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Advice on improving palliative care program for dementia patients

Dementia population expected to triple by 2040

The number of Americans with dementia is expected to double or triple in the next half century as the U.S. population ages. While 6 percent to 8 percent of people over age 65 have Alzheimer's disease, nearly 30 percent of people over age 85 are impacted by the disease.[1]

"There is a dramatic increase in the number of Americans who are diagnosed or who are going to be diagnosed with Alzheimer's disease, or related dementia," says **R. Sean Morrison**, MD, director of the National Palliative Care Research and Training Center in New York, NY. Morrison also is a Hermann Merkin professor of palliative care, a professor of geriatrics and medicine, and a vice-chair for research at the Brookdale Department of Geriatrics and Adult Development, Mount Sinai School of Medicine, New York.

"As baby boomers start to age, by 2040, the burden on the population is going to be about 12 to 15 million people with dementia," Morrison says.

Typically, hospice patients who have a diagnosis of dementia have been less than 10 percent, Morrison says.

But this is expected to change as hospice and other providers make changes to include programs for dementia patients.

One potential model for dementia care in hospice is the dementia program initiated in 2003 by the Hospice of the Valley in Phoenix, AZ.

The sheer numbers of older adults dying of Alzheimer's disease and related dementias necessitates a special hospice dementia program, says **Jan Dougherty**, RN, MS, dementia program director for Hospice of the Valley.

"Hospices are struggling to know how to implement a benefit designed for a cancer model, and we knew we had a chance to do better, serving our patients and their families better than the traditional way," Dougherty says.

Dougherty previously has worked for the Alzheimer's Association, where she started a project on palliative care in nursing homes. The project encompassed how nursing homes take care of people dying of advanced dementia, she says.

Hospice of the Valley's medical director decided to improve the hospice's response to dementia patients, and hired Dougherty to help make changes.

Unfortunately, few hospices have special programs and education to handle dementia patients, and physicians make too few referrals of dementia patients to hospices.

"I think it's changing slightly, but the major problem is that until the Medicare guidelines for enrollment move beyond a prognostic-based system, it will be extremely hard to enroll patients with Alzheimer's disease," Morrison says.

The reasons why it's so difficult for physicians to make that referral are as follows, he says:

• Alzheimer's disease is a relatively slow, progressive disease, and the needs of patients with the disease are very different from what typically is provided by hospice, Morrison says.

"These patients have a tremendous amount of personal care needs," Morrison adds.

• Alzheimer's disease patients have long periods of stability, and then have an acute crisis that typically is triggered by an infection, such as aspiration pneumonia or a urinary tract infection, he says.

• Physicians, families, caregivers, and even many hospice professionals do not view Alzheimer's disease as a terminal illness because patients with the disease typically live for eight or nine years and die of an acute infection, not the disease itself, Morrison notes.

"We treat the infections, pressure ulcers, behavioral disorders, and we tend to lose sight of the fact that this really is a fatal illness of brain degeneration," Morrison says. "People don't think of the hospice setting for Alzheimer's patients because we're focused on other medical issues in the background."

These factors make the dementia patients a poor match for what is typically provided under the hospice benefit, Morrison says.

However, with an estimated 4.5 million Americans who have Alzheimer's disease, it is worth the effort for hospices and health care systems to make changes that would enable more dementia patients to receive the hospice benefit, Morrison says.

Also, data suggest that when advanced dementia patients are hospitalized for an acute infection or a hip fracture, about half of them will die within six months.[2]

So hospital providers, who see dementia patients during their crisis periods, are in a good position to make hospice referrals, Morrison says.

"There's a clear need for systems of care for these patients in hospices, which are ideally situated to care for them," he adds.

A first step would be staff education.

For instance, the Hospice of the Valley has developed a comprehensive education program for staff, as well as for other health care professionals.

The hospice holds a five-hour dementia experts workshop in each of four area offices, and these are attended by nurses, social workers, chaplains, and other employees who see patients with dementia, says **Maribeth Gallagher**, RN, MS, NP, a dementia program psychiatric nurse practitioner and music consultant at the Hospice of the Valley Dementia Program in Phoenix.

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"We start with a dementia overview to get everyone on the same page," Gallagher says. (See story about Hospice of the Valley's dementia program, p. 88.)

"Last year we provided 94 hours of training to more than 1,300 employees," Dougherty says.

As a result of the training and changes, the percentage of hospice patients who have dementia has increased from 8 percent in 2002 to 18 percent in 2006, Dougherty says.

"Also, we've increased our length of stay, which for a dementia patient is an average of 118 days," Dougherty says. "Our overall length of stay is 68 days on average, and the median length of stay is 35 days for dementia patients and 16 days overall."

Plus, Hospice of the Valley's overall daily census has increased from 1,200 to 2,600 patients per day, and this is in a highly competitive area for hospices, she adds.

There are other strategies that hospices and health care systems can employ to improve hospice referrals of dementia patients, Morrison notes.

For one, there needs to be a better integration between hospice programs and other systems of care where there are dementia patients, and these systems include doctor's offices and long-term care facilities, he says.

"Two-thirds of the people admitted to a nursing home have dementia," Morrison says. "So clearly there is an incredible opportunity for collaboration between hospices and nursing homes."

Both providers bring higher, but different, expertise to the care of these patients, Morrison adds.

"They can work together in a way that is happening now, but not to the extent it could be," he says.

Also, there should be more integration between palliative care programs and hospices, so people who are taken care of under regular home care services could be transferred to hospice care, which would help to improve their overall care, Morrison says.

Fortunately, the palliative care model is growing, with one in four U.S. hospitals having one, and about 60 percent of the largest hospitals having a palliative care program, Morrison says.

"Palliative care is a model of care that is focused on improving the quality of life of patients with advanced illness, and it's offered in conjunction with all other appropriate medical treatment," Morrison says. "So it's the ideal model of care for people with Alzheimer's disease."

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For example, a palliative care program could begin to see a patient with an early dementia diagnosis and mild short-term memory loss and provide the patient and family with advanced care planning according to their quality of life issues, Morrison explains.

As the disease progresses, palliative care staff could provide caregiver support and help the patient in terms of cognitive strategies, such as having them rely on the caregiver for memory, he adds.

Continued palliative care services would include periodic evaluations of the patient's quality of life and goals and how various other health care programs might meet their goals, he says.

For instance, the patient and family could make clear decisions about when the patient should be hospitalized and for what conditions, and which treatments would be appropriate, Morrison says.

This is when palliative care staff would assist in providing the family with home health aide care and refer them to programs that are designed to help people stay at home, even when they are eligible for nursing home care, Morrison says.

"Then, as the disease progresses, there will come a point where people meet the eligibility requirements for hospice, and palliative care staff can make sure the referral is made and that the patient is seamlessly transitioned into another system," Morrison says.

"Clearly, earlier referral and appropriate documentation for people with Alzheimer's disease is important," Morrison says. "Once you enroll somebody with Alzheimer's disease under the hospice benefit, they will get better because they receive the personal care they need."

These patients might receive faster treatment of infections, and sometimes they've done so well they've been dis-enrolled from the hospice program, which is a problem because the disease is progressive, Morrison says.

The solution would be better documentation that explains how improvements are transitive within the setting of a progressive disease, he adds. ■

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Phoenix hospice has model program for dementia patients

Staff education is main focus

The Hospice of the Valley in Phoenix, AZ, follows the assumption that hospices are an ideal environment for patients with dementia, so long as the hospice staff is well educated about how care for these patients differs from care for the traditional hospice patient.

The hospice encourages employees to become dementia experts, so every clinical team has one nurse or social worker who received eight hours of dementia care training, says **Jan Dougherty**, RN, MS, dementia program director of the Hospice of the Valley.

"We put together a 30-minute video on dementia care, and we required every staff member to see the video," Dougherty says. "We had talking points for each section to reiterate the most important things people need to know."

Dementia care experts work with their teams to identify better ways the hospice can support dementia care practices, Dougherty adds.

Since hospice care was changed specifically for dementia patients, the staff helped make adjustments in how they provided care, based on their experiences and observations, Dougherty says.

"The people in the field making visits would bring back their areas of concern, and we'd look at how we could solve those problems," Dougherty says.

For example, hospice managers realized the hospice was using the wrong medication for patients who had dementia, Dougherty notes.

"We had a standard protocol of ordering morphine and Ativan for every patient because cancer patients have pain and anxiety," Dougherty explains. "But with dementia patients, we realized they didn't need morphine, when maybe Tylenol would do, and you never want to give dementia patients tranquilizing drugs because it makes them more confused."

At first, the nurses were not happy with the change in medications, she recalls.

"Morphine and Ativan was their traditional arsenal for dealing with problem behaviors," Dougherty says. "But we had started with those medications, and soon realized they made the symptoms worse."

Another major change was in how the hospice trained volunteers who would work with dementia patients. Typically, volunteers would sit with patients and have a conversation, Dougherty says.

"Now, we were asking them to be present with a patient who could no longer communicate in a traditional way," she says.

The hospice provides special training for volunteers on how they can visit a dementia patient and bring meaning to a visit in which the patient could not communicate in a traditional way, Dougherty explains.

"We gave four hours of training to more than 100 volunteers from four different clinical offices," she says.

Hospice staff also are trained to provide comfort care that is specifically designed for dementia patients, including sharing with patients a sing-along CD created specifically for dementia patients, says **Maribeth Gallagher**, RN, MS, NP, dementia program psychiatric nurse practitioner and music consultant.

"We pick songs they've heard repeatedly over a lifetime," Gallagher says. (See the September 2006 issue of *Hospice Management Advisor* for a corresponding article about dementia comfort care and caregiver education.)

Hospice of the Valley has helped to create a statewide consortia to write standards of practice for dementia care, Dougherty notes.

Since Dougherty had already created educational materials about dementia care, the program's development went quickly, and the hospice has shared the training with others.

"My colleagues and I have presented a lot of information about dementia care at professional hospice meetings, and, locally, we've trained more than 1,600 medical, non-hospice professionals, including 61 professional trainings at nursing homes," Dougherty says.

As the program has evolved, it's included ideas from the staff, including the use of a caregiver grief inventory that was suggested by a hospice social worker, Dougherty notes.

"This is a wonderful way to work with the family prior to the patient's death on their own grieving experience," Dougherty says.

With dementia patients, the bereavement counselor might be assigned before the patient has died, she adds.

"Families of dementia patients are tired of telling their story, so we put together this educational program for them," Dougherty says. "It's a half-day session in which they are brought together to talk about the grief and loss they've experienced with the loved one who has dementia."

The workshop empowers people to tell their story and to share their ideas of how they make new connections with people who have advanced dementia, Dougherty explains.

Input from families led to the development of new ceremonies in which families can acknowledge the loss they've experienced, she says.

"For example, we have one ceremony called the new home ceremony for the person with dementia who can no longer live in his or her own home," Dougherty says. "This is a really tough thing for the family to cope with, so the ceremony allows them to acknowledge the loss of leaving their home behind, while celebrating their new home."

During the new home ceremony, the family reminiscences and talks about the good times they've had with the patient, she says.

Then they celebrate the new home, usually by bringing an object from the old home that will stay in the new one, Dougherty adds.

The ceremony helps families come together before the patient's death to remember who the patient really is, and it's a nice way to help them stay focused on the moment rather than on their loss, she says.

"Our goal is to put together a dementia tool kit, and we're trying to complete a dementia care path for hospice patients, outlining what you do for these patients over time," Dougherty says.

For example, one strategy is to require a biographical sketch of every patient and to perform a mini-mental status exam to evaluate each patient's cognitive status, Dougherty says.

For the hospice's staff, there has been a profound attitude shift from one of disliking care for dementia patients to one of appreciating providing care for these patients because they know they can help them, Dougherty says. ■

Hospice patients and families receive special support from Faithful Presence Program

No 'I love yous' left unsaid

For most people at the end of their lives, it's a comfort to know that their lives touched others and that some part of them will live on within the ones they love. With this in mind, Faith Hospice in Irving, TX, has created a Faithful Presence Program in which families can record on a professional-quality CD their thoughts and feelings about the person who is dying.

The hospice patient is presented a copy of the CD as a gift from the family, and the patient's family receives copies as a legacy.

"Our purpose is to help the dying person get closure on his life and find meaning in his life," says **Don Weaver**, PhD, a consultant with Faith Hospice and a psychologist in private practice in Addison, TX.

"But most of all, the purpose is to help patients deal with the crisis of terminal illness in a way that enriches them," Weaver says. "What we do is rely on the family to help accomplish that."

The CDs include the family's memories, presented as vignettes about the patient, illustrating the patient's character and life interests, Weaver says.

For example, one patient's granddaughter recounted how her Christmas days were the only days of the year when she didn't feel like the "little poor child" because her grandfather pretended to be Santa and made certain she had gifts under the tree.

Family members will comment on the patient's positive qualities and resources, Weaver says.

"We have them say directly, 'I love you' to the patient, and all of their comments are directed to the featured person, the dying person," Weaver says.

"Then we pull out the best of these remarks and put them on top of the featured person's favorite music, whether it's religious or secular," Weaver adds.

Sometimes the songs are sung by grandchildren or other family members.

Faith Hospice provides all patients with a CD player to have by the bedside, so patients can listen to their personal CDs, as well as to other music, while they are dying, says **Carol Bourland**, BS, manager of volunteer services for Faith Hospice.

The Faithful Presence Program is one of several programs the hospice provides to patients and families as part of their spiritual and emotional care, Bourland says. (See story on other Faith Hospice programs, p. 91)

The CDs have provided a great deal of comfort and solace to patients. Among the quotes the hospice has collected from patients are these:

- "When night comes, and you settle down, and then it's just you and your thoughts, they're going to wander to those people that you've loved so much. And all you've got to do is just reach out and turn on your tape—and there they are, right there by your bedside."
- "I go to sleep with my tape almost every night. Just to think I can reach out, and touch a button, and hear my children's voices or my grandchildren, or my friends. . . I can just hear their voices. It's a comfort to me."
- "When I listen to that tape, I don't think about anything except what's on it. That's why I play it. Because I completely lose myself, and I just absorb it."

When the hospice made a CD for a patient who was nicknamed "Peewee," the staff brought the finished CD to his home, where he was surrounded by family, but had been unresponsive for a couple of days, Bourland recalls.

"He was restless, and we played the tape and saw him calming down," she says. "He tried to sing along with his favorite song of Amazing Grace."

Peewee had been a music director for a church in a small Texas town, and so music was very important to him, Bourland says.

"The family said, 'I believe the CD helped show him the way to heaven,'" she adds.

The idea of the Faithful Presence Program is to help patients and their families focus on the present and on the positives in their lives, while accepting the negatives from the past and future, Weaver and Bourland say.

"We knew this would be beneficial for hospice patients, but we didn't know what impact it would have on family members," Bourland notes. "We interviewed family members three months after the loved one's death, and the impact was incredible."

Family members said the CD helped them to have closure, and one woman said the CD helped her to teach her young daughter about death and dying, Bourland recalls.

"They played the CD at his funeral, and it brought them closer together as a family," Bourland adds.

Listening to a Faithful Presence CD might remind one of a National Public Radio feature segment. The voices are clear and the sound quality is sharp. The memories the family members relate can easily bring tears to eyes.

With two decades of experience in making the special CDs, Weaver has created an efficient model for their creation.

"The start-up cost is you have to have a good microphone and CD recorder and, hopefully, you'll have some gear that will delete noise from the initial recording, such as trucks outside or, especially if you're in a hospital, extraneous sounds," Weaver says.

The basic equipment could be purchased for under $1,000, but there also is a need for editing, and that takes both time and money.

"Hospices can partner with area universities and get it edited and mixed to music by students, who will receive independent credit for their programs," Weaver says. "I've been passionate about this for 20 years, and even in the dark times when the funding was not there, I'd do it for free."

Family members, from babies to elderly spouses, contribute to the CD. Those who can speak are asked to tell stories about the hospice patient that highlights his or her unique qualities and character, commenting specifically on the person's inspiring qualities. They are also asked to express their love and gratitude directly to the dying loved one, cutting to the chase of what's important here and now.

These stories are recorded directly to a CD, and then they are edited and placed on a finished CD, with music added to the background. The music is what the patient or the patient's family says is important to the patient.

The editing process is labor intensive, Weaver notes.

"We get the raw material on the hard drive and then go through it, and it's very systematic: we're looking for verbal content that falls into three categories of vignettes, positive qualities, and saying, 'I love you,'" Weaver says. "Everybody has to say, 'I love you,' or they don't get out of the room."

The editor will identify the first and last word of each segment that will be included on the finished CD, and then these are pulled by an audio technician to record on the finished CD.

"We identify the good segments and themes, and the technicians pull it together," Weaver says.

For example, a local television station has donated some editing time, Weaver adds.

"We take it to sound experts, who spend an hour and a half on it, and then it's a finished product," Bourland says.

"We are very persnickety about what gets on the final product," Weaver says. "We take the CD and pull out the nuggets, good segments, and arrange them on the person's favorite music."

The hospice does have to worry about using copyrighted material, but most artists when contacted will provide permission to use their music for free, since the CD is given as a gift to patients and families, Bourland says.

Families and patients who've received the CDs say they help them stop focusing on fear of the future, Weaver says.

"They focus on the positive contributions and experiences they've had in the past," Weaver explains. "It's a dramatic shift, and they tend to live more in the present and take each day as a gift, detaching themselves from negative memories." ■

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Hospice's extra services focus on enhancing living experience

Living life to fullest is chief goal

Faith Hospice of Irving, TX, has employed a variety of services from complementary therapies to life-enhancing programs for the benefit of patients and their families.

These range from aromatherapy, pet therapy, and music therapy to massage, acupuncture, and Reiki.

Another program, called the 11th Hour, involves trained volunteers who will sit with patients during their last hours, holding hands and creating a reassurance presence, as well as providing respite care for families.

"We're trying to raise the bar and offer as many things as we can for comfort care," says **Carol Bourland**, BS, manager of volunteer services.

Among the more creative programs are the Faithful Presence Program, in which patients are given a professional-quality audio CD of their family members' recollections about them, the Video Life Review, and the Faithful Wishes Program.

Bourland describes the Video Life Review and Faithful Wishes Programs:

• Video Life Review: All patients are offered the service of having the hospice make a videotape on which the patient and/or family members discuss the patient's life and experiences, Bourland says.

"We have a volunteer who has a video camera, and she loves to use it and will come with me to a patient and talk with them about where they

were born and what their childhood was like," Bourland says. "They take off with their stories from there and, afterward, we do a little editing and present it to the patient and family."

For example, one 92-year-old patient, who had emigrated from Russia, had a lot of stories to tell about her experiences traveling during World War II in Europe, and she wanted to make certain her grandchildren could hear her tales, Bourland recalls.

"I would go and visit her, and she'd tell me these stories." So I told her, "You have these wonderful stories," Bourland says. "She said she wished her grandchildren would know what she's been through."

The woman was very excited when Bourland told her about the Video Life Review program and eagerly participated. In the two months before she died, the patient repeatedly watched her own videotape, Bourland says.

"She loved having it in her room," she adds. "She needed this for closure before she died."

The Life Review program's purpose is to give hospice patients an opportunity to talk about the challenges they've had in their lives and to impart the wisdom they've gained from both their low points and their high points, says **Don Weaver**, PhD, a psychologist and consultant to Faith Hospice.

They tell their next generation, both children and grandchildren, what they think is important and the values that have governed their lives, Weaver adds.

• Faithful Wishes: Faith Hospice patients are told they may make a wish that the hospice will help them to realize, Bourland says.

"If there's something in particular that they would enjoy doing in the time they have left, we will help them to do it," she says. "This program emphasizes living to the last moment."

In the past 1.5 years, the hospice has granted 14 wishes, and not one of these has cost the hospice money, Bourland notes.

"We had a ramp built up to a woman's front door so she could have wheelchair accessibility," Bourland says. "Another patient loved his Harley-Davidson motorcycles and his wish was to play golf at the Byron Nelson Championship at the Four Seasons Golf Course in Las Colinas and then to go on a group Harley ride."

The hospice found two Harley bikers who agreed to pick up the man at his house and take him to a Harley club, and the man died two weeks after the event, Bourland recalls.

Another patient, who had dementia, remembered riding carousels in her youth, and she wanted to ride one again.

A double amputee, the woman was taken with her daughter and grandson to a carousel at a local mall, where she sat on the carousel bench for a long ride, Bourland says.

"She had the biggest smile on her face," Bourland says.

Another Faithful Wish recipient had been a former pilot who wished to fly in a plane one last time, although he had not flown for 40 years, Bourland says.

"I know someone who owns a private plane, and he donated the plane and gas, so we had the patient fly with him, and he actually took over the controls," Bourland says.

The patient's daughter accompanied him on his last flight.

One hospice patient's wish was to meet a famous sports figure, so the hospice arranged for Tom Rafferty, a former Dallas Cowboys center, to spend an afternoon with the patient and his family. Rafferty left behind an autographed photograph that the patient continued to cherish.

Other wishes have been as simple as wanting to go swimming despite reliance on an oxygen tank and wanting to attend a professional football game.

Bourland puts photos of patients receiving their Faithful Wishes on a wall at the hospice, and these have captions underneath them so other people can see what the program has produced.

"We want people to know that hospice is not necessarily a death sentence," Bourland says. "It's what you can do with the time you have left, and it's about living life to the fullest." ■

CDC: Review mumps immune status of HCWs

Mumps prevention addresses all hospitals

With mumps continuing to spread in at least 11 states, the Centers for Disease Control and Prevention (CDC) is recommending that all hospitals review the immune status of health care workers.

Health care workers should have documentation of two doses of the MMR vaccine or evidence of immunity, the Advisory Committee on

Immunization Practices (ACIP) agreed in a special meeting held in May.[1] While birth before 1957 previously had been considered evidence of immunity, ACIP says hospitals should consider providing one dose of MMR vaccine to those health care workers, if they are unvaccinated.

During an outbreak, those older workers should receive two doses of the MMR vaccine, given at least 28 days apart, says ACIP, a panel of experts that helps draft CDC guidance. Hospitals may also conduct serologic testing to determine immunity.

If health care workers report a history of mumps but do not have documentation of a physician diagnosis, they should either be vaccinated or undergo serologic testing as well, the CDC advises.

Reviewing the immunity of employees is a time-consuming task, acknowledges **Arjun Srinivasan**, MD, medical epidemiologist with the CDC's division of health care quality promotion.

"The ideal time to do this would be during other immunizations or screenings of health care workers, such as influenza vaccination," he says.

It's certainly preferable to check the immune status of employees when there's no outbreak, he says. "Doing things in a setting of an outbreak is very, very difficult," he says.

And, as the outbreak continues, it could spread to additional states. As of May 2, the CDC reported 2,597 cases of confirmed, probable, or suspect mumps, with a majority of the cases (57%) occurring in Iowa. Mumps have also been reported in other Midwestern states, including Kansas, Nebraska, Illinois, and Wisconsin.

While mumps initially spread on college campuses, and have occurred most frequently among young adults (37%), it has affected all ages, the CDC reports. More than half have received two doses of the vaccine.

"It's not concerning to see a high [percentage] of cases among two-dose vaccinees. That's what we would expect," says **Jane Seward**, MBBS, MPH, acting deputy director of the CDC's division of viral diseases, in a teleconference, noting that the vaccine is about 90% effective.

However, the CDC does not recommend serologic testing of those who have been vaccinated. Seward notes that vaccination doesn't provide the level of antibody produced by natural infection. "Consider two doses of vaccine adequate evidence of immunity," she says.

That means that even some vaccinated health care workers can contract mumps; so employees must be aware of the possible symptoms. In the current outbreak, only about half of the mumps cases involved the classic "parotitis," or swollen salivary glands. Another 20% were asymptomatic, and 30% had nonspecific respiratory or influenza-like symptoms, Seward says.

Vaccinated health care workers who have been exposed to mumps can continue working, says Seward. However, nonimmune health care workers should be furloughed from the 12th day after exposure to the 26th day after the last exposure.

(Editor's note: Mumps guidance for health care facilities is available from www.cdc.gov/nip/diseases/mumps/control-hcw.htm. The teleconference can be viewed at www.izcoalitionsta.org/confcall.cfm.) ■

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Glutaraldehyde getting attention from CA, OSHA

OSHA urges control of hazard

The hazards of glutaraldehyde are receiving renewed attention, as California tightens its regulation and the U.S. Occupational Safety and Health Administration (OSHA) issues new guidance.

OSHA doesn't regulate an exposure limit for glutaraldehyde, a substance that can cause occupational asthma, skin irritation, and other symptoms. But about 10 states with their own occupational health programs maintain permissible exposure limits, and OSHA has issued detailed guidance for employers to monitor and reduce exposure to glutaraldehyde.

"Recognizing that we did not have an enforceable limit, we decided to at least get some information out," says **Bill Perry**, CIH, acting deputy director of OSHA's directorate of standards and guidance. "We wanted to provide more specific information that would give hospital employers [something] they could work with."

California has taken a tougher stand, as the standards board voted to lower the state's permissible exposure limit from 0.2 parts per million (ppm) to 0.05 ppm. Health care workers continued to experience symptoms from glutaralde-

hyde, even at the level of 0.2 ppm, says **John Mehring**, health and safety specialist at the Service Employees International Union (SEIU) in San Francisco and a member of the Cal-OSHA Airborne Contaminants Advisory Committee.

In a 2004 survey, health care workers told the SEIU that they had become sensitized to glutaraldehyde with asthma and allergy symptoms. Some said they were no longer able to work in an environment where glutaraldehyde was in use.

"There are a lot of people who are reporting they're not getting adequate training, they don't have adequate protective equipment, and they were experiencing symptoms," says Mehring.

In fact, the SEIU and other unions had actually asked Cal-OSHA to lower the standard to 0.015 ppm. They will continue to seek the lower limit, says Mehring. "We accepted this as a compromise, something we could achieve now," he says.

The new ceiling limit will take effect in 2008. Until then, exposure may not exceed 0.05 ppm as an eight-hour, time-weighted average.

A cause of occupational asthma

Glutaraldehyde is recognized as a cause of occupational asthma and may contribute to the relatively high rate of occupational asthma among health care workers. (Health care workers are diagnosed with occupational asthma more frequently than expected based on their work force representation, according to an analysis of 1,879 work-related asthma reports.[1]) It also can cause irritant symptoms at concentrations of less than 0.2 ppm and contact dermatitis from solutions containing as little as 0.1% glutaraldehyde.[2]

Glutaraldehyde is used as a high-level disinfectant of medical equipment, a fixative in histology and pathology labs, and a hardener in X-ray developing. While alternatives to glutaraldehyde are available, its use remains widespread in hospitals.

OSHA's efforts to regulate glutaraldehyde exposure were stymied in 1992 when the 11th Circuit Court overturned the agency's air contaminants standard, which would have revised some exposure limits and added a couple hundred new ones. Since then, OSHA has relied on voluntary compliance, although hospitals could be cited for failure to provide adequate personal protective equipment or hazard communication, notes Perry.

Meanwhile, concern about glutaraldehyde exposure has intensified. In 1997, the American Conference of Governmental Industrial Hygienists lowered its recommended exposure limit from 0.2 ppm to 0.05 ppm. In 1999, the United Kingdom set a maximum exposure limit of 0.05 ppm.

While the OSHA guidance is detailed and thorough, the agency should not rely on voluntary compliance, asserts **Bill Borwegen**, MPH, SEIU health and safety director in Washington, DC. "For OSHA not to use this as a basis for issuing a standard is an abdication of their professional responsibility to health care workers," he says.

Perry notes that standards "reflect the regulatory priorities of current administrations."

Hazard communication is key

It's important for employees to understand the hazards of glutaraldehyde and the possible symptoms related to exposure, which can include throat and lung irritation, breathing difficulty, burning eyes, rash, headache, or nausea.

"I'm always surprised by how many well-educated health care workers don't have basic knowledge about the chemicals they're working with," says Mehring. "Even though they're supposedly getting training or information about the chemicals, people aren't making the links between what they're experiencing and what the possible repercussions are of exposure to these chemicals."

The hazard communication standard requires employers to train employees about the safe use of hazardous chemical. Part of that education could include OSHA's new document, *Best Practices for the Safe Use of Glutaraldehyde in Health* Care, and a National Institute for Occupational Safety and Health brochure, *Glutaraldehyde: Occupational Hazards in Hospitals* (May 2001).

Under the personal protective equipment (PPE) standard, employers must conduct a hazard assessment and have a written program describing the PPE use. OSHA notes that butyl rubber, nitrile, and Viton are the most impervious to glutaraldehyde, while latex, vinyl, and neoprene do not provide adequate skin protection.

Splash-proof goggles or safety glasses with full face shields must be worn if there is a potential for eye contact, OSHA says.

OSHA's guidance emphasizes engineering controls to minimize exposure. For example, automated processing equipment can significantly reduce exposures by enclosing the disinfection. However, ventilation, such as a ductless enclosure hood, is still necessary, and employers need to conduct exposure monitoring to make sure it's functioning correctly, OSHA says.

OSHA doesn't say how often monitoring should take place after initial exposure monitoring. But Perry suggests, "If there's a change in the process or a change in work practices, or sometimes a change in personnel, one might think about re-monitoring to make sure that's not having an adverse effect on exposures."

(Editor's note: Best Practices for the Safe Use of Glutaraldehyde in Health Care *is available at www. osha.gov/Publications/glutaraldehyde.pdf.* Glutaraldehyde: Occupational Hazards in Hospitals *is available at www.cdc.gov/niosh/2001-115.html.)* ■

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Be vigilant: Sharps safety still tops OSHA citations

Injuries occur with safety devices

Despite widespread conversion to sharps safety devices, hospitals are more likely to be cited for violations of the bloodborne pathogens standard than any other standard.

The U.S. Occupational Safety and Health Administration (OSHA) issued 136 citations to hospitals in FY2006. Sharps injuries also contributed to the overall high rate of injury among hospitals.

In 2006, OSHA sent letters to 105 hospitals, cautioning them about their rate of six or more injuries or illnesses resulting in days away from work, restricted activity, or job transfer. The average rate for hospitals is 3.4, and the average for all industries is 2.5.

"What we're seeing there is not only the non-use of engineering controls, but also [problems with] work practice," says **Dionne Williams**, MPH, senior industrial hygienist.

For example, in one case, a facility was cited for a needlestick that occurred when an employee put an unprotected sharp in her pocket. She needed to carry it to a sharps container down the hall because no container was available in the patient care area. As she pulled it out of her pocket, she accidentally stuck another employee.

The hospital needed to have sharps containers available for immediate disposal, says Williams. But the hospital also is responsible for monitoring work practices to make sure safety devices are being used properly, she says.

Safety rounds, in which employee health or safety professionals observe everyday activities, can identify problems with work practice, she says. You also can evaluate the incidents on your sharps injury log, she says.

Hospitals should develop a safety culture that encourages employees to discuss potential problems in a nonpunitive environment and "to be vigilant about things they see," says Williams.

More than half (57%) of sharps injuries occur with the use of safety devices, and about 70% of those were not activated, according to the EPINet data compiled from about 48 hospitals by the International Healthcare Worker Safety Center at the University of Virginia in Charlottesville.

With the rapid growth in the use of safety devices, it's not surprising that they would be involved in a higher proportion of needlesticks, says **Jane Perry**, MA, associate director of the center. Hospitals should evaluate injuries to determine whether better training is needed or perhaps a switch to a device with a different safety mechanism, she says.

"There are always new devices coming on the market," Perry says. "They need to be continually evaluated to see if there's a new technology that would be better accepted by the staff."

Other standards frequently cited by OSHA include personal protective equipment (PPE), hazard communication, and respiratory protection. For example, in the past year, hospitals have been cited for failing to have an available eye wash station.

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"Everything in the health care facility isn't going to fall under the bloodborne [pathogens standard]," says Williams. "It's important for hospitals to make sure they're ensuring PPE for other types of hazards."

Although OSHA has been prohibited from enforcing the annual fit-testing requirement related to tuberculosis and N95-filtering face-piece respirators, hospitals must follow the other requirements of the respiratory protection standard, such as annual training.

Hospitals also have significant hazards in non-clinical areas, particularly related to facility and equipment maintenance. Among the top 10 most-cited standards involve lockout/tagout, woodworking, and cadmium.

One type of violation is missing from the list. The general duty clause of the Occupational Safety and Health Act has not been used to enforce ergonomics-related hazards, despite the high number of musculoskeletal disorder injuries in health care due to patient handling.

"Because there's no standard, it makes it incredibly difficult for us to be able to cite," says Williams. "We do inspect hospitals when we get complaints, but the bar is raised very high as far as documenting for citations. We do issue hazard alert letters, which is the next best thing to get some action." ■