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AHC Media

JANUARY 2015 Vol. 42, No. 1; p. 1-12

Regulators: CMS issues infection control survey, OSHA drafts ID reg

Ebola outbreak could provide momentum for new mandates

By Gary Evans, Executive Editor

The Centers for Medicare & Medicaid Services (CMS) has finalized its long anticipated infection control survey for hospitals, telling its inspectors the requirements are "effective immediately" and can be used to issue citations in unannounced inspections.

The CMS survey was developed in collaboration with the Centers for Disease Control and Prevention, so it essentially codifies a sweeping array of CDC infection prevention guidelines that were heretofore voluntary. In doing so, the CMS continues to raise the profile of infection preventionists, assigning IPs key roles in identifying and reducing infection risks to patients and health care workers.

> "IT IS NOT JUST MORE RESOURCES BUT MORE EMPOWERMENT. [INFECTION CONTROL] HAS TO BECOME A PRIORITY."

"The [impact] is going to be huge because it refines the points that are important to emphasize in infection prevention and control programs," says **Ruth Carrico**, PhD, RN, CIC, assistant professor of health promotion and behavioral sciences at the University of Louisville (KY). "Certainly we know that is a constantly moving target, but [the survey shows] us what we need to be able to demonstrate effectively over time."

To make that possible, the CMS survey requires "hospital leadership, including the CEO, Medical Staff, and the Director of Nursing Services [to

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.

HOSPITAL INFECTION
CONTROL & PREVENTION

Hospital Infection Control & Prevention®, ISSN 0098-180X, is published monthly by AHC Media, LLC
One Atlanta Plaza
950 East Paces Ferry Road NE, Suite 2850
Atlanta, GA 30326.
Periodicals Postage Paid at Atlanta, GA 30304 and at additional mailing offices.

POSTMASTER: Send address changes to:
Hospital Infection Control & Prevention
P.O. Box 550669
Atlanta, GA 30355.

SUBSCRIBER INFORMATION:
Customer Service: (800) 688-2421.
customerservice@ahcmedia.com.
www.ahcmedia.com
Hours of operation: 8:30-6. Monday-Thursday, 8:30-4:30 Friday EST

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

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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.

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ensure that] the hospital implements successful corrective [infection control] action plans."[1] That means the CMS survey should not be perceived as an unfunded mandate, as IPs can use the agency requirements as leverage to sustain and increase program resources to prevent health care associated infections (HAIs).

"We need to see if this will motivate the leadership in the hospitals — the CEOs — to invest in infection control," says **Denise Cardo**, MD, director of the CDC Division of Healthcare Quality Promotion. "[The CMS survey] will empower those programs to do what is needed. It is not just more resources but more empowerment. [Infection control] has to become a priority."

Another potential source of motivation via regulation could come from the Occupational Safety and Health Administration (OSHA), which has drafted an infectious disease standard that would mandate infection control measures to protect health care workers. (*See related story, p. 5.*)

Charge to surveyors

Issued Nov. 26, 2014, the 49-page CMS infection control survey is similar to the 42-page draft version that has been under review and pilot testing for at least two years. There are some language changes and revisions, and the CMS has deleted a section on the protective environment (i.e., bone marrow transplants) while expanding a section on antibiotic stewardship. The CMS cannot currently cite hospitals on antibiotic stewardship issues, but the agency is widely expected to issue new regulations in the next few years to specifically require such programs. (*See related story, p. 4.*) While antibiotic stewardship data are being collected "for information only," the survey lists the specific citation "tags" for the vast majority of the measures. The CMS survey calls for inspectors to assess key aspects of employee health and worker training, as well as hand hygiene, injection safety, environmental services, and cleaning and reprocessing equipment. The survey still includes the so-called "patient tracers," where CMS inspectors assess certain points of care. These are central venous catheters, urinary catheters, ventilators and respiratory therapy, spinal injections, point-of-care devices, surgical procedures and isolation precautions.

"The following is a list of items that must be assessed during the on-site survey, in order to determine compliance with the Infection Control Condition of Participation (CoPs)," the CMS survey general instructions state. "Items are to be assessed by a combination of observation, interviews with hospital staff, patients and their family/support persons, review of medical records, and a review of any necessary infection control program documentation. During the survey, observations or concerns may prompt the surveyor to request and review specific hospital policies and procedures. Surveyors are expected to use their judgment and review only those documents necessary to investigate their concern(s) or to validate their observations. The interviews should be performed with the most appropriate staff person(s) for the items of interest, as well as with patients, family members, and support persons."

The CMS also has finalized similar surveys to assess Quality Assessment and Performance Improvement (QAPI) and Discharge Planning. The worksheets will be used by state and federal surveyors on all survey activity

in hospitals when assessing compliance with any of these three CoPs, the CMS announced. "The hospital industry is encouraged, but not required, to use the surveys as part of their self-assessment tools to promote quality and patient safety," the CMS stated in releasing the final version.

"It's all part of the risk assessment process," says Carrico, an IP for many years before going into academia. "What is it that we have to do – standards and regulations – versus what is it that we need to do based on surveillance results. The third thing is what do we want to do? What are those additional things of personal importance to [our facility]? All of that has be taken into consideration to form an infection control strategy."

The CMS survey could also serve as a tool for education in training new IPs on the key aspects of infection prevention, she adds.

CMS: IPs must be qualified, have ongoing training, experience or certification

Identify problems and solve them with quality colleagues

The recently finalized hospital infection control survey by the Centers for Medicare & Medicaid Services includes the following key requirements specifically aimed at infection preventionists and their quality partners. The notations in italics are the CMS instructions to surveyors regarding the specific citation "tags" to cite if the hospital is in non-compliance with the requirements.

Section 1.A. Infection Prevention Program and Resources

1.A.1 The hospital has designated one or more individual(s) as its Infection Control Officer(s).

1.A.2 The hospital has evidence that demonstrates the Infection Control Officer(s) is qualified and maintain(s) qualifications through education, training, experience or certification related to infection control consistent with hospital policy.

1.A.3 The Infection Control Officer(s) can provide evidence that the hospital has developed general infection control policies and procedures that are based on nationally recognized guidelines and applicable state and federal law

If no to any of 1.A.1 through 1.A.3, cite at 42 CFR 482.42(a) (Tag A-748)

Section 1.B. Hospital QAPI Systems Related to Infection Prevention

The hospital infection prevention program is coordinated into the hospital Quality Assessment and Performance Improvement (QAPI) program as evidenced by:

1.B.1 The Infection Control Officer(s) can provide evidence that problems identified in the infection control program are addressed in the hospital QAPI program i.e., development and implementation of corrective interventions, and ongoing evaluation of interventions implemented for both success and sustainability).

If no to 1.B.1, cite at 42 CFR 482.21(e)(3) (Tag A-0286)

1.B. 2 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).

If no to 1.B.2, cite at 42 CFR 482.42(b)(2) (Tag A-0756)

1.B.3 The hospital utilizes a risk assessment process to prioritize selection of quality indicators for infection prevention and control.

If no to 1.B.3, cite at 42 CFR 482.21(a)(2) (Tag A-0267)

Other sections of the CMS survey include requirements in the following areas:

- Systems to Prevent Transmission of MDROs and Promote Antimicrobial Stewardship
- Infection Prevention Systems and Training Related to Personnel
- Hand Hygiene
- Injection Practices and Sharps Safety (Medications and Infusates)
- Personal Protective Equipment/ Standard Precautions
- Environmental Services
- Reprocessing of Semi-Critical Equipment
- Reprocessing of Reusable Critical Equipment Instruments and Devices: Sterilization
- Single-Use devices (SUDs)

Patient Tracers

- Indwelling Urinary Catheters
- Central Venous Catheters
- Ventilator/Respiratory Therapy
- Spinal Injection procedures
- Point of Care Devices (e.g. Blood Glucose Meter, INR Monitor)
- Isolation: Contact precautions
- Isolation: Droplet precautions
- Isolation: Airborne precautions
- Surgical procedures ■

"What this [survey] really is doing is trying to bring clarity to the important aspects of infection prevention," she says. "It's going to be helpful to translate infection control to other settings. We know that health care is moving away from acute care into all of these other settings. So if we have these type of tools and standards and regulation in other settings that will help improve infection prevention and control in those."

The single largest payer for health care in the United States, the CMS is expected to eventually link the survey to its pay for performance incentives as it continues an unprecedented focus on infection control. The power of the purse can be formidable. For example, a new report by the Agency for Healthcare Research and Quality estimates that 50,000 patient deaths due to hospital-acquired conditions (infectious and non-infectious adverse events) were prevented from 2010 to 2013 due in part to "financial incentives created by the CMS and other payers."[2]

"I think [the CMS survey] is a very good first step – it's clear just by its existence that there is a need to be looking more closely at what we are doing," says **Michael Bell**, MD, deputy director of the CDC DHQP. "And having trained eyes to do that I think is a necessary addition to the workplace."

The unfolding CMS agenda has roots in a scathing 2008 GAO report that held the Department of Health and Human Services (HHS) responsible for the "needless suffering and death" caused by infections and cited the need to use "hospital payment methods to encourage the reduction of HAIs."[3] While the inertia and entrenched culture of a federal bureaucracy make for a slow change, the CMS and the CDC are forging an unprecedented partnership with the infection control survey and the upcoming push for an antibiotic stewardship regulation.

"We have been talking to CMS leaders and I think [the survey] is a good opportunity for us to work to improve infection control overall and also to see how the programs are working," Cardo says. "I also know that the Joint Commission is motivated, there are several groups that want to use some tools [like the survey] to do that. We are also working with OSHA in terms of PPE. I think the more we work together as federal agencies — with both OSHA and CMS being the ones that can regulate – the better it will be for everybody. The more that we are aligned and having the goal of protecting workers and patients the better we are going to be."

Providing a compelling backdrop and potential political momentum is Ebola, which has brought more national attention to infection prevention and occupational health issues in U.S. hospitals since the emergence of HIV in the 1980s. The CDC is trying to translate the intense reaction to Ebola to other HAIs, but the emotional response will be difficult to generate even for infections like *Clostridium difficile* that kill many more people in the U.S. annually than Ebola ever will.

"The fear is not going to be there, but at least what [Ebola] has revealed is that infection control in U.S. hospitals is not as good as we would like it to be," Cardo says.

Editor's note: Questions and comments about the infection control survey may be submitted to CMS via email to: hospitalscg@cms.hhs.gov

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CMS sets the table for regulation requiring antibiotic stewardship programs

Presidential panel calls for requirements by end of 2017

The Centers for Medicare & Medicaid Services does not currently have regulations in place to require antibiotic stewardship programs in hospitals, but the fact that it expanded that section in

the final version of its infection control survey suggests that is only a temporary situation.

"They have added additional questions on antimicrobial stewardship," says **Neal Fishman**, MD, chairman of the Centers for Disease Control and Prevention's Hospital Infection Control Practices Advisory Committee. "They are moving toward having antibiotic stewardship as a condition for participation, which was the recommendation of the PCAST committee."

In a recently released report, the President's Council of Advisors on Science and Technology (PCAST), recommended that a regulatory requirement for antibiotic stewardship be in place by the end of 2017.[1] The report coincided with an executive order from President Obama calling for regulations requiring antibiotic stewardship programs and other actions to preserve drug efficacy in the face of rising multidrug resistant pathogens. *(See* Hospital Infection Control & Prevention*, Nov. 2014 issue, cover story.)*

The CMS survey "information" requirements on antibiotic stewardship reflect collaboration with the CDC, which has issued similar recommendations and is openly discussing CMS enforcement of the critical issue. The antibiotic stewardship requirements in the final version of the CMS infection control survey include the following:

•The hospital has written policies and procedures whose purpose is to improve antibiotic use (antibiotic stewardship).

•The hospital has designated a leader (e.g., physician, pharmacist, etc.) responsible for program outcomes of antibiotic stewardship activities at the hospital.

•The hospital's antibiotic stewardship policy and procedures requires practitioners to document in the medical record or during order entry an indication for all antibiotics, in addition to other required elements such as dose and duration.

•The hospital has a formal procedure for all practitioners to review the appropriateness of any antibiotics prescribed after 48 hours from the initial orders (e.g., antibiotic time out).

•The hospital monitors antibiotic use (consumption) at the unit and/or hospital level.[2]

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1. President's Council of Advisors on Science and Technology. Report to the President on Combating Antibiotic Resistance. September 2014. Available at: http://1.usa.gov/1qhDgF6
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OSHA drafts national infectious disease standard to protect health care workers

Calls for 'Worker Infection Control Plan' to prevent occupational infections

Though the timing with the Ebola outbreak is purely coincidental, the Occupational Safety and Health Administration (OSHA) has drafted an infectious disease standard that would mandate infection control measures to protect health care workers.

The 38-page "regulatory framework" document outlines requirements for hazard identification, exposure control, and creation of a Worker Infection Control Plan (WICP) for those at risk of occupational infections. OSHA has been working on the rule for some time, but knows it will get considerable pushback from hospitals. Representatives of small hospitals have already come out against it, saying its burdensome requirements are redundant with existing measures. *(See related story, p. 7.)*

While the Association for Professionals in Infection Control and Epidemiology (APIC) has not formally commented on the OSHA draft, the writing on the wall is clear enough in APIC's recent comments to the agency on its proposed extension of the information collection provisions of the Bloodborne Pathogens Standard.

"APIC is concerned that OSHA's estimate of the burden associated with information collection is underestimated," the association stated in the Dec 2, 2014 comments. "The 2011 Exposure Prevention Information Network (EPINet) reports for sharps and body fluids reveal almost one thousand events in just 32 sites. When considering the multiple settings where the standard applies as well as the time required by occupational health and infection

prevention staff to investigate events, obtain and relay laboratory results, and manage the employee health records, the adjustment in the time estimate would seem significant."

Infection preventionists made similar arguments in fighting an epic and ultimately successfully battle in the 1990s against OSHA's proposed standard to protect health care workers from tuberculosis. The proposed infectious rule could suffer the same fate, but the recent highly publicized Ebola infections in two Dallas nurses — who ultimately recovered — could give OSHA some political momentum.

As a result of the infections and the ensuing confusion about personal protective equipment, the Centers for Disease Control and Prevention upgraded their original recommendations to include respirators and increase the margin of safety for workers. OSHA broke the relative silence it had maintained on Ebola by issuing a firm reminder that "Under the Bloodborne Pathogens standard, and the PPE and other standards, OSHA has the ability to require employers to fully protect healthcare and other workers who may be exposed to Ebola virus."

The agency further warned employers that the OSH Act protects workers who complain to their employer, OSHA or other government agencies about unsafe or unhealthful working conditions in the workplace. "You cannot be transferred, denied a raise, have your hours reduced, be fired, or punished in any other way because you used any right given to you under the OSH Act," OSHA stated.

A caveat on California

The OSHA infectious disease draft is modeled in part on the California Aerosol Transmissible Disease standard — which covers infections that are spread by the droplet and airborne routes — and includes some existing requirements in the OSHA Bloodborne Pathogen Standard. While this has been generally reported as good news, there is one troubling caveat.

"California regulated quite significantly years ago and yet we haven't seen a meaningful change in terms of infection control," says **Michael Bell**, MD, deputy director of the Centers for Disease Control and Prevention's Division of Healthcare Quality Promotion. "It's not as easy as saying there's a standard and therefore everything's better. I don't think people are trying to get themselves in harm's way and I don't think individuals are trying to kill patients. But it's happening and it's going to take more than a standard to change it."

As you might expect, OSHA sees it quite differently, with a spokesperson telling our sister publication *Hospital Employee Health* that health care workers "face a number of infectious diseases, and there are always new threats over the horizon – MERS, Avian Flu, and, of course, Ebola. The infectious disease standard would require employers to have a plan to protect their employees from any infectious disease, rather than going on a disease-by-disease basis."

That leads us back to the Worker Infection Control Plan (WICP), OSHA's primary tool to prevent occupational infections in the draft rule. The OSHA infectious disease draft — which has not been submitted for comment — calls for measures in the proposed WICP that include the following:

Each employer having an employee(s) with occupational exposure during provision of direct patient care and/or performance of other covered tasks would be required to develop and implement a written WICP designed to prevent or minimize the transmission of infectious agents to each employee. The exposure determination would be required to be made without regard to the use of PPE and would be required to contain a list of all job classifications in which all or some of the employees in those job classifications have occupational exposure.

The WICP should include the name and title of, and contact information for, the plan administrator responsible for WICP implementation and oversight (e.g., infection preventionist, occupational health professional, biosafety officer). Each employer would be required to ensure that a copy of the WICP is provided and accessible to all of its workers. During development and reviews of the WICP, the employer would be required to solicit input from non-managerial workers with occupational exposure regarding the WICP's implementation and possible improvements; and establish and maintain records. The WICP would be required to be reviewed and updated at least annually, and whenever necessary to reflect changes in occupational exposure resulting from:

- New or modified job tasks and procedures
- New or revised job classifications
- Changes in technology, updated federal, state, local, and other infection control guidelines, updated vaccination recommendations, or other medical advances that prevent or minimize transmission of infectious agents
- New or emerging infectious

agents, or changes in community patterns of infectious diseases (e.g., emergence of an antibiotic resistant infectious agent, an outbreak or a change in prevalence of an infectious disease).

[*Editor's note: The draft version of OSHA's Infectious Diseases Regulatory Framework is available by going to* www.regulations.gov *and entering document number* OSHA-2010-0003-0245 *in the search bar.*] ■

Small hospitals question need for OSHA ID standard

'We are all very, very highly regulated already'

A proposed rule designed to protect health care workers from infectious diseases places a costly burden on small hospitals, clinics, doctors' offices and long-term care centers, representatives from those facilities recently told the Occupational Safety and Health Administration.

In three days of hearings to gather information from small businesses, OSHA heard concerns about recordkeeping, unnecessary regulation and the provision for job protection of employees removed from work because of exposures.

"Just this year alone, 20 small hospitals closed. [That shows] what the costs can do to small hospitals," said **Leslie Marsh**, MSN, RN, chief executive officer of Lexington Regional Medical Center in Nebraska.

OSHA presented a framework for an infectious diseases rule in October that is patterned after the Bloodborne Pathogen Standard and California's Aerosol Transmissible Diseases Standard. It would require health care facilities to maintain a worker infection control plan, with input from frontline health care workers and annual updates. The plan would include hazard assessments, standard operating procedures that outline protective measures and exposure response, and a list of vaccinations offered to employees with possible declination statements.

In one provision, the draft rule would require employers to maintain pay, benefits, seniority and job status for employees who were removed or restricted from work due to a workplace exposure to an infectious disease for a period of up to 18 months – except for the common cold or influenza. Several of the small employers said they were concerned about the potential cost of that payment beyond workers' compensation.

They also noted that they follow guidelines from the Centers for Disease Control and Prevention and requirements from OSHA, the Center for Medicare and Medicaid Services, state and local health departments, and accrediting agencies. OSHA's draft rule would require employers to "consider applicable regulations and current guidelines" but would not specifically make CDC guidelines mandatory.

"We are all very, very highly regulated already," said **Judy Dahl**, RN, assistant director of nursing at Johnson Memorial Health Services in Dawson, MN. "So much of what [OSHA requires in the proposed rule] is really redundant to what we're already doing."

Dahl also expressed concern about what would trigger the provisions of the proposed rule.

"The thing that bothers me the most is how you decide what is an exposure at work versus what is a community exposure," she told OSHA officials at the hearings. ■

Designated Ebola treatment centers provide ID safety net for future emerging infections

'A health care worker had arrived from a country with Ebola cases and she had a fever of 102'

U.S. biocontainment facilities that have safely handled Ebola patients now are joined in their preparedness efforts by more than 30 hospitals newly designated as Ebola treatment centers. State and federal health organizations are working to ensure there will be no repeat of what happened last fall when two nurses in a Dallas hospital were infected with Ebola after caring for an infected patient.

The Centers for Disease Control and Prevention, does not determine which hospitals are designated as Ebola treatment centers, but does provide site visits conducted by a CDC Rapid Ebola Preparedness (REP) team, says **John Jernigan**, MD, deputy of the medical care task force for CDC's Ebola response.

"State and local health authorities and a hospital administration collaboratively determine whether the hospital will care for a potential or confirmed Ebola patient," Jernigan says.

States likely will suggest more hospitals for the list, and the CDC will assess each.

"CDC REP teams thoroughly assess each potential Ebola treatment center on all infection control aspects of caring for a patient with Ebola, including PPE use, supplies and training, and even details like the route of the trash from the patient's room," he adds.

The CDC conducted REP team assessments in more than 50 hospitals in 15 states and Washington, DC, through Dec. 1, 2014.

The CDC Ebola Response Team (CERT) is ready to deploy if and when a patient is confirmed to have Ebola and the state requests assistance, Jernigan says.

Coast to coast

Among the 35 health systems on the Ebola treatment center list were five from New York, four from the states of California, Illinois, Minnesota, three from Maryland, Washington, DC, and Wisconsin, two from Virginia, Texas and Pennsylvania and one in Georgia, Nebraska, and New Jersey. The three U.S. biocontainment centers of Emory University Hospital in Atlanta, the Nebraska Medical Center in Omaha, and the National Institutes of Health Clinical Center in Bethesda, MD, are included among the 35 listed.

"Our preparedness planning for Ebola started well before the CDC's site visit in November," says **Costi Sifri**, MD, hospital epidemiologist at the University of Virginia (UVA) Medical Center in Charlottesville, which is among the 35 designated Ebola treatment centers.

"Back in the spring we developed an emerging infectious disease group to deal with emerging pathogens," Sifri says. "We were spending a lot of effort preparing for MERS-COV, and then as the Ebola situation grew in West Africa, we folded Ebola planning into our efforts."

U.S. biocontainment centers have had some years of training and preparedness drills to handle highly infectious and dangerous diseases, but the typical hospital has not had much time to understand a disease like Ebola, Sifri notes.

"We've been avid students of their experience," he says. "We've been listening to their experiences at meetings, webinars, conferences, and in published reports."

Following their lead, the UVA Medical Center's care plans are patient-centered, he adds.

The University of California Davis Health System in Sacramento, CA – another designated Ebola treatment center – had begun preparing for Ebola patients in early September, says **Carol Robinson**, MPA, CNAA, FAAN, chief nursing officer.

As soon as the Dallas hospital admitted an Ebola patient, UC Davis Health System revisited its infectious disease program to determine how to handle such a case, she adds.

"The governor asked the UC system if we were prepared to manage Ebola patients, and we said, 'Yes,'" Robinson says. "It's an ongoing process."

It's also an exhaustive process, Robinson and Sifri note.

Both hospitals screen for potential Ebola patients in the emergency departments (EDs) and on admission. They have front line staff asking about recent travel histories. At UC Davis, signs posted in the ED ask about travel history.

A suspect case

Early in the fall, the UVA Medical Center had a patient who had a travel history and symptoms, including fever, back pain, headache, and anorexia, which suggested Ebola. Ultimately, the patient did not have the virus, but it took something of a live drill to determine the diagnosis, Sifri says.

"A health care worker had arrived from a country with Ebola cases and she had a fever of 102 degrees, so we had that real life experience of a potential rule-out patient," Sifri says. "That experience was very instructive to us and tested our system, helping us to improve it."

Hospital staff developed empathy for the patient, and caring for a potential Ebola patient gave them confidence in their ability to help should a true Ebola case arrive at their doorstep, Sifri adds.

Both hospitals sought staff volunteers to work with Ebola patients. But the training and manpower needs are extensive, and hospitals might not always have enough volunteers to cover all shifts. For instance, UC Davis identified the need for having four nurses on each shift and eight core staff for each Ebola patient per day, Robinson says.

"We work schedules so they don't have to spend more than three or four hours in any room," she adds. "We have 16 core staff go through training each week."

The staffing and training needs are continually fine-tuned, and more staff might be added to prepare for people being out sick or unavailable at the moment a patient arrives, she says.

PPE shortages

Finding and purchasing the best personal protective equipment (PPE) has been one of the huge challenges for hospitals. The type of gowns and PPE recommended by the CDC early on was changed after the nurses were infected.

"There has been a lot of deliberation about equipment, and it's been instructive and modified with experience through the fall," Sifri says. "It's also subject to the limitations of supplies right now."

The UVA Medical Center uses an N95-based system that includes impervious gowns, shoes, and lace covers, two sets of gloves, a full face shield, an N95 mask and hood, and an apron, Sifri says.

"We do have plans to also have a full body impervious jumpsuit, but those plans have been limited by the fact that supplies are short," he adds.

At UC Davis, the training and acquisition of additional PPEs also evolved and changed as CDC guidelines changed in response to the Texas nurses' infections.

"We looked at PPE and went through five or six iterations of that — trying to identify the equipment needed, investigating it, and going to many different vendors," Robinson says.

Based on the first CDC guidelines, the hospital provided staff with gowns in which their necks showed. "But our staff said they didn't like those gowns — they wanted total coverage," Robinson says.

"Then we found coveralls and hoods, and staff were concerned about comfort," she adds.

Staff had input on PPE

The health system eventually switched to using Powered Air Purifying Respirators (PAPRs). Even though Ebola is not an airborne virus, the CDC decided to recommend respiratory protection as an extra margin of safety. The staff even went online to research additional protective equipment, making recommendations that the health system tested.

"Staff guided us, and we chose a cover gown over a jumpsuit," Robinson says.

Each time the health system purchased new PPE, there were training sessions. Then when staff provided feedback, changes would be made to the equipment and the training would be held again, she explains.

Another factor was that California OSHA required PAPRs for everyone, despite the lack of evidence behind the requirement.

"We provided PAPRs for our staff because it cooled them down and they felt more comfortable with it," Robinson adds. "They also could be used for other infectious diseases. The Ebola scare, has heightened awareness for everybody."

Hospitals now have additional incentive to pay more attention to hand hygiene and infectious disease prevention, she adds.

Neither the UVA Medical Center nor UC Davis Medical Center has had any community pushback regarding their Ebola treatment center status, Sifri and Robinson note.

"Our local community understands we are a major teaching hospital, and we may be called to care for a patient like this," Sifri says. "We have many people with strong international ties and many who travel overseas, so we've never felt like the risk was low." ■

Rogue H3N2 A flu strain not covered by vaccine, threatens high risk groups with severe infections

Antivirals take on a more critical role this season

An H3N2 A influenza strain not covered in the current vaccine is circulating in the U.S. and threatens high risk groups with severe infections, the Centers for Disease Control and Prevention reports.

The vaccine includes an H3N2 strain, but the stain of concern has antigenically "drifted," meaning it has mutated enough to render the vaccine ineffective. That said, the CDC still recommends vaccination to cover for other circulating strains and to possibly minimize the severity of infections with the H3N2 strain. In addition to the mutated H3N2 strain there is another H3N2 A flu virus circulating that is well matched with the vaccine. These two strains, split in roughly equal proportions, comprise about 90% of the currently circulating flu virus in the U.S.

"We know that in seasons when H3 viruses predominate, we tend to have the worst flu years, with more hospitalizations and deaths," CDC Director **Tom Frieden**, MD, said at a Dec. 4 press conference. "Unfortunately, about half of the H3N2 viruses that we've analyzed this season are different from the H3N2 virus that's included in this year's flu vaccine."

Influenza antiviral medications may take on a more important role this year,

and those at risk of severe complications of flu infection (e.g., those with asthma, diabetes, heart disease, lung disease, pregnancy) should be prepared to get them from their doctor if they acquire influenza. There are two FDA approved drugs recommended for use in the U.S. during this season, Oseltamivir and Zanamivir, Frieden said, noting that antiviral drugs work best when they are begun within 48 hours of illness onset.

"We strongly recommend that if doctors suspect the flu in someone — who may be severely ill from the flu — they don't wait for the results of a flu test before starting antivirals," Frieden said.

Of course, flu is a particular threat to the elderly and frail and there have already been at least five pediatric deaths this flu season.

"We need to get the message out that treating early with the [antiviral] drugs makes the difference between a milder illness or a very severe illness," he said. "Treatments with antiviral drugs for influenza can make your illness milder and shorter. It can reduce the likelihood you'll end up in a hospital or in intensive care, and we believe treatment with antiviral drugs can reduce the risk of dying from influenza."

Antiviral drugs, however, are greatly under prescribed, particularly for people who are at very high risk of flu infection complications.

"Probably fewer than one in six people who are severely ill with the flu get antiviral drugs," he said. ■

MERS and the camel connection – to kiss or cull?

Why eliminating the animal reservoir of MERS is not an option

The World Health Organization recently reported two Middle East respiratory syndrome (MERS) coronavirus infections in Qatar, with both men reporting exposure to camels. A 71-year-old man from Doha, Qatar, was hospitalized in critical condition after acquiring MERS, "owns a camel barn and is known to have consumed raw camel milk," the WHO reported. The other case, a 43-year-old man from Doha, developed symptoms and was admitted to a hospital with MERS infection after frequently visiting a camel barn in the 14 days that preceded his onset of symptoms.

"There is no history of exposure to other known risk factors," the WHO reported.

As evidence mounts that camels are serving as a reservoir for the emerging coronavirus — including the presence of MERS antibodies in some camel populations — the question of culling camels has inevitably arisen. When H5N1 avian flu emerged as a major public health threat in 1997, officials in Hong Kong eliminated its suspected animal reservoir by killing more than 1 million chickens. Similarly, when SARS hit China in 2002-2003, more than 10,000 masked palm civets – cat-like animals sold at public markets – were culled. Bats were found to be the ultimate source of the virus, with civets apparently serving as an intermediate host that provided access to human populations. We may have a similar situation with emerging MERS coronavirus, which appears to be of bat origin but has found a safe haven in camels.

However, the camel is such an integral part of culture in Saudi Arabia and other countries in the region that any suggestion of slaughtering the beasts is likely to be met with strong resistance. Indeed, when officials in Saudi Arabia began warning of the link between camels and human MERS infections, kissing camels became a bizarre act of defiance. As *National Geographic* described it, "Camels in the Kingdom [of Saudi Arabia] are like dairy cows, beef cows, racehorses, pulling horses, beloved Labradors, and living daily reminders of holy scripture, all in one. (Camels appear, honorably, in the Quran.)"[1] Globally, the WHO reports 885 laboratory-confirmed cases of MERS, including 319 deaths.

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Perspective: The mutable message on Ebola mutation

By Gary Evans, Executive Editor

The idea that the Ebola virus may mutate and become transmissible through the air continues to be pushed to the margins of the public health discussion, now all but relegated to the nightmares of a panicked public.

Thus it seems the Centers for Disease Control and Prevention was merely

following suit with recent issuance of a fact sheet entitled "Why Ebola is Not Likely to Become Airborne". (http://www.cdc.gov/vhf/ebola/pdf/mutations.pdf)

"Even as Ebola mutates, like all viruses do, it would be very unusual for it to change how it is transmitted, especially when it is spreading easily through a population," the CDC states. "Over the course of millions of years, viruses do sometimes mutate to change how they spread infection. For Ebola, this would require multiple mutations in the virus over a very long period of time."

That conclusion seems rational and scientific enough, reframing Ebola as a virus that spreads primarily by direct contact. Reassurance is a welcome sight after the reign of fear that followed the three-case Ebola outbreak in Dallas. That said, the inconvenient truth is that the threat of mutation was very much a part of the early public health narrative as it became clear the virus was overwhelming containment efforts in West Africa.

Margaret Chan, MD, director of the World Health Organization, warned in an Aug. 1, 2014 speech that "constant mutation and adaptation are the survival mechanisms of viruses and other microbes. We must not give this virus opportunities to deliver more surprises." Similarly, CDC Director **Tom Frieden**, MD, said at a Sept. 2 press conference, "[Mutation] risk may be very low, but it's probably not zero. The longer it spreads, the higher the risk."

Even President Obama weighed in on the risk of mutation on Sept 7, resulting in headlines like "Obama Warns Ebola Virus Could Mutate If Outbreak Is Not Controlled."[1] "We have to mobilize the international community, get resources in there…. If we don't make that effort now, and this spreads not just through Africa but other parts of the world, there's the prospect then that the virus mutates," the president said. "It becomes more easily transmittable. And then it could be a serious danger to the United States."

Obama was no doubt briefed by public health advisors on that point, and the mention of mobilizing the global community to action sheds light on the motive for the message. Indeed, since the CDC and WHO have been aware of Ebola since the first outbreak almost four decades ago, is it really likely that they came to such dramatic new insights about the risk of mutation during this early time period in the ongoing epidemic?

True, they were looking at an outbreak that is still setting records for duration and case counts, but it is tempting to conclude that the CDC and others were citing this mutation threat primarily to create a sense of urgency and spur a global response. However, the fine line between urgency and near panic was close to being crossed after some independent researchers and scientists began openly discussing the mutation threat. A New York Times op-ed by well-known epidemiologist **Michael Osterholm**, PhD, warned if mutation created airborne Ebola it "could spread quickly to every part of the globe, as the H1N1 influenza virus did in 2009, after its birth in Mexico."[2] Similarly, **David Sanders**, PhD, an associate professor of biological sciences at Purdue University in Lafayette, IN warned, "It's not something to be dismissed. … I can't put a number on it, but I can tell you it's a non-zero number."[3]

There was unease and pushback as such mutation warnings were amplified. As a result, the recent CDC fact sheet notes: "Since discovered, Ebola has proven to be a stable virus with a relatively constant mutation rate. The Ebola virus samples from this outbreak are 97% similar to the virus that first emerged in 1976. Scientists monitoring the virus have not seen any evidence to suggest that the Ebola virus may be mutating to become more contagious or more easily spread."

This was actually one of the early reassuring messages when the outbreak first began, but it may have morphed into the mutation threat as calls were being made for more countries to step up and assist in eradicating the epidemic in Africa. Perhaps only the prospect of the virus getting into their own countries – possibly through mutation that enhanced transmission — could stir the nations of the world to action. If so, it worked. Today many global organizations and nations – from European countries like the United Kingdom, France and Germany – to Asian nations China and Japan have provided assistance or donated considerable sums of money to help fight Ebola in Africa. As of Dec. 17, 2014 there were 18,569 Ebola cases and 6,900 deaths in the African outbreak.

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COMING IN FUTURE MONTHS

- Will Joint Commission use CMS survey for accreditation visits?
- Enterovirus D-68 update and closer look at paralytic syndrome
- Will technology spark hand hygiene compliance?
- CMS reimbursement changes and HAIs
- APIC's IP assessment and strategic plan

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CNE/CME QUESTIONS

1. The Centers for Medicare & Medicaid Services finalized hospital infection control survey for hospitals is now required to be used in annual risk assessments.

A. True
B. False

2. Which of the following were listed as "patient tracers" in the CMS hospital infection control survey?

A. central venous catheters
B. point-of-care devices
C. isolation precautions
D. all of the above

3. A Presidential advisory panel recommended that a CMS regulation on antibiotic stewardship programs be completed by the end of which year?

A. 2015
B. 2016
C. 2017
D. 2020

4. What strain of flu circulating in the U.S. is not covered in the current vaccine?

A. H1N1
B. H5N3
C. H7N9
D. H3N2

CNE/CME OBJECTIVES

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

1. Identify the clinical, legal, or educational issues encountered by infection preventionists and epidemiologists;

2. Describe the effect of infection control and prevention issues on nurses, hospitals, or the health care industry in general;

3. 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.

2014 SALARY SURVEY RESULTS

HOSPITAL INFECTION
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IPs working late and working longer, as aging field fights on under the banner of patient safety

Short staffs mean higher workloads, but germs never sleep

Workloads continue to increase for infection preventionists (IPs) nationwide, as they deal with greater regulatory burdens even as emerging infectious diseases like Ebola require more time and training.

Hospital Infection Control & Prevention's 2014 annual salary survey and job report finds that being an IP entails long working hours. About 71% of respondents reported working more than 40 hours per week, and about 30% said they worked more than 45 hours per week.

Low IP staffing levels at many health systems means workloads will continue to rise.

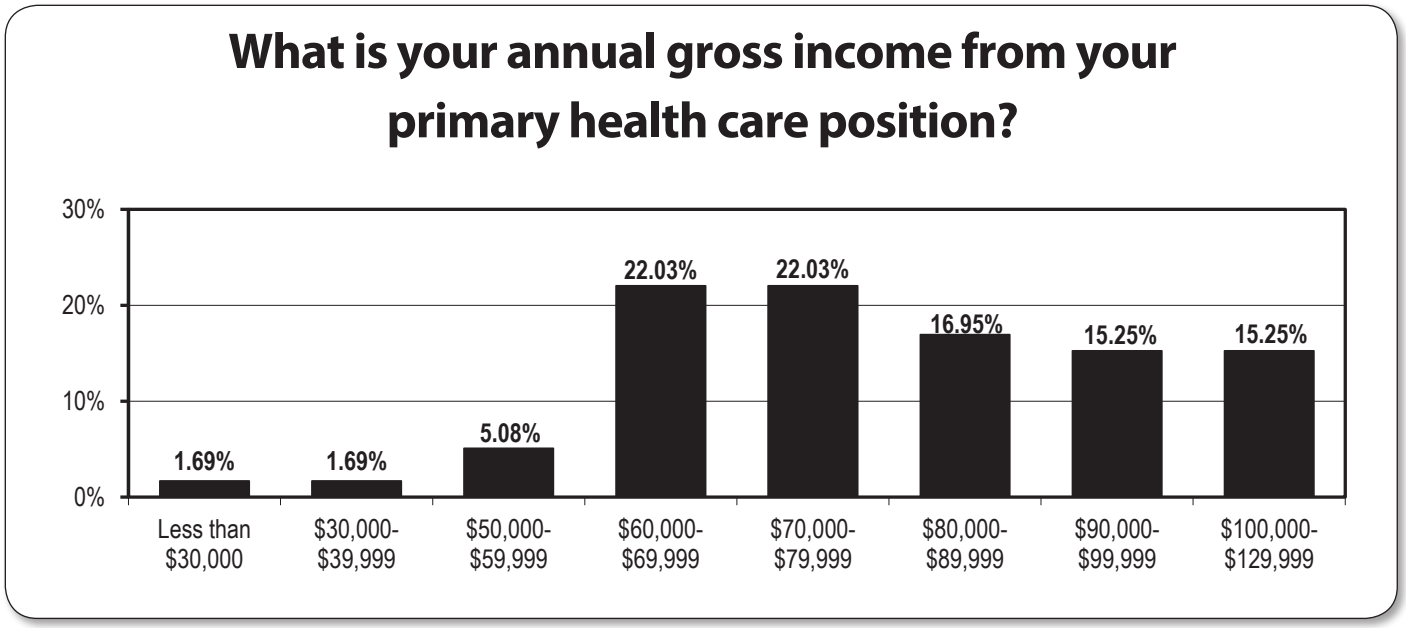
"We conducted a poll, Oct. 10-15, about Ebola readiness, and 51% of respondents indicated they only have zero to one infection preventionist [on staff]," says **Katrina Crist**, MBA, chief executive officer of the Association for Professionals in Infection Control and Epidemiology in Washington, DC.

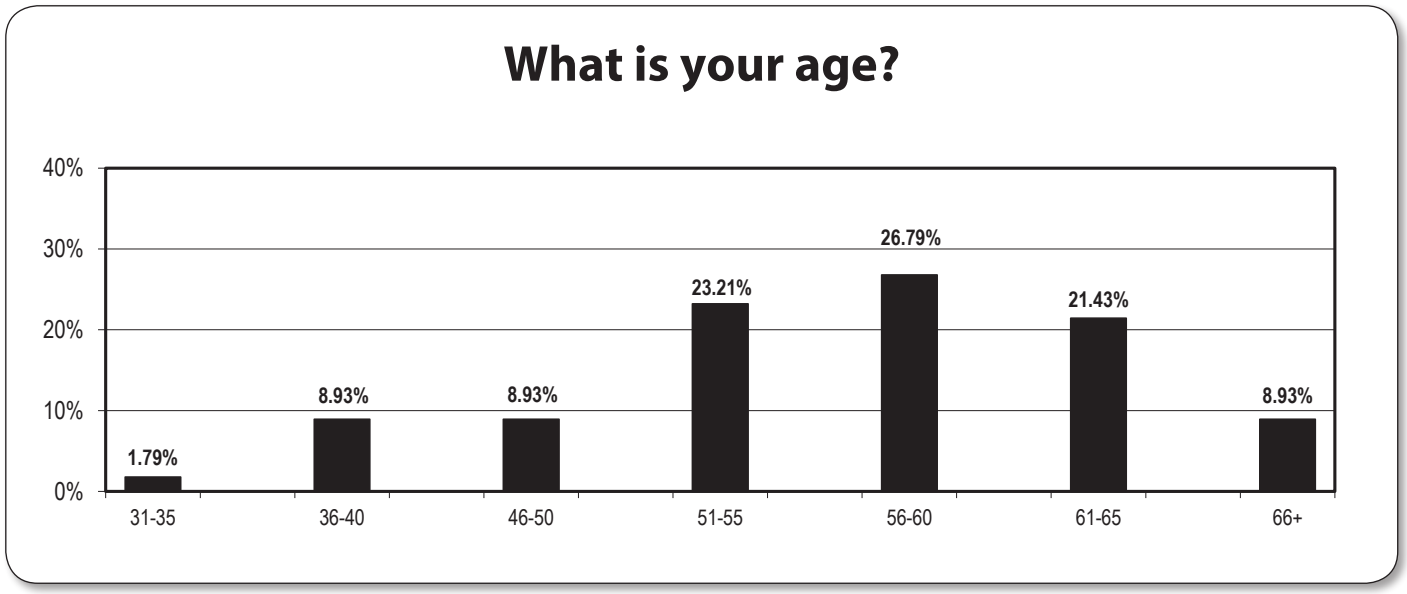
"More importantly, there was a direct correlation between having more than one IP on staff and being more prepared," she adds. "We are looking at how we can develop a strategy and prioritize to bring the message forward that personnel is a serious issue and needs to be better understood and addressed."

Personnel issues are one of three top priorities identified by APIC: "We're sounding the alarm," Crist says.

Age is just a number

Another personnel trend noted in the *HIC* salary





survey was the rising age of IPs. Nearly 90% of the 56 respondents said they were over 45 years of age. More than 20% reported being 61-65 years of age, and close to 9% were already 66 years old or older.

"We need more young people — we need people in their 30s, so when people my age retire there are infection preventionists to take their place," says **Connie Steed**, MSN, RN, CIC, director of infection prevention at the Greenville Health System in Greenville, SC.

APIC's second top priority involves training when surge capacity is necessary, Crist says. "What Ebola showed us is how time intensive training is," she says.

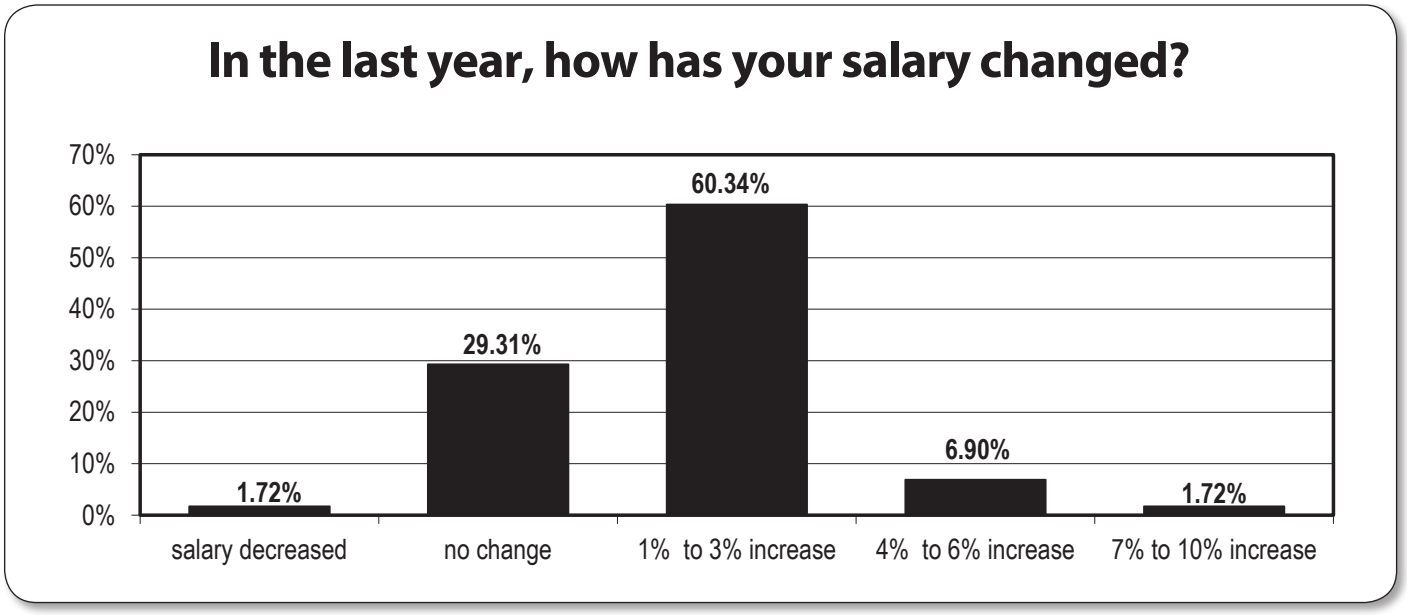
Hospital IPs and others had to spend long days and weekends retraining their workforces to use personal protective equipment (PPE) after two Dallas nurses contracted Ebola, she adds.

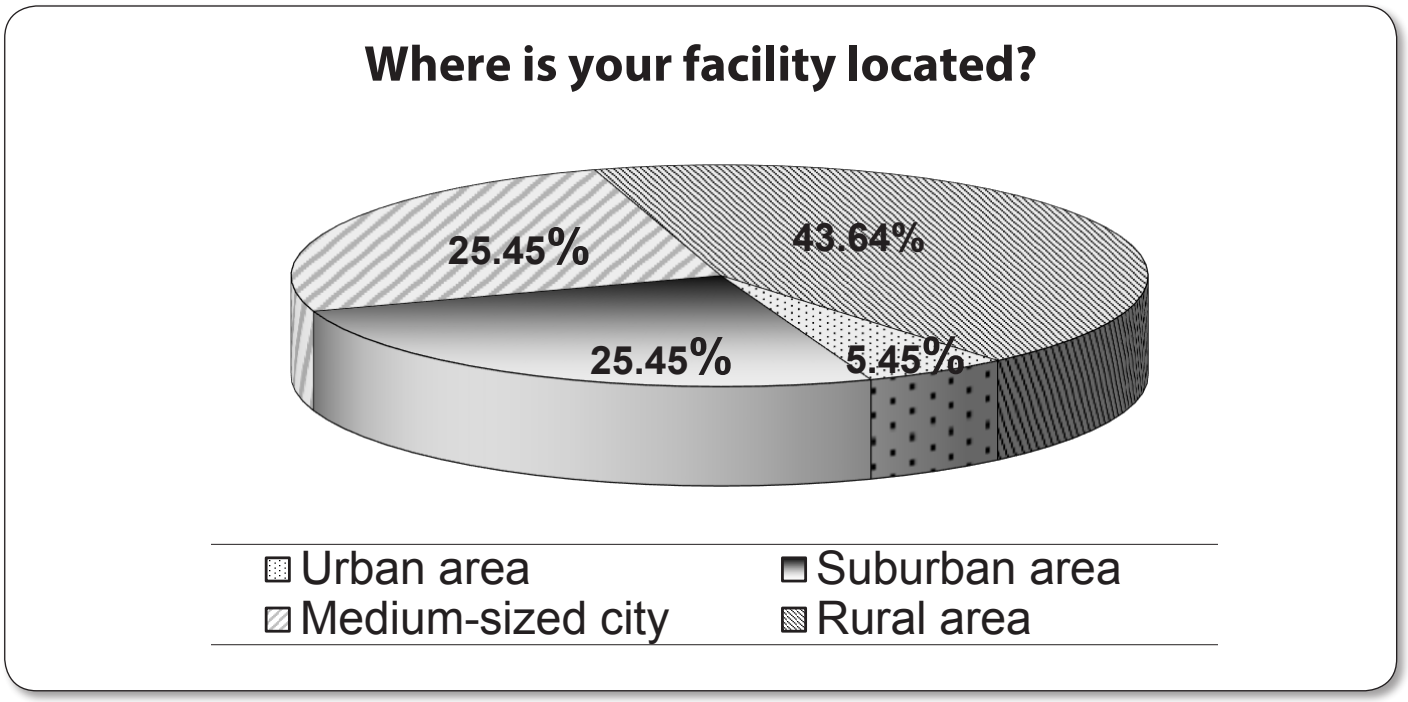
When the Ebola crisis emerged last fall, Steed and another IP at her health system had to delegate their regular responsibilities to other staff and focus solely on training and initial planning for Ebola prevention.

"We trained 100-plus people to go out and train other staff in their areas of responsibility," Steed says. "The training needs are significant, and we've also made a video as an adjunct to competency training."

This required Steed and the other IP to commit 40-plus hours per week for three weeks, covering training for seven hospitals.

"IP efforts are not supported at the level they need to be, and Ebola is an example of that," Crist says. "Their role is to protect patients and health care workers, and the outbreaks of resistant super-





bugs show why infection control is critical to our health care facilities."

Tech investment needed to track infections

The third APIC priority involves the use of technology and equipment to maximize efficiencies and to provide real time data that will help with infectious disease prevention, Crist says.

"You can see trends, and it takes much less time if health systems have the electronic medical records and infection prevention, control, and surveillance component to those electronic systems," she explains. "We're asking health systems to invest in infectious tracking and technology, which acts as a safety net."

Infection preventionists spend more than half of their time with infectious disease surveillance, Crist notes.

ID tracking and data collection are another reason for the increasing workload. IPs often spend too much time entering data when their skills are better spent on interpreting and analyzing data, as well as acting as consultants to their facilities, Crist and Steed say.

"You don't need an IP to enter data," Steed says. "You need someone who is good with a computer and who can enter data you've given them and make sure it's accurate."

Some hospitals, like the Greenville Health System, have moved to a model in which administrative data staff will enter data for IPs.

"We want our IPs to identify infections, leaving data entry to a data or administrative person," Steed adds.

Agents of change — not number crunchers

Infection preventionists need time to act as consultants, facilitating infection control behavior changes, and fixing any existing problems, Crist says.

"APIC is supportive of public reporting, but that's where staffing and resources come in," she adds. "We need to address training and technology so surveillance can be handled differently, and we need more IPs."

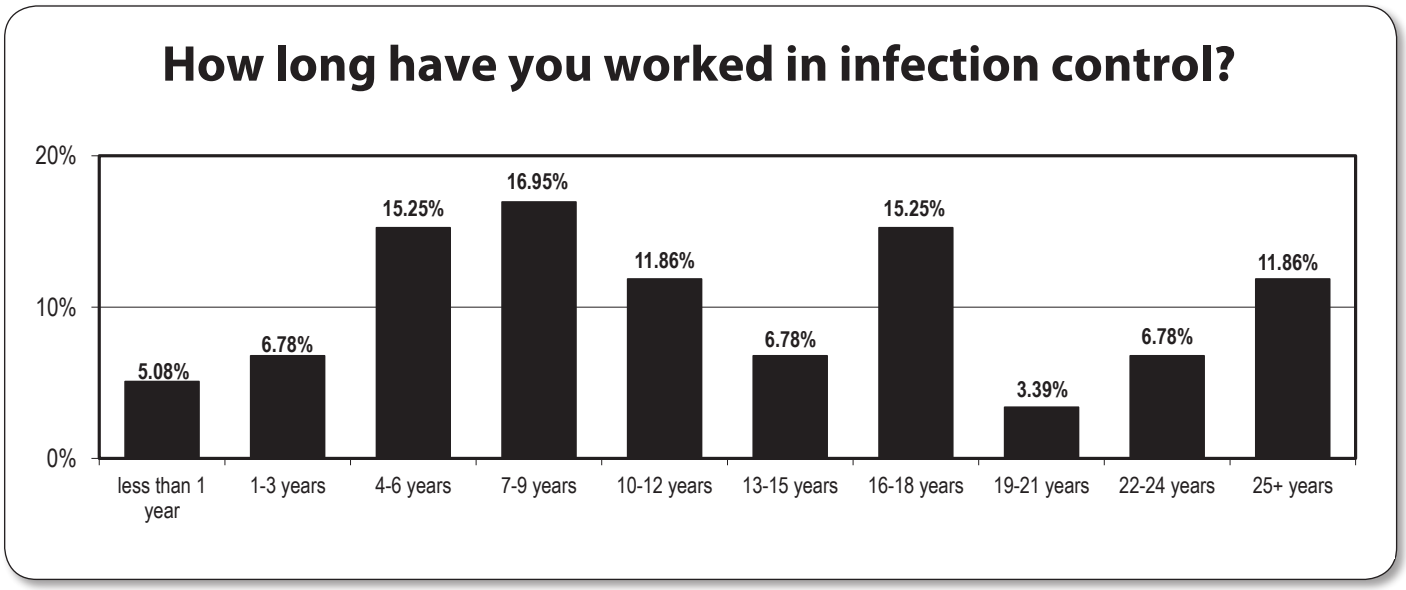
IPs should not be stuck behind a desk, Steed notes.

"We want our IPs to be out on their units, collecting data related to infections and then turning over the information to a data person so the IP can go back to the unit and influence change," she says.

Having data entry staff also helps IPs meet regulatory demands while coping with infectious disease crises. It's a more economical staffing solution.

"If you have data entry staff at a lower cost than experienced IPs, you are adding capacity, and it makes sense," Crist says. "Surveillance is much more complex and difficult than just collecting data."

According to the *HIC* salary survey, IPs typically earn more than $60,000 per year. More than 30% earn $90,000 or more per year. Although 29% of survey respondents report having no change in their salary in the past year, 60% said they received a raise of 1% to 3%, and about 8% reported increases between 4% and 10%.



Infection prevention should be a top goal for health systems, and they should provide the resources needed, based on the population served, Crist notes.

APIC plans to collect data with a mega survey to learn more about how infection control and prevention programs are structured and whether the staffing levels and trends are issues that need to be addressed nationally, she adds.

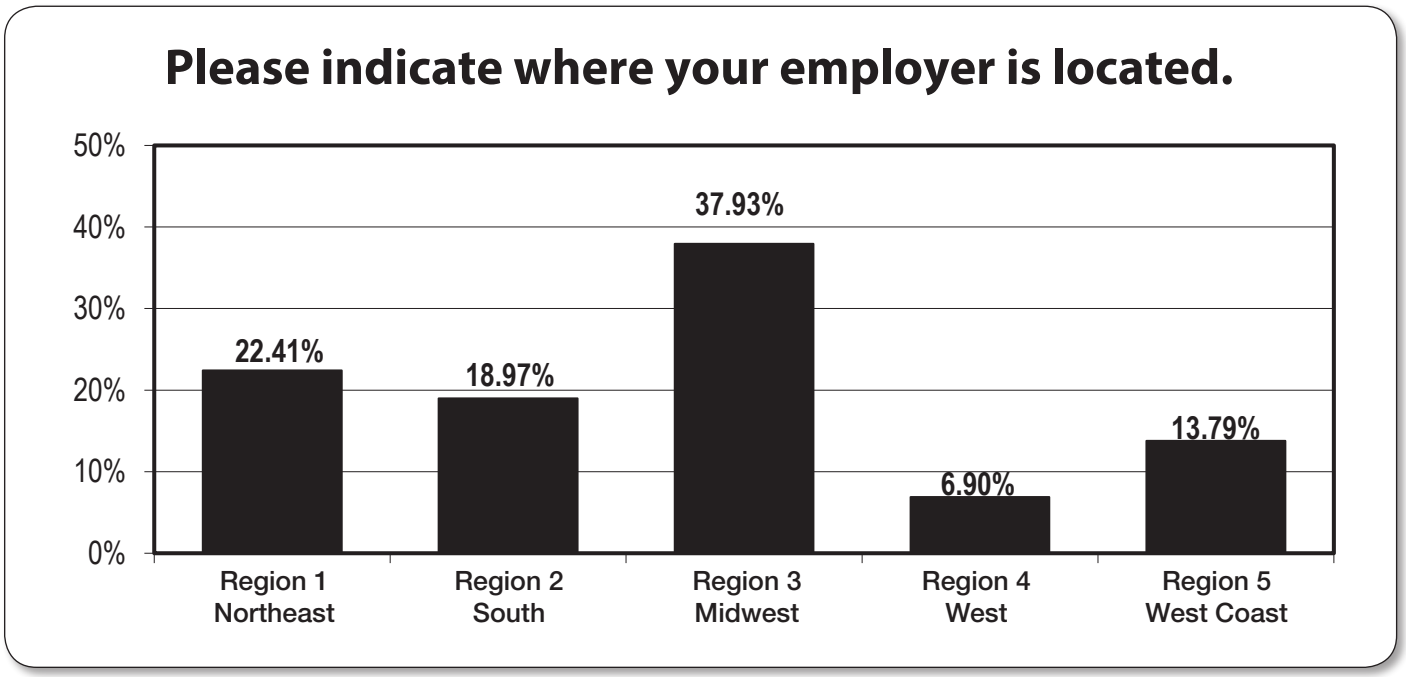
"Any literature about staffing is so old it's not relevant anymore," Crist says. "We want to understand what the workforce looks like, so we can go out with a research agenda and incentivize them to help ask questions and understand what produces better outcomes."

The survey will launch in 2015 with the goal of collecting a baseline of data from 5,000 participants.

"APIC also is undertaking a couple of initiatives related to recruitment of a new generation of IPs," Crist says. "Data from this mega survey will be critical and supportive to developing a long-term strategy."

The organization plans to produce recruitment materials that will be sent to academic settings that train nurses, medical technicians, and public health students, she adds.

"All of these initiatives and efforts are related to increasing the value of IPs overall and getting everything in place that allows them to do the real work that makes a difference to a facility," Crist says. ■



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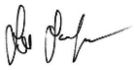

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