HOSPITAL INFECTION CONTROL & PREVENTION

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OCTOBER 2018 Vol. 45, No. 10; p. 109-120

INSIDE

RELIAS MEDIA

Outcasts: HAIs Stigmatize Discharged Patients

Those with infection or colonization fear for friends and family

By Gary Evans, Medical Writer

Some patients infected or colonized with MRSA and other multidrug-resistant organisms (MDROs) report feeling stigmatized, comparing their plight to historical outcasts like lepers and plague victims.

A meta-analysis[1] that looked at the emotional toll on patients after discharge revealed that for some, a hospital-associated infection (HAI) is more of a life event than a medical one.

"They feel blamed for having the infection. They feel 'dirty' and worry about being contagious and transmitting infection, particularly to family members," says **Kay Currie**, PhD, lead author of the multinational study and a researcher at Glasgow Caledonian University in Scotland. However, Currie found that patients who consulted with an infection preventionist prior to discharge were less likely to feel stigmatized, in part because they received clear information about their condition and an accurate assessment of the risks to others.

> "THEY FEEL BLAMED FOR HAVING THE INFECTION. THEY FEEL 'DIRTY' AND WORRY ABOUT BEING CONTAGIOUS AND TRANSMITTING THE INFECTION."

While that certainly validates the IP role, the more striking finding is the depth of stigma and shame some patients feel in the aftermath of an HAI.

"This is the first meta-analysis like this I have seen," says **Karen Hoffmann**, RN, MS, CIC, FSHEA, FAPIC, president elect of the Association for Professionals in Infection Control and Epidemiology.

The findings really underscore

Financial Disclosure: Peer Reviewer **Patrick Joseph**, MD, reports that he is a consultant for Genomic Health Reference Laboratory, Siemens Clinical Laboratory, and CareDx Clinical Laboratory. Senior Writer **Gary Evans**, Editor **Jesse Saffron**, Editor **Jill Drachenberg**, Nurse Planner **Patti Grant**, RN, BSN, MS, CIC, and Editorial Group Manager **Terrey L. Hatcher** 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 Relias Learning, 111 Corning Road, Suite 250, Cary, NC 27518-9238. Periodicals Postage Paid at Cary, NC, and at additional mailing offices. POSTMASTER: Send address changes to *Hospital Infection Control & Prevention*, Relias Learning, 111 Corning Road, Suite 250, Cary, NC 27518-9238**

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the positive effect of infection preventionists, she emphasizes, noting that the study is particularly timely because MDROs are on the increase. More research is needed to determine what exactly the interventions would be, but this study clearly points to the need for staff and patient education to address these concerns, she notes.

In an international analysis that included studies performed in the United States, Currie and colleagues describe the social and psychological aftermath of infections that go well beyond the clinical aspects of disease. Stigma was most pronounced in those with MRSA but also was found for those with *Clostridium difficile*, extended-spectrum Beta-lactamases (ESBL), and surgical site infections (SSIs).

Though references to the plague may seem melodramatic to clinicians, it is striking that HAI patients compared their plight to a contagion marked by profound fear in the Middle Ages.

"Patients were unsure whether or not to disclose their MRSA status to others, for fear of being rejected, either within their family or at work," Currie and colleagues report.[1] "Some patients, primarily those colonized with MRSA, reported being excluded or distanced by family members."

Patients with *C. diff* tended to avoid social and family interactions, citing fear of transmission and of experiencing the social embarrassment of gastrointestinal symptoms, she says.

"*C. diff* patients were concerned about the social aspects of profuse, uncontrollable diarrhea," Currie says. "They were not sociable but did not have the same extent of feeling of stigma as those with MDROs."

Ironically, asymptomatic patients colonized with MRSA found the infection control precautions they experienced all the more jarring. The lack of symptoms "made it difficult for them to accept there was anything wrong or to understand the need for measures to manage MRSA colonization, particularly after discharge," the authors report.

On the other hand, patients with SSIs reported bad-looking "wounds" that prompted reactions from family and friends. "Negative impact on sexual relationships was also mentioned, particularly in relation to CDI," the authors report. "Therefore, all forms of HAI led to adverse consequences on patients' social lives and relationships."

For example, Currie and colleagues report that patients with SSIs described "an unfolding situation, often initiated by extreme and sudden pain and profuse wound leakage. [They] had to deal with significant physical and emotional distress while seeking an explanation of their symptoms."

Recurrent UTIs were reported by some of the patients infected with ESBL-producing bacteria. In a gender-related finding for ESBL, women expressed greater guilt and anxiety about possible transmission. Men, on the other hand, were angry and irritated about unanswered questions and poor information regarding their condition.

"The emotional and physical responses of patients experiencing an HAI can be conceptualized as existing at varying points on a continuum from minimal to extreme distress," the authors note. "Some patients experienced significant physical symptoms. [Others] demonstrated significant emotional distress."

Those two conditions are not mutually exclusive, as both pain and stigma can result from an HAI. Again, patients' feelings of fear and stigma were mitigated if they were able consult with an IP or infectious disease clinician before discharge.

"We also know that the availability of infection preventionists is variable by different hospitals," Currie says. "In some settings, there are not enough

infection preventionists to do all of the IP work. It is a resource issue, but they certainly can have a beneficial impact on patient experience."

This goes to the point of a recent study[2] that found that many infection control programs are understaffed. The result is that IPs spend precious time on surveillance and data-crunching and too little time on patient interaction and worker education. *(See related story, page 112.)*

'I think this is a huge frustration for infection preventionists," says **Rebecca Bartles**, MPH, CIC, FAPIC, lead author of the staffing study.[2] "We know we are the most valuable when we are interacting with caregivers."

In the HAI stigma study, researchers analyzed data from 17 studies in five countries from 2001-2017. This included six studies in the U.S, with the remainder in Sweden, the United Kingdom, and France. The data were gleaned for qualitative research reflecting the patient experience.

The researchers found that HAIs have developed a negative social and cultural context, with MRSA and other superbugs portrayed in the media as coming from dirty hospitals with poor staff hygiene practices.

The threat of transmission of these pathogens often is exaggerated in the lay press, with gruesome characteristics like "flesh-eating" bacteria becoming a darling of the tabloids.

"In comparison with many other medical conditions, 'having an infection' provoked responses in the patient, their family, and clinical staff that were shaped by social norms and expectations of the person 'being clean' versus 'feeling dirty,'" Currie reported. "These interactions between patient and others usually took place in a climate characterized by induced fear and uncertainty, where limited understanding of risk and appropriate risk-reducing behavior was constrained by lack of information and knowledge." Alarmingly, some of these feelings began during hospital care and continued during follow-up visits, as patients had little confidence in frontline healthcare workers.

"We had the sense the patients had the feeling that the ward-based staff didn't understand the infections," Currie says. "They could not give the patients appropriate information. Sometimes staff overreacted and made patients feel stigmatized. There is definitely a need for better education and availability of current information for healthcare staff and patients."

As IPs are aware, the psychological impact of HAIs can begin when patients with an MDRO are placed in contact precautions. Some isolated patients in the stigma study reported erratic use of PPE in contact isolation, experiencing both overkill and noncompliance.

"It is very confusing," Currie says. "We found this in some of the studies we looked at and also in some of our recent patient experiences with PPE. They were getting different information from different staff. Some staff were uncertain about the correct PPE. The patients did not have a great deal of confidence in the staff."

Thus, the reassurance and competence of IP consultations contrasts with the patient experience with frontline caregivers.

"IPs deal with HAIs and [infected] patients all the time," she says. "Ward staff may not necessarily see patients with HAIs that regularly. It is not something they are dealing with on a daily basis, so rapid access on the hospital intranet to best practice guidelines that can also be shared with patients can be very helpful. This lack of continuity of care can have an adverse effect on patients."

Some patients with SSIs complained of not being taken seriously, feeling healthcare workers were dismissive of their symptoms. Stigmatization was further reinforced in some patients returning for follow-up care.

Some were barred from rehabilitation classes, had to schedule clinic visits near closing time, or had homecare visits with caregivers in PPE.

In the absence of better patient education or IP consultation, many carry over infection control precautions from hospital to home.

"When they are discharged home, they are still taking precautions and are very concerned about being back in the community," Currie says.

"The risk to these people is minimal. Some may have been colonized with these organisms for years, not known about it, and never had any adverse consequences. Now they have been told they can be contagious as they are discharged home."

The result for some is anxiety and rumination, though the likelihood of infecting healthy people in the community is very low compared to transmission to frail patients in a hospital. "One of the messages to come through from this review is that what is done in the hospital does not necessarily need to continue once a patient is at home," Currie says.

"Patients are not getting appropriate information about how to act and respond once they are back home. So, they continue excessive precautions and are worried about transmission." ■

REFERENCES

1. Currie K, Melone L, Stewart S, et al. Understanding the patient experience of health care-associated infection: A qualitative systematic review. *Am J Infect Control* 2018;46(8):936-942.
2. Bartles R, Dickson A, Babade O. A systematic approach to quantifying infection prevention staffing and coverage needs. *Am J Infect Control* 2018;46(5):487–491.

Staffing Woes: IP-Hospital Beds Ratio Outdated

'The job has become immensely more complex'

Infection prevention staffing needs can vary widely by facilities, but in the absence of an analysis of the actual duties and labor required, many hospitals still rely on outdated IP-patient bed ratios. The result is that the old stereotype of IPs crunching data in isolated silos still exists, although ongoing research is showing more resources are needed for important patient and staff interventions.

In the initial phase of a continuing study, researchers documented care delivery and IP tasks in exhaustive detail, showing that only such a comprehensive quantitative assessment can show the staffing level needed.

In the process, they showed that current staffing ratios — for example, .5 IP FTE per 100 beds or 1 IP per 100 beds — underestimate the work required. Though it is not a ratio that can be applied to all facilities in the absence of analysis, the researchers found that 1 IP per 69 beds was an accurate reflection of the job in their system. Thus, the benchmarks leave infection control programs understaffed by 31% to 66%. The more accurate 1:69 bed ratio considers duty demands of affiliated ambulatory care, long-term care, and home care.

The bottom line is that the benchmarks cited in staffing studies from 2001 to 2017 are invalid, says lead author **Rebecca Bartles**, MPH, CIC, FAPIC, an IP at Providence St. Joseph Health System in Renton, WA.

"One of the whole points of the paper was not to use those benchmarks, but to really try to understand whether those benchmarks are valid," she tells *Hospital Infection Control & Prevention*. "When we did our quantitative approach, we calculated the actual labor needed that an infection prevention program had to do. After that was complete, we went back and said, 'What would this look like if we were to compare it to the existing benchmarks?' That is how we came up with 1 IP per 69 beds."

The complex analysis was performed at a large healthcare system in five states. Bartles and colleagues generated "department-level detail for 34 hospitals, 583 ambulatory sites, and 26 in-home and long-term care programs."

According to the authors, "Required IP activities for each physical location were also tallied by task. Type of activity, frequency (times per year), hours per activity, and total number of locations in which each activity should occur were determined. From this, the number of hours per week of infection prevention labor resources needed was calculated."

Bartles highlighted some of the findings in the following interview with *HIC*.

HIC: Just to clarify, you showed a 1 IP per 69 beds ratio was appropriate for the facilities study, but you are not arguing that should be the new benchmark for other hospitals?

Bartles: The conclusion we came to — the biggest takeaway from the exercise — was that you can't use a number like that to base your staffing on. It is not a one-size-fits-all type of thing. You really have to do a quantitative assessment of the needs of your organization. Although a lot of the press the article has gotten has been around that 1 IP per 69 beds, I am not necessarily advocating that model. That's just what our organization found our ratio would be.

HIC: With the methodology demanded by this study, the conclusion was that the older staffing ratios are invalid. But you are continuing and expanding this study and may ultimately come up with a ratio that is more broadly representative across facilities.

Bartles: The surveys and the benchmarks in the literature tell us what everybody else has always done. It doesn't give us what we actually need. That is the big takeaway. If an organization really doesn't understand their infection control needs, they have to do some analysis.

We have a group of corporate infection prevention directors that meet once a month, and they are representative of some of the bigger systems in the U.S. A number of other systems are using this model, and we will hopefully combine and publish the data we gather during the follow-up study. Potentially, then, we could provide a benchmark that might be more representative of the ideal state.

HIC: In the interim, are most infection control programs inadequately staffed?

Bartles: In my experience at least, the majority of hospitals are understaffed. The only benchmark out there prior to this article was like one IP per 100 beds or .5 IP per 100 beds. That's really how everybody is staffed, and it isn't sufficient.

HIC: Does that mean that HAIs are occurring that could otherwise be prevented?

Bartles: I think it's hard to be able to draw a positive relationship between an increase in IP staffing and a decrease in HAIs.

There is definitely a return on investment to be had by increasing the robustness of an infection prevention program, but it is hard to quantify what that might look like in numbers of infections prevented.

HIC: In this relatively new century

we have seen outbreaks ranging from SARS to Ebola and a new emphasis on value-based purchasing that requires HAI documentation and reporting. Has the job of IP become complex and labor-intensive?

Bartles: If you look at infection prevention over the last 40 years, the job has become immensely more complex. The addition of state and federal mandated surveillance has taken a lot of our time and attention from patient care areas and put us behind a computer. I don't think that has been a positive change. We can't simply redirect our attention toward surveillance. We have to add additional resources to ensure that we are still able to do the educational and consultative things so that we still have a presence in the patient care area.

HIC: You found that IPs in your study were spending the majority of time on surveillance and had less time to conduct rounding in patient floors.

Bartles: Yes, we did time studies with every IP in the organization. Surveys and rounding are location-specific activities, but the rest of what we do is not.

We wanted to make sure that we captured things that had to physically occur at a location in a unit or patient care area and then those things that were done behind a desk or on the phone in an office. We surveyed the IPs and found they were spending most of their time on surveillance and very little of their time on education and rounding. We have received a lot of feedback since the paper was published. This is very representative of IP programs across the U.S.

HIC: Some facilities in your study were able to enlist auxiliary workers to enter surveillance data so the IPs could continue making rounds. Why is that activity so important?

Bartles: We talk about two types of rounding, one being sort of daily rounds — just being present in the patient care area, boots on the ground, and eyes on what's happening. We are educating folks about hand hygiene and isolation and answering questions. Being part of the care process is one very important piece of rounding.

The other type of rounding is the environment of care, conducting very detailed routine environmental surveys to ensure that the areas where we are seeing our patents are safe.

So, the former is more focused on the caregivers themselves, and the latter is focused on the care environment. Obviously, we can't do any of that if we are sitting behind a desk doing surveillance for 40 hours a week. The recommendations that we made internally resulted in some adjustments in staffing. ■

REFERENCE

1. Bartles R, Dickson A, Babade O. A systematic approach to quantifying infection prevention staffing and coverage needs. *Am J Infect Control* 2018;46(5):487–491.

SHEA: Avoid Routine Testing for *C. diff* in the NICU

Infants colonized, rarely actually infected

In the latest call for "diagnostic stewardship," a leading epidemiology group advises against routine testing for *Clostridium difficile* in NICU patients.

In contrast to adult patients, infants under 12 months rarely develop *C. diff* infection (CDI) but can be frequently colonized. A positive test may reveal colonization that poses little threat of disease or subsequent transmission, possibly triggering unnecessary treatment and unneeded isolation measures, warns the Society for Healthcare Epidemiology of America (SHEA) in a new whitepaper.[1]

"It can sometimes be a reflex in the hospital when somebody develops diarrhea to send out a whole panel of tests that includes *C. diff*," says **Thomas J. Sandora**, MD, MPH, lead author of the SHEA whitepaper. "We want people to avoid testing for *C. diff* in NICU patients, because it is unlikely to be the source of their diarrhea and there are many other causes that should be explored."

SHEA recommends testing a NICU patient for CDI "only if there is evidence of pseudomembranous colitis or if the patient has clinically significant diarrhea and other noninfectious and infectious causes of diarrhea have been excluded."

"Many infants under 12 months of age are colonized with [*C. diff*], so they basically can carry it in the intestines without it causing any signs and symptoms of illness," Sandora says. "That makes it difficult to interpret the results of testing in this age group."

C. diff, a leading cause of healthcare-associated infections in adults, colonizes the gut of about one-third of infants while rarely manifesting as disease.

"This is still not completely understood, but there seems to be some factors in that local intestinal

environment in infants that makes them more resistant to *C. difficile* causing disease," says Sandora, a pediatric infectious diseases physician at Boston Children's Hospital. "It probably has to do to with the microbiome being different than it is later in childhood and in adults. Another potential protective factor is breast milk."

SHEA recommends ruling out other routine causes of noninfectious diarrhea, like feeding and medications, before testing for CDI. In addition, test the stool for norovirus, rotavirus, adenovirus, and enterovirus. Consider culturing the stool for bacteria like *Salmonella* and *Shigella* for infants who were admitted to the NICU from the community, SHEA recommends.

A positive *C. diff* test in the NICU may lead to unnecessary antibiotic treatment. "We always want to avoid exposing anyone to antibiotics if they are not necessary, especially infants," Sandora says.

Citing the rare occurrence of *C. diff* infection, some hospital labs have standing orders to reject tests for the spore-forming bacteria in infants, he says. "But other hospitals do allow tests to be ordered in all age groups," Sandora says. "Sometimes, the labs in those hospitals will provide some language with the results reminding people that a positive test in infants may not represent real disease."

Try to avoid testing, but if it is done, use a test that picks up *C. diff* toxins, "because that is really going to be the most specific result you can get," he says.

In cases where CDI is detected in an NICU infant, the SHEA paper includes contact isolation recommendations and addresses the complicated issue of hand hygiene. Alcohol hand rubs are not effective against *C. diff*, thus recommendations for adults raise the option of switching to soap and water. This is certainly a less clear-cut call in the NICU, where *C. diff* rarely occurs and diarrhea from symptomatic infants may not be that infectious. The other tradeoff is that compliance typically drops with soap handwashing, and you lose some of the benefit of alcohol's ability to eradicate a broad range of pathogens. *C. diff*, unfortunately, is not one of them.

"This is an issue that is still a little controversial," he says. "We know that alcohol is not sporicidal. So, if you have *C. diff* spores on your hands and use alcohol hand rubs, you are moving them around rather than getting rid of them. That's why soap and water are used, but there are really not strong studies that show that your choice of hand hygiene approach really impacts the *C. diff* rate at your institutions."

Indeed, previous studies[2] have shown that a significant level of *C. diff* spores lingers on the hands after a soap and water wash. This has prompted the CDC to emphasize glove use in recent years. Given the asymptomatic carriage of infants and the lack of *C. diff* disease in this population, NICUs are unlikely to have a *C. diff* outbreak similar to an adult unit.

"In a non-outbreak setting, there is no consensus on the optimal approach to hand hygiene when caring for a patient with CDI," the SHEA guidelines state.

SHEA lists several options depending on the local risk assessment. These include "standard hand hygiene using alcohol-based hand rub (ABHR) for room entry and exit" and "soap and water hand hygiene for room exit only, with ABHR for room entry and when needed between tasks for a single patient unless hands are visibly soiled."

Soap and water could be used both for room entry and exit, but SHEA reminds that the alcohol rubs are effective against many more pathogens and tend to have higher hand hygiene compliance. ■

REFERENCES

1. Sandora TJ, Bryant KK, Cantey JB, et al. SHEA neonatal intensive care unit (NICU) white paper series: Practical approaches to *Clostridioides difficile* prevention. *Infect Control Hosp Epidemiol* 2018; Aug 30:1-5. doi:10.1017/ice.2018.209.
2. Dubberke, ER, Carling, P, Carrico, R, et al. Strategies to prevent *Clostridium difficile* infections in acute care hospitals: 2014 update. *Infect Control Hosp Epidemiol* 2014;35:628–645.

'Why the Foley?' Initiative Grabs Attention, Prevents CAUTIs

'We wanted people to think about this, and it worked'

Not everyone was pleased with the provocative acronym, but an infection preventionist's "Why the Foley?" campaign captured attention and dramatically reduced catheter-associated urinary tract infections (CAUTIs).

Cassandra Mueller, MSN, RN, CNL, an IP at Boone Hospital Center in Columbia, MO, described the findings recently in Minneapolis at the annual conference of the Association for

Professionals in Infection Control and Epidemiology.

"Most of the UTIs in the hospital are caused by a Foley catheter," she said.

"Prolonged use of a urinary catheter is the most important risk for developing a UTI, and for every day a patient has a catheter the risk increases."

CAUTI prolongs the patient length of stay, adding about 2.5 days before discharge. The average increased cost is about $800 a patient, she said.

Mueller reminded attendees that while once considered benign or nuisance infections, CAUTIs have a 2% mortality rate, with approximately 13,000 patient deaths annually.

CAUTIs increased at Boone Hospital in 2015, resulting in "financial penalties across multiple pay-for-performance programs," she said.

A CAUTI Task Force was formed that included IPs, quality, leadership, nurses, and physicians. The goal was to reduce the CAUTI rate through a series of interventions.

Interventions

The first step was conducting a hospitalwide assessment of urinary catheter insertion and maintenance, she said. A common finding was some break in the insertion process, usually due to a failure to maintain aseptic technique.

To address these problems and standardize the process, a checklist was created for catheter insertion, which one nurse checked down while another was inserting the catheter.

"When a nurse was inserting a catheter, another nurse was in the room with them and following a standardized checklist," Mueller said.

"That was to make sure no one missed a step during insertion. We kind of held everybody accountable."

Likewise, infection preventionists became involved in the training of new nurses. "Another IP and I went to the nurse preceptor and the nurse resident classes and did hands-on catheter insertion and maintenance training," she says.

The IPs also participated in multidisciplinary rounds in the ICU to raise awareness of the CAUTI prevention program. The WTF term was rolled out, encouraging staff, through posters and messaging from a task force, to daily question the need for a Foley.

"Not everyone embraced the WTF concept — I can't imagine why," Mueller said. "But it got their attention."

For example, Mueller sent out email updates on the campaign, putting "WTF" in the subject line in communications that included hospital administration.

"People were like, 'what?' she said. "But they paid attention to my emails, and that's what we wanted. We wanted people to think about this, and it worked. We called it 'WTF' to get attention."

Patient brochures on preventing CAUTIs were included in all admissions packages. There were activities to promote compliance, including a reward system for appropriate removal of a catheter.

"They would call me every time they took one out," Mueller said. "I confirmed it was documented and then they would get a ticket. When they got four tickets, they got a gift card."

An 80% Drop

As the program set in, positive results followed, including four months without a CAUTI at one point.

That called for a celebration, so Mueller's team ordered 450 cookies, telling the baker to put "WTF" on every one of them. Thinking that must be a mistake, the bakery put "WTS" on the cookies instead.

"We thought it was funny when we went to pick them up," she said. "But the bakery scraped off the 'S' and put the 'F' on the cookies. The staff got a kick out of that and loved the cookies."

In another attention-grabber that drew some strange looks, Mueller and colleagues made hanging art "mobiles" out of bed pans and urinals and hung them from the ceiling in a physician dining area.

"All of these were things we did to promote catheter utilization and CAUTI prevention," Mueller said.

As a result, the Standardized Infection Ratio for CAUTI fell by 80% from the preimplementation period (January 2016 - September 2016) to the postimplementation (October 2016 - September 2017).

In the category of obstacles and lessons learned, nurses were hesitant to remove catheters without alerting physicians, Mueller said. They were empowered to do so if the Foley met certain criteria, but that aspect remains a work in progress.

"That wasn't new," she said. "Nurses sometime just don't feel comfortable taking out the catheter without asking the physicians. This is a constant hurdle we are trying to overcome. It was difficult to change established beliefs and behaviors."

Some experienced NICU nurses balked at the requirement to have an observer present when inserting a catheter.

"I get it — I'm a nurse," Mueller said. "They said, 'We know how to put in a catheter; we don't need someone watching us.' We just tried to reiterate that it was because we want to standardize how we do it. It's not that you don't know how to do it." ■

Joint Commission Revises IC Devices Standard

More specific scoring focuses on highest risk

Finding a high level of noncompliance in accreditation surveys, The Joint Commission (TJC) has made some scoring revisions to Infection Control (IC) standard 02.02.01.

The changes generally add more detailed instructions for surveyors, focus on the highest risk to patients, and note that the hang time of endoscopes will not be assessed anymore as an infection control requirement.

Overall, this standard "requires hospitals to reduce the risk of infections associated with medical equipment, devices, and supplies." The changes were effective Sept. 1, 2018.

"[IC.02.02.01] continues to be one of the most commonly cited standards listed as noncompliant," TJC reported.[1] "In 2017, 72% of surveyed hospitals and critical access hospitals were found to be noncompliant with this standard."

The scoring revisions are the result of a Joint Commission comprehensive review of the steps involved in high-level disinfection and sterilization.

TJC will continue to cite facilities as noncompliant if equipment manufacturer instructions are not followed."Over the next several months, [we] will closely monitor the revisions to ensure consistent scoring," TJC stated.

Citations that occurred before Sept. 1, 2018, will not be removed. "Hospitals that are in the clarification window or that are preparing their Evidence of Standards Compliance report should document compliance based upon the refined scoring guidelines," TJC stated.

New Scoring

Here are the TJC revisions for IC.02.02.01:

Previous: Visible bioburden and dried blood found on instruments.

New Scoring:

• Wiping/flushing of soiled instruments is not observed during a case in the operating room or procedure room and it is clinically appropriate.

• Item that is ready for use on a patient is visibly soiled.

Previous: Enzymatic solution was not applied to maintain moisture on instruments.

New Scoring:

• There is no process for keeping used instruments moist.

• Manufacturer instructions for products used to keep instruments moist were not followed.

• The facility policy for keeping instruments moist was not followed.

Previous: Instruments were not transported from the point of use in a leak-proof puncture-resistant container with the biohazard symbol or color red.

New Scoring:

• Sharps are being transported in a manner that violates OSHA requirements (e.g., sharps not placed in puncture-resistant container that is red or labeled biohazardous).

• Nonsharps are transported in a way that could lead to contamination of staff or other people.

Previous: Instruments in the closed position.

New Scoring:

• Packaged instruments awaiting sterilization are in the closed/ratcheted position.

• Items that have just undergone sterilization are on the trolley or in the sterilizer in the closed/ratcheted position.

• Items in preparation and packaging that have come through the washer or pass-through window have not been disassembled in accordance with manufacturer instructions.

Previous: Instruments are released prior to the biologic indicator being read.

New Scoring:

• Routine sterilizer monitoring with a biologic indicator required by the state or per evidence-based guideline is not followed and recorded.

• Nonimplant load is released without physical monitoring of cycle and external and internal chemical indicators.

• Implant loads are released without routine sterilizer monitoring, a biologic indicator, and a type 5 integrating indicator ("integrator").

• The biologic indicator was not read before implant release (unless allowed in emergent situations by facility policy and policy was followed).

Previous: Items in the high level-disinfected area that are stored in drawers.

New Scoring:

• Container or location of storage is visibly soiled, or staff are observed contaminating other high level-disinfected products.

• Storage is not consistent with the item's intended use (e.g., items that require a minimum

of high-level disinfection may be stored in a way that protects from contamination even if they were sterilized).

• Item is not stored in accordance with manufacturer instructions for use (IFU).

• Item is not stored in accordance with facility risk assessment/policy if no guidance was provided by the item's manufacturer IFU.

Previous: Stored scopes exceeded the hang time.

New Scoring:

• Facility is not following manufacturer IFU for drying.

• Facility is not following manufacturer IFU for frequency of reprocessing.

• Will NOT score any finding related to hang time under IC standards. ■

REFERENCE

1. Joint Commission. Accreditation and Certification: 4-1-1 on Survey Enhancements: New scoring revisions for IC.02.02.01 now in effect. September 5, 2018: https://bit.ly/2wTYkzg.

FDA Adds New Safety Warning for Fluoroquinolones

Serious complications include delirium, hypoglycemia

Adding another in a series of label warnings for fluoroquinolones, the FDA is emphasizing that the antibiotics pose too high a risk of patient harm to be used for relatively minor infections.

These include acute bacterial sinusitis, acute bacterial exacerbation of chronic bronchitis, and uncomplicated urinary tract infections, the FDA stated.[1]

Fluoroquinolones should be used in such cases only if the patient has no other treatment option, the agency explained.

The FDA emphasized the risks of mental health effects and serious blood sugar disturbances related to the antibiotics in a July 10, 2018, warning, which applies to both oral and injectable formulations.

"The new class-wide labeling changes will require that the mental health side effects be listed separately from other central nervous system side effects and be consistent across the labeling of the fluoroquinolone class," the FDA stated.

"The mental health side effects to be included in the labeling across all the fluoroquinolones are disturbances in attention, disorientation, agitation, nervousness, memory impairment, and delirium."

Additionally, the recent FDA review reported cases where patients on fluoroquinolones experienced hypoglycemia.

"As a result, the Blood Glucose Disturbances subsection of the labeling for all systemic fluoroquinolones will now be required to explicitly reflect the potential risk of coma with hypoglycemia," the FDA stated.

This latest action follows the FDA's 2016 enhanced warnings about the link between fluoroquinolone use and damage to tendons, muscles, and joints.

This risk was underscored by a recent CDC guest blog written by **Rachel Brummert**, BS, MS, president of Patient Safety Impact. Brummert suffered multiple tendon ruptures after being on fluoroquinolones.

"In addition, I suffer from central and autonomic nervous system damage. This damage is permanent," she wrote.[2]

She also attributed fluoroquinolone use to memory loss, chronic pain, and low blood pressure.

"I never knew that an antibiotic, which I thought was supposed to help me feel better, could cause an otherwise healthy person like myself to become disabled at 36 years old," Brummert notes.

The FDA said that appropriate fluoroquinolone use is still a mainstay treatment for patients.

Part of the problem is that the antibiotics are being prescribed when they are indicated for first-line therapy and even in cases where treatment is not needed at all.

According to the FDA,[1] currently approved fluoroquinolones include levofloxacin, ciprofloxacin, ciprofloxacin extended-release tablets, moxifloxacin, ofloxacin, gemifloxacin, and delafloxacin. ■

REFERENCES

1. FDA. FDA updates warnings for fluoroquinolone antibiotics on risks of mental health and low blood sugar adverse reactions. July 10, 2018: https://bit.ly/2CpQxyz.
2. Brummert, R. Prescribed Incorrectly, Lifesaving Antibiotics Can Be Dangerous, Carry Real Risks. Aug. 17, 2018. CDC Safe Healthcare Blog: https://bit.ly/2L5W6kM.

CDC: New Flu Vaccine Ready After Harsh 2017-2018 Season

On the heels of a brutal 2017-2018 flu season, the vaccine strains for the 2018-2019 season have been set. The CDC recommends "routine annual influenza vaccination is for all people six months and older if they have no contraindications. Inactivated influenza vaccines (IIVs), recombinant influenza vaccine (RIV), and live attenuated influenza vaccine (LAIV) are expected to be available for the 2018–19 season."[1]

Also, recommendations regarding the use of LAIV4 have been revised, putting the mist vaccine popular with children back on the table under certain restrictions.

Citing lack of efficacy, the CDC did not recommend the live vaccine last year or the prior season. The decision to recommend the vaccine came after the CDC's Advisory Committee on Immunization Practices (ACIP) reviewed several sources of efficacy data.

While including the live attenuated vaccine as an option, ACIP said LAIV4 should not be administered "to children aged 2 through 4 years who have received a diagnosis of asthma or whose parents or caregivers report that a healthcare provider has told them during the preceding 12 months that their child had wheezing or asthma or whose medical record indicates a wheezing episode has occurred during the preceding 12 months."

In addition, the live vaccine is contraindicated for those who are immunocompromised for any reason. "Close contacts and caregivers of severely immunosuppressed persons who require a protected environment" should not use LAIV4, either. Nor should pregnant women or people who have received antiviral medications within the prior 48 hours, the CDC recommends.

Vaccine Strains

The CDC and its ACIP committee advisors determined the 2018–2019 U.S. trivalent influenza vaccines will include these strains:

- A/Michigan/45/2015 (H1N1) pdm09–like virus
- A/Singapore/INFIMH-16-0019/2016 (H3N2)-like virus
- B/Colorado/06/2017–like virus (Victoria lineage).[1]

"Quadrivalent influenza vaccines will contain these three viruses and an additional influenza B vaccine virus, a B/Phuket/3073/2013–like virus (Yamagata lineage)," the CDC stated.

The overall vaccine efficacy was estimated to be only 40% in the 2017-2018 season.

The main problem was a mismatch between the circulating influenza A (H3N2) strain and the one in the vaccine. For H3N2, the vaccine was only 25% effective, but even that low efficacy reduces the chance of a person seeking medical treatment by one-fourth.

"The 2017-2018 influenza season was a high severity season with high levels of outpatient clinic and emergency department visits for influenza-like illness (ILI), high influenza-related rates, and elevated and geographically widespread influenza activity for an extended period," the CDC reported.[2]

Last season, flu illness ran high for a long time — from January 2018 through the end of March.

"ILI peaked at 7.5%, the highest percentage since the 2009 flu pandemic, which peaked at 7.7%," the CDC concluded.

"ILI was at or above the national baseline for 19 weeks, making the 2017-2018 season one of the longest in recent years."[2]

A record number of child deaths occurred in 2017-2018, totaling 180 children. Only 20% of them had been immunized, the CDC reported. ■

REFERENCES

1. Grohskopf LA, Sokolow LZ, Broder KR, et al. CDC. Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices—United States, 2018–19 Influenza Season. *MMWR* 2018;67(3):1–20.
2. CDC. Summary of the 2017-2018 Influenza Season. Aug. 31, 2018: https://bit.ly/2rkXwPk.

EMTs Treating Opioid Patients Succumb to Illness

As with infection, contaminated hands touch mucous membranes

Infection preventionists are striving to prevent opioid outbreaks related to drug diversion by healthcare workers. Those with a second hat in employee health are no doubt aware of another threat that is almost as

insidious: EMTs becoming sick after treating opioid overdose patients.

Similar to the way an infectious agent can spread by touching mucous membranes with contaminated hands, EMTs are inadvertently ingesting the powerful drugs during the care of these patients.

There have been recurrent reports of first responders and EMTs treating opioid overdose cases, then falling ill due to an occupational exposure of an undefined nature.

While aerosols or skin exposures have been the subject of speculation, it appears that in many cases EMTs treating overdose patients are contaminating themselves with the powerful opioids by inadvertently touching their own eyes, nose, and mouth, said **John Howard**, MD, MPH, JD, LLM, MBA, director of the National Institute for Occupational Safety and Health.

"I would say if I had one lesson from the seven or eight [investigations] we have looked at, mucous membrane contact is probably number one," Howard said recently in Philadelphia at a meeting of the American Industrial Hygiene Association (AIHA).

Contamination of the EMS work environment also is leading to exposures, he said, citing a case where a police officer typed on a keyboard without removing gloves after he handled opioids.

In addition to the difficulty in determining routes of transmission, EMTs exposed to opioids may have a variety of symptoms not typically seen in an overdosed patient.

Instead, first responders feeling ill after caring for a drug overdose patient may report a variety of symptoms, including headache, double vision, numbness, lightheadedness, nausea, and palpitations.

While there have been no reports of fatal occupational exposure while caring for an opioid overdose patient, another speaker at the AIHA meeting reminded attendees how powerful some of these synthetic drugs are. "It is important to understand how little of the substance can cause fatalities — exposures of two to three milligrams," said **Donna S. Heidel**, CIH, FAIHA, a member of AIHA.

"That is the equivalent of a couple of grains of salt. These opioids can enter the bodies of first responders when they are exposed to the drug aerosols or dust in the environment or when they touch the victim's clothing that may be contaminated. [They can] put the material into their eyes or mouth from contaminated hands."

Earlier this year, NIOSH filed an interim report on the EMS response to an opioid overdose in a hotel room. An EMS worker who later became symptomatic was providing "bag-valve-mask ventilation and intubating the victim," NIOSH reported.[1]

This required the first responder to get down on hands and knees on the floor, right over the patient, to administer care. The worker began to experience symptoms that included respiratory distress and pale skin shortly after the victim was taken to the ED.

The EMT was taken to an ED, where he received IV fluids and three doses of naloxone over a period of approximately 1.5 hours, NIOSH reported.

"The first dose was given immediately upon triage and gaining intravenous access," NIOSH reported. "The second dose was given 15 minutes after the first dose, and the third dose was given 92 minutes after the first dose."

After the second dose of naloxone, the EMT's status improved. However, a third dose was needed when the worker reported feeling dizziness, facial numbness, and an increase in heart rate.

A respiratory rate of 8 breaths per minute was noted just before the third naloxone dose was administered, NIOSH reported.

NIOSH cast doubt that the EMT worker was exposed by inhaling the victim's breath.

Though the EMT was working close to the victim's face, research has not identified fentanyl in the air from patients who have received the drug intravenously, NIOSH reported.

"We cannot rule out several possible exposure scenarios," the report concluded.

"First, a small amount of opioids might have been on the hotel room floor carpet or within the victim's respiratory tract and close to the responder's breathing zone when the victim was being intubated. Second, there was the possibility of cross-contamination of [the EMT's] gloves with small amounts of opioids and subsequent hand-to-face contact or aerosolization upon glove removal."

There has been some internal debate on this, but if the potential for opioid aerosols calls for a respirator at an overdose scene, NIOSH currently recommends a P100 as opposed to an N95, Howard said. A P100 rating is the highest for personal respiratory protection. ■

REFERENCE

1. Chiu S, Hornsby-Myers J, Dowell C, et al. NIOSH. Evaluation of Potential Occupational Exposures to Opioid Drugs During an Emergency Medical Services Response. Interim Report. March 27, 2018: https://bit.ly/2LxYmBo.

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.

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CME/CE QUESTIONS

1. **In a study of stigma in infected patients, there was little psychological effect on asymptomatic patients colonized with MRSA.**
   a. True
   b. False

2. **In a study of infection prevention staffing, which ratio did Rebecca Bartles, MPH, CIC, FAPIC, say represented the labor resources needed at her facility in terms of IP per patient beds?**
   a. .5 IP per 100 beds
   b. 1 IP per 69 beds
   c. 1 IP per 100 beds
   d. 1.5 IP per 100 beds

3. **The Society for Healthcare Epidemiology of America does not recommend routine testing of NICU infants for *Clostridium difficile* because:**
   a. Treatment is contraindicated even if infants are infected.
   b. Roughly one-third of NICU patients are colonized with *C. diff*.
   c. Parents must consent to testing.
   d. None of the above

4. **According to Cassandra Mueller, MSN, RN, CNL, the fatality rate of catheter-associated urinary tract infections (CAUTIs) is 2%. How many CAUTI-related patient deaths occur annually in the U.S.?**
   a. 3,000
   b. 5,500
   c. 9,000
   d. 13,000

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.