

# Hospital Infection Control & PREVENTION

For 38 Years The Leading Source Of News And Comment On Infection Prevention

July 2012

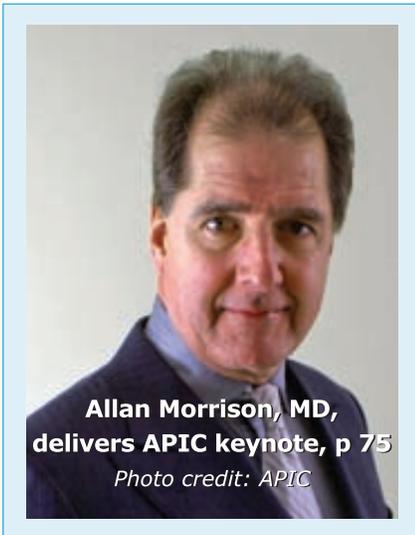
Volume 39, No. 7

Pages 73-84

## APIC Conference: Infection preventionists at the 'pressure point' between CMS, hospital CEOs

*Is CMS overstepping its regulatory authority?*

By **Gary Evans**, Executive Editor



The Centers for Medicare and Medicaid Services (CMS) controversial plan to survey the nation's hospital infection control programs is drawing fire for both going beyond its regulatory authority in some areas and not mandating more specific infection prevention resources in others.

The issues came to the floor in a packed session recently in San Antonio at the annual meeting of the Association for Professionals in Infection Control and Epidemiology (APIC). Wary of another unfunded mandate from a regulatory agency, an

infection preventionist in the audience asked whether the CMS will establish a minimum number of full-time equivalent (FTE) staff for infection control programs to ensure all areas of the survey are met.

"CMS is not going to do that, but I will tell you that the way around [this is the] governing board, the hospital leadership, is required to make sure you have an effective infection control program," said **Daniel Schwartz**, MD, MBA, chief medical officer of the CMS Survey and Certification Group in Baltimore, Maryland. "I know right now if you went to your CEO, you may not get much time to make that case. But I think there is going to be a lot more focus on the quality assessment, per-

### *In This Issue*

- ❑ **Culture shock:** The CMS is hiring more staff with clinical, infection control experience as it partners with CDC to reduce HAIs . . . . . cover
- ❑ **APIC keynote:** IPs must make the tough calls for patient safety in an age where expectations are not 'zero' . . . . . 75
- ❑ **Dust Up:** Increasingly common across the health care landscape, construction and renovation threatens patients with airborne infections. How to prevent it . . . . . 77
- ❑ **Construction checklist:** Assess barriers, air handling, dust control, and limit traffic . . . . . 78
- ❑ **Attacking VAP:** Owning the problem leads to 62% reduction. . . . . 80
- ❑ **VAP interventions:** You need a tactful leader as the team champion on each shift. . . . . 81



**Financial Disclosure:**  
Executive Editor Gary Evans, Consulting Editor Patrick Joseph, MD, and Kay Ball, Nurse Planner, report no consultant, stockholder, speaker's bureau, research, or other financial relationships with companies having ties to this field of study.

formance improvement part of the [CMS survey] so you might want to go back and look at that carefully. I think that's the pressure point. We are trying to emphasize that the hospital should provide the resources necessary to be able to protect patients from developing HAIs."

"Sir with all due respect," the IP replied from the APIC audience microphone. "Until there is a minimum standard [for FTEs], we're not going to get this [support]."

There is some historical accuracy to the perception, but Schwartz emphasized the collaborative efforts to sharply reduce health care associated infections (HAIs) from agencies within the Department of Health and Human Services and coalitions like the Partnership for Patients. These federal plans and collaborations include aggressive goals to dramatically reduce HAIs and other hospital acquired conditions in the near term. "All of these activities show that now is the right time to develop this kind of survey tool, and the hospital is the right place to focus our efforts," he said. "There is a tremendous federal effort underway to reduce HAIs."

It hasn't always been that way — indeed you could argue that it never has. So there is a bit of future shock as the bold new

expectations become clear to both IPs and hospital administrators.

"I feel for you all because you have a job that has really risen up in importance in the last couple of years," he told APIC attendees. "Going back 20 years ago — for those of you who have been infection control officers a long time — you were probably running around waving a flag and trying to get attention. And nobody really thought this was important. That's changed dramatically in the last couple of years."

As we previously reported, the CMS 42-page pilot survey — created in collaboration with the Centers for Disease Control and Prevention — will assess hospital infection control programs across a broad range of areas. The specific sections of the CMS survey Schwartz referred to at APIC call for IPs to identify and address problems through interventions and corrective actions that are supported and resourced by administration. "Hospital leadership, including the CEO, Medical Staff, and the Director of Nursing Services ensures the hospital implements successful corrective action plans in affected problem area(s)," the CMS survey states.

"The surveyor should be able to get information showing an identifiable link between

**Hospital Infection Control & Prevention**®, including **Infection Control Consultant**™ and **Healthcare Infection Prevention**™ (ISSN 0098-180X), is published monthly by AHC Media, a division of Thompson Media Group LLC, 3525 Piedmont Road, Building Six, Suite 400, Atlanta, GA 30305. Telephone: (404) 262-7436. Periodicals Postage Paid at Atlanta, GA 30304 and at additional mailing offices.

**POSTMASTER:** Send address changes to **Hospital Infection Control & Prevention**®, P.O. Box 105109, Atlanta, GA 30348.

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

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

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

AHC Media is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

AHC Media designates this enduring material for a maximum of *18 AMA PRA Category 1 Credits*™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

This activity is effective for 36 months from the date of publication.

Target audience: Infection control practitioners and infectious disease physicians.

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

Executive Editor: **Gary Evans**, (706) 310-1727, (gary.evans@ahcmedia.com).

Production Editor: **Kristen Ramsey**.

Senior Vice President/Group Publisher: **Donald R. Johnston**.

Copyright © 2012 by AHC Media. **Hospital Infection Control & Prevention**® and **Infection Control Consultant**™ are trademarks of AHC Media. The trademarks **Hospital Infection Control & Prevention**® and **Infection Control Consultant**™ are used herein under license. All rights reserved.

**AHC Media**

### Editorial Questions

For questions or comments, call **Gary Evans** at (706) 310-1727.

### Subscriber Information

**Customer Service:** (800) 688-2421 or fax (800) 284-3291. Hours of operation: 8:30-6. Monday-Thursday, 8:30-4:30 Friday EST. World Wide Web: <http://www.ahcmedia.com>. E-mail: [customerservice@ahcmedia.com](mailto:customerservice@ahcmedia.com).

**Subscription rates:** U.S.A., one year (12 issues), \$499. Add \$17.95 for shipping & handling. Outside U.S., add \$30 per year, total prepaid in U.S. funds. Discounts are available for group subscriptions, multiple copies, site-licenses or electronic distribution. For pricing information, call Tria Kreutzer at 404-262-5482. Missing issues will be fulfilled by customer service free of charge when contacted within one month of the missing issue date. **Back issues**, when available, are \$78 each. (GST registration number R128870672.)

**Photocopying:** No part of this newsletter may be reproduced in any form or incorporated into any information retrieval system without the written permission of the copyright owner. For reprint permission, please contact AHC Media. Address: P.O. Box 740056, Atlanta, GA 30374. Telephone: (800) 688-2421.

# APIC keynote: IPs must make the tough calls

## *Zero HAI expectations create pressure*

A stone's throw from the Alamo, infection preventionists were told they must "draw the line" for patient safety by identifying and reporting infections despite pressure from consumers, colleagues and administrators in a new age of transparency.

**Allan Morrison**, MD, epidemiologist at INOVA Fairfax (VA) Hospital and professor at the Graduate School of Public Policy at George Mason University in Washington, DC, delivered a rousing keynote address before 2,300 IPs at the annual conference of the Association for Professionals in Infection Control and Epidemiology (APIC).

"Sometimes it is not enough to do our best. Sometimes we must do what is required," Morrison said, quoting Churchill at the June 4th opening session of APIC.

A former Green Beret and a 20-year veteran of hospital epidemiology, Morrison mixed a serious message with levity in a call to action for IPs to make a difference for patient safety.

"We are quintessential lone wolves," he said. "You walk on a unit and what is the first thing that happens? 'I'm washing my hands! Why are you here?' Nobody ever said, 'How are you doing?' We are pariahs. We don't get a lot of 'atta boys.'"

In particular, IPs must make the tough calls in many cases to make sure infections are correctly reported. The downside of increased transparency about infection

reporting and campaigns for "zero infections" is an increased pressure in health care to meet the high expectations of administrators and consumers. This leads to questionable claims about zero infections for "38 months" or attempts by clinicians to parse and narrow the definition of infections, he said.

"What about honesty?" Morrison asked. "I am not going to say that zero is not achievable — it is not sustainable."

There should be zero tolerance of "passivity" toward patient safety, he emphasized, but consider the patient population many are expecting zero infections to occur in: aging patients with immune deficiencies requiring a complex array of invasive devices. That is currently complicated by economic woes and insurance problems that may create patient incentives to defer care until absolutely necessary. Bacterial strains of whatever subsequently infects them could be any of the increasing variety of pathogens resistant to antibiotics, he added.

"Zero? Difficult," he said.

In addition to HAI definition challenges, beware of "avoidance strategies" like blaming other units or facilities for an infection, Morrison said.

"It's our job to draw the line," he said. "To say, 'No, that is [an infection].' Last time I checked we are a vertebrate species. Have one." ■

the infection control program and the hospital's [quality improvement] activities," he said. "Hospital leaders should be able to explain how they have enacted successful corrective action plans in affected problem areas."

---

---

### ***Seeking a culture of safety***

---

---

The CMS survey also asks for evidence that the hospital has a non-punitive approach to reporting infection control and patient safety concerns. "Essentially

this is asking is there a culture of safety in the hospital?" Schwartz said. Moreover, the "safety culture" aspect of the survey includes a citation that can be issued by surveyors — one that is actually tagged more directly to CMS quality requirements than the infection control CoP. "We included that because we think this is really important," Schwartz said.

The CMS also thinks antibiotic stewardship is important, though asking its surveyors to assess evidence for it — even in the absence of any citations — has drawn push-

back from IPs. There also are other areas of the survey where the CMS tries to emphasize best practices in the absence of regulatory authority.

"Since CMS is a regulatory agency, citing and potentially affecting reimbursement, I find it very unusual for you to include things that are not citable in your [regulations]," said **James Marks**, an infection preventionist from San Diego, CA. "It gives the surveyor more power to dictate infection control practices. I would strongly recommend you remove anything that is not citable since you are a regulatory entity. I think you are overstepping the bounds of your requirements to do surveys of things that are not citable."

The pilot survey is still subject to revision before the final document is used to inspect hospitals nationwide, which is now projected to begin in the spring of 2013, Schwartz said.

"That's a very valid criticism," he said. "This is not a punitive survey; we are testing a tool. So for a hospital that is deemed accredited by an accrediting organization we are only citing a standard level deficiency and they are not required to submit a plan of correction. So there is no penalty for a hospital letting us in the door to do the survey. Whether we include those questions that are not citable [in the final version] is an open question. Right now, I think this is a really important version for you all specifically. This is a self-assessment tool as far as I am concerned. I really don't know if any of those [sections] that are not citable will remain in the final version."

Other questions included the general, somewhat vague nature of the requirement to use "national guidelines" for infection prevention, but the CMS intentionally left the selection of guidance at the local level. "We didn't specify," he said "I think you as infection control officers would know which ones are based in science and which ones you are able to support. If the surveyors come in, sees something and ask for your policy and procedures — if you pull out a nationally recognized guideline and you are following that guideline then you should not be cited. But it is incumbent on you to choose which national guidelines you want to use, and as long as you [follow that]

they shouldn't cite you. If they do, I would let somebody know about that."

---

---

### *There's the rub*

---

---

The CMS survey includes some basic assessment of hand hygiene, though not really in the area of assessing compliance by health care workers. The CMS does not seem to have any new answers to the problem that has plagued hospital infection control since its inception.

"How are we going to really reduce HAIs in the hospital, when hand hygiene compliance is what — 40%, 50%, 60%?" Schwartz said. "When I see articles that some new technology or some new program has hand hygiene up to 80% to 90% that's considered a major success. [But], 10% to 20% of the time they are still not washing their hands. It's a major problem. CMS surveys and certification can't solve [it], but we are trying to bring as much attention to bear as we possibly can. If you look on the tool you will see many times beyond just that hand hygiene [section it is included] in multiple areas. We're trying to send a message that it is important, but it's hard for us to get a hospital, an individual to make a change."

Though he clarified again that the survey is not tied directly to CMS funding, Schwartz seemed to foreshadow that possibility in referring to the HAIs previously targeted for reimbursement cuts: "I think [hospitals] are starting to understand how important this is. Obviously, HAIs are starting to be a [bigger] problem. Hospitals are not getting reimbursed. There are ways around this, but it's not going to be unfortunately something that we do from the survey process."

APIC attendees also questioned the role — or lack thereof — of the Joint Commission, which has said little beyond a relatively cryptic statement of awareness and support of the survey since the CMS made its bold move into hospital infection control.

"This [will be done] just strictly by state agency surveyors," Schwartz said. "[The Joint Commission is] not required to use this survey tool. They are held to the same standard as a CMS survey, so they must assess the minimum health and safety standards in order to comply with the CoP.

Just like you are free to exceed that minimum standard, the Joint Commission could have a program in place that exceeds that minimum standard. If the Joint Commission wanted to use this survey — either this tool or the final tool going forward — we would be happy for them to do that. We are very close to them and they are very aware of this patient safety initiative.”

The CMS has undergone something of a culture change itself, one which suggests that it had to take the lead in reducing HAIs rather than delegating it to the Joint Commission. The flashpoint was the “ambulatory surgery center debacle,” as Schwartz described it, which can be read as the 2008 Las Vegas hepatitis C outbreak that led to follow-up testing of tens of thousands of patients. As we previously reported, CMS surveyors had been to the endoscopy facility in question, but had not been sufficiently trained to detect the ongoing reuse of syringes and needles that led to the outbreak. “[The CDC and CMS] got together and really decided that we needed to be working very closely on infection control policy,” he said.

In addition, the CMS has hired its first infection preventionist and other new employees with clinical experience, he said.

“We are hiring people with a long history of clinical experience — managers in hospitals — for survey and certification,” he said. “We have hired four or five people with extensive experience. The training is very important, and the surveyor really needs to understand — almost at your level — infection control and what it takes to have good compliance with the CoP.”

Indeed, the next revision of the survey may reflect more feedback from surveyors on the practical use of the tool than anything else, he said. “I think the final version will change and be more tailored to meet surveyor needs — not necessarily the self-assessment needs for the infection control officers,” Schwartz said. “We need this to be effective for the surveyors, help them [record] their survey findings and be efficient. So we really don’t want to give them something that is going to triple the amount of time it takes to [assess] infection control. We are very cognizant of that issue.” ■

## Construction projects require IP diligence

### *Renovation raises threat of infections*

Increasingly common across the health care landscape, construction and renovation can make patient safety challenging. The need to expand facilities or upgrade existing space creates dust and particles that can easily become aerosolized, potentially transporting infectious *Aspergillus* and other fungal and bacterial organisms toward vulnerable patient populations.

And this risk may change with the time of day or night, notes **Larry Lee**, CIH, owner and founder of Pacific Industrial Hygiene of Kirkland, WA.

At night, buildings often turn their air conditioning systems to economizer modes, which can change a construction area’s air pressure, resulting in dust and contaminants either escaping construction areas or coming into clean areas, he says. This problem can occur in non-construction areas as well, including in operation suites and other highly-sensitive patient care rooms.

“An operating room needs to be under positive pressure so you are delivering air to the room, and it’s pushing out contaminants,” Lee says. “Whenever there’s an open door or leak, air is pushing out so potential contaminants and dust don’t come into this nice clean area.”

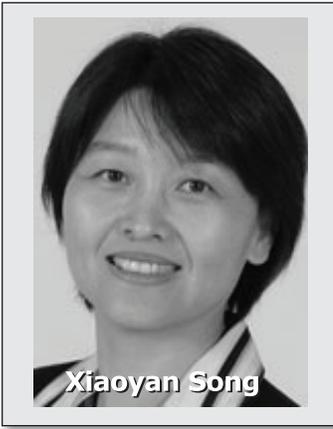
If the air pressure becomes negative, dust and contaminants can enter the room, so infection preventionists need to be aware of air pressure changes. Of course, certain hospital rooms need to maintain negative air pressure, such as those designated for patients in airborne isolation (i.e., tuberculosis, measles).

---

### ***Developing a comprehensive approach***

---

“When we started the process of focusing on infection control during construction projects, our hospital was growing from 260 to more than 300 beds in 2009,” explains **Xiaoyan Song**, PhD, MBBS, MSc, associate director of hospital epidemiology at the Children’s National Medical Center in



Xiaoyan Song

Washington, DC. In addition, the medical center had 150 construction projects last year, and one-third of those were rated at the highest risk levels with regard to infection control and prevention.

Construction work was rou-

tine, ranging from small-scale renovations to larger projects and upgrades, she adds. Monitoring the sites required an average eight hours per week. Infection preventionists spent time inspecting construction sites and communicating with construction project managers, as well as looking for patterns of deficiencies. Project managers and construction crews come with a wide variety of experience, with some knowing a great deal about infection control measures during construction work and others having no training or knowledge in this area, Song says.

"So we have to lay out our expectations differently," she says.

Guidelines from the American Institute of Architects (AIA), Association for Professionals in Infection Control and Epidemiology, Inc. (APIC), and the Centers for Disease Control and Prevention are useful for developing best practices and protocols, she adds.

Use such sources to develop policies that will best work in your facility. "When I came on board at the hospital I was given the role of point person to work with construction projects," says **Tracie Harris**, MT, ASCP, CIC, infection preventionist at the the Medical Center.

Harris and Song worked together to develop policies, best practices, and risk assessment tools. "Previously, we'd receive a phone call or visit a project and notice that not all of our recommendations were being followed," Harris explains. "So we developed a checklist and a procedure for monitoring those projects weekly." The weekly checklist provides consistent monitoring and is designed to catch problems quickly. (See sidebar, right.)

That resulted in improved compliance,

## Hospital uses weekly construction checklist

*Problems are headed off quickly*

A weekly checklist for construction projects used at the Children's National Medical Center in Washington, DC includes the following key assessments, which are marked Yes, No\* or NA (not applicable).

### **Temporary Construction Barriers**

- Barriers are appropriate and properly sealed
- Construction/authorized personnel signs

- Doors properly closed and sealed
- Walk-off mats before and after door
- Walk-off mats properly maintained
- Lockable door in place

### **Air Handling/Dust Control**

- Negative air at barrier entrance checked and verified
  - Negative air machine running
  - Documentation of filter service
  - HVAC ducts (supply & return) sealed
- ### **Project Area**
- Debris removed in covered container
  - Trash in appropriate containers
  - Routine cleaning done in patient care area adjacent to job site by
    - Construction crew or housekeeping as needed
    - Staging of materials and supplies in isolated secure room

### **Traffic Control**

- Job site restricted to construction workers and necessary staff only
- Patient traffic separated by time or space from construction traffic flow activity

### **Dress Code**

Appropriate for the area

*\*All "No" items must be corrected or mitigated within 24 hours. ■*

even among smaller construction projects, Harris says. Song and Harris took guidelines from the aforementioned sources and incor-

porated those into the hospital's policies and procedures.

"We tailored these to the project and to the resources available," Song says.

Some of Children's approaches to minimize infection risks during construction include:

**A risk assessment tool:** "With the risk assessment tool, basically we're looking at the types of work being done and how much dust will be produced, where the construction will take place, and we provide recommendations about the types of barriers needed," Harris says.

The infection control risk assessment tool/matrix used by the hospital divides construction project activities into four categories, from Type A (activities with minor risk, such as inspection and non-invasive activities) to Type D (activities with major risk, such as major demolition and construction projects.)

The higher risk C and D construction categories include activities such as the following:

- wall sanding
- removal of floor coverings, ceiling tiles and casework
- new wall construction
- minor duct work or electrical work above ceilings
- major cabling activities
- activities that continue past one work shift
- activities that require consecutive work shifts
- activities requiring heavy demolition or removal of a cabling system
- new construction.

This approach also categorizes areas under construction with regard to patient risk groups. The lowest risk would be in office areas primarily used by immune competent staff, while the highest risk extends to the hospital areas housing immune compromised patients, burn units, cardiac cath labs, central sterile supply, intensive care units, negative pressure isolation rooms, oncology and operating rooms, including C-section rooms.

Each construction or renovation project is then assigned a risk number, from Class I to Class IV, according to where it falls in a matrix that rates projects according to both the patient risk group and the construction

project type. Thus the highest risk rating of Class IV would be assigned for a type D construction project involving patients and areas in the medium to highest risk groups. Class IV projects require the greatest number of infection control precautions both during and after completion of the construction project.

For example, the construction site might need a sticky mat to pick up any dust from shoes and keep it from being tracked outside the area, she adds.

"In big demolition projects, crews have to wear something over their clothing to minimize the dust coming out from the site, and they may have to work only at odd hours or on weekends," Harris explains.

Requirements for Type IV construction sites also include maintaining a negative air pressure within the work site and using HEPA-equipped air filtration units.

**Educate construction project manager about infection control recommendations for the site:** Once infection control experts have assessed the construction project and assigned it a risk rating, they give the information to the construction project manager.

"We walk them through the process," Song says. "We make recommendations and provide feedback to the contractor."

They also let construction crews know they will be monitoring the site for the duration of the project.

"The whole [infection control] team is made aware of the recommendations," Harris says. "So anyone can go in my place and identify anything that could be wrong."

**Provide ongoing monitoring of site activity:** "Ongoing monitoring is a challenge that everyone needs to recognize," Song notes. "With long projects, we need to make sure all of our recommendations are still being followed, and all barriers are still in place."

Harris will visit the Class IV construction sites each week, assessing them for compliance with infection control requirements and looking at dust levels at the site.

"I always keep my coworkers abreast of what's going on," she says. "I set it up so that I'm always walking with the project manager so things can be identified and corrected right on the spot."

The construction project manager is the

person responsible with complying with all recommendations.

"In the beginning, we send an email to the project manager and say, 'These things need to be fixed,'" Song says. "Then we schedule an appointment."

By including construction project managers in the infection control inspections, the hospital has found that construction crews respond quickly to violations.

**Assess findings and corrective actions:** "Every week, an assessment is documented on the same risk assessment sheets," Song says. "The IP will point out the site's defects, and the project manager is responsible for carrying out the corrections."

The infection control team also will monitor corrections. "We'll go back and recheck and make sure corrections are in place," Song says.

As a result of the construction infection control program, the hospital has received fewer phone calls and complaints about construction areas, Harris says.

"With construction site rounding, we're finding fewer violations," she adds. "And in working with project managers, we're finding they are beginning to know what we're looking for, and sometimes they even ask us questions or ask us to take a look at something."

The hospital posts the risk assessment results on the entrance to the construction site so that anyone walking by will see it, Song says. "They can get a general idea of the name of the project, the scope of the project, and whose responsibility it is," she adds. ■

## VAP program results in infection rate reduction

### *A unit takes ownership of the problem*

The adult neuro/trauma unit at Essentia Health System of Duluth, MN, targeted ventilator-associated pneumonia (VAP) for an intervention several years ago and it's a gift that keeps on giving.

"Our infection rates are continuing to decline," says **Rennae Houle-Burns**, RN,

CIC, an infection preventionist at Essentia.

The neuro/trauma unit's rate of VAP was reduced from 22.1 to 4.5 per 1,000 ventilator days between 2008 and 2011, she says.

The VAP rate in 2008, before the intervention was implemented was 31 VAPs during 1402 ventilator days. In 2010, the total number of ventilator days had fallen to 1205 in 2010, and the number of VAPs had fallen to just nine.

The goal now is to maintain the success and make certain employees continue the infection control measures that led to this reduction in VAP, she adds.

Recently, the neuro/trauma unit broke a record for the number of days between VAP infections, Houle-Burns notes.

"Then they had just one infection, and they were so disappointed when I told them," she says. "Staff knew they had done everything they could possibly do to prevent this infection; all of our best practice elements were met 100%. Unfortunately, some VAPs will occur despite all of our best efforts."

The unit's VAP rate became a focal point for a quality improvement initiative after leaders compared the hospital's VAP rate with national benchmarks and found the unit's rates were consistently higher, Houle-Burns explains.

"Other units with similar populations were doing a better job, so why shouldn't we?" she says. "We recognized we needed the right people at the table and not just the provider group, nursing, respiratory therapy, and/or infection prevention staff, so we pulled together a multidisciplinary work group to address the VAP problems and to see how we could correct them."

---

---

### *Taking ownership*

---

---

The key was realizing that the unit and providers hadn't taken ownership of reducing VAP, and correcting that issue.

"We needed unit-based champions 24 hours a day," Houle-Burns says. "They took ownership of this program and recognized they needed to have reinforcement of best practices bundles."

The team consisted of 10 to 12 people who initially met each month. Later they were able to communicate on an infor-

mal basis through information Houle-Burns distributes each month via emails, and with staff during infection prevention round in unit.

While the team worked on the infection prevention project in regular meetings they identified key areas where improvements would be the most efficient at meeting the goals of reducing the VAP rate, she notes.

"They recognized there were a number of nursing-driven interventions that could be done," Houle-Burns says.

The main goal is to get patients off the ventilator in a timely fashion to prevent VAP, and nursing played an important role in this process. Essentia Health System was successful in achieving this goal after developing best practice interventions, which were reinforced with staff education and monitoring. (*See related story, below.*)

Staff buy-in was an important step in achieving these goals, Houle-Burns says.

"These front-line healthcare workers are amazing and care for very challenging patients," she says. "They recognized that they could do a better job, and they wanted to do a better job, so they took ownership."

The nurses had good leadership that intervened when necessary and reinforced the VAP prevention intervention, she adds.

"I was [originally] on the unit participating in daily care rounds, talking about the VAP bundle and making sure all elements were met," she says. "It became such an integral part of the workflow and daily care rounds that I don't have to go on the care rounds anymore. I periodically stop in, but there's nothing for me to remind or reinforce, so now I'm more in a consultant role." ■

## Health system implements VAP prevention bundle

*Focus is on six key interventions*

Ventilator associated pneumonia (VAP) rates have dropped significantly in a level II adult neuro/trauma unit at Essentia Health System in Duluth, MN, largely as a result of the unit following this six-step intervention:

### **1. Identify VAP reduction team cham-**

### **pions on all shifts to reinforce VAP prevention strategies with front-end staff.**

The champions are employees who cover all shifts and were selected based on their commitment to patient safety and, most importantly, their ability to tactfully intervene and educate coworkers, says **Rennae Houle-Burns**, RN, CIC, an infection preventionist at Essentia. There were 10-12 champions who worked alongside of staff and helped identify times when someone might have forgotten to follow the VAP prevention best practices.

"We wanted to create an environment to assure that everyone recognized best practices, were going to be held accountable and be partners in the patient safety initiative," she. "We needed the right people for this role, and we didn't want to cause any hard feelings."

So they selected employees who had both leadership qualities and tactfulness interpersonally. "The bottom line is it's about patient safety and providing the best care to our patients," she says.

### **2. Review and reinforce bundle elements during daily care rounds.**

The ventilator bundle includes these five elements:

- Make sure beds are elevated above 30 degrees. Elevation prevents micro-aspirations into the respiratory tract. If the elevation is below 30 degrees, the nurse must either adjust the HOB level or ensure there is documentation within the medical record of the reason why it is contraindicated.
- Provide patients with peptic ulcer disease prophylaxis.
- Provide patients with deep vein thrombosis prophylaxis to prevent blood clots.
- Assess for daily sedation vacation and assess readiness to liberate from the ventilator.

"Often, people are under sedation when on the ventilator, and they are more relaxed, so we lighten up their sedation and assess if they can breathe on their own," Houle-Burns says. "We have set policies for sedation vacations and weaning that has a multidisciplinary approach," says. "We follow specific guidelines to see if a patient is a candidate to be weaned, and it is assessed every day."

- Provide oral care. "We have a two-hour oral care product that involves teeth brush-

ing, suctioning, and mouth swabbing," she says. "The kit tells staff what needs to be done and when; it's user friendly."

The hospital also has a competency on oral care as part of staff education. "We want to make sure we provide standardized care, and everyone is doing the same thing in the same time frame," she says.

"The bundles are built into the daily care rounds, and I audit them, as well," Houle-Burns says. "A pharmacist is part of the care round team, and the pharmacist verifies that the patient is on a DVT and SUP prophylaxis."

Nurses discuss with respiratory therapists and physicians whether patients are medically stable and meet weaning criteria, which is necessary before they can be taken off the ventilator.

### **3. Assign chart audits to unit staff to assure documentation of head of bed elevation.**

"Initially, we had the units do some performance audits because I think it's important for people to pay attention to other people's practices as they're auditing," Houle-Burns says. "I believe that helps them be more aware of their own practices as well."

The assignment of chart audits coincided with the hospital's transformation from paper documentation to an electronic medical record. "We needed to make sure everyone was documenting in the same way and that things were done correctly," she explains. "I gave them the same audit tool I use, a one-page form with room for multiple patients and to check for bed elevation and bundle compliance."

The auditors looked for instances when staff might have forgotten to follow the oral care guidelines or failed to document or perform bundle items. Houle-Burns conducted at least 15 of these audits per month, and she expected the front-line staff member doing the audit to do the same number during the transition period to best practices in VAP prevention. The audits are conducted on all shifts.

"These audits are labor intensive and time consuming, so once we had the best practices nailed down and they had incorporated them into their daily practice, their audits stopped," she explains. "But I continue to do my daily audits."

Each month, Houle-Burns randomly selects 15 charts to audit. If she finds problems she notifies managers with the specific details. When the auditing process began, the medical center's five intensive care units averaged 68% compliance at documenting VAP prevention practices. In one quarter in 2009, the compliance rate had dipped to 50%. "It wasn't that they were not doing best practices, but the documentation was missing," she Burns says.

Since units were trained and monitored for VAP prevention best practices, the compliance rate has risen dramatically. The neuro/trauma unit has had compliance rates above 90% since July 2010, and the unit has had 100% compliance for the past four quarters, she says.

### **4. Re-educate and audit staff on the use of oral care products and protocols.**

Prior to the implementation of best practices, there were inconsistent practices in oral care for patients. Nurses would document that oral care was performed, but there was no way of knowing exactly what they had done, Houle-Burns notes. The hospital developed an oral care competency with specific care activities to be done every two hours using a two-hour oral care product. The goal was to prevent gaps where oral care was neglected.

"The comprehensive 24 hour system makes it easy to do what they are supposed to and to be able to document it," she says. "The kit has 12 different items to be used sequentially, every two hours. So you take off one item at midnight, and at 2 a.m., you take a second, etc."

Before the oral care competency was developed, nurses often did not recognize the importance of oral care, Houle-Burns says.

"I think people were doing oral care, but some were not using product correctly," she explains. "When patients' mouths are full of secretions and bacteria, there's an increase in the risk of micro-aspirations and colonization, so we just wanted to make sure we were keeping the oral cavity as clean as possible."

When the new oral care protocol was developed, staff leadership rolled out the protocol and competency during their educational Skills Day. This educational session

was followed up with monitoring and then additional education, as needed, she notes.

**5. Designate separate oral and endotracheal suction set-ups to reduce environmental and hand contamination.**

"We had an adapter to allow staff to have a suction set up with a designated oral and an endotracheal suction set up for suction," she says. But Houle-Burns learned the front-line staff did not like using it because it didn't always work well and didn't meet their needs. Their suggestion was that two different suction set-ups be used.

"This was in one of our newer units, and we were able to put two suction set ups designated for the respiratory tract in every room," she notes.

So each ventilator patient now has one closed suction set up for suction of the endotracheal tube and another set up for suctioning the oral cavity. Having two systems reduces the potential for cross-contamination and increased staff satisfaction.

**6. Implement transfer procedures for ventilated patients, including subglottic and endotracheal suctioning prior to transfer and maintaining a greater than 30 degree head of bed elevation.**

"When we looked at the patient population, we saw that our neuro/trauma ICU patients had more transports off the unit than any other of our ICUs," Houle-Burns says. "Patients leave the unit for diagnostic tests or surgeries. So we asked what we could do when the patients are off the unit or being transferred to ensure we're maintaining best practices."

The solution was to develop transfer policies that included having the endotracheal cuff pressures checked and having suctioning done prior to transport to prevent micro aspiration of secretions with the movement during transporting, she says.

When a patient is on a ventilator and has to be moved to another location, a respira-

tory therapist and nurse must accompany the patient. "This team work helps ensure best practices and they maintain head of the bed at 30 degrees during transport unless it is contraindicated," she says. ■

## CNE/CME Instructions

To earn credit for this activity, please follow these instructions.

1. Read and study the activity, using the provided references for further research.
2. Log on to [www.cmecity.com](http://www.cmecity.com) to take a post-test; tests can be taken after each issue or collectively at the end of the semester. First-time users will have to register on the site using the 8-digit subscriber number printed on their mailing label, invoice or renewal notice.
3. Pass the online tests with a score of 100%; you will be allowed to answer the questions as many times as needed to achieve a score of 100%.
4. After successfully completing the last test of the semester, your browser will be automatically directed to the activity evaluation form, which you will submit online.
5. Once the completed evaluation is received, a credit letter will be e-mailed to you instantly. ■

## CNE/CME Objectives

Upon completion of this educational activity, participants should be able to:

- Identify the clinical, legal, or educational issues encountered by infection preventionists and epidemiologists;
- Describe the effect of infection control and prevention issues on nurses, hospitals, or the health care industry in general;
- Cite solutions to the problems encountered by infection preventionists based on guidelines from the relevant regulatory authorities, and/or independent recommendations from clinicians at individual institutions. ■

## COMING IN FUTURE MONTHS

■ Really, are you serious? The single funniest APIC session I have ever attended

■ Talking to patients: The expanding role of the IP

■ A new competency model for the IP

■ A CAUTI prevention model that works

■ Getting to know your lab staff and why it's important

## Social media

Don't forget to check out our *HICprevent* blog on the web at <http://hicprevent.blogs.ahcmedia.com/> and follow us on Twitter at: <http://twitter.com/#!/HICprevent> ■

## CNE/CME Questions

1. According to Daniel Schwartz, MD, MBA, which part of the CMS infection control survey is particularly important in addressing the issue of infection control staff and resources?  
A. a requirement for one infection preventionist per 150 beds  
B. preventing infections during construction and renovation  
C. quality assessment and performance improvement sections  
D. new requirements for monitoring compliance with hand hygiene
2. Which of the following hospital areas should be under positive air pressure, meaning the air flow is being delivered to the room and pushing out contaminants?  
A. a room with a patient under airborne isolation for tuberculosis  
B. the operating room  
C. the hospital lobby  
D. rooms where MRSA patients are cohorted
3. A weekly checklist for construction projects used at the Children's National Medical Center includes which of following assessments for temporary construction barriers?  
A. barriers are appropriate and properly sealed  
B. construction/authorized personnel signs  
C. lockable door in place  
D. all of the above
4. Emphasizing how easily infections can occur, Rennae Houle-Burns, RN, CIC, said a prolonged period of zero VAP infections was broken because workers did follow the protocol to elevate the head of patient beds.  
A. true  
B. false

## EDITORIAL ADVISORY BOARD

### Consulting Editor:

**Patrick Joseph, MD**

Chief of Epidemiology  
San Ramon (CA) Regional Medical Center and  
President, California Infection Control Consultants  
San Ramon

### Kay Ball,

RN, PhD, CNOR, FAAN  
Perioperative Consultant/  
Educator  
K&D Medical  
Lewis Center, OH

### Patti Grant,

RN, BSN, MS, CIC  
Infection Control  
Practitioner  
Medical City Dallas

### Eddie Hedrick,

BS, MT(ASCP), CIC  
Emerging Infections  
Coordinator  
Disease Investigation Unit  
Environmental Health  
and Communication Disease  
Prevention  
Missouri Department of  
Health and Senior Services  
Jefferson City

### William Schafer, MD

Chairman  
Department of  
Preventive Medicine  
Vanderbilt University  
School of Medicine  
Nashville, TN

### Marie Ciacco Tsivitis,

MPH, CIC  
Hospital Infections  
Program  
New York State  
Department  
of Health  
Albany, NY

### Katherine West,

BSN, MEd, CIC  
Infection Control  
Consultant  
Infection Control/  
Emerging Concepts  
Manassas, VA

### Ona G. Baker Montgomery,

RN, BSN, MSHA, CIC  
Infection Control Coordinator  
Department of Veterans Affairs Medical Center  
Amarillo, TX

### To reproduce any part of this newsletter for promotional purposes, please contact:

*Stephen Vance*

**Phone:** (800) 688-2421, ext. 5511  
**Fax:** (800) 284-3291  
**Email:** [stephen.vance@ahcmedia.com](mailto:stephen.vance@ahcmedia.com)

### To obtain information and pricing on group discounts, multiple copies, site-licenses, or electronic distribution please contact:

*Tria Kreutzer*

**Phone:** (800) 688-2421, ext. 5482  
**Fax:** (800) 284-3291  
**Email:** [tria.kreutzer@ahcmedia.com](mailto:tria.kreutzer@ahcmedia.com)  
**Address:** AHC Media  
3525 Piedmont Road, Bldg. 6, Ste. 400,  
Atlanta, GA 30305 USA

### To reproduce any part of AHC newsletters for educational purposes, please contact:

*The Copyright Clearance Center for permission*

**Email:** [info@copyright.com](mailto:info@copyright.com)  
**Website:** [www.copyright.com](http://www.copyright.com)  
**Phone:** (978) 750-8400  
**Fax:** (978) 646-8600  
**Address:** Copyright Clearance Center  
222 Rosewood Drive,  
Danvers, MA 01923 USA