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INSIDE

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Is Infection Prevention a Bipartisan Issue? APIC Urges IP Advocacy

Amid tumultuous change, patient safety should be apolitical

By Gary Evans, Medical Writer

In a time of political transition and turmoil, the Association for Professionals in Infection Control and Epidemiology (APIC) has issued a Public Policy Agenda[1] that clarifies key legislative issues for action and advocacy by infection preventionists. The association also posted a legislative toolkit that walks IPs through the steps to begin state or federal political advocacy.[2]

While the current political landscape is certainly unpredictable, APIC has several key legislative issues that should have bipartisan appeal. Foremost among these is support of antibiotic stewardship programs to prevent the fading efficacy of drugs against an increasing array of resistant bacterial infections.

> APIC SUPPORTS THE CMS REQUIREMENTS TO ESTABLISH DRUG STEWARDSHIP PROGRAMS, WHICH WOULD INCLUDE KEY COLLABORATIVE ROLES FOR IPS.

CMS is expected to finalize a regulation in 2017 that would make antibiotic stewardship programs a condition of participation in hospitals and other healthcare settings.[3] APIC supports the CMS requirements to establish drug stewardship programs, which would include key collaborative roles for IPs. *(See the August 2016 of* Hospital Infection Control & Prevention *for more information.)*

The political advocacy document also emphasizes APIC support of resources for CDC surveillance

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programs for healthcare-associated infections (HAIs).

"[This document reflects] the work that we have done across party lines regarding patient infections and keeping patients safe," says **Susan Dolan,** RN, MS, CIC, president of APIC. "The work we have done, specifically in the past decade, has been to educate and influence policymakers in a way to make our voices heard both individually and collectively. I think this document — regardless of which administration is in place — is pretty solid on some important things. Certainly, antimicrobial resistance and emerging infectious diseases should be of concern to anyone."

Underscoring that healthcare-associated infections kill 75,000 patients a year — a toll comparable to annual fatalities in car wrecks and breast cancer combined — APIC made a strong case for continued political support for IPs and their public health partners. Overall, APIC reminds IPs in the public policy agenda document that they have critical roles in the following healthcare issues:

- developing proven policies to ensure a safe environment for patients,
- ensuring compliance with standards and regulations designed to protect patients and healthcare personnel,
- tracking and monitoring activities to identify and prevent HAIs and other infectious agents,
- leading and participating in healthcare quality improvement efforts designed to protect patients,
- educating the public and healthcare personnel about infectious diseases and how to limit their spread,
- serving as leaders in preparing healthcare facilities and personnel for events such as an influenza pandemic, emerging infectious diseases, and bioterrorism, and
- reporting communicable diseases to the CDC.[1]

NHSN a High Priority

We asked Dolan, an infection preventionist at Children's Hospital Colorado in Aurora, to comment further on APIC's priorities for political and legislative advocacy.

HIC: You traditionally have published these kinds of advocacy positions and statements in separate documents or position papers. Why the compilation?

Dolan: The beauty of this document is that it has a reach beyond just looking at policymakers and infection preventionists, but that is our main target. [We want] to get IPs engaged as members and have a voice. With regard to policymakers, the overarching theme here is really to inform, educate, and influence. I feel like we have used some of these documents individually when we have lobbied with our policymakers and they have been effective in keeping our message clear so that we are all communicating in the same way. With this document, we now have it all in one place and we can continue to grow this document as the [political] landscape changes.

HIC: Are there any issues of particular concern or importance in terms of legislative priorities?

Dolan: The one thing we are watching carefully is anything that could jeopardize funding for key programs that are necessary for infection control. One of them specifically is the CDC's National Healthcare Safety Network (NHSN) because that really is a program that has expanded out beyond the hospital into the community, long-term care, and across the continuum of care.

We are making great progress with federal partners in working with the measures that are being put in place and making sure that the monetary compensation issues are also tied to those. We are getting into a standardization process that is really starting to give us the platform for moving measures out beyond hospitals. That work is really key. We need continued funding for the NHSN program so that we can continue to do this work for patients -- regardless of what political affiliation they are.

HIC: Antibiotic stewardship has certainly been a bipartisan issue to this point. The CMS is expected to finalize their regulation requiring stewardship programs this year, and APIC takes a positive view of that likelihood in your legislative agenda.

Dolan: Absolutely, yes. It is a critical component having infection preventionists be part of that team. That is something we are advocating for and APIC has had a lot of involvement in this process. We are working with our fellow organization -- SHEA [Society for Healthcare Epidemiology of America] -- to relook at the antimicrobial stewardship paper that we [jointly published in 2012].[4] We are revising it this year with updated information, and also to give it a stronger platform for IPs.

Certainly, for our members, we are helping them to understand what their role is in the antibiotic stewardship process — so it is clear to them that this is not really just a physician-driven measure. It really takes infection prevention together with those individuals to make it effective. We are absolutely very involved with our [SHEA colleagues] with that, but we are also educating those on the front lines about the importance of what this means and what their role could be. For example, nurses at the bedside, individuals in the operating room, various places where that education needs to take place. I think one of the big areas that is going to come down the pike is how to effectively do [antibiotic stewardship] in long-term care facilities where resources are limited. What would these [programs] look like in community settings where you don't have an infectious disease physician? How can they have access to the people who have expertise in this area?

HIC: Just to clarify, are you satisfied with the IP role as outlined in the CMS antibiotic stewardship draft regulation or do you expect further revisions there?

Dolan: I think it is in evolution as we continue to move it forward. Currently, we do feel that IPs have a place [in stewardship programs] and we see the value of that in their work. One of the things that is going to very helpful is to make sure that they have the resources to do some of this work electronically. So, you can actually pull out the reports where there are red flags [for antibiotic misuse] and things can be targeted. That's where some of these resources can really help IPs on stewardship teams be more effective — rather than doings things manually. To me, it is important to leverage some of the resources that are needed and make sure people in institutions understand that this is not a one-person deal. It's a team effort.

HIC: We have mainly talked about federal regulations, but of course these same positions and background information could inform IPs with policymaking at the individual state level.

Dolan: Absolutely, and we have had a fairly engaged program within APIC for our local members at the chapter level to have a voice with their state representatives. We have a toolkit that has been put together by a group of infection preventionists. It started with a group of IPs in one state and has been fleshed out so that the toolkit can be used by any chapter member to get a group to go to the state level to educate and inform policymakers and influence some of their decisions.

HIC: OSHA has made several moves in recent years to lay the groundwork for an infectious disease standard to protect healthcare workers. That said, it seems relatively clear that the incoming administration was not elected on the promise of enacting more federal regulation.

Dolan: We are watching to see what is going to happen there — so at the point that [an OSHA] document would come out for comment, we could have a voice and provide feedback through our usual process. It is something that we are aware is in the wings. I would agree with you, we are not quite sure where that will go initially. But it seems that things that fall into that bucket are likely to be delayed. ■

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A New Focus on PPE Compliance

CDC looking at PPE observation and feedback approach

Considering widespread problems with personal protective equipment reported during the Ebola outbreak, the CDC is assessing ways to better train and observe workers using PPE.

The CDC is piloting some tools that include observation of workers donning and doffing protective equipment, a hospital epidemiologist noted recently in New Orleans at the annual IDWeek meeting. The concept is theoretically sound, but may be labor-intensive in facilities with a large number of employees, said **Tom Talbot**, MD, a clinician at the Vanderbilt University School of Medicine in Nashville.

"The health department in Tennessee is piloting this CDC tool," he told IDWeek attendees. "It is much more prescriptive on how you train your healthcare personnel not only in hand hygiene, but the use of PPE to the point of hands-on annual competency of all personnel. [This would] not be just watch a PowerPoint every year, but actually watching them put on and take off the PPE. The other piece of it would be — like we monitor handwashing — really prescriptively tracking how well we use our PPE in precautions and feeding that back to folks. That is something that has emerged from Ebola."

Indeed, the general consensus seems to be that improper use and compliance with PPE is a longstanding problem that Ebola revealed and underscored. One of several studies published on this issue found that in 435 glove and gown removal simulations, contamination of skin or clothing occurred in 200 (46%), with the percentage similar across four hospitals studied.[1] The compliance increased significantly after a training program that used fluorescent lotion to show workers their level of contamination after removing PPE. The problem, again, is rolling out such PPE training to a large group of healthcare workers.

Some infection preventionists and epidemiologists have argued for scaling back contact isolation precautions in favor of an emphasis on standard measures and hand hygiene. Some early adopters of this "horizontal" strategy are no longer isolating patients with methicillin-resistant *Staphylococcus aureus* (MRSA) and vancomycin-resistant enterococcus (VRE) if they are endemic in a non-outbreak setting. Instead, they may emphasize other measures like chlorhexidine bathing and rigorous cleaning of environmental surfaces and fomites. In addition, some that adopt this approach may still use contact precautions for MRSA or VRE patients with high acuity or wound drainage.

A 2015 paper[2] concluded that there are insufficient data to support or reject contact precautions for MRSA and VRE, thus the decision should be based on local circumstances. *(For more information, see the December 2015 issue of* Hospital Infection Control & Prevention*.)*

Real-world Scenario

Determining what and whether PPE were worn for care of an infectious patient may come down to a judgment call in real-world scenarios discussed at IDWeek. Consider this scenario: A healthcare worker dons a surgical mask to enter the room of a patient on droplet precautions for respiratory infection. The diagnosis is updated when it is discovered that the patient actually has TB, which calls for airborne precautions that require an N95 respirator or something equivalent. Should the healthcare worker who wore the surgical mask be considered exposed to TB?

"To the best of my knowledge, there has never been a healthcare worker who acquired TB because they were just wearing a surgical mask," said **David Weber**, MD, MPH, an epidemiologist and professor at the University of North Carolina School of Medicine in Chapel Hill. "That said, there is no question that when you do air flow studies that an N95 has better filtering capacity both through the mask and, more importantly, around the mask because it is a better, tighter fit. But we wouldn't treat somebody wearing a surgical mask — if they wore it properly — if [the TB patient] was mistakenly put on droplet precautions. We wouldn't consider that an exposure."

The lead author of a recently published paper[3] on healthcare exposures to infectious agents and post-exposure treatment, Weber fielded questions on the topic in a wide-ranging interactive session with co-speaker Talbot.

"What is the [TB] risk if you don't wear a mask at all?" he said. "We've looked at our data, and if you look at the CDC guidelines they don't consider it an exposure [until after a certain] number of hours. So walking into a room for 20 minutes would not be considered

an exposure. If you are on a plane with [someone who has] TB, they only track you down if you are on the plane for more than four hours. So recognize that time is also relevant. When we have looked over 30 years, the risk [of infection] after being exposed to TB — we've never tried to break it down by time; we don't have enough data — is about 0.5%. So there is about a 1 in 200 risk of converting your TST test or your IGRA if you take care of a TB patient without wearing a mask."

Of course, there are outliers on either end of the spectrum, given the variables in a patient's infectivity, the worker's immune status, and nature of the interactions.

"We've had cases in the olden days where they didn't wear masks routinely during bronchoscopy, and everybody in the bronchoscopy suite converted," he said. "We have had patients in the hospital for weeks before they made the diagnosis of TB, and no one converted."

If infection preventionists determine an exposure has occurred, Weber recommended moving out from the index case in concentric circles depending on healthcare worker contact.

"If we have lots of people, we look at the most exposed," he explained. "If we see any conversions, we will go to the people less exposed and work our way out. [This is preferable] to just testing everybody, like someone in dietary who just came in to drop a tray off."

For exposures in general, it is often a matter of practicality to delineate those exposed from those nonexposed as the point when the decision was made to place the patient in isolation, Talbot noted.

"But in the real world, there are people who come into the room without wearing all the PPE, and other factors," he said.

By the same token, it is sometimes more workable to consider those exposed as those who entered the room when the patient was undiagnosed rather than trying to determine if they got within, for example, three to six feet from the patient.

"We used to have a policy that if you were immune [to the patient's infection], you didn't have to wear PPE," Talbot said. "We stopped that and I think more places are stopping that for a couple of reasons: One, vaccines are not 100% effective, so workers are still at risk, but I think perhaps more importantly is if other healthcare workers see me [not wearing PPE on room entry]. They don't know my immune status and may think it is not necessary to wear PPE to go into the room. You can't explain that in real time, and people see your behaviors so [our policy now] applies to everybody. You walk in the door, you wear the stuff. Yes, you spend some money on PPE, but you reduce the risk of someone getting exposed."

PEP for HIV

In terms of post-exposure prophylaxis (PEP) for HIV, Weber reminded that occupational health requirements stipulate the use of the "most recent" public health recommendations. "They take the [PEP] recommendations and make it a regulation, so as the guidelines get updated by the public health services for post-exposure prophylaxis for HIV — the timing, tests, drugs — you are bound to follow that guideline by law," Weber said.

Another good measure to protect workers is to automatically implement isolation when a test is ordered; for example, measles.

"We don't see much measles, mumps, or rubella, fortunately, but we do need to be concerned about those," Weber said. "One of the problems with mumps is that it is not a rash disease and people don't think of it when somebody comes in with a little swelling or just feeling poorly. And the problem with both measles and rubella is that, probably, most of the house officers and most of our junior faculty have never seen a case. We actually had an exposure with this because the Hare Krishna community was not receiving MMR vaccines. They have no philosophical oppositions to vaccines, but they are strict vegetarians and the vaccine is made in eggs."

The importance of counseling exposed workers is critical, particularly in situations where healthcare workers are concerned about becoming infected, said Talbot. He described a disturbing case of the death of patient with meningitis, which was followed by the need to determine which workers were exposed and who needed post-exposure prophylaxis.

"We had a very devastating case of a 19-year-old college freshman that came in with meningococcal disease, was the in the ED and being coded for about 90 minutes, and passed away," Talbot said. "It was a very traumatic experience for the healthcare workers, and then later on they became worried about their risk. I remember sitting in the ED for about two hours and folks were coming in and saying, 'I did this, I walked into the room, I handed some supplies,' and asking, 'Am I at risk?' That is probably the most striking example. This is really important because people see this horrible illness and then they get scared. It is really important to remember that piece of it. Often the risk is still fairly low, but just reassuring them

and particularly [underscoring] prophylaxis if they do need it." ■

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CDC Updating HCW Infection Control Guidelines

Infection preventionists who work closely with employee health colleagues — or wear the proverbial "two hats" for both jobs — should be aware that the CDC is updating its 1998 "Guideline for Infection Control in Healthcare Personnel."

A draft version recently discussed at a meeting of the CDC's Healthcare Infection Control Practices Advisory Committee (HICPAC) calls for administrators and leaders of healthcare organizations to regularly review results of risk assessments related to occupational infection prevention, set performance goals, and reduce risks.

Employee health leaders and staff would conduct the risk assessments or collaborate with IP colleagues to identify and reduce occupational infectious threats to workers. As recommended in the CDC draft, they would also participate in committees and decision-making processes that affect occupational infection prevention efforts. These teams would then advise colleagues and administrators on risk reduction strategies and other occupational infection prevention issues.

"The real challenge in this is the diversity in how occupational health services are provided out there," says **David Kuhar**, MD, a medical officer in the division of healthcare quality promotion at the CDC. "Larger healthcare organizations might have an onsite group that provides this for the organization, but small freestanding facilities may contract their services from a provider that is not part of their organization. The diversity in these services means that not all occupational health providers have access to the facility and [employee] data. We wanted to be careful to not inappropriately place ownership of, for example, walking through a workplace to assess it for safety, when they may be a contracted offsite health service. However, they could be asked to do it, so we wanted to be sure that we framed the recommendations in a way that was sensitive to those that might not have the access to provide those services."

A section on conducting medical evaluations of healthcare workers has also been expanded and is more prescriptive in terms of recommendations. For example, the draft guidelines emphasize the importance of "pre-placement" medical evaluations to be done after a worker is hired, but before they are assigned to a specific duty or area in the hospital. These exams would include looking for any immunity problems, pregnancy, or other conditions in the worker, as well as the risk of infections associated with their designated duties.

"We highlighted the importance of the pre-placement evaluation," Kuhar says.

"This is after the person is hired but before they actually start their job duties. They have a medical evaluation to address their risks of acquiring or transmitting infections at work as well as to address their evidence of immunity and possible need for immunizations before they set foot on the wards."

These exams would be followed by periodic and "episodic" medical evaluations, with the latter most likely occurring in the context of an exposure or outbreak.

"We also wanted to highlight the need for periodic evaluations, there might be planned repeated visits to the occupational health clinic, as well as the episodic ones — say, when an exposure has happened," he says. "We wanted to offer much more specific guidance as to the types of medical evaluations that occupational health services typically provide."

The first sections of the draft are expected to open for review and comment in the coming months, he notes. The revisions will be comprehensive in some areas because the last version of this guideline is now 19 years old.

"Since 1998, quite a lot has changed, and among those changes were several new regulations that affected occupational health services to personnel," Kuhar says. "There were new OSHA standards, like the respiratory protection standard, that require training as well as education for workers who have to

use respirators as part of their work duties. The other issue is there are a lot of requirements from accreditation and federal agencies, like CMS [requiring] reporting of healthcare influenza immunization rates."

The assessment and reduction of infectious risks to staff is also getting a new emphasis.

"We are proposing a more extensive medical evaluation section. However, I would say that what you might do in a medical evaluation has not changed drastically since 1998. There are more requirements that affect how we do a medical evaluation, and we added more detail on the type of medical evaluations that occupational health service might provide."

The CDC guideline will not likely get into great detail into common PPE woes like lack of compliance with respirator use or fit testing.

"I would say that is probably an issue for a different guideline — more related to the effectiveness of infection control measures," Kuhar says. "What we wanted to do here is highlight the role that occupational health services might play in facilitating readiness to use a respirator. You use your pre-placement medical evaluations to assess a provider's ability to use a respirator in compliance with OSHA requirements." ■

Healthcare Workers Fired for Refusing Flu Shots Win Legal Fight

EEOC filed suit citing religious exemptions

Six healthcare workers fired for refusing mandatory flu shots for religious reasons won back pay and offers of reinstatement from Saint Vincent Hospital in Erie, PA, according to the U.S. Equal Employment Opportunity Commission (EEOC).[1]

The case could have implications for the increasing number of hospitals requiring influenza vaccination as a condition of employment, as the hospital agreed to compensate the workers some $300,000 for lost wages and compensatory damages after the EEOC filed suit in September 2016.

The Association for Professionals in Infection Control and Epidemiology (APIC) listed mandatory flu immunization policies as among its legislative priorities in a recently issued public policy document.[2]

"Mandatory influenza vaccine has been something we have been a proponent of for quite some time. It has really shown evidence of impact as far as protecting patients and also the staff that are taking care of them," says **Susan Dolan** RN, MS, CIC, president of APIC and an IP at Children's Hospital Colorado in Aurora.

While Dolan did not want to comment specifically on the legal case without thorough review, she says, "We will certainly be looking into that [case] both at our facility and as an organization to help our members."

A Saint Vincent statement cited in media reports[3] and attributed to the hospital's corporate parent, Allegheny Health Network, notes, "The consent decree filed this week between the EEOC and Saint Vincent Hospital does not constitute any admission of violations by Saint Vincent or a finding on the merits of the case. Although we have vigorously and respectfully disagreed with the EEOC's position and characterization of how employee claims outlined in this lawsuit were handled by the hospital, we have reached a resolution of the matter in the interest of avoiding the expense, delay, and burden of further litigation on all parties."

How did the hospital get itself in such a tenuous legal position? Some clues may be found in the Sept. 22, 2016, EEOC complaint,[4] which cited the federal Civil Rights Act in accusing the hospital of "unlawful employment practices on the basis of religion."

More specifically, the EEOC complaint alleges "discrimination because of religion by failing to accommodate their sincerely held religious beliefs and practices that prevented them from receiving the influenza vaccine."

Among the faiths and beliefs cited by the workers were Russian Orthodox, fundamental Baptist, and Christian mysticism. The latter belief was cited by an RN that was also described by the EEOC as an "ordained interfaith minister and a practitioner of Christian mysticism according to the teaching of 'A Course in Miracles.'" According to the complaint, some workers enlisted spiritual leaders to contact the hospital and some described their beliefs in writing. The exemptions were not granted, with the hospital ruling in some cases that the workers failed to provide "proof" of the religious doctrine, the EEOC complaint states.

"In the 2013-2014 flu vaccination period, the period in which the

defendant [St. Vincent] denied the religious exception requests [of the six HCWs], defendant received 11 employee requests for exemption from the mandatory influenza vaccination requirement that identified religious grounds as the basis of the requested exemption," the EEOC alleges in the complaint. "Defendant denied all 11 religious exemption requests." According to EEOC's lawsuit, during this same period, the hospital granted 14 vaccination exemption requests based on medical reasons while denying the religion-based exemption requests. In addition, some religious exemptions were granted for the 2015-2016 flu season, the EEOC stated, suggesting the agency was going to argue that the hospital policy was inconsistent.

According to the EEOC, the consent decree between the agency and Saint Vincent states that if the hospital is going to mandate flu vaccination as a condition of employment, "it must grant exemptions from that requirement to all employees with sincerely held religious beliefs who request exemption from the vaccination on religious grounds unless such exemption poses an undue hardship on the Health Center's operations. … [The facility] must adhere to the definition of 'religion' established by Title VII and controlling federal court decisions, a definition that forbids employers from rejecting accommodation requests based on their disagreement with an employee's belief; their opinion that the belief is unfounded, illogical, or inconsistent in some way; or their conclusion that an employee's belief is not an official tenet or endorsed teaching of any particular religion or denomination."[1]

With similar cases being reported, a law firm noted in a blog post[5] that "the EEOC seems to be on a march to challenge any employer — particularly hospitals — that denies an employee a requested exemption from a mandatory flu shot for religious reasons. … [G]iven the EEOC's aggressive position on this issue, it is critical for any employer who is going to deny an employee's request for an exemption to, first, carefully explore what accommodations can be offered to the employees, and second, document the reasons for the denial. If disciplinary action against an employee is contemplated, you should consult your legal counsel." ■

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Research on Antibiotics Raises Ethical Questions

Children recovering from pneumonia will receive shorter treatment

With drug-resistant bacteria on the rise, clinical trials are being undertaken to determine whether antibiotics can be used less often for shorter durations without sacrificing clinical effect. Attempts to answer that question raise ethical issues of their own.

For example, the NIH's National Institute of Allergy and Infectious Diseases (NIAID) is sponsoring a clinical trial at five medical centers, which are enrolling some 400 children to determine whether the standard 10-day course of antibiotics for community-acquired pneumonia (CAP) could be reduced to five days but still provide effective treatment. Most frequently caused by *Streptococcus pneumoniae*, CAP typically treated with a 10-day regimen of amoxicillin.

Children age six months to six years will be studied in the Short Course vs. Standard Course Outpatient Therapy of CAP in Children (SCOUT-CAP) trial. As an additional safeguard, participants in the study must have been initially treated in outpatient clinics, urgent care facilities, and EDs for CAP and have clinically improved prior to enrollment. Estimated to run through March 2019, the clinical trial will evaluate short courses of the oral antibiotics amoxicillin, amoxicillin-clavulanate combination, and cefdinir. The research subjects will be split into equal groups undergoing five-day and 10-day treatment.

C. Buddy Creech, MD, MPH, one of the principal investiga-

tors and a pediatric infectious diseases physician at Vanderbilt, agreed to field a few questions on the trial for *Hospital Infection Control & Prevention*.

HIC: Can you comment on the primary ethical issues raised by this type of study — for example, getting informed consent to treat the five-day group that will receive only half the currently recommended antibiotic duration?

Creech: The most important ethical portion of this study is that the children who will be enrolled must already be showing signs of recovery, including no fever for at least 24 hours, before they switch to potentially receiving placebo. Realistically, new data from a large CDC-sponsored study[1] suggest that the vast majority of community acquired pneumonia in children is actually due to viruses. Therefore, the antibiotics they are receiving may not have much of an impact at all. The other important consideration is that if we can shorten therapy, and therefore decrease the likelihood of rash, diarrhea, and stomach upset that comes with antibiotic use, we would make a significant impact on medical care for pneumonia.

HIC: Can you comment more on the safeguards in place to ensure longer treatment for those in this group that do not clear the infection after five days?

Creech: The first safeguard is that if children are not better by day five — when we seek to enroll them — they simply will not be in the study. Therefore, all children must be significantly improved, including no fever, before they can even be considered for the study. Second, we are asking parents to keep a daily diary that will help them gauge symptoms such as cough, fever, and fussiness. If any of these increase or if any children appear to get worse, we have created ways to get them back to their pediatrician to consider other treatments. We've also built safeguards into the study so that if multiple children seem to get worse during day 5-10, we can ask an independent group of physicians to review the records to see if we need to change, or even stop, the study.

HIC: Related to that question, can you elaborate on the provision that calls for enrolling research subjects who were initially treated in outpatient clinics and other settings?

Creech: For children, one of the most reliable signs of ongoing infection is fever. Therefore, fever must be gone for at least 24 hours or we will not enroll the child. The child must also have a normal rate of breathing and look well overall.

HIC: Did the IRB(s) involved comment on or stipulate that these types of measures must be place for the trial to proceed?

Creech: The IRBs at five institutions, the NIH, the FDA, and an independent Safety Monitoring Committee (SMC) reviewed the protocol. Each of the measures we instituted were decided upon up front and no additional modifications were needed before proceeding with the trial.

HIC: Will the use of previously treated patients make it more difficult to ultimately extrapolate your findings to inform antibiotic therapy for untreated cases of CAP in pediatric patients?

Creech: This study will be the first of hopefully many studies evaluating the best management of children with pneumonia. We hope to develop robust prediction models to help determine, at the time of diagnosis, which children are more likely to have bacterial versus viral pneumonia, and therefore who needs antibiotics and who does not.

HIC: Stepping back for a second, we know antibiotic resistance has become a major public health threat, but can you comment generally on why this area of research is important?

Creech: For years, we have given strict instructions to parents, "make sure your child takes all of the prescription," and yet for many infections we don't actually know the precise length of treatment needed to make sure children recover well. Many are based on years of experience; others are based on ensuring that we treat until the child is better, and then for a short period after.

Over time, though, we have learned that even short courses of antibiotics can have important effects on the types of germs that children carry on their skin, in their noses and throats, and in their GI tract. As a result, the field is moving toward making certain that we treat children with the most precise antibiotic for the shortest amount of time. This study will help us make certain that shorter duration of therapy — only five days for children that are already getting better — will be just as good as a full 10 days.

HIC: It seems you will need to draw a bright line marking when it is safe to end therapy if the traditional patterns of antibiotic overkill are to be reversed. Is there a gray area there that might end up showing, for example, seven days of therapy gives you the most bang for the buck in terms of balancing patient safety versus antibiotic resistance?

Creech: We deliberately chose five days for a couple of reasons. First, it usually takes children a few days to recover from pneumonia, so anything shorter than five days might be a bit too short. Second,

shortening to only seven days is already done by some pediatricians with good results. Therefore, we thought this study would be a good chance to move that to five days. [Previous research] suggests that in this age group, five days of amoxicillin is just as good as 10 days, while three days was not. We wanted to extend those observations to the United States by enrolling children receiving other antibiotics and enrolling a much larger number of children. ■

REFERENCE

1. Jain S, Williams DJ, Arnold SR, et al, for the CDC EPIC Study Team. Community-Acquired Pneumonia Requiring Hospitalization among U.S. Children. *N Engl J Med* 2015;372:835-845

SHEA Epidemiologists training for 'All Hazards" Outbreaks

21st century has seen SARS, pandemic flu, Ebola, MERS and Zika

After a succession of emerging infections from SARS to Ebola in this young century, healthcare epidemiologists are trying to shift the response from reacting to a single pathogen to a more all-hazards approach.

In that regard, the Society for Healthcare Epidemiology of America (SHEA) is partnering with the CDC to provide training and resources to infectious disease doctors to respond to hospital outbreaks and public health emergencies, says **Louise Dembry**, MD, MS, MBA, president of SHEA Board of Trustees.

"This type of training is really to focus on hospital epidemiologists and give them a breadth of background on emergency preparedness using the hospital incident command system as well as how they interface with public health at their facility," she tells *Hospital Infection Control & Prevention*. "It is applying an all-hazards approach to infectious disease, which has not been done a lot and certainly not on a big scale. It tends to be that we need to prepare, for example, a SARS response plan, and then prepare an Ebola response plan. Really we should be looking at this more globally."

Common factors include the need for personal protective equipment (PPE), though that may vary to some degree with the emerging infection.

"There are key steps involved for preparing the facility for the next 'high-consequence pathogen,'" Dembry says. "The type of PPE might be slightly different, but you've got to be thinking ahead of time. What type of PPE do we need and what type of training to people need? How is that going to be done [with forethought] versus doing it on the fly? We learn with each one of these, and we certainly learned more about PPE with Ebola. And we were probably a little more prepared for Ebola after dealing with SARS. There are a lot of common themes that we need to always be thinking ahead."

For example, healthcare epidemiologists have been primarily in a reactive disease-specific mode. As part of a broader view, they need to be brought into disaster and emergency management training, she notes.

"Understanding how a hospital incident command systems works is very helpful," Dembry says. "We want to be careful to not be in silos with this. We need to work together and decide, where do we hand off the majority of [this particular] responsibility? We are trying to get all healthcare epidemiologists on the same basic level of understanding of how these things work — how they might unfold, and how to prepare and hopefully prevent [outbreaks]."

HCW Planning

One issue that has been underscored time again with natural disasters and emergency events is that hospitals will find it very difficult to stay open if planning does not include accommodations and reassurance for healthcare workers and their families. Thus, occupational health must be brought into the discussions very early on if an infectious threat is identified.

"There is a part of it that is occupational health and a part that is infection prevention — it is a team approach and collaboration," Dembry says. "And that's why understanding how a hospital incident command systems works is very helpful. There will be somebody there who takes on the majority of occupational health [issues], but I think we as hospital epidemiologists and ID physicians are also the content experts about the infectious disease [threat]. When it comes to protecting healthcare personnel, this is where we can help our occupational

health colleagues understand the risks of transmission depending on the person's job [and other factors]."

Similarly, the type PPE and its proper use must be determined.

"They are going to come to us and say, 'Tell us more about this,'" she says. "What are the things we need to be concerned about for staff? Do we have the right things in our PPE stockpile? Should we be beefing up our PPE stockpile? So that takes ongoing communication and working together."

Ultimately, the training program could create a standardized response across infection control and healthcare epidemiology, moving away from the reactive mode the healthcare is typically in with an emerging infectious disease. ■

Joint Commission Antibiotic Stewardship in Effect

Effective Jan. 1, 2017, standard follows CMS, CDC strategies

Infection preventionists should be aware that with the turn of the new year, The Joint Commission's antibiotic stewardship standard is now in effect. The new Medication Management (MM) standard (MM.09.01.01) requires antimicrobial stewardship programs for hospitals, critical access hospitals, and nursing care centers.

According to The Joint Commission, the new standard includes elements of performance as summarized below:

- make antimicrobial stewardship an organizational priority,
- form a multidisciplinary antimicrobial stewardship team that includes, if possible, an infection preventionist, a pharmacist, and a physician,
- educate healthcare workers on antibiotic resistance and stewardship practices, and
- educate patients and families on appropriate use of antibiotics.

The Joint Commission is a deemed authority to enforce conditions of participation (CoP) for CMS, which issued a new proposed rule June 16, 2016, requiring antibiotic stewardship programs in hospitals to rein in drug-resistant bacteria and stop the rise of *Clostridium difficile* infections. The Joint Commission approach appears to be based on the CMS proposed requirements and the core practices for stewardship recommended by the CDC.

"The CDC estimates that, annually, at least 2 million illnesses and 23,000 deaths are caused by antibiotic-resistant bacteria in the United States alone," the Joint Commission stated in a background document.[2] "This standard will promote patient safety and quality of care, as well as align these accreditation programs with current recommendations from professional and scientific organizations. An antimicrobial stewardship standard is being developed for both the ambulatory and office-based surgery settings."

In a related development, The Joint Commission has revised and updated its National Patient Safety Goal on preventing catheter-associated urinary tract infections (CAUTIs). The goal, which now also applies to nursing homes, has been updated to include new elements of performance.

According to The Joint Commission, these include the following:

- educate healthcare workers on the proper use of indwelling urinary catheters, the risks of CAUTIs, and the importance of infection prevention,
- develop written criteria, using established evidence-based guidelines, for placement of an indwelling urinary catheter,
- follow your written catheter procedures and guidelines on insertion and maintenance of urinary catheters, and
- measure and monitor CAUTI prevention processes, and in units and wards where a high volume of catheters are used. ■

REFERENCES

1. Joint Commission. Prepublication Requirements. New Antimicrobial Stewardship Standard. June 22, 2016: http://bit.ly/29kWfRH.
2. Joint Commission. New antimicrobial stewardship standard. R3 Report 2016;(8): http://bit.ly/2gDxqpj.

COMING IN FUTURE MONTHS

- CDC honing new infection prevention measures for ICUs
- Zika blood safety: Are we out of the woods?
- CMS finalizes antibiotic stewardship regulation
- An IP mosaic from APIC's megasurvey

HOSPITAL INFECTION CONTROL & PREVENTION

CME/CE 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. 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%.
3. After completing the test, a credit letter will be emailed to you instantly.
4. Twice yearly after the test, your browser will be directed to an activity evaluation form, which must be completed to receive your credit letter.

CME/CE QUESTIONS

1. Susan Dolan RN, MS, CIC, said APIC will be particularly diligent about protecting legislative funding for the CDC's:

a. national stockpile of PPE.
b. ability to assist in local outbreaks.
c. HAI surveillance reporting system.
d. All of the above

2. The CDC is drafting new guidelines for infection control in healthcare personnel that will include which type of medical evaluation?

a. Pre-placement
b. Periodic
c. Episodic
d. All of the above

3. Some infection preventionists and epidemiologists have argued for scaling back contact isolation precautions in favor of an emphasis on standard measures and hand hygiene for endemic, non-outbreak strains of methicillin-resistant *Staphylococcus aureus* and vancomycin-resistant *Enterococcus*.

a. True
b. False

4. Which of the following safeguards is in the research protocol of a clinical trial to determine whether the standard 10-day course of antibiotics for community-acquired pneumonia (CAP) in children could be reduced to five days?

a. The participants must have been initially treated for CAP and have clinically improved.
b. They must have no fever for at least 24 hours prior to enrollment.
c. They must show signs of recovery before they are switched to receiving placebo.
d. All of the above

CME/CE 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 healthcare 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.