



Management

Best Practices – Patient Flow – Federal Regulations – Accreditation

December 2011: Vol. 23, No. 12
Pages 133-144

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Financial Disclosure:

Author **Dorothy Brooks**, Managing Editor **Leslie Hamlin**, Executive Editor **Shelly Morrow Mark**, and Nurse Planner **Diana S. Contino** report no consultant, stockholder, speaker's bureau, research, or other financial relationships with companies having ties to this field of study. Executive Editor **James J. Augustine** discloses he is a stockholder in EMP Holdings. **Caral Edelberg**, guest columnist, discloses that she is a stockholder in Edelberg Compliance Associates.

EDs grapple with record-breaking number of drug shortages

Communications, long-term planning critical to optimizing patient care

Hospitals have been accustomed to dealing with sporadic drug shortages for more than a decade, but now both pharmacists and clinicians are scrambling to keep up with a problem that has proven to be unpredictable and challenging. "Each year has been a record-breaking year," explains **Erin Fox**, PharmD, manager of the Drug Information Service at the University of Utah Hospitals and Clinics in Salt Lake City, UT. The service has been tracking drug shortages nationally since 2001, and supplying that information to the Bethesda, MD-based American Society of Health-System Pharmacists (ASHP) so that it can be conveyed to practitioners via the organization's public web site. (See **Resource Box for links to ASHP web site, p. 136.**)

EXECUTIVE SUMMARY

A record-breaking number of drug shortages is impacting all areas of health care, but ED and EMS operations are under added pressure to work around such shortages quickly to meet critical patient needs. Experts say the most successful organizations have established strong communication channels between hospital pharmacists and providers so that when shortages arise, alternative approaches can be devised and communicated swiftly.

- By mid-September 2011, 213 drug shortages had been reported to the Drug Information Service at the University of Utah Hospitals and Clinics in Salt Lake City. This is more than the total number of shortages reported in 2010.
- In recent months, there have been reported shortages of drugs that are used routinely in emergency situations for such issues as pain, cardiac arrest, diabetic coma, seizures, excited delirium, and eclampsia of pregnancy.
- Experts say early recognition of drug shortages is essential so that providers and pharmacists can prioritize resources to optimize patient care.
- There is broad support for legislation under consideration in Congress that would require drug manufacturers to notify the FDA of anticipated drug shortages. Experts believe such action would enable the FDA to take steps to prevent many shortages from occurring.



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The issue prompted President Obama to issue an executive order instructing the Food and Drug Administration to broaden reporting of potential drug shortages, speed regulatory reviews, and evaluate whether drug shortages are leading to price gouging.

By late September of this year, Fox says there were already 213 documented drug shortages — more than what occurred in all of 2010, with a quarter of the year

ED Management® (ISSN 1044-9167) is published monthly by AHC Media, a division of Thompson Media Group LLC, 3525 Piedmont Road, N.E., Six Piedmont Center, Suite 400, Atlanta, GA 30305. Telephone: (404) 262-7436. Periodicals Postage Paid at Atlanta, GA 30304 and at additional mailing offices.

POSTMASTER: Send address changes to **ED Management**®, P.O. Box 105109, Atlanta, GA 30348.

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Approved by the American College of Emergency Physicians for 15.0 hour(s) of ACEP Category 1 credit.

This activity is intended for emergency physicians, ED nurses, and other clinicians. It is in effect for 24 months from the date of the publication.

Subscriber Information

Customer Service: (800) 688-2421 or fax (800) 284-3291 (customerservice@ahcmedia.com). Hours of operation: 8:30 a.m.-6 p.m. Monday-Thursday; 8:30 a.m.-4:30 p.m. Friday, EST. Subscription rates: U.S.A., one year (12 issues), \$499. Add \$17.95 for shipping & handling. Outside U.S., add \$30 per year, total prepaid in U.S. funds. Discounts are available for group subscriptions, multiple copies, site-licenses or electronic distribution. For pricing information, call Tria Kreutzer at 404-262-5482. Missing issues will be fulfilled by customer service free of charge when contacted within 1 month of the missing issue date. Back issues, when available, are \$82 each. (GST registration number R128870672.)

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left to go. In contrast, there were only 70 documented drug shortages in 2006, says Fox. (See *Figure 1 on p. 135*.) “We have just seen this huge explosion in the number of shortages,” she says. “And that just makes things very difficult if you are always trying to chase down some form of a drug that might be available.”

The drug shortages are impacting all areas of health care, but EDs in particular, with their reliance of quick decision-making, are finding that they need to stay one step ahead of the problem to insure that they have alternatives if a key drug that they routinely rely on is suddenly unavailable.

Be cognizant of safety challenges

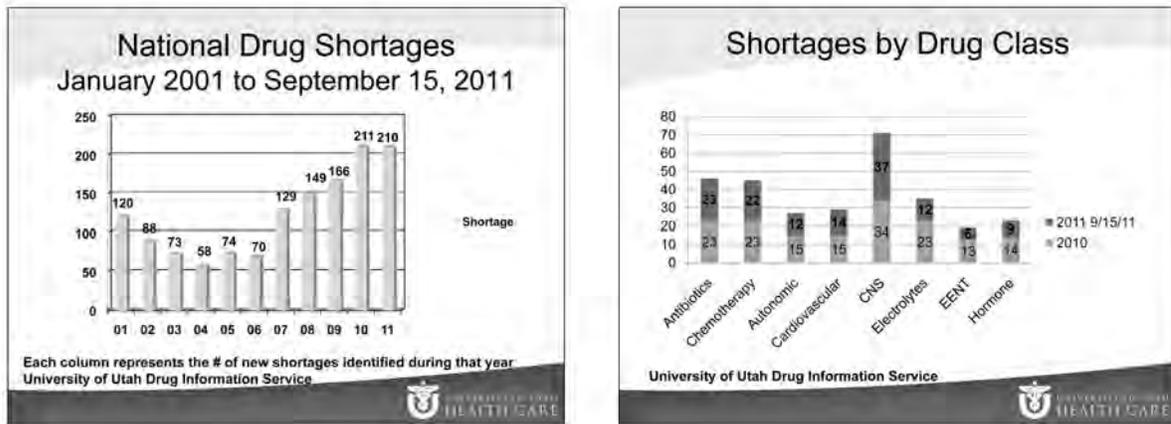
“There is usually very short notice that a medication isn’t available or a certain formulation isn’t available, so we have to notify practitioners of what is available and what isn’t, and what the alternatives are,” says **Michael Argus**, MD, medical director, Mercy Hospital Anderson, in Cincinnati, OH. “We have regular meetings that go over what [shortages] are anticipated versus when we are sure that there will be a shortage of a medication. We get the information out via email and direct communications.”

With drugs sometimes coming from different makers and in different formulations, ED practitioners must spend more time thinking through how they administer medication, explains Argus. “We need to work more closely with our pharmacy to make sure that we’ve got the right medication at the right time,” he says. “And at times, it means that we have to go to alternative medications in the same class to provide the same symptom relief.”

While drug shortages and drug substitutions can certainly interfere with the kind of quick decision-making that is critical when treating trauma patients, Argus suggests that emergency personnel may be more accustomed to making these kinds of adjustments than practitioners in other specialties. “If you are someone who is inclined to doing the same thing over and over, there are some theoretical risks [associated with the drug shortages],” he says. “We are used to responding to the changing climate.”

However, most experts agree that with more drug substitutions and other work-arounds, the potential for delays and errors increases. And these problems have already led to patient deaths, according to an anonymous survey carried out by ASHP. In addition, a report from Alabama attributed the deaths of nine patients to an IV solution that was contaminated with bacteria. The IV solution was made by a local pharmacy when supplies from the pharmaceutical manufacturer ran short. In fact, hospitals are increas-

Figure 1: National Drug Shortages Jan 2001- Sept 15, 2011/Drug Class



Source: University of Utah Health Care, Salt Lake City, UT

ingly turning to local suppliers when critical medicines are unavailable, according to the Institute for Safe Medication Practices in Horsham, PA.

Make use of clinical pharmacists

“We have been hit from every angle [by the drug shortages], both in general care and specialty care,” says Michael O’Neal, DPh, the manager of pharmaceutical procurement at Vanderbilt University Medical Center, a campus that includes an adult hospital, a children’s hospital, and a psychiatric facility, in Nashville, TN. For example, O’Neal says the medical center has struggled with multiple shortages in oncology, surgery, and emergency care. “A lot of the emergency syringes that we use in our code carts and with our first responders in our ambulances [have experienced shortages], and we haven’t been able to get our hands on certain antibiotics that are first-line treatments for a lot of different infections,” he says. “We stay in crisis mode, and we have become less surprised by shortages and more anticipatory of them.”

O’Neal says at one point the ED was hit with multiple shortages of basic pain medications such as morphine injections. “We had to shift our ED from using the 10 milligram injections to using the 4 milligram injections, but it was operationally a struggle because the volume they use in the ED is so great, and they had to use basically twice as much ... or two and a half times more,” he says. “In these high-stress, high-output areas, change is never good, especially unanticipated change where you haven’t had time to implement a good change-management plan.”

O’Neal acknowledges that it is tough not having much lead time in knowing what drugs are going to

be in short supply, but he manages the problem by staying in constant consultation with practitioners so that they always have an alternative plan in place if a drug they use routinely is not available. “We use our clinical pharmacists. We depend on them a lot because they are out there on the floor and are very relational with the physicians,” he says. “We have established communications with our clinical staff where we can get information out quickly.”

Practitioners don’t always agree with a specific alternative plan, says O’Neal, and he may agree that it is not the best situation, but he stresses that it is frequently all that can be done at that moment.

Prioritize resources

Fox says this type of communication can go a long way toward helping hospitals prioritize their resources in a way that is best for patients. “As soon as pharmacists realize that they can’t get [a particular drug] in ... and the shortage is going to last for a few weeks, they should be having a conversation with their providers,” she says. “That way, everyone can make a plan together on what is the best way to handle the shortage.”

The providers may conclude, for example, that if a drug is in short supply, they only want to use it to treat a particular subset of patients who have high need for that particular drug. This approach may enable the hospital to use the drug for a longer period of time on these select patients who really need it, explains Fox. Alternatively, it may make more sense to simply use a drug until it is no longer available, and then switch to an agreed upon alternative.

Either way, the approach enables practitioners and

pharmacists to make thoughtful decisions about what is in the best interests of patient care, says Argus. “As much as you can get people prepared ahead of time, the better your care is going to be,” he says. ■

SOURCES/RESOURCES

- For the latest information on current and anticipated drug shortages collected by the Drug Information Service at the University of Utah Hospitals and Clinics in Salt Lake City, UT, visit the web site of the American Society of Health-System Pharmacists at www.ashp.org/shortage.
- For more information about legislation focused on relieving problems related to shortages of critical drugs, visit the web site of the American Society of Health-System Pharmacists at www.ashp.org/menu/Advocacy/FederalIssues/DrugShortages.aspx.
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EMS service providers struggle with shortages of key, life-saving drugs

Like EDs, emergency medical service (EMS) providers have also been struggling with drug shortages in recent years. In fact, some would argue that these pre-hospital providers are among the hardest hit by these shortages because they have fewer resources to rely on in emergency situations. “We carry one drug for each disease process,” explains **Jeff Beeson**, DO, medical director, MedStar Emergency Medical Services, Fort Worth, TX. “In the hospital, I may have two or three drugs for that disease process, so I have more options in the hospital than the pre-hospital environment.”

Furthermore, Beeson — who is also an ED physician at Huguley Memorial Hospital in Fort Worth, TX, and Parkland Memorial Hospital in Dallas, TX — points out that hospitals may have larger sway with pharmaceutical manufacturers than EMS providers because they purchase in such large quantities. “It seems that specific distributors set back certain lots of medications and drug supplies for their big customers,” says Beeson. “Traditionally, EMS systems are not those big customers, so they may suffer from not having that control of distribution for what limited supplies are out there.”

In the last 18 months, such conditions have contributed to a “phenomenal” decrease in available supplies of medications that are critical to EMS medicine, explains **Raymond Fowler**, MD, FACEP, Chief of EMS Operations, BioTel EMS System, University of Texas Southwestern Medical Center in Dallas, TX. “We have, at times, seen shortages of medications for cardiac arrest, diabetic coma, seizures, for the management of excited delirium, and for such problems as eclampsia of pregnancy,” says Fowler.

As a result, there have been instances in which EMS providers have had to search for new pools of medication, or dip into supplies of other medicines to formulate solutions of critical medications to treat such conditions as diabetic coma, for example, says Fowler.

To deal with critical shortages for such drugs as epinephrine and atropine, EMS providers have had to, at times, resort to diluting medications used for anaphylaxis in order to treat patients experiencing cardiac arrest, explains Fowler. However, while such short-term fixes have been available, Fowler says EMS providers have to devote much more time to this issue than they have in the past. “The message is very clear that we have to be very diligent to make sure that we are always staying one step ahead of the manufacturers so that we can anticipate that there might be a shortage,” adds Fowler.

Maintain consistency

For example, while Beeson never used to have to devote any time to making sure that adequate supplies of critical drugs were available, he now meets with medical patrol teams and his supply officer on a weekly basis to discuss what critical medications are on the shortage list and how much of these drugs MedStar has in stock.

The crisis has also prompted Beeson to evaluate

historical data to see if EMS providers are really carrying the optimal amounts of various drugs, or whether routine practices need to be modified. For example, he is looking more closely at such as questions as:

- Is this a drug of convenience or a drug of necessity?
- If we don't have a drug, what are the clinical implications?
- What will happen to the patient if he or she doesn't get a particular drug until reaching the hospital in 15 or 20 minutes?

In evaluating drug usage patterns, Beeson has found that while cardiac drugs get used frequently for cardiac arrest, some other medications may only get used once or twice a year.

"Also, we have come to the point with some of our medications where instead of leaving them on the ambulances, we actually check them out on a daily basis just like we do with narcotics because they are in such short supply," says Beeson.

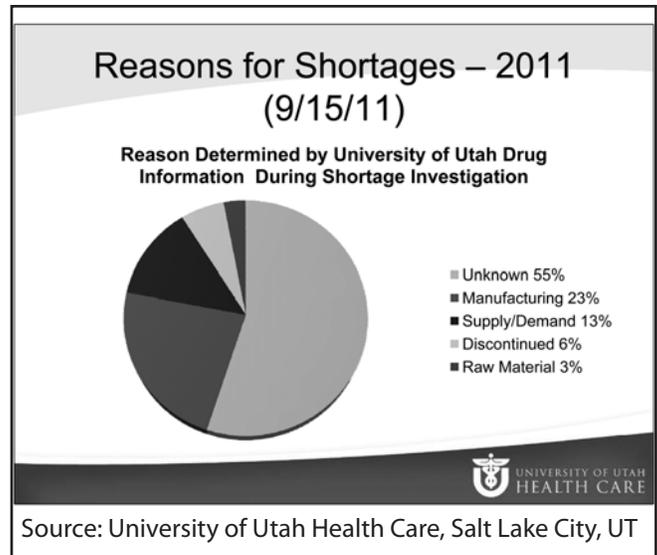
To minimize errors associated with different drug concentrations, Beeson has also endeavored to maintain as much consistency as possible. For example, when there was a shortage of the most-used concentration of epinephrine, Beeson worked with a local pharmacist to formulate and package the drug so that it was in its familiar concentration. "It was what [the EMS providers] were used to when they pull the drug out of the bag," he says. ■

Legislators, drug manufacturers take steps to ease drug shortages

In addition to tracking drug shortages, the Drug Information Service at the University of Utah Healthcare in Salt Lake City, UT, has also attempted to figure out why the shortages are occurring. The underlying causes aren't all well-understood, but some of the problems are clear. (*See Figure 2 on p. 137*)

"Most of the drugs that are in short supply are generic injectable drugs, and there aren't many generic injectable drug manufacturers in the country," explains Erin Fox, PharmD, manager of the Drug Information Service. "Over the years, we have seen consolidations ... so we have overall just a few manufacturers."

Figure 2: Reasons for Shortages



In addition, quality concerns have prompted some of these manufacturers to voluntarily shut down all or part of their operations for significant periods of time, leaving little time for the remaining manufacturers to pick up the slack, says Fox. "There is no communication required to even let someone know that [a manufacturer is going to shut down], so that other companies might have a chance to make up the difference," she says. "And it takes a long time to solve this kind of problem."

What hospitals are sometimes left with in these situations is having to pay exorbitant prices to secondary suppliers that they may know very little about. "We don't [deal with these companies] without giving it a lot of consideration," explains Michael O'Neal, DPh, the manager of pharmaceutical procurement at Vanderbilt University Medical Center, a campus that includes an adult hospital, a children's hospital, and a psychiatric facility, in Nashville, TN. "We require that they provide a drug pedigree every time we have to make that decision and, in doing so, we can at least have a shot of seeing the transport of that drug from owner to owner to know if it has a legitimate supplier source."

On average, O'Neal says there is a 400% to 500% markup on drugs coming from secondary suppliers. "This is a group of companies that thrives on the shortage, and they have sources that are unknown to most," he says.

Some steps are being taken to resolve these difficulties, says Fox. For example, she points out that at a recent workshop on the drug shortages that was held by the FDA in Silver Spring, MD, phar-

maceutical industry representatives indicated that they were working to increase capacity so that there will be more flexibility in the manufacturing supply chain when a manufacturer shuts down. “It can take up to seven years to get a factory ready, so this is not a short-term solution,” says Fox.

However, legislation under consideration in the U.S. House and the U.S. Senate would offer some short-term relief by requiring drug manufacturers that are anticipating a shortage to notify the FDA, so that it could then attempt to find capacity to manufacture the drug elsewhere. “No one can turn on a dime and switch out their lines overnight, but if there is time then other companies can ramp up production,” says Fox. “What is exiting about these bills is that we know this is based on successful strategy. The FDA has prevented 99 shortages this year because some of the [drug manufacturers] are voluntarily communicating with the agency.” ■

Management Tip

To stay on top of drug shortages, lean on your primary drug distributor

To get the best and most up-to-date information about upcoming drug shortages, consider working more closely with your primary drug vendor, advises Michael O’Neal, DPh, the manager of pharmaceutical procurement at Vanderbilt University Medical Center, a campus that includes an adult hospital, a children’s hospital, and a psychiatric facility, in Nashville, TN. “Really lean on your distributor,” says O’Neal. “The company will have buyers who deal directly with manufacturers on a daily basis.”

In addition, hospital administrators should take steps to further develop their relationships with pharmaceutical representatives, says O’Neal. Vanderbilt has brought the top brass of these companies on campus — not only to get first-hand information about the drug shortages, but also to let them see how the drug shortages are impacting patient care. “We’re not talking about automobiles,” says O’Neal. “These are medications that are either curing or saving peoples’ lives.” ■

Patient Flow

SOLUTIONS

Appointment-setting in the ED pleases patients, helps clinicians manage patient surges

EDs push back on suggestions the approach may encourage inappropriate utilization

One of the ways busy EDs are attempting to manage long wait times is by enabling patients who do not need immediate care to make an appointment to be seen in the ED one or two hours in advance. Critics worry that this type of approach will only encourage patients to use the ED inappropriately for problems that should be seen in a primary care setting. However, hospitals utilizing the approach counter that it is helping them to better manage volume, and that patients tend to be much more satisfied with their care when they don’t have to sit in the waiting room for hours, not knowing when they will be seen.

“What this allows us to do is if we see there are 10 or 20 patients who show up in the triage area, there is a way of essentially taking out all the available appointments for the next five or six hours or until we catch up,” explains Robert Steele, MD, division chief

EXECUTIVE SUMMARY

More than 20 hospitals in eight states are taking advantage of a service that enables patients with non-life-threatening conditions to set up appointments to be seen in the ED through an online resource. Critics of the practice are concerned that it will encourage patients to use the ED when they really should be seeing a primary care physician, but EDs that are using the service say patients are highly satisfied with the approach, and that it enables them to better control patient surges.

- Most hospitals that are using the service charge patients an extra fee to take advantage of online appointments, although some hospitals plan to waive this fee in the future.
- Experts say safeguards are essential to ensure that patients with life-threatening conditions come to the ED right away for care rather than waiting for an appointment.
- ED physicians contend the approach can be used to optimize resources.

for adult services in the ED at Loma Linda University Medical Center in Loma Linda, CA. “The beautiful thing about this is that for the first time in my life, we have some control over the patient surge.”

Include safeguards

Loma Linda University Medical Center is one of more than 20 hospitals in eight states taking advantage of the online, appointment-setting service offered by InQuickER, a cloud-based, software-as-a-service vendor based in Nashville, TN. Most of these hospitals are charging a fee to patients to use the service, although Steele anticipates that his hospital will eventually drop the \$25 fee that it currently charges.

Steele stresses that it was the ED physicians who wanted to make the service available, based on feedback they received from neighbors in the community and hospital employees. “We are the big tertiary care trauma center. People want to come see us. They feel we provide a very high quality level of service,” he says. “But the problem is that they don’t want to wait, and they also don’t want to feel that they have been put into a waiting room that is filled with people they don’t know and don’t recognize. They feel uncomfortable in there, so we took those two variables out.”

There are safeguards built into the process so medical problems that need immediate attention get picked up, explains Steele, noting that patients input information about their medical problem when they make their appointments online. “The triage nurse looks at that information, and there are actually times when [he or she] will call up the patient and say that based on the information provided, we think you should come in right away,” says Steele. “Our ability to evaluate those patients is only as good as what the patients include ... although I experience the same thing when I am face-to-face with a patient. If the patient doesn’t give me the information that I need, it is difficult for me to make a good decision.”

Sandra Schneider, MD, FACEP, president of the American College of Emergency Physicians and a professor in the department of emergency medicine at the University of Rochester School of Medicine and Dentistry in Rochester, NY, has looked into the practice of appointment-setting in the ED, and believes that it can fulfill a need. “It has to be done right. We don’t want patients being told to wait when they shouldn’t wait,” she says. “If a person has cut himself and needs a few stitches, that is one thing, but the person who is having chest pain shouldn’t be waiting, so there is concern that this needs to be done well.”

Use approach to optimize resources

Steele takes strong issue with any suggestion that patients are using the ED inappropriately, or that the ability to make online appointments encourages such behavior. In many cases, he says, the ED is the only source of care available to patients who have been injured or become ill during the evening or night time hours. “The ED is [in operation] at all times, so why wouldn’t patients use it? And from a cost standpoint, we’re already there. Adding another doctor and another clinic to a system that already has a doctor and a clinic actually increases costs,” he says.

Schneider agrees, noting that even in communities with a strong primary care system such as Rochester, NY, access to care can be difficult. “In general, primary care physicians don’t have the time or ability to take care of patients with unscheduled care needs in their offices,” she says. “They’re just too busy. They can’t get people in to be seen in a reasonable period of time.”

Furthermore, Steele stresses that oftentimes, patients don’t know that they are low-acuity until after they have been seen. For instance, he suggests that a patient who has suffered an ankle injury on the basketball court is a good example of a non-life-threatening issue that nonetheless merits emergency care. “The patient can make it for a few hours with the swelling and the pain, and that’s okay, but he is going to need X-rays and some crutches, and it may not be a sprain. It may actually be a fracture,” says Steele. “Many urgent care centers don’t take X-rays, and aren’t open after hours, so for many people, we are the only resource.”

By enabling such patients to make online appointments, they can wait to be seen in the comfort of their homes, and know that they will be seen right away when they arrive in the ED. “What I can do is shift some of these patients out of the busy time when the ED is overcrowded to the non-busy time, and then I can be more efficient to the patient,” says Steele. “They will have an expectation that I can meet, and I will know what services they need when they get here.”

Steele says that while the hospital has offered the online appointments for about a year, there has been limited advertising for the service thus far. Still, he says the ED sees three to five patients a day who have scheduled appointments through the service, and many of these individuals are hospital employees or neighbors. “We would like to increase our volume of these patients by 10% to 20%,” he says.

Schneider expects more EDs to adopt similar practices, and thinks that the approach could prove help-

ful in optimizing resources. “Most of the time, these appointments are not tomorrow, they are in a couple of hours,” she says. “I think it is a very intriguing idea, if done right and professionally.” ■

SOURCES

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Study: Temporary ED staff twice as likely to be associated with medication errors that cause harm to patients

Consider orientation programs, seasoned guidance to ensure temp personnel are prepared to deliver quality care

Busy EDs are increasingly relying on temporary staff to cope with nursing shortages, unanticipated spikes in volume, and other personnel challenges, but the practice is coming at a steep price, according to research from Johns Hopkins University (JHU) School of Medicine in Baltimore, MD. A new study, led by **Julius Cuong Pham**, MD, PhD, an assistant professor of anesthesiology, critical care, and emergency medicine at JHU, suggests that temporary staff working in the ED are twice as likely as permanent staff to be associated with the kind of medication errors that actually harm patients.¹

While researchers did not look at the specific reasons for this association, there are some obvious possibilities. Temporary staff may be unfamiliar with regular policies and procedures, for example, but there could also be deeper problems involved, says Pham. “A hospital may be experiencing a lot of

turnover of regular staff, it could be rapidly expanding, or perhaps it is taking in more patients than it can adequately take care of with its normal staff,” he says. “This may be a sign that the organization’s local resources are overwhelmed.”

Whatever the underlying causes, the study’s findings suggest that ED managers should consider safeguards to ensure that the temporary nursing staff are adequately prepared and positioned to deliver high-quality care.

Take advantage of former full-timers

Pham decided to take a closer look at the issue because he saw that not only is the use of temporary staff increasing in the nation’s hospitals, but experts are predicting that the current nursing shortage will become more acute in the next few years with anticipated retirements. Also, through JHU’s affiliation Medmarx, a national Internet-based medication error reporting system, Pham and his research colleagues had access to a treasure trove of data that could shed light on this issue. Pham felt that any association between the use of temporary staff and medication errors would be felt most acutely in the ED because of the unique pressures that occur in the emergency environment.

By completing a cross-sectional study of Medmarx data from between the years 2000 and 2005, the researchers found that a total of 23,863 medication errors were reported in the EDs from 592 hospitals. Further, the researchers reported that the errors committed by temporary staff were more likely than the permanent staff errors to require patient monitoring, result in temporary harm, or to be life-threatening.

EXECUTIVE SUMMARY

Increasingly, hospital EDs are turning to temporary staff to plug holes in coverage and mitigate the impact of a national nursing shortage, but a new study suggests that these personnel are twice as likely as permanent staff to be associated with medication errors that cause harm to patients. While the underlying causes of this association are not clear, experts say ED managers should consider steps to ensure that temporary staff are well-prepared to deliver high-quality care.

- Take full advantage of former full-time nurses who are familiar with the hospital’s policies, procedures, and culture.
- Always link temporary staff with a seasoned resource person they can go to with questions or concerns.
- Provide recognition to nurses who serve as preceptors to temporary personnel.

Researchers emphasize that it would be a mistake to place the blame for these errors on the temporary staff themselves. Instead, Pham suggests that hospitals should carefully assess the way they are using and training temporary staff to see if any revisions are in order. “Depending on how often you use temporary staff, it may be more [financially] beneficial to hire permanent staff to fulfill these roles,” he explains. While temporary staff typically earn more per hour than permanent staff, hospitals usually don’t pay for their benefits.

However, Pham recognizes that many organizations utilize temporary staff not because of any financial advantage, but to cover personnel shortages. “In these cases, hospitals are in a difficult position because if they don’t hire temporary staff, then the positions go unfilled and they are short-staffed,” he says.

One strategy that JHU uses with success is to rely on temporary nurses who used to be full-time employees within the system. “Some people just like to be temporary staff because of the flexibility in their hours and the fact that they don’t have to be involved with some administrative tasks,” he says. “If they can get their benefits elsewhere, the option can be appealing.”

In addition, JHU provides an extensive training period for temporary staff who have never worked at JHU or are unfamiliar with a particular division or department, says Pham. “We give them quite a bit of time so that they are oriented to our local systems, our local culture, and how we do things before they can practice on their own,” he says.

Link temporary staff with seasoned veterans

Unanticipated surges in patient volume can occur, but oftentimes such surges are predictable, explains **AnnMarie Papa, DNP, RN, CEN, NE-BC, FAEN**, the 2011 president of the Des Plaines, IL-based Emergency Nurses Association and clinical director of emergency nursing at the Hospital of the University of Pennsylvania and Penn Presbyterian Medical Center in Philadelphia, PA. “If you are located in a winter resort area, there is just no way around having temporary help because your census can go from 40 patients one day to 140 patients the next day because the season has opened,” she says. “The best thing that hospitals can do is plan to on-board their temporary staff and ensure that these nurses have adequate orientation.”

In addition, Papa stresses that ED leaders need to make sure that a process is in place to ensure that every temporary staff person has a seasoned nurse he or she can go to with any questions or concerns. Ideally, the mandate for this kind of practice should come from ED leadership, but charge nurses should be responsible for actually connecting a temporary nurse with a resource nurse and for making sure that this connection is effective. “The charge nurse should make rounds and ask how things are going,” says Papa. “If the individual who was assigned to be a temporary nurse’s resource person is not stepping up to the plate, then the charge nurse has to have the authority to step in.”

This type of model provides temporary staff with an additional resource person because they can also go to the charge nurse if they need assistance or information. This kind of support is essential, stresses Papa. “What happens sometimes is the culture is not welcoming to new on-boarded or temporary nurses,” she says, explaining that this can make temporary staff reluctant to ask questions or voice concerns. “Sometimes there is just a sense of resentment ... or a tendency for what we call lateral violence. And if that culture is allowed to permeate through the department, then the bottom line is that the person who is the biggest loser from all of this is the patient.”

By the same token, however, ED leaders need to recognize that it can be distracting and burdensome to be constantly bringing temp personnel up to speed. To get around this problem, Papa notes that administrators need to find ways to show their appreciation for valued nurses who are capable and willing to provide this kind of seasoned guidance. “This can be as simple as throwing a party, providing gift cards, or establishing a preceptor award,” says Papa. “There just needs to be some type of recognition.”

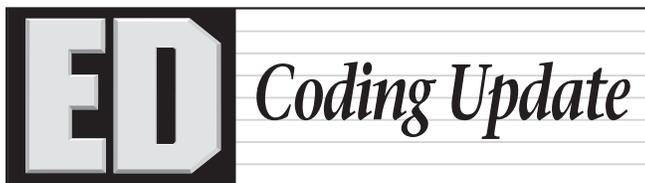
Effective communications and a welcoming culture will go a long way toward eliminating errors, but Papa says it also helps to have a pharmacist as a resource in the ED, or at least a pharmacy hotline that nurses can call when they need a quick answer. “In the ED, you can’t wait an hour for an answer, and sometimes 10 minutes is too long to wait, so this has to be a priority for the hospital,” she says. ■

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Get a jump start on the transition to ICD-10

[This quarterly column is written by *Caral Edelberg, CPC, CPMA, CAC, CCS-P, CHC, President of Edelberg Compliance Associates, Baton Rouge, LA.*]

Having recently completed an instructor course in ICD-10, I am still processing the magnitude of the transition to this new system. The coding aspects no longer seem paramount. Numerous organizations are primed and ready to go with education of coding professionals. Of primary concern, however, is how we will move our providers ahead with documentation improvement to meet this and other initiatives designed to address quality, performance, and revenue.

Numerous timetables have been published to indicate that if you and your institution haven't started addressing the ICD-10 implementation by now, you are woefully behind. Many payers and hospitals have started transitioning their coding and IT systems. However, you seldom hear about the implementation of process improvement programs to address documentation preparation for ICD-10. Improving the documentation of individual physicians is a tedious and challenging process.

Add some complicated electronic medical record formats or conversion to improved record formats and you have a system heading for a stall.

Some projections are that coding productivity will be cut in half for up to 6 months following the October 1, 2013 implementation of the ICD-10 system. Add to that a physician community that hasn't grasped the nuances of documenting and the complications of payer revisions to medical necessity policy to meet ICD-10 standards, and your facility may experience the perfect storm of overall system failure.

Let's discuss some solutions and processes you may want to begin early to better prepare you institution for what is coming:

Auditing for Performance: Consider adding ICD-10 codes to parallel your ICD-9 code assignment on compliance audits. This will help to identify the documentation deficiencies that will impact your revenue after October 2013. Begin to work with your providers to assure their familiarity with the new requirements so your coding process and revenue aren't affected.

Recognizing Your Clinical Issues: Determine the impact of ICD-10 coding on provider documentation and coding of your top 20 most frequently billed clinical scenarios. Chief complaints of altered mental status, shortness of breath, abdominal pain, flank pain, chest pain, upper respiratory conditions, psychiatric complaints, and drug overdose will present documentation and coding challenges.

Underscoring Medical Necessity: As more and more patients use EDs as their primary care provider, you will be challenged to prove medical necessity for routine problems. Documentation and coding will make the critical difference in identifying underlying problems and acute conditions that establish medical necessity. Using examples from current cases, begin to track where additional focus is required.

Appoint Representatives to Provider Liaison Team: Establish an ED provider liaison team with

COMING IN FUTURE MONTHS

- Keys to improving the patient experience
- Capacity management solutions
- The role of the clinical pharmacist in the ED environment
- A case for noise control in the ED

members from your ED physician, nursing, administrative, and coding/compliance areas to perform a needs assessment and design a program to address your department's unique challenges. The type of record you use, whether or not your coding and auditing is performed in-house, the specialization of your ED (trauma, pediatric, urgent care/fast track) will all contribute to how you address the transition.

Design Metrics: Empower your provider liaison team to address these issues with your ED providers and implement metrics that can track each provider's compliance with the documentation policies you are implementing for your site. As of January 1, 2012, you have seven calendar quarters to crunch the numbers that will demonstrate each provider's understanding of what is needed. Improvement can only be gauged over time and a number of clinical scenarios, so a few quick months of preparation can't cover enough of the coding combinations you need to assure documentation improvement.

Identify ED Revenue Issues: Perform "what if" revenue scenarios based on existing medical necessity policies at your major payers to determine your weaknesses. Don't neglect ED documentation that impacts on in-patient revenue or revenue for your hospital medicine providers and other specialists. Your coding department should be able to provide information on such risk areas as critical care, observation, present on admission (POA)/hospital-acquired conditions (HAC), trauma activation, etc.

Track Documentation-Based Denials: Track documentation-based payment denials and share these scenarios with your providers. It's amazing how little most providers know about how documentation transitions into dollars. Real-world examples go a long way!

Improve Collaboration with Facility and Professional Coding and Billing Teams: Develop a shared information process between facility and provider coding processes if coding is performed by separate coding vendors/departments. As we move toward a reformed health care system, collaboration is critical, and much is to be gained from the sharing of information about documentation that impacts each separate area. Diagnosis coding for the professional component has been extremely relaxed when compared to the rules for the facility component. Diagnosis coding for the ED component of a facility bill supports more than just the ED revenue center — it is the foundation of medical necessity for laboratory, radiology, cardiology, pharmacy, and central supply, just to name a

CNE/CME INSTRUCTIONS

HERE ARE THE STEPS YOU NEED TO TAKE TO EARN CREDIT FOR THIS ACTIVITY:

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

CNE/CME OBJECTIVES

1. Apply new information about various approaches to ED management.
2. Discuss how developments in the regulatory arena apply to the ED setting.
3. Implement managerial procedures suggested by your peers in the publication. ■

few. We will see increasing focus on accuracy and sequencing of physician diagnosis coding as ICD-10 evolves.

Finally, if you doubt the need of a full seven calendar quarters to prepare, consider how well your ED facility coding program has been performing since the October 1, 2000 implementation of the Outpatient Prospective Payment System (OPPS). How long did it take for all of the departments involved in documenting and coding for OPPS to refine their processes? How long have your nurses been appropriately documenting infusion start and stop times accurately? Are your coders able to capture these ED services accurately? How does your documentation of facility AND professional critical care time look? Do your observation coding and documentation policies comply with government policies? These are just a few of the issues that continue to plague EDs. Given the reality that many EDs continue to struggle with documentation and coding issues relating to OPPS policies, October 2013 and ICD-10 are just a blink away! ■

CNE/CME QUESTIONS

- Michael Argus, MD**, says that with drugs sometimes coming from different makers and in different formulations, ED practitioners must:
 - come up with solutions on a case-by-case basis
 - spend more time thinking through how they administer medication
 - get assistance from hospital administrators
 - rely on nurses to help them double-check dosages
- Michael O'Neal, DPh**, stays in constant consultation with clinicians regarding drug shortages by relying on:
 - pharmaceutical representatives
 - email communications
 - clinical pharmacists
 - morning rounds
- To provide some short-term relief from the drug-shortage crisis, legislators in Congress are considering measures that would:
 - penalize drug manufacturers that are not keeping up with demand
 - boost production of critical medications
 - require drug manufacturers to notify the FDA of anticipated drug shortages
 - put secondary drug suppliers out of business
- A number of EDs are enabling patients with non-life-threatening conditions to set up scheduled appointments to be seen in the ED. **Robert Steele, MD**, likes the approach because:
 - It gives him some control over patient surges.
 - It provides patients with an alternative to seeing their primary care physician.
 - There are cost advantages.
 - It has the potential to significantly boost volume.
- Sandra Schneider, MD, FACEP**, says that even in communities with strong primary care systems, the ED is often the only resource available to patients. Why?
 - There is a lack of transportation.
 - There aren't enough urgent care facilities.
 - Primary care physicians don't have the time or ability to take care of patients with unscheduled care needs.
 - There is a high volume of patients seeking primary care.
- The use of temporary nurses in the ED has been associated with an increase in medication errors that cause patient harm. However, **AnnMarie Papa, DNP, RN, CEN, NE-BC, FAEN**, says that ED managers can guard against this problem by:
 - ensuring that every temporary staff person has a seasoned nurse he or she can go to with any questions or concerns

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- ceasing to rely on temporary nurses
- investing in sophisticated IT solutions
- beefing up patient education



ACCREDITATION UPDATE

Covering Compliance with The Joint Commission Standards

Prepare for new scrutiny on radiation safety as accrediting agency signals a need for added vigilance on this issue

IT tools help MGH make great strides on radiation safety

There was no one precipitating study or finding that prompted the Oakbrook Terrace, IL-based Joint Commission (JC) to issue a Sentinel Event Alert regarding the radiation risks of diagnostic imaging, stresses **Ana Pujols McKee, MD**, the JC's executive vice president and chief medical officer. Rather, the move follows a review of complaints received by the JC, surveillance of media reports, and discussions with health care organizations and consumers about this issue, she says.

"It is one of the ways the JC has to get accredited

EXECUTIVE SUMMARY

Through a Sentinel Event Alert, the Joint Commission has signaled that it intends to be more vigilant in making sure that accredited hospitals are adhering to safe practices regarding imaging procedures that involve ionizing radiation. It also states that it will be looking to member hospitals for ways to further boost safety. Massachusetts General Hospital (MGH) in Boston, MA, is using IT tools to curb unnecessary imaging, lower radiation dosages, and track the ordering practices of referring physicians.

- The Joint Commission is urging hospitals to find ways to promote more dialogue between radiologists and referring physicians.
- A computerized radiology order entry system enables MGH to minimize the ordering of duplicate tests and to track the ordering practices of referring physicians.
- While use of imaging has steadily increased at most hospitals, MGH has been able to decrease utilization by 25% from 2004 to 2007. Also, it has been able to reduce radiation dosages by as much as 95% on some tests.

organizations to begin to pay attention to something," says McKee. Furthermore, she states that the move is a strong signal that the agency is likely to take a closer look at this issue. "We expect organizations to be more vigilant, and we want to educate more of our surveyors around radiation safety and to have them be more vigilant," she says. "I think we all have to change."

In issuing the Sentinel Event Alert, the JC noted that the U.S. population's total exposure to ionizing radiation has nearly doubled in the past 20 years.¹ It further referenced a study suggesting that the 72 million computerized tomography (CT) scans performed in the country in 2007 could produce an estimated 29,000 future cancers and 14,500 future deaths related to ionizing radiation.²

Also of particular concern is the extent to which CT utilization is increased in the ED. As reported in the October 2011 issue of *ED Management*, one recent study suggests the use of CT increased by 330% between 1996 and 2007.³

Promote dialogue between radiologists and referring physicians

McKee acknowledges that curbing CT use in the ED is challenging because so many EDs have direct access to CT scanners, but she emphasizes that there are often

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Managing Editor Leslie Hamlin, Author Dorothy Brooks, Nurse Planner Diana S. Contino, and Executive Editor Shelly Morrow Mark report no consultant, stockholder, speaker's bureau, research, or other financial relationships with companies having ties to this field of study. Executive Editor James J. Augustine discloses that he is a stockholder of EMP Holdings.

safer alternatives available to referring physicians. Further, she suggests that these alternatives would be utilized with greater frequency if there was more dialogue between these physicians and imaging specialists. “The opportunities are there,” she says. “What the Sentinel Event Alert is trying to do is increase the awareness that with every test there are options, and we need to start thinking about getting the best information with the least exposure to ionizing radiation.”

The JC has not amended any of its existing standards regarding the safe and effective use of diagnostic radiation. However, McKee says the accrediting agency will be looking to its member organizations for ideas and strategies on ways to make further improvements on this issue. “We are looking at this as an opportunity to get organizations on board and to have them create processes that they feel are attentive to the safe use of ionizing radiation,” she says. “There is nothing immediately in the pipeline, but we recognize this is an area that needs additional evaluation. We need to work more with organizations to get them to provide safe care.”

Minimize duplicate tests

One organization that has, in fact, already made great strides in this area is Massachusetts General Hospital (MGH) in Boston, MA. The hospital says it has used information technology (IT) tools to reduce radiation exposure by as much as 95% for some exams. Furthermore, while use of imaging procedures has been rising steadily at most hospitals, it actually dropped by 25% from 2004 to 2007 at MGH.

Dushyant Sahani, MD, the director of CT at MGH and an associate professor at Harvard University in Cambridge, MA, says that key to the hospital’s success on this issue is a computerized radiology order entry system that referring physicians use to order tests. “The system encompasses certain criteria which have been approved by the American College of Radiology that we call appropriateness criteria of ordering a test based on the clinical indications,” he says.

Consequently, if a referring physician orders a test, the system will provide a score or a color code to let the physician know if a particular imaging test is appropriate for the clinical condition, explains Sahani. In addition, the system will let the physician know about any previous exams. “Let’s say a patient had a recent CT performed,” he says. “The system will alert the physician or the nurse ordering the exam that the patient had a recent CT, so that eliminates or minimizes any duplicate studies on these patients.”

There are other safeguards as well. For example, a radiologist reviews all imaging tests that have been

ordered to insure that the right protocols are being followed, says Sahani. “If we feel that MR [magnetic resonance imaging] would be better for a patient based on prior exams, then we can change the exam,” he says.

Furthermore, MGH has outfitted all of its scanners with optimized protocols so that the dosing used on CT exams will be tailored to a patient’s clinical need and body size, explains Sahani. “Therefore, we are not only providing an optimal diagnostic exam, but also cutting down the risks substantially for the overwhelming majority of our patients,” he says. “Using a one-size-fits-all approach may be simpler and easier to implement in a busy practice, but it over-radiates many small-sized patients and young patients.”

Newer scanners provide even more opportunities to reduce radiation doses without compromising diagnostic value, but Sahani acknowledges that the newer technology is also expensive. While MGH plans to eventually replace all of its scanners with the new machines, he acknowledges that cost is an obstacle. In the meantime, though, MGH is prioritizing the use of its three newer scanners for young patients, geriatric patients, and other patients who are potentially more vulnerable to radiation risks. “For the rest, we are using creative approaches of customizing the doses to ensure that they are quite low,” he says.

Track physician behavior

In addition to providing valuable decision support at the time a test is ordered, the radiology order entry system enables MGH to track the ordering practices of referring physicians. “Radiologists don’t order CTs. The referring physicians do,” says Sahani. “But we now have the opportunity to see whether physicians are ordering appropriate tests, or if they are ordering too many of these tests.”

This information has been helpful in educating referring physicians about their imaging practices, as well as in understanding why they are making certain imaging decisions, says Sahani. “There are physicians who see certain types of patients who are more challenging and complicated, or they have more imaging needs,” he says, emphasizing that you have to look beyond the numbers. “But this has helped us to influence behavior in a positive way where some physicians have not realized that they are ordering a little bit more than their colleagues, and how their performance compares.”

In particular, Sahani says radiologists have worked with MGH’s ED physicians to the point where their utilization of CT has gone down, while MR and ultrasound utilization has increased, especially in pediatric patients and young women. Some ED physicians are even using

handheld ultrasound devices to examine patients themselves for such conditions as kidney stones, says Sahani, although he points out that ultrasound visualization can be a challenge in larger patients.

“Behavior is certainly changing ... but having an accurate test like CT is still very useful in most patients who have certain kinds of acute presentation,” explains Sahani.

Further, he stresses that implementing safe imaging practices requires collaboration. “All of us are in this together, and everyone shares the mission of how important it is that we take leadership and ownership of this area, and that we demonstrate to everyone that we take patient care and patient risks seriously.” ■

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- **Ana Pujols McKee**, MD, Executive Vice President and Chief Medical Officer, The Joint Commission, Oakbrook Terrace, IL. Phone: 630-792-5000.

Hospitals struggle to comply with Joint Commission standards regarding corridor cluttering and medical record keeping

ED managers can take corrective steps in their departments

Emergency department managers should take note of a couple of standards that had very high non-

compliance rates for the first six months of 2011, according to data released by the Oakbrook Terrace, IL-based Joint Commission. One of these standards involves the requirement that a hospital “maintains the integrity of the means of egress.” It is one of the foundational elements of the accrediting agency’s “life safety” code, according to **Michael Chisholm**, CPE, CHFM, an associate director of the standards information group for engineering at the Joint Commission (JC). However, he emphasizes that despite high awareness of the issue, hospitals routinely struggle to comply, which explains the 57% percent noncompliance rate reported by the JC.

“If you look at fire history, regardless of whether it is in hospitals or not, one of the leading causes of death is obstructed or inadequacy of egress,” says Chisholm. Yet hospital surveyors encounter these obstructions in hospital corridors all the time. “They’ll see computers on wheels, linen carts, linen hampers, all types of machines, and a sundry of operational things,” he says.

The problem, says Chisholm, is that hospital administrators often overlook the complexity of the issue. “Clinicians, by manner of delivering care, want to have everything readily available,” he says. But this tends to create a cluttering problem because many hospitals lack adequate storage space for the computers-on-wheels and other technical devices that have proliferated in health care. As a result, these items end up in hospital corridors, says Chisholm.

To appropriately tackle the issue, Chisholm says that hospital leaders need to look at it from a materials management standpoint. This means running an inventory of everything, assessing what items staff really need to do their jobs, and then getting rid of all items

EXECUTIVE SUMMARY

Corridor cluttering and inadequate medical record keeping are keeping a high number of hospitals from meeting Joint Commission standards on these issues. ED managers have a role to play in making sure their departments are not contributing to this non compliance. Experts say administrators need to look at the issue of corridor cluttering from a materials management standpoint, and EDs need to end the practice of boarding.

- In the first half of this year, the Joint Commission reports that there was a 57% non compliance rate with its standard requiring hospitals to maintain the integrity of the means of egress.
- An eyebrow-raising 69% of hospitals were not in compliance with the Joint Commission standard requiring hospitals to maintain complete and accurate medical records for all patients.

that they don't need or that are redundant. "In my experience, there are always things hospitals can get rid off," says Chisholm. "You don't need 20 computers-on-wheels on a typical nursing floor that has 24 patients."

Once administrators have cleared away all the items that personnel don't need, then it's time to investigate whether they can reduce the size of needed equipment or perhaps find equipment that can perform two or three different functions, explains Chisholm, adding that alternative storage solutions need to be investigated as well. "You don't want to fill an unused room with a bunch of stuff, but if it is just used for equipment, we can accept that," he says. "Put a closer on the door of the room so that it closes automatically."

End patient boarding

Another standard that the JC reported as one of the most frequent areas of noncompliance has to do with maintaining "complete and accurate medical records for each individual patient." On this issue, the JC said there was a 69% noncompliance rate among its accredited hospitals.

The matter should be of particular concern to EDs that make a habit of boarding patients, according to **James Augustine**, MD, the director of clinical operations at EMP Management in Canton, OH. "Emergency department documentation of emergency care is typically inadequate to record the necessary elements of inpatient care, and does not incorporate the required medication reconciliation, nutritional status, and health care legal issues," he says. "In many cases, a 'tracer' review of the patient documentation for a patient boarded in the ED will not satisfy the needs of a Joint Commission review."

The best way to stay in compliance on this issue is to end the practice of boarding patients, says Augustine. "Admitted patients do not belong in the ED, with a few rare exceptions," he says. ■

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