend/squat/reach — nonpatient occurrence	7	1,237.87	8,665.06
Push/pull patients	4	1,829.29	7,317.17
Cut/squeeze/hit on with equipment	17	804.04	6,623.15
Laceration	12	545.30	6,543.57

Source: OSF Saint Francis Medical Center, Peoria, IL.

had more lost workdays.

Some of the reporting errors stemmed from the inefficiency of the paper system. For example, employees couldn't always get assistance from their managers to properly complete the paper forms, a survey found. Meanwhile, both managers and employees were dissatisfied with the restricted work program, which was supposed to find meaningful work for employees who couldn't return to their full duties.

The team decided to use the existing call center, which employs trained nurses to triage patient calls and provide advice and referrals. The nurses were retrained to handle work-related injuries and employee health concerns. They take the initial report and input it into a database.

Employees no longer need to fill out paper forms, and they receive an immediate response to their injury.

If an injury is life-threatening, the employee goes to the ED immediately and calls the report into the call center later. But in all other cases, the triage nurse directs the employee.

For example, for priority care, such as someone who smashed his hand in an accident and is experiencing pain and swelling, the call center nurse schedules a same-day appointment with the hospital's occupational medicine clinic.

For someone with a nonurgent problem, such as a worker experiencing recurrent bouts of tingling in her wrists, the call center nurse will schedule an appointment within a day or two.

This triage and scheduling reduces inappropriate ED utilization and saves the hospital about $16,000 a year, Abercrombie explains.

Better use of case management

The call center also strengthened the hospital's workers' compensation case management. When employees went to a private physician for a work-related injury, there often was a time lag before the case manager even became aware of the injury.

The hospital, which is self-insured, paid the medical bills outright instead of handling the costs internally through the hospital-based occupational medicine program.

With better management of the internal cases, employees returned to work after 2.3 days instead of 8.1 days, for a savings of $25,000 a year, says Abercrombie. Employees still can choose to go to a private physician, but they are satisfied with the convenience of the call center and its scheduling, she says.

"Not nearly as many [injured employees] treat with their primary care physicians now because they get taken care of so quickly with the call center," Abercrombie says.

Employees also are more satisfied with a revamped restricted work program. that requires managers to find appropriate modified duty tasks, allowing employees to return to their department.

Further savings will come from injury prevention, as the hospital targets high-cost and high-frequency injuries, she says. For example, by analyzing a year's worth of data, the hospital found that needlesticks and blood exposures were by far the most common injury, with 234 cases that cost a total of $160,504. But the greatest cost per case came from pushing and pulling — anything from heavy equipment to laundry carts — with an average cost of $6,068 per workers' compensation claim. **(See box, p. 126.)**

The hospital now is working to reduce those injuries. "We're trying to get smarter and do things better," says Abercrombie. ■

Career advancement: Grow in the right areas

More emphasis on technology in future

Whether to meet continuing education requirements, get a better job, or to satisfy a personal desire to improve in the profession, occupational health nurses always are looking for opportunities for professional development.

"It's important for them, as it is in any field, to maintain expertise and knowledge of the field," says **Susan A. Randolph**, MSN, RN, COHN-S, FAAOHN, president of the Atlanta-based American Association of Occupational Health Nurses (AAOHN).

Randolph said nurses often are looking for more than just the state-mandated continuing education they are obliged to get. They want more training that will help shape their careers, and they want it to be accessible.

Conventional avenues for obtaining career development training include the university setting and conferences sponsored by professional organizations such as AAOHN and its state chapters.

Besides going back to school for a postgraduate degree, occ-health professionals can use colleges and universities as resources for other

types of specialty training.

NIOSH has established Education and Research Centers (ERCs) at universities throughout the United States. The organization currently funds 16 ERCs that provide multidisciplinary graduate and continuing education programs in occupational medicine, occupational health nursing, industrial hygiene, and safety. The centers serve as regional resources those working in occupational health and safety, including industry, labor, government, academic, and the general public. ERCs are funded for five-year periods by NIOSH under a competitive peer-review process.

Besides the academic training programs, NIOSH supports ERC short-term continuing education programs for occupational safety and health professionals and others with worker safety and health responsibilities.

"Outside the university setting, professional organizations have lot to offer," Randolph says. "On the national, state, and local levels, they offer a lot of wonderful [continuing education] programs and networking opportunities."

But longer workdays and shorter leisure time has made it difficult for some nurses to get face-to-face advanced training or continuing education.

"It used to be that you would travel to a program or go to a class; but work has changed, companies have merged and don't have as many staff, so people are tied to their jobs and it's hard to get away," Randolph observes. "We're seeing more offerings being provided through distance learning, and that's opened up a lot more professional development opportunities."

AAOHN offers a list of continuing education opportunities and professional development courses, some of which are available as on-line or downloaded self-study courses.

Other professional organizations, including the American Industrial Hygiene Association (www.aiha.org), American College of Occupational and Environmental Medicine (www.acoem.org), and the Institute of Industrial Engineers (www.iienet.org), offer self-study and distance learning as well as on-site training at conferences.

But with more and more occupation health nurses reporting they are working longer hours — more than half of those responding to *Occupational Health Management*'s 2004 Salary Survey reported that they work more than 40 hours, and as many as 60 hours, each week **(see insert)** — the flexibility and cost savings offered by self-study courses is very attractive to many in the field, Randolph says.

"They can take courses at their convenience rather than on a specific day and time," she points out. "With videoconferencing and audio conferencing, you can attend it or miss it entirely, then bring it up on your computer, view the slides, or listen to it on CD when it's convenient.

"You print off a lesson or article, read it when you can, take a quiz on-line, print off your documentation, and you're done."

Training increases your worth

Even though it seems there may not be enough hours in the week to fit in the additional training, getting those hours in is critical to improving the worth of the occupational health nurse, particularly when companies are looking to trim budgets.

"It is important to show your value — what do you bring to the job that justifies your existence?" Randolph says. "Why should your workplace or company have an occupational health nurse?"

It's easy for companies to rationalize that as they belt-tighten, merge, and lay off employees, they may not need on-site nurses or an occupational health program. Keeping abreast of training and being able to demonstrate what an occupational health program means to the employer in terms of new programs that can save the company money by getting people back to work sooner or picking up on a disease earlier can be instrumental in preserving occupational health programs and jobs, Randolph surmises.

Wendi Robbins, RN, PhD, director of occupational and environmental health nursing at the University of California-Los Angeles School of Nursing, one of the NIOSH ERCs, says her center is seeing increasing demand for occupational health practitioners.

"The practitioner can not only administer advance practice nursing at the worksite — suturing, etc. — but comes out with a master's level degree and training in strategic planning, evaluation of programs, and that sort of thing," she says.

The role of the occupational health nurse in the workplace is changing, Robbins says, and so training for future occ-health nurses is adapting.

"Our program, for example, is interdisciplinary with business programs and industrial hygiene programs," she says. "They are all in courses together, and I think the nurses are seeing where they can expand their scope by getting masters' degrees."

The core materials that new occupational health nurses need to know has not changed all that

much, Randolph says, but for the seasoned nurse, the emphasis might be on advancing his or her knowledge in specific areas, gaining new expertise in technology, or learning new techniques for case management.

"SARS, bioterrorism . . ., there are always going to be things that require us to stay on top of developing topics," she points out.

Employees often consult the occupational health nurses at their work sites about non-work-related problems, such as arthritis or a sports-related injury, and if they get information or second opinions that prove trustworthy, the nurses' value to that employee — and thus, to the employer — has risen, Randolph suggests.

"And depending on the type of worksite you are in and the number of nurses there, you might be taking care of injuries, doing case management, and being an office manager, whereas if you have several nurses you might have just one responsibility," she says. "So depending on your workplace and the demands on you, your professional development needs will vary."

Footing the bill

As companies' budgets get tightened, money available for professional development is often one of the first things to go.

"In California, it's pretty dreadful in terms of budgeting," Robbins says.

"We are seeing maybe 10% of our students are experienced occupational health nurses who are coming back to expand their scope of knowledge," Robbins observes. "The other, major portion are hospital-based nurses who are looking to advance their practice roles."

Mandatory continuing education has to come first, but if there is additional training that could extend an occupational health nurse's job duties at a particular worksite, or would expand the services he or she could offer the employer for a relatively low cost, sometimes a well-planned presentation to the employer is all it takes to justify the cost.

AAOHN offers various grants to help with continuing education, leadership development, and return to school full time, and state and local chapters of national professional organizations frequently offer scholarships to help members attend training conferences.

A cost factor often overlooked is the cost in time — an occupational health nurse who is attending a conference isn't at work, and that can cost the employer money. When a nurse is the lone staff member in that company's occupational health program, distance learning might be a more readily accepted alternative for the employer.

AAOHN offers workshops to its members that help them make their case to their companies, including a skill set, success tools, and information on maximizing their value and demonstrating that value to their companies.

An eye on future technology

Occupational health nurses are going to continue to see their roles — and demands on them — change, and Robbins says being technologically savvy will be key to adapting to the changes.

"One thing here in California, as well as in other parts of the country, is the push toward becoming familiar with nanotechnology [a science devoted to engineering things that are unimaginably small]," Robbins says. Nanoscale materials are increasingly being used in optoelectronic, electronic, magnetic, medical imaging, drug delivery, cosmetic, catalytic, and materials applications.

According to NIOSH, the occupational health risks associated with manufacturing and using nanomaterials are not yet clearly understood. Many nanomaterials and devices are formed from nanometer-scale particles (nanoparticles) that are initially produced as aerosols or colloidal suspensions.

Workers within nanotechnology-related industries have the potential to be exposed to uniquely engineered materials with novel sizes, shapes, and physical and chemical properties, at levels far exceeding ambient concentrations. For now, NIOSH is urging caution when there is potential for workers to be exposed to nanoparticles.

"Even though we don't know the extent to which nanotechnology could affect worker health, we are making sure our graduates here at UCLA are at least familiar with nanotechnology, because we want them to be in line with the new technology-driven, global kinds of industry."

A current CE course schedule for all NIOSH Education and Research Centers is available. Contact NIOSH by phone: (800) 35-NIOSH [(800) 356-4674], or go to the NIOSH web site: www.niosh-erc.org. Information on occupational health and nanotechnology is available at www.cdc.gov/niosh/topics/nanotech/.

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Aggressive recruitment grows occ-health ranks

Programs mentor college students

Areas of health care specialty are all competing for a limited pool of nurses, but a pair of programs are hoping to introduce nurses and nursing students to the field of occupational health and safety.

NIOSH mentored nine college students during this year's summer break, as part of the CDC Project IMHOTEP.

Project IMHOTEP is a CDC mentoring program for minority students, named after an ancient Egyptian physician, mathematician, and architect who established some of the first recorded public health practices. He was deified as the god of medicine. The program is designed to enhance the skills and experience of minority students in the public heath areas of epidemiology, biostatistics, and occupational safety and health.

The program is sponsored by the Public Health Sciences Institute at Morehouse College in Atlanta, and is designed for undergraduate students (rising and graduating seniors) who have some training in public health and/or quantitative or science disciplines. The program provides participants with two weeks of intensive classroom training in epidemiology, biostatistics, writing, biochemical techniques, and various computer statistical packages, and nine weeks of research and data analysis in biostatistics, epidemiology, and occupational health and safety with experts at the CDC and Morehouse College. Project IMHOTEP sponsors interns in Spokane, WA; Morgantown, WV; Cincinnati; Pittsburgh; and Atlanta.

Bill Jenkins, PhD, a founder of the project and faculty member at Morehouse College, said Morehouse and CDC personnel who work with the program seek to instill "religious fervor" among students that will drive them to want to establish careers in public health.

Recruit, mentor new generation

The Occupational Health Internship Program (OHIP), administered by the Association of Occupational and Environmental Clinics (AOEC), graduated its first class of interns last summer with the support of NIOSH. OHIP seeks to recruit, train, mentor, and inspire a new generation of occupational safety and health professionals who are dedicated to preventing job injury and disease through partnerships with workers.

Student interns are assigned to work in interdisciplinary teams to promote better understanding of how the different professions interact to identify, assess, and resolve occupational hazards. OHIP has training centers at the University of California, San Francisco and Hunter College in New York City.

"We believe that students of occupational health need direct experience with workers to fully understand the complexity of health and safety issues and problems in the workplace," says **Gail Bateson**, MS, OHIP Program Coordinator. "OHIP offers funding for students to work with union and other nonprofit worker organizations, and teams of students from medicine, nursing, public health, and related fields receive training and will collaborate with the sponsoring union/worker group and local occupational health and safety mentors to address occupational health and safety problems."

She says OHIP will play a vital role in shaping the future of occupational health by developing the next generation of leaders in the field and give future occ-health professionals grounding in "the reality of the workplace."

OHIP is based on the premise that occupational health nursing requires a nurse to have a broad knowledge base not only in assessment and treatment of injured workers, but also in public health

COMING IN FUTURE MONTHS

- The importance of outcomes management
- Delays in recovery from musculoskeletal injury
- Occ-health issues unique to shift work
- Marketing occupational health

issues and regulations. Interpersonal skills are necessary for dealing not only with healthy, sick, or injured workers, but also with employers, insurers, and program directors, and exposure to these dynamics early on helps students build strengths in these areas, Bateson says.

[For more information, contact:

*• **Bill Jenkins,** PhD, Morehouse College Public Health Sciences Institute, 830 Westview Drive, S.W., Box 121, Atlanta, GA 30314-3773. Phone: (404) 215-2733. Web: http://www.morehouse.edu/academics/cenins/publichealth/imhotep/program.html.*

*• **Gail Bateson,** MS, OHIP Program Coordinator, University of California at Berkeley, Berkeley, CA. Phone: (510) 525-6421. E-mail: batesong@pacbell.net. Web: www.aoec.org/OHIP/Home.htm.* ■

NEWS BRIEF

Bar, casino workers benefit from no-smoking rule

A study of the effects of Delaware's ban on smoking in public places, enacted in 2002, showed that toll collectors in a tunnel tollbooth breathed fewer particulates than workers in casinos in that state, according to results published in the September issue of the *Journal of Occupational and Environmental Medicine.* A researcher measured air quality at eight indoor entertainment establishments before and after the law took effect, as well as at locations with high vehicular traffic.

The study found that before the smoking ban, the levels of potentially dangerous particulates in the entertainment locations were more than double the level on Interstate 95 in Delaware. But after the law took effect, particulates in the air in the bars and casinos dropped 90%. The author of the study wrote that the findings disprove the argument that good ventilation systems are enough to clear particulates from indoor air, and that the ban on indoor smoking should result in better respiratory health for workers. ■

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PS Form **3526**, September 1999 *(Reverse)*

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 attendance;
- **implement** ergonomics and workplace safety programs to reduce and prevent employee injuries;
- **develop** effective return-to-work and stay-at-work programs;
- **identify** employee health trends and issues;
- **comply** with OSHA and other federal regulations regarding employee health and safety.

CE questions

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 **December** issue and return it in the reply envelope provided in order to receive a certificate of completion. When your evaluation is received, a certificate will be mailed to you.

17. For an employer with fewer than 50 workers, spending money on workplace health and safety measures is not a cost-effective use of resources.
A. True
B. False

18. According to occupational health consultant Beverly Tobias, which of the following is a good first step/are good first steps for a small business owner to take regarding workplace health and safety?
A. An audit by an occupational health consultant
B. Posting of OSHA safety regulations
C. Posting of a building evacuation plan
D. Informing employees of safety measures they are required to observe
E. All of the above

19. The number of cases of tuberculosis reported in the United States has dropped by more than 40% since 1992.
A. True
B. False

20. According to results of a survey of AAOHN members, most of those occupational health nurses who work in nongovernment, not-for-profit hospitals and are responsible for fit testing between 500 and 5,000 individuals must do so with an average staff size of ____.
A. three or fewer
B. five to seven
C. eight to 10
D. 10 or more

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

Occupational Health Management™

A monthly advisory for occupational health programs

Salary increases better in 2003, but hours still long

Occ-health nurses balance work and life

Do as I say, not as I do. The occupational health nurse is quick to point out to workers when too many long hours are detrimental, but the nurse is likely to be putting in just as many hours, if not more.

According to the 2004 *Occupational Health Management* salary survey, the working day for occ-health nurses still is a long one. The good news is, they were rewarded a bit more last year with salary increases that topped those from the year before.

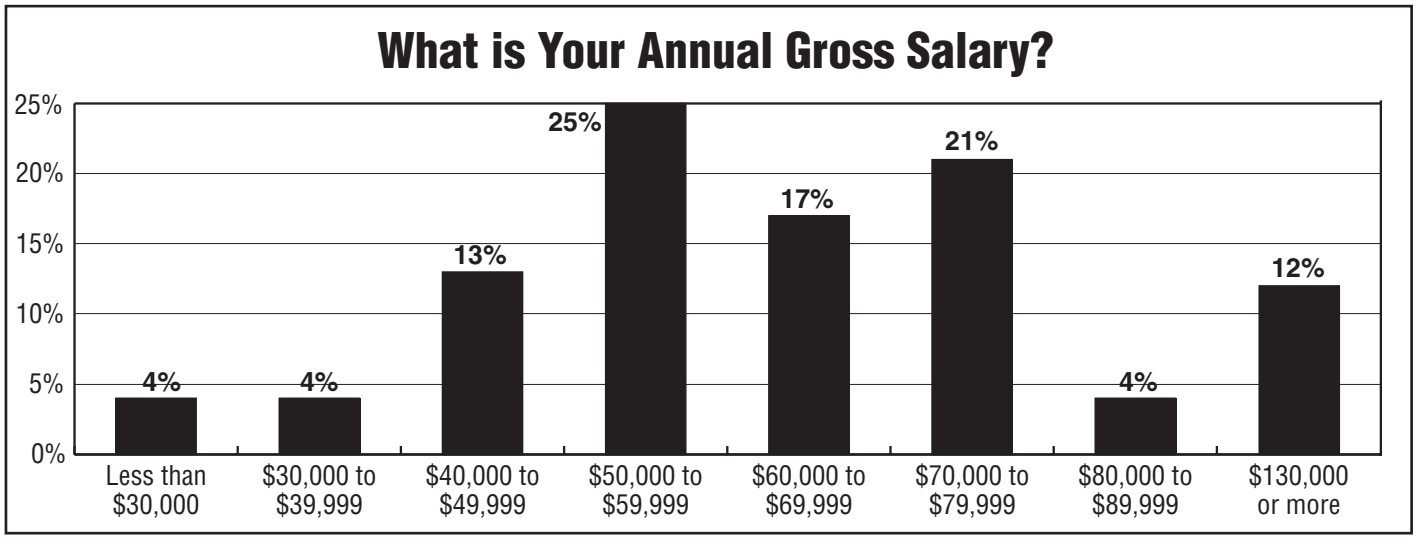
Raises healthier in 2003

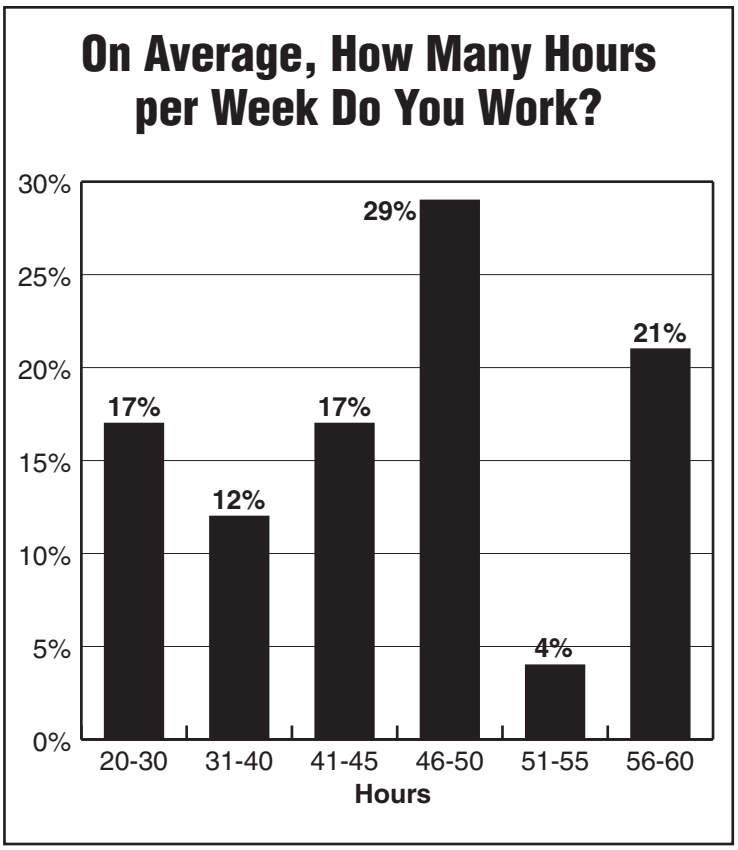
Salary increases over the past year were a bit better than they were reported to be the previous year, based on comparisons of the 2003 and 2004 *OHM* salary surveys.

In the 2004 survey, 71% of the occupational health professionals who responded said they received salary increases of 1-6%, compared to 69% of respondents who'd received raises of between 1% and 6% the previous year.

A closer look at the raises within that range reveal that more raises were in the 1% to 3% range than in the 4% to 6% range, according to the 2004 survey, a slight negative change from what was reported in the 2003 survey.

"I think, across the board, in any industry, you're going to find people who just consider themselves lucky to have a job right now, so a 1%-3% increase is going to be pretty standard," says





Susan A. Randolph, MSN, RN, COHN-S, FAAOHN, president of the American Association of Occupational Health Nurses (AAOHN), based in Atlanta.

While the majority of survey participants reported raises in the 1%-6% range, another 25% of the total respondents said their salary did not change in the last year, while 4% reported increases of 7%-10%.

Occupational health professionals are working hard for those increases, the *OHM* survey indicates. Long working hours continue to be an occupational hazard, Randolph says.

"I'm hearing that it takes more and more time, depending on number of staff you have, to get the work done," she reports. "For many people, their job responsibilities have broadened, there's more work to do, and they're just trying to get it all done."

41- to 50-hour workweek the norm

This year's survey reflects that while 29% of those responding work a typical full- or part-time schedule of 20-40 hours per week, almost 46% are working 41-50 hours per week. And 21% report they are working 56-60 hours per week — an average of 11-12 hours every day of the week.

"I view the technology we have today as a tool that can assist you, but it can also mean you are on 24/7," Randolph says. "With e-mail, you get an immediate response, often, and so you end up being able to do more, but it means you might be doing more and doing it more hours per week."

Because some occupational health practitioners travel — either to satellite sites of their employers', or to client sites if working as a consultant — they wind up doing work at night and on weekends, making up for the time lost during travel, Randolph says.

"It seems as if there's never really enough time to take a breath," she adds. "It's important to try to balance that, to put things in perspective and to have time to approach things in other ways."

More staff, or just more work?

The 2004 survey included a question that had not been posed in the *OHM* survey for two years: "How has the size of your staff changed in the past 12 months?" The respondents said that 62.5% of them had seen growth in their staff during the last year — a figure that on first glance might seem to represent a boom in the field.

But Randolph says there could be other reasons.

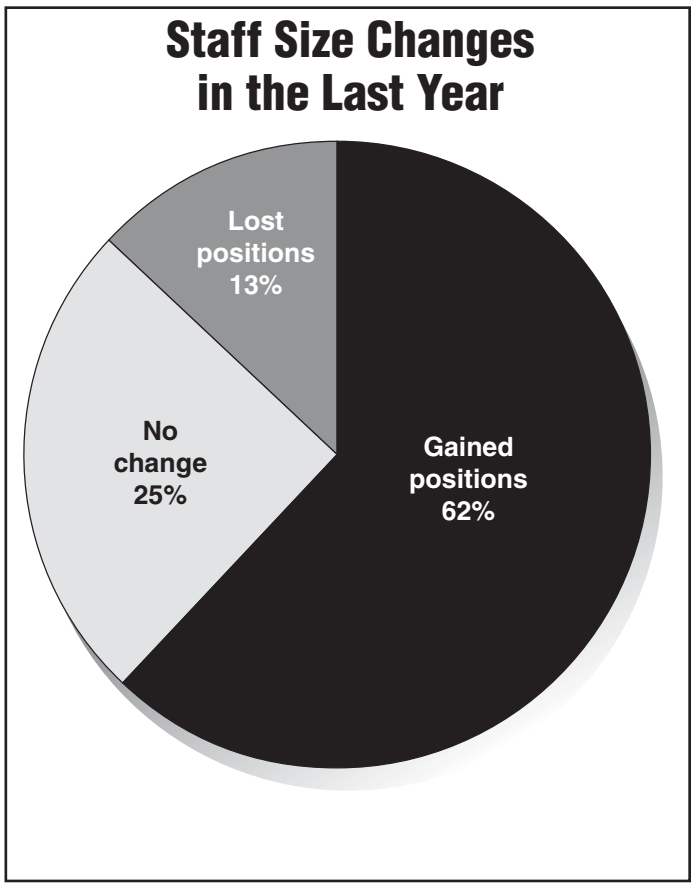
"There has been some rebound of the economy, and that might be reflected in those figures, and it could reflect that employers are recognizing the importance of having a healthy and productive work force and are investing in having the additional staff to address those particular needs," she says. "But it also could be that with streamlining and cutting back of staff, other programs might be being folded in under the occupational health umbrella, and that could account for an increase in staff.

"Perhaps environmental health in a company is brought into the occupational health department, and in that case, it would not really be a growth in staff as much as it would be a realigning or broadening of the staff."

In the 2004 survey, 54% of those responding are at the manager/coordinator level in occupational health. Twenty percent are directors of occupational health, and 13% are occupational health nurses.

Ahead of the curve

Recognizing that to keep an occ-health program going in the current business climate an occupational health professional must be as valuable to the program as possible, many occupational health



nurses are eyeing advanced degrees, according to **Wendi Robbins**, RN, PhD, director of occupational and environmental health nursing, the University of California-Los Angeles School of Nursing.

Robbins says a trend at UCLA is for occ-health nurses to go back to school to become occupational nurse practitioners, so that they will be qualified not only a wider range of clinical services, but also will be more expert at managing the business side of an employee health program.

"Another option we're seeing is for them to just enter a program where they learn budgeting and management, and in that way make themselves a more valuable employee," Robbins adds.

The wide range of expertise an occupational health professional can bring to a workplace is one of the things that influences salaries in the field and attracts new nurses into the specialty of occupational health and safety, Randolph says.

"We [in the occ-health field] are doing thing to reach out to nursing students who are getting ready to graduate, to let them know that this is a viable, wonderful opportunity in which to grow," she says. "We like to highlight that this is a field in which you can be much more autonomous, working alone to make decisions that keep workers well."

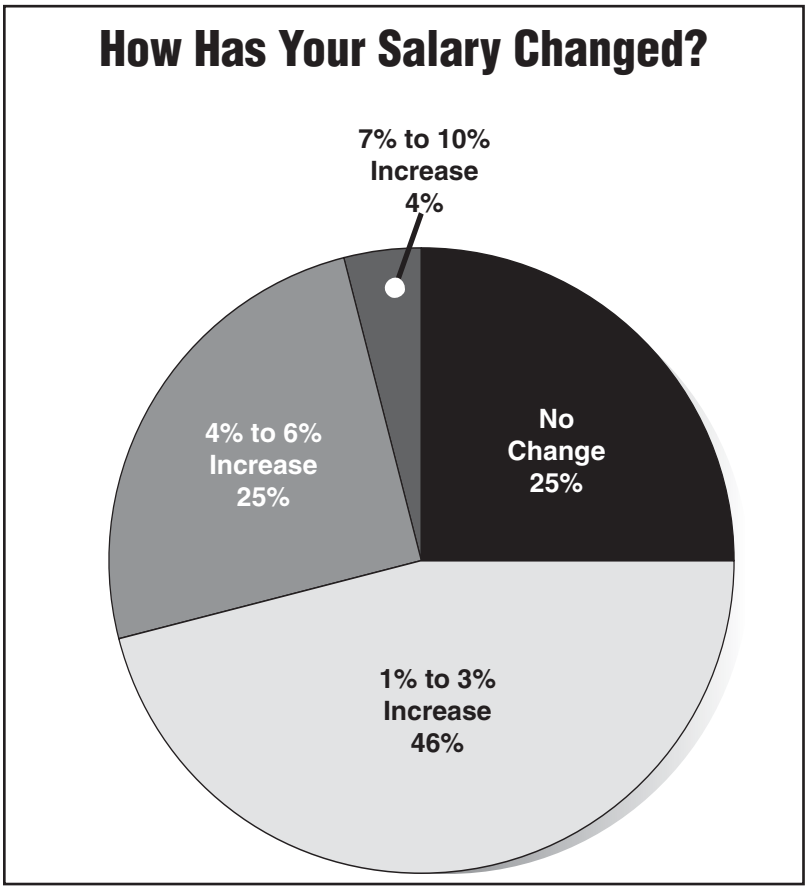
The nursing shortage continues to be a factor. The struggle is to get students into nursing school, period, much less into the occupational health field specifically, Randolph says.

Older nurses attracted to field

Attractive salaries are a key component to drawing in new nurses, Randolph points out. While the *OHM* survey indicates that quite a few respondents are in a higher income range, Randolph says those figures should be taken in context to the age range of those in the field.

"The population as a whole is aging, and so you are going to have a larger number of folks in that age range," Randolph says.

Just 12% of those responding to the survey are younger than 40; this is not entirely surprising, because occupational health has traditionally been viewed as a field into which nurses move after they have gained a variety of experience. Almost 46% of those surveyed are between ages 41 and 50; 4% are 51 to 55 years of age; and 29% are age 61 through 65 years.



As in other nursing specialty areas, largely women populate the occ-health field. Consultants say occupational safety and health is an area that seems to be attracting more males, particularly in the areas of manufacture and industry. In the 2004 survey, 17% of the respondents are men.

Attract them with money . . . or with respect

While the *OHM* salary survey asks respondents only about monetary compensation, Randolph says employers are showing some creativity in rewarding occupational health staff in nonmonetary ways.

Granted, she says, "That doesn't pay the bills," but what can help pay the bills — or at least make those long hours go by more easily — is some form of compensation that signals the work being performed is necessary and appreciated.

"If not a raise, then there are other benefits, such as being recognized for the good work that they do," she says. "They can be shown that they are valued as a contributing worker, or that they are respected for their decisions. Giving someone responsibility can go a long way [toward employee satisfaction]."

The challenges faced on the job can be rewarding as well, those in the field say. "The critical thinking that is involved, the challenge of keeping employees well, as opposed to being a floor nurse in a hospital and your focus being on making people well, are all aspects of the job that can help retain nurses in the specialty," Randolph says.

Finally, where the occ-health professional is working influences his or her income, according to survey results. The Northwest, West, and West Coast areas yielded the most respondents reporting incomes from $60,000 to $89,999. ■