



# Management

Best Practices – Patient Flow – Federal Regulations – Accreditation

March 2012: Vol. 24, No. 3  
Pages 25-36

## IN THIS ISSUE

- Make sure EMRs enhance, rather than detract, from the patient encounter . . . . . cover
- Study: ED use patterns raise eyebrows, make case for strong EMR systems. . . . . 28
- New (free!) tool shows promise in predicting surges due to influenza . . . . . 29
- Is telemedicine for you? How small, rural hospitals are obtaining 24/7 access to neurologists and elevating care to stroke patients . . . . . 30
- ED Coding Update: Documentation traps in the world of EMRs. . . . . 33

**Enclosed in this issue:**  
*ED Accreditation Update*

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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 and a speaker for Masimo Corporation. **Caral Edelberg**, guest columnist, discloses that she is a stockholder in Edelberg Compliance Associates.

## EMR use in the ED: Scant data connect EMRs with positive outcomes, but experts advise managers, providers to consider long-term benefits

*Take steps to minimize distractions, maintain patient-provider communications*

Few would take issue with the notion that there is vast potential for electronic medical records (EMRs) to improve emergency care and boost efficiency. However, there is also little argument that such benefits have yet to be significantly realized in many EDs. Not only is there ample grumbling over the time it takes to sort through the often massive EMR files, but

### EXECUTIVE SUMMARY

A Minnesota study looking into the impact of EMRs on the care of heart failure patients presenting to the ED found mixed results, with two of the sites studied showing small but statistically significant positive benefits, and one site showing little difference between the outcomes of patients who had EMR data vs. patients who presented for care with no EMR data. However, experts predict EMR functionality and usability will gradually improve, and they advise providers to take steps to ensure that EMRs don't interfere with patient-provider communications.

- In the study looking at the care of HF patients in the ED, data from two of the sites showed that patients with EMRs were less likely to die if hospitalized, they underwent fewer laboratory tests, and they were prescribed fewer medicines during their ED visit than HF patients without EMRs.
- In a third study site, patients with EMRs were associated with longer LOS in the ED.
- Experts acknowledge that when used inappropriately, EMRs can be distracting, and they can inhibit patient-provider communications. They advise ED providers and managers to take steps to ensure that EMRs enhance rather than diminish human interactions.
- The need for EDs to have effective health information exchange is underscored by a new Indiana study showing that people tend to seek emergency care at multiple sites over time.



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experts warn that use of EMRs can actually diminish physician-patient communications if providers are not careful. Further, much of the outcomes data that have been collected with regard to patients seeking care in the ED suggest that EMRs are associated with only marginal benefits at best.

For example, investigators looking at the impact of EMRs at three Minneapolis, MN-based EDs found

**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.

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mixed results.<sup>1</sup> The researchers conducted a retrospective study looking at quality and efficiency measures for more than 5,000 patients with heart failure (HF) who presented to one of three EDs for care over a 19-month period between June 1, 2006 and December 31, 2007.

“We needed to focus on a specific disease in order to make any measurements,” explains **Donald Connelly**, MD, PhD, the lead author of the study and director, Health Informatics Division, Masonic Cancer Center, University of Minnesota, Minneapolis, MN. “We focused on HF because it is very common, especially in the elderly, and it is a cause of frequent hospitalizations.”

What’s more, patients with HF tend to have plenty of health care records available from ambulatory care settings as well as hospitals. There are typically frequent encounters with the health care system, says Connelly. “If EMRs were going to have a positive impact, we thought HF patients appearing in the ED would be a good, specific [group] to study.”

Patients were categorized as “internal” if their health information was included in an EMR and “external” if there was no information in an EMR. The researchers hypothesized that patients who had an existing EMR would ultimately receive better quality and more efficient care than patients who did not have an EMR. And this type of evidence was, indeed, observed at two of the three EDs. In these settings, patients with an EMR were less likely to die if hospitalized, they underwent fewer laboratory tests, and they were prescribed fewer medicines during their ED visit. Also, at one of these two sites, HF patients with EMRs were less likely to be hospitalized than HF patients without an EMR.

However, at the third ED site, there were no positive differences observed between HF patients who had an EMR and those who did not. In fact, the patients with EMRs at the third site experienced a longer length of stay (LOS) in the ED.

## Consider the complexity involved

While the study concluded that EMRs were associated with some positive benefits, Connelly observes that there is plenty of room for improvement in the functionality of EMRs. “I think it would be fair to call them second-generation systems because at least they are now somewhat standardized,” he says. However, he points out that there is too much redundancy in today’s EMRs, noting that in some cases, providers keep copying the same information into the EMR, making it difficult and tedious to separate the valuable information from the chaff.

“You may have a 50-page document, but only three of the pages are unique,” he says. “Electronic medical records are here to stay, but they have got to be improved so that they are much more usable and shown to have a positive impact.” (*Also, see ED Coding Update, Documentation traps in the world of EMRs, p. 33.*)

Shaun Grannis, MD, MS, FAAFP, an associate professor of family medicine at Indiana University School of Medicine, and director of the Indiana Center of Excellence in Public Health Informatics in Indianapolis, IN, one of four Centers for Disease Control-funded public health informatics centers in the country, suggests that part of the problem is that most health care information technology systems are built to satisfy particular administrative, billing, and regulatory needs. “In doing that, they actually often further encumber, rather than unencumber, providers,” he says. “Some people say EMR stands for empty medical record system because a lot of information generated for a particular patient in the course of care is not necessarily generated at the point of care.”

Nonetheless, Grannis is a strong advocate of EMR systems, and he anticipates that they will improve greatly in the next few years in the same way that computer operating systems have gradually become more user-friendly and visually appealing to the end-user. “The delivery of care is an incredibly complex process, so it is hard to simplify or even model the work flows of such complex processes in electronic software,” he says. “We are in the Model T days, if not the horse and buggy days of end-user friendly clinical applications, and there is a great deal of work to do.” (*Also, see story on study showing that people tend to seek emergency care at multiple sites over time, p. 28.*)

## Take steps to minimize distractions

While the EMRs themselves need to be improved, experts suggest that ED providers also need to take steps to ensure that the way they are using EMRs enhances rather than detracts from provider-patient communications. “If you rely too much on the medical record as your source of information, as opposed to asking the patient directly, you may miss out on important information,” explains Ann O’Malley, MD, MPH, a senior health researcher at the Center for Studying Health System Change in Washington, DC, who has studied this issue.<sup>2</sup> “People just assume that because something is in the record and it is electronic that it must be correct.”

Instead, it is important to take the time to validate

what is in the record with patients, says O’Malley. For example, an EMR may indicate that a patient is taking a particular medication at a particular dose, but when you talk to the patient, you may find that he or she never filled that prescription, or some other provider may have changed it, she explains. “That is a very obvious thing that frequently has to be reconciled,” she says. “You can’t assume that because it is listed in the EMR that it reflects reality.”

Also, an EMR can never be a substitute for human interactions, observes O’Malley. “If a patient is experiencing some sort of depression or anxiety, you’ve really got to sit down and see that patient in person to pick up on those signs,” she says. “You need to see their body language and see their affect or facial expressions. There is so much that you get from the human interaction that you cannot get from the record.”

To ensure that EMRs don’t get in the way of human interactions, O’Malley advises health care administrators and providers to think about how to strategically position computer monitors so that clinicians can maintain eye contact with patients even while reviewing or adding information to an EMR. Alternatively, she suggests using electronic tablets to track and record such data.

Another useful strategy is to engage the patient in the information that you are reviewing on the EMR screen, explains O’Malley. This is not always possible in an emergency situation, but when patients are alert and able to communicate, it can be helpful to show patients how problems such as diabetes can be related or impacted by other problems, such as high blood pressure or underlying heart problems, she says. “When you show them their record and you pull them into the screen, sometimes it helps patients feel less disjointed and less alienated by the computer screen,” she adds.

O’Malley stresses that health care organizations need to establish clear guidelines about the use of electronic tools in the presence of patients in order to help providers minimize distractions. For example, she notes that while instant messaging can be a helpful tool for exchanging information with clinical staff, it can also be distracting to receive an instant message while interacting with a patient. “You need to learn as systems and organizations, as well as individuals and providers, how to manage those distractions,” she says.

Mark Frisse, MD, MBA, MSc, a professor of biomedical informatics at the Vanderbilt Center for Better Health in Nashville, TN, suggests that while it is clear that EMRs can diminish physician-patient interactions and create distractions that impact decision-making if improperly used, he points out that it is important to consider the value that an

investment of time on an EMR can have on subsequent visits, whether they involve ED visits or visits to another provider. “The key here is not to think of a single interaction but to ask how, over a span of time, a community of disparate clinicians investing time in efficient EMRs can contribute to overall [care],” he says. “People don’t get to that point very much.”

O’Malley calls on clinicians to demand from vendors EMR tools that can be used for clinical care, as opposed to tools that have a primary focus on documentation for billing. “This is going to require higher-level changes in payment incentives so that we are not always just thinking about how to code in a way to maximize payment from health plans, but rather how do we reward clinicians for providing high quality care and how can we design records to support that care.” ■

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## Study: Patients seek emergency care at multiple sites

There is new evidence that, contrary to commonly held views, patients tend to seek emergency care at multiple sites over a period of time. A study by

researchers at the Regenstrief Institute at the Indiana University (IU) School of Medicine in Indianapolis, IN, looked at patterns of emergency care across the entire state over a three-year period. They found that 40% of ED visits were by patients who visited more than one ED.<sup>1</sup>

The researchers found that roughly 2.8 million patients generated 7.4 million ED visits over the three-year period. And while the high volume didn’t raise too many eyebrows, the fact that the number of visits per patient ranged from one to 385 was unexpected, according to the research team. What’s more, the researchers report that nearly all of the EDs in Indiana shared patients with nearly every other ED.

While the findings pertain to Indiana, investigators point out that patterns of ED use are likely to be similar in other states since there is nothing unusual about emergency care in Indiana. Consequently, the research offers important considerations for health planners and policy makers, explains **Shaun Grannis**, MD, MS, a co-author of the study, an associate professor of family medicine at IU School of Medicine, and director of the Indiana Center of Excellence in Public Health Informatics in Indianapolis, IN, one of four Centers for Disease Control-funded public health informatics centers in the country.

“A general assumption that most folks make when contemplating how to design and operate health care systems is that patients are generally locked into a single health care system, a single entity,” says Grannis. “The results we found suggest that is not the case — at least for ED care where four out of every 10 ED visits in Indiana were by patients who had data in somebody else’s system.”

Grannis adds that the findings directly challenge the notion that patients are “somehow captive to a particular health care organization,” and they clearly have implications for medical homes, accountable care organizations, and similar models. “We need to be mindful of these types of phenomena when we think about how to incentivize, build, and pay for health care in the future.”

Certainly, ED leaders should clearly have a voice in these developments, but Grannis suggests they should also play an active role in making sure that their departments have access to the kind of clinical information they need to provide optimal care. “Particularly if you have patients like we have found who travel to different EDs, you need to be engaged in an initiative that is able to develop a coalition among hospitals and health care systems in your region to create a common, shared medical record, like what we have in Indiana, that allows us to see what we discovered in this study,” he says, noting

that Regenstrief built one of the country's first health information exchanges. ■

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# A better prediction model for patient surges from influenza? New Internet-based tool shows promise, say researchers

Is there a better way for ED managers to stay on top of flu outbreaks and the corresponding surges in patient volume? New data compiled by researchers at Johns Hopkins Medicine in Baltimore, MD, suggest this may well be the case. And the cost of having better information is attractive, too. The researchers found that Google Flu Trends, a free Internet-based tool that monitors Internet search traffic about influenza, can provide important, real-time information about the kind of traffic EDs are seeing from patients complaining of flu-like symptoms.<sup>1</sup>

For the study, researchers tracked Google Flu Trends data for the city of Baltimore, MD, and compared it with data on people seeking care for flu-like symptoms in the adult and pediatric EDs at Johns Hopkins Hospital between January 2009 and October 2010. What the researchers found was a strong correlation between hikes in Internet searches for flu information and surges in patients complaining of flu systems in the EDs.

“Google Flu Trends is available online, and you can have it designed for national level, state level, or even down to city-level data. And one of the things our research did was validate the city-level Google Flu Trends tool,” explains **Andrea Dugas**, MD, the lead study investigator and an emergency medicine research fellow at Johns Hopkins University.

What this means, says Dugas, is that practicing ED physicians in Baltimore have another tool at their disposal to help them establish whether patients who are coming in with cough, fever, and other flu-like symptoms actually have the flu or another ailment.

While such information can be helpful, investigators are hoping to put the data to even better use.

“Right now, the work we have done so far shows that [the Google Flu Trends] data correlate with what we are seeing in the ED, so it is representative of what is going on at that time, but what we would really like to have is advanced warning,” she says. “We’d like to know what is coming next week or the week after, so right now we are working on validating this as a predictive model for what is to come in the future so that ... we can be prepared and ready for when that increased volume of patients with flu-like symptoms comes in.”

Beyond having a better idea of timing, Dugas says that investigators are also hoping to develop ways to optimize their response to surges in patient volume. To work on that front, Hopkins hosted a conference in which they brought together ED and hospital administrators, as well as public health surveillance experts, to discuss how they can use the information they receive from surveillance systems such as Google Flu Trends in a meaningful way that will impact health care.

## Pay attention to new tools, research

While ED managers understand that you can never fully predict what is going to happen or what your resource needs will be in a given day or week, they

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## EXECUTIVE SUMMARY

In a study focused on Baltimore, MD, researchers have found that data culled from Google Flu Trends, a free Internet-based influenza surveillance system, shows strong correlation with hikes in ED visits from patients with flu-like symptoms. While the approach has yet to be validated in other cities or regions, experts recommend that ED administrators and providers familiarize themselves with the new surveillance tool and stay abreast of developments regarding similar surveillance mechanisms.

- Google Flu Trends ([www.google.org/flutrends/](http://www.google.org/flutrends/)) is a free Internet-based tool that monitors Internet-based searches for flu information. Users can customize their search by location (city, state, country).
- Researchers say the advantage of this approach over traditional surveillance methods is that it provides real-time data about flu-related activity in a city or region. Traditional approaches, which rely on case reports from the Centers for Disease Control and Prevention, are delayed.
- Researchers hope to eventually leverage this tool, and perhaps other surveillance data, into a powerful early-warning mechanism that EDs can use to better plan for patient surges due to influenza.

are nonetheless somewhat frustrated that they don't have a better handle on an issue that has a seasonal component to it, explains **Richard Rothman**, MD, PhD, the senior investigator on this study, and an emergency medicine physician at Johns Hopkins University School of Medicine.

"Every year, emergency departments around the country experience crowding, increased length-of-stay, and increased waiting times during the peak of influenza season, and up until now, there are no great systems out there that allow administrators and the people who figure out clinical staffing needs to predict that," he says. "The information that we gather and send back to health departments and then to the CDC [Centers for Disease Control and Prevention] has intrinsic delays in coming back to the administrators and clinicians on the ground ... so I think people are looking for new systems that may be quicker, easier to access, and more reliable."

Dugas concurs, noting that all EDs have plans in place that they can launch in the case of an emergency. The real question is when to go ahead and implement those plans. "Right now, there is not a great way to do that. The way we tend to do it is based upon what we are actually seeing in our own patient volumes, and then trying to make the best judgment based on that," she says. "The thought of how Google Flu Trends would tie into that is that since it is providing real-time data, we can see exactly what is going on in the country, in the state, or in our city right now, versus the CDC data that is collected, compiled, and gets back to us two weeks later, which doesn't really help us with making decisions at the time things are actually happening."

Eventually, Rothman believes that a combination of multiple systems will provide the kind of informational support that health care providers are looking for, and he notes that Google Flu Trends may contribute, but he is not recommending that ED managers base their planning on the tool just yet. In fact, he is not aware of any providers or organizations that are using the tool in a systematic way. "Individual providers and administrators are probably starting to look at the data, but most likely in the context of the other traditional methods that they rely on," says Rothman. "This is really in the early stages."

Rothman emphasizes that investigators still don't know to what extent people will use the tool, how generalizable the study results will be to other settings, and how reliable the findings are going to be in terms of guiding practices. But he acknowledges there is high interest in the tool, and he thinks ED managers should familiarize themselves with it.

"I would recommend that administrators get on

the website, look at the tool, and pay attention to the next phase of research," says Rothman. "I don't think we are at the stage where major decisions should be based on using [the Internet tool], but that may change in the next six months, depending on what we see. I think people just need to keep an ear to the ground in terms of using new tools that are coming up for unexpected, major catastrophic events, such as a significant pandemic." ■

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## Telemedicine helps rural EDs access critical neurology expertise for stroke patients

*Approach helps physicians determine whether patients are good candidates for clot-busting therapy*

With a national shortage of neurologists, it is impossible for all hospital EDs to have neurology specialty expertise on site whenever patients with symptoms of stroke present for care. This is a particular problem for hospitals in rural communities, many of which do not have any neurologists on staff. However, a small but growing number of these facilities are getting around this dilemma by partnering with larger centers of excellence in stroke care that have the expertise on staff to guide decision-making for these patients through virtual consultations at any time of the day or night.

For example, the Carondelet Neurological Institute in Tucson, AZ, is now providing this kind of expertise

to three rural hospitals in southern Arizona through its TeleStroke Program, and experts anticipate that it will be providing neurological consultations to additional hospitals in the future.

“We have time windows sometimes under three hours in which to acutely treat a stroke patient, and that doesn’t give you much time to transfer an acute stroke patient to a hospital that has neurology and the right kind of imaging,” explains **L. Roderick Anderson, MD**, medical director of the Carondelet Neurological Institute’s Stroke Program. “So it makes sense for rural hospitals to do the initial evaluation and then discuss the case with a specialist, and now the TeleStroke Program gives us the ability to even evaluate and examine the patient live. This has been shown in studies to improve patient care.”

The approach links patients in rural areas with the kind of specialty expertise that is generally only available at larger facilities. “We know that roughly 300 strokes occur per 100,000 people, so a lot of rural hospitals aren’t going to see that many strokes in a given year,” says Anderson. “We see stroke patients on an almost daily basis, whereas the ED physicians in small towns may only see them once a month. We can guide management of these patients so that decisions can be made quickly.”

Anderson emphasizes that implementing this type of approach requires much more than an Internet connection between two sites. “We have to make sure

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## EXECUTIVE SUMMARY

Some rural hospitals that lack access to neurologists on site are obtaining this expertise through telemedicine hookups. The approach is particularly helpful in the case of patients exhibiting symptoms of stroke because time-to-treatment is critical in many of these patients, and yet determining which patients should receive clot-busting therapy can be tricky because the treatment comes with serious risks. Experts say a telemedicine program can offer dividends, but that effective implementation requires ongoing education.

- Since Sierra Vista Regional Health Center in Sierra Vista, AZ, began working with the TeleStroke Program at Carondelet Neurological Institute in Tucson, AZ, the time-to-treatment for stroke patients has remained under the 60-minute target urged by specialists.
- To gear up for such a program, ED staff need to be trained in program protocols, and technical issues need to be addressed so that neurologists at the specialty center can access CT results, as well as carry out video consultations with hospital providers and patients.
- Experts advise hospitals to see first-hand how other hospitals are utilizing telemedicine consultations for stroke patients before establishing a program themselves.

that there is education with both the ED physicians and ED nursing staff so that they are aware of our protocol, they are aware of the exam we are going to do, and they understand what we are dealing with,” he says. “What we are doing is mirroring what our guidelines are from the American Stroke Association, but what we often find is that hospitals are doing things a little differently for any number of reasons, so it is important that everybody gets on the same page, and I think that is actually good for patient care.”

Experts on both ends of this arrangement agree that while the education process needs to be ongoing, there are dividends in terms of more knowledgeable staff, and vigilance in connecting patients who exhibit symptoms of stroke to care quickly.

## Develop step-by-step instructions

Sierra Vista Regional Health Center (SVRHC) in Sierra Vista, AZ, has been participating in the TeleStroke Program with Carondelet for about six months, explains **Kimberly Riggs, RN, BSN, MSN**, the ED director at Sierra Vista Regional Health Center. She explains that one of the key preliminary steps in establishing the relationship involved making sure that neurologists at Carondelet could access SVRHC’s picture archiving and communications (PAC) system.

“We wanted their physicians to be able to tap into our system so they could see our CT [computed tomography] scans for our stroke patients, so IS [information systems] personnel from the two sites had to work together,” she says. The hospital also needed to purchase a computer-on-wheels that has high resolution and is equipped with a camera so that neurologists at Carondelet could view patients during consultations, adds Riggs. “We had to purchase that equipment and ensure that we had the right software,” she says.

While IS professionals worked out the technical details, Riggs worked with Carondelet to formulate an education plan to get staff ready for participation in the TeleStroke Program. “All of my staff, including nurses and technicians, went to an educational session that Carondelet hosted,” says Riggs, explaining that the session focused primarily on what stroke is and how to complete the National Institutes of Health Stroke Scale (NIHSS).

The NIHSS is an abbreviated neurological exam that helps neurologists assess the severity level of a stroke, explains Anderson. “It is a very easy exam to do, very reliable and reproducible, and in doing that, we can determine whether a patient is perhaps a good candidate for receiving a clot-busting drug, tPA [tissue

plasminogen activator], to treat their acute stroke.”

While tPA works very well in some cases, it comes with certain risks; people can bleed to death, explains Riggs, and people don't always fall into specified or easy to delineate risk categories. This is why it is helpful to have a neurologist available to consult with on these cases, she says.

Carondelet helped Riggs develop a stroke packet, detailing step-by-step instructions on what staff should do to get patients exhibiting symptoms of stroke into a room and diagnosed quickly. Then Riggs conducted several trial runs in which she would wheel the TeleStroke computer into a room, plug it in, make a quick connection to Carondelet's network, and make sure that people on both ends could see each other.

Once Riggs was satisfied that the technology was working properly, she set up a training schedule consisting of unannounced visits to the ED at different times of the day, including all the different shifts.

“I loaded a mannequin up in a wheelchair, wheeled it into the lobby, and told the front desk that the patient was having a stroke; treat him like a real person,” explains Riggs. “We did this not only with the ED staff, but also lab and radiology. We expected them to respond as well ... just so we could tighten up loose ends that we had, and everybody could get a better idea of how things were going to go when we had a potential stroke come in.”

## **Emphasize importance of time-to-treatment**

While going through all of these preparations is necessary to getting all the technical issues resolved, the process has also made ED personnel more cognizant of the importance of time-to-treatment in stroke cases. “From the moment a patient gets here to when we administer lytics, we have 60 minutes; that's it,” says Riggs, noting that there is not much margin for error when you consider that during this period IVs need to be placed, lab samples taken, a head CT done, results returned, and a decision made. “I think it has made the staff realize that just like with chest pain, this is extremely time-sensitive. But it has also made them realize that they are able to do it. We took this process and tightened it up.”

Now, whenever a patient comes in who may be suffering from stroke, the ED will issue a “code brain attack” that immediately triggers all the steps that need to take place, explains Riggs, noting there are standard order sets in place that dictate what tests need to be completed, and there are special labels that go on the lab tubes so that they can easily be identi-

fied as they are spinning in a centrifuge. “The way we practice is if there is even the slightest thought that a person may be suffering from a stroke, you are going to call a code brain attack,” she says. “The physician may then come in and say it is something else, but we are going to move on it until a physician tells us something otherwise.”

As a result, the process is triggered as often as every week at SVRHC. And the physicians in the ED appreciate having the ability to consult with a neurologist on any case at any time, as there is 24/7 coverage. “If someone is having a cerebral infarction, our only option in a rural facility is to get them to Tucson as quickly as possible so that they can receive [appropriate specialty care], but we can administer the tPA here if the neurologist wants us to do that,” says Riggs. “It is a safety-net for our physicians so that they are not making that decision on their own.”

Over time, these regular consultations with neurologists have a tendency to improve overall stroke care as well, says Anderson. “We are providing education and knowledge that help ED physicians and nursing staff manage the acute stroke patient better,” he says. “What we have seen in the EDs that we have worked with is more efficient workups and more of a readiness and an ability to treat strokes acutely and aggressively.”

One of the concerns Anderson hears from hospitals that are interested in the TeleStroke Program is they are worried that the consultations with Carondelet neurologists will actually increase time-to-treatment, but he has not found that to be the case. “We have monitors in our offices and in the hospital, and we also have portable computer laptops that allow us to access [the hospitals] wirelessly if we are either at home or somewhere en route,” says Anderson. “That really enhances our ability to respond [to hospitals in the TeleStroke Program] right away.”

In the case of SVRHC, the approach has actually shortened time-to-treatment, says Riggs. “We go over all of our statistics and we have time parameters ... and on every single stroke case we have done this with, the [time-to-treatment] has been under 60 minutes,” she says. “I am not confident that we were meeting that threshold before. We weren't moving as quickly, we weren't triggering lab and radiology the way we are now.”

## **Plan for ongoing support, education**

Hospital administrators that are interested in establishing a telemedicine link with a larger academic health center that can offer expert guidance on stroke care should first discuss the option with all ED

providers because they have to be on board for the approach to be effective, says Riggs. “If you’ve got a physician group that is not willing to participate, that makes it very difficult, so talk with your providers and make sure they understand the importance of the time frames involved, and what the current standards of care are,” she says.

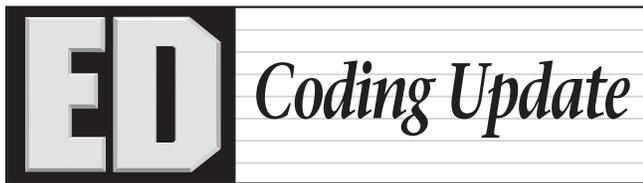
Once you have the appropriate buy-in from providers, take the time to visit a hospital that is already using this type of approach and ask questions, advises Riggs. That is how she geared up for the program at SVRHC.

Anderson emphasizes that while upfront education is critical to an effective program launch, the education process needs to be ongoing because people and guidelines tend to change. “If you have very few stroke patients coming into a rural hospital, after a while, people can sometimes forget the protocols and what needs to be done,” he says. “You need physicians and nursing staff on both ends, you need stroke coordinators who can help with education, and you need technical support. All of these things go into making a program run smoothly.” ■

## SOURCES

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## Documentation traps in the world of EMRs

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

So you implemented an EMR product that’s supposed to give you everything you need to docu-

ment your services to Medicare standards. Or, the vendor assures you that their product will support your services in an audit if you follow the prompts. Unfortunately, your compliance department still dings you when they audit your ED charts. So, what gives?

The fact is that no documentation system can automatically provide the prompts necessary to fill in all the blanks necessary due, in part, to:

- Rapidly changing regulations;
- Subjectivity of ED coding rules;
- Focus of payer audits;
- Lack of physician familiarity with coding/compliance rules;
- Relationship between presenting problem, interventions, and final diagnosis and disposition.

Take, for example, the variability in documenting medical necessity. In the ED we work primarily from the presenting problem, risk factors, differential diagnoses, and the limited information available from prior visit records — all components of physician medical decision making. Interventions, which come later in the patient course, are based on these crucial factors — even when standing orders are utilized. The visit, documentation, interventions, and decision making start there and are developed through the ED course. Let’s start with some of the more common deficiencies that require thoughtful consideration when documenting a chart, whether prompted or not.

### Importance of the Presenting Problem

The presenting problem is significant for medical decision making only with regard to *what is done about it*. This would include the development of additional history to identify risk factors and comorbidities related to the problem, the extent of the physical examination related to the problem and the identified risk factors from the exam, and, most important, the decisions made for ordering diagnostic studies and interventions based on this information that paint a picture of the “whys” of treatment. Thus, ordering a ton of diagnostic tests and interventions without stated rationale may be extremely misleading to an auditor.

### Why “NAD” on a sick patient?

“Patient in no acute distress, resting comfortably, improving” paints a totally different picture than “although patient seems to be feeling better after treatments, I am still concerned for the underlying cause of this shortness of breath,” etc. If, from a clinical perspective, a provider feels the need to establish that the patient is no longer in distress, it should be

followed with the reasons *why*. If it is ED interventions that improved this patient, it needs to be said.

## Differential diagnoses

Recording of differential diagnoses got a bad rap somewhere in the past, and ED physicians stopped documenting them for a time. Of course, a “medical student” listing of everything that might possibly be wrong with this patient may not be relevant. However, referencing the possibilities/probabilities to support interventions and patient disposition are invaluable when relevant to the chief complaint and risk factors.

## “Patient refused” and its place in medical decision making

We have seen an increasing number of patients either refusing IV medications/narcotic drugs, high-priced diagnostic studies (CT, MRI, Doppler), and/or admission to inpatient status. Perhaps patients are becoming more and more cost conscious as lack of insurance can result in numbing medical bills. However, the medical decision-making might actually support a higher level of complexity in order to find an acceptable alternative to assure a positive outcome for the patient’s problem. These decisions made by the patient rather than the provider may actually increase the risk for the ED patient. It’s important to address this in your documentation to support the additional medical management necessary to protect the patient during the interval period between the ED visit and the “next step” which, of course, should be detailed in the medical record.

## Critical care and why it is still the \$64,000 question

Why is critical care such a difficult concept to grasp? Is there an objective means of determining whether or not a patient qualifies as critical? The descriptors for critical care remain somewhat subjective without information in the record that addresses the following:

- Identification of the organ system at risk;
- Steps taken to stabilize the patient or prevent additional decrease in system function;
- Comorbidities/risk factors that contribute to management of the patient;
- Steps taken by the EDMD to stabilize, reverse, improve, address potentially life- or limb-threatening outcome;
- Key concepts include thorough assessment of

problem and risk factors; steps taken through manipulation and study to stabilize and/or prevent further failure; methods of support to stabilize and reverse system failure.

- Time spent managing the patient that clearly indicates (a) patient is critical; (b) addresses whether or not condition is stabilized; recommends disposition and life-/limb-saving orders.

The physician, *and only the physician*, should determine whether or not the patient is considered critical. When reviewed by auditors, the critical nature of the problem and treatment should be clear and never only implied. However, because there are no objective scoring systems available to assist with this determination, it’s up to the coding, compliance, and clinical staff to collaborate on how critical care is determined, coded, and supported on audit. For example, certain drugs and interventions provide a clear picture of a patient in critical condition. However, without supporting documentation of time and management throughout the patient’s ED stay, it may be virtually impossible to assure the visit is coded appropriately or, on audit, assure documentation *clearly* supports the work performed.

## Sick people going home

Defending higher levels of service when the patient is discharged will be increasingly difficult on RAC/MAC/MIC audits. So, when the patient’s condition requires a high level of intervention, don’t expect the orders alone to defend your medical decision making. The concept of “ED Course” is alien to many auditors accustomed to reviewing office and clinic notes where much of the workup and stabilization is referred out.

All things being equal during the ED course, disposition alone should not determine whether or not a 99284, 99285, or 99291 critical care can be billed. However, some pretty reliable former Medicare staffers indicate that Medicare is looking closely at

### COMING IN FUTURE MONTHS

- Mental health care in the ED
- A more conservative approach to dizziness in the ED
- A spotlight on the problem of under-triage
- Data-driven patient education

percentage of admitted patients to be in the ballpark of the 99284, 99285 and critical care billed percentages. So, when patients who receive extremely comprehensive workups are discharged, additional documentation should provide support for the need for workup, the risk to the patient from the condition necessitating the workup and interventions, treatment provided, and the reason why admission to the hospital did not occur.

## Nursing notes

Nursing notes in an EMR can be difficult for nurses and reviewers. Nurses correcting entries time and time again (Yes, it happens!) provide a confusing picture of patient care and can result in significant coding errors. Absence of times for timed procedures prevents coding of services that contribute to the financial bottom line in emergency departments. Some tips that may help clarify what is needed include:

- **Timed Entries**

Don't rely on the time a note is entered to validate the time a procedure is started and stopped. Many entries happen well after the procedure. Nurses need to accurately document start and stop times for infusions and injections, bedside start and stop times for critical care, start and stop times for observation, and timed entries for all interventions.

- **Progress Notes**

As with physician entries, the condition of the patient throughout the ED course supports needed interventions. If a sick patient is resting comfortably, visiting with family, watching TV, reading a book, and/or eating a sandwich, he or she may not appear sick. However, nursing notes that support the impact of negative test results, additional interventions (breathing treatments, IV medications, and the rationale for additional or alternative medications, risk from narcotics, etc.) go a long way to paint a true picture of the patient's clinical status in the ED.

- **Patient Assessments**

Does a peek in the door to observe a resting patient count as an assessment? Does taking vitals, speaking with family members to discuss care, quantifying pain levels and administering medication, and providing comfort to a patient say more about patient status? If there is a difference in these two types of interventions (and I believe there is!) then how do these translate to your assessment criteria for use in determining an accurate level of service?

If your E/M level is determined in part by the number and/or type of assessments and they aren't clearly defined, you may be over-coding or, in some

## 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](http://www.cmecity.com) to take a post-test; tests can be taken after each issue or collectively at the end of the semester. *First-time users will have to register on the site using the 8-digit subscriber number printed on their mailing label, invoice, or renewal notice.*
3. Pass the online tests with a score of 100%; you will be allowed to answer the questions as many times as needed to achieve a score of 100%.
4. After successfully completing the last test of the semester, your browser will be automatically directed to the activity evaluation form, which you will submit online.
5. Once the 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. ■

cases, under-coding your services. Take a look at your nursing assessment criteria and consider a tweak to better define nursing interventions/assessments. Timed assessments on the EMR may not be an indicator of the actual times and extent of the assessment. Consider expanding the information provided to accurately capture your resources.

In summary, EMRs will, eventually, prove to be an invaluable tool for emergency medicine. However, most are in their infancy and will require provider and compliance input to improve their usefulness to the level we will require to meet the challenges ahead. Work with a team consisting of providers, compliance, vendor representatives, and business office staff to develop documentation policies and tools that paint an accurate picture of services, times, and medical necessity that strongly support services and minimize denials. ■

# CNE/CME QUESTIONS

- To ensure that EMRs don't interfere with human interactions, **Ann O'Malley**, MD, MPH, advises health care organizations to:
  - wait until EMRs are improved before launching any large-scale implementations
  - strategically position computer monitors so that clinicians can maintain eye contact with patients even while reviewing or adding information to an EMR
  - provide education to the medical staff
  - survey patients about their health care encounters
- According to **Shaun Grannis**, MD, MS, FAAFP, the findings of a new study into patterns of ED use across the state of Indiana:
  - confirm commonly held views that patients tend to seek emergency care at the same site over time
  - show that patients have strong preferences with regard to providers of emergency care
  - challenge the notion that patients are somehow captive to a particular health care organization
  - show that patients often seek primary care at ED sites
- A new study shows that Google Flu Trends, a free Internet-based flu surveillance tool, accurately showed what kind of flu activity that EDs in Baltimore, MD, were seeing in real time. How do researchers hope to use this and similar surveillance tools in the future?
  - as a predictive model for what is coming in the future
  - to monitor ED productivity
  - to assess flu severity
  - to gauge care preferences for large populations
- According to **Andrea Dugas**, MD, what do the new findings regarding Google Flu Trends mean for ED providers in Baltimore, MD?
  - They now can predict when surges due to flu will happen.
  - They can now make clinical decisions based on Internet data.
  - They can use Internet data to establish staffing schedules for the following week.
  - They have another tool at their disposal to help them establish whether patients who are coming in with cough, fever, and other flu-like symptoms, actually have the flu or another ailment.
- Richard Rothman**, MD, PhD, says that investigators don't yet know:
  - how generalizable the study results will be to other settings, and how reliable the findings are going to be in terms of guiding practices
  - how to proceed with future research
  - how to combine this information with CDC case reports
  - what to tell patients about the surveillance method
- According to **L. Roderick Anderson**, MD, neurologists use the National Institutes of Health Stroke Scale (NIHSS) to help them guide physicians on:

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- when a stroke occurred
- what caused a stroke to occur
- whether a patient is a good candidate for receiving a lytic to treat their acute stroke
- all of the above



# ACCREDITATION UPDATE

*Covering Compliance with The Joint Commission Standards*

## Strengthened standards on flu vaccinations to pressure hospitals for progress

*Aggressive steps can deliver big results in a hurry*

Despite recommendations from the Centers for Disease Control in Atlanta, GA, and many other public health authorities that all health care workers receive flu shots each year, there continues to be considerable resistance among the health care workers themselves. During last year's flu season, for example, the CDC estimates that only 63.5% of health care workers received the vaccination — only a slight increase over the 2009-2010 flu season when an estimated 61.9% of health care workers were vaccinated.

However, hospitals accredited by the Joint

Commission, based in Oakbrook Terrace, IL, will not be able to get away with such paltry vaccination rates for long. Under revised guidelines that go into effect on July 1, 2012, hospitals will need to set incremental vaccination goals that get them to a 90% vaccination rate by 2020. Further, under the agency's revised standard IC.02.04.01, hospitals need to take the following steps, if they have not already done so:

- establish an annual influenza vaccination program that includes all staff and licensed independent practitioners;
- provide influenza vaccinations on site;
- monitor vaccination rates as well as the reasons why staff decline to be vaccinated;
- implement regular enhancements to the program to improve vaccination rates;
- provide education about influenza and its potential impact, including information about vaccination as well as other methods for controlling the spread of the virus.

Noting that 2020 is still eight years away, some experts advocated for stronger provisions, and there are reports that a federal government subcommittee that makes vaccination recommendations favors mandated flu vaccinations. However, through a spokesman, the Joint Commission noted that it wanted to “allow organizations the freedom to develop and implement an influenza vaccination program that will be effective in their culture.”

### EXECUTIVE SUMMARY

Although, it is well-known that high flu vaccination rates among health care workers reduce the risk of hospital-related influenza cases, health care workers continue to resist getting vaccinated each year. Consequently, the Joint Commission has strengthened its standards on this issue for accredited hospitals, putting provisions in place that are designed to get health care worker vaccination rates up to 90% by 2020. Some hospitals are already achieving this standard by making the vaccinations free and highly accessible to employees, and by establishing firm flu vaccination policies.

- The Centers for Disease Control in Atlanta estimates that only 63.5% of health care workers received the flu vaccination last year, only a slight increase over the 2009-2010 flu season.
- In provisions set to go into effect in July, the Joint Commission expects accredited hospitals to monitor vaccination rates and regularly implement enhancements designed to reach the 90% threshold by 2020.
- The Emergency Nurses Association believes the focus should be on encouraging vaccinations, providing vaccinations, and education, but it opposes flu vaccination mandates.

**Financial Disclosure:**  
Executive Editor James J. Augustine discloses that he is a stockholder of EMP Holdings and speaker for Masimo Corporation. 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.

Further, some nursing organizations are opposed to mandated vaccinations. “I think the focus should be on encouraging vaccinations, providing vaccinations, and education, but not mandating,” explains **Gail Lenehan**, EdD, MSN, RN, FAEN, FAAN, president of the Des Plaines, IL-based Emergency Nurses Association. “There are various risks and benefits to vaccinations, so while issuing a blanket mandate might be a popular thing to do with the public, I don’t think it is ever a good idea.”

### ***Provide easy access to vaccinations***

While it is clear from the statistics that many hospitals struggle with this issue, some organizations have already reached, and even exceeded, the Joint Commission’s flu vaccination goals for 2020. For example, at Good Samaritan Hospital in San Jose, CA, 91.3% of all employees who come into contact with patients received flu vaccinations this year, explains **Arthur Douville**, MD, the hospital’s chief medical officer.

How did the hospital accomplish this feat? By leveraging resources to make the vaccinations accessible and applying social pressure, says Douville. “We were not only telling employees that they would have to wear a mask if they didn’t receive the influenza vaccination, but also making it easy for them to get the vaccination done,” he explains.

The hospital had roving vaccination teams who went from department to department with carts, making the shots available to any employees who had not yet been vaccinated. “As long as I had RNs on workers’ compensation light duty, I enlisted them to take the carts to the units and vaccinate hospital employees, doctors, and volunteers,” says **Carla Bentley**, RN, COHN-S, the hospital’s director of employee health. “They did this on all shifts, seven days a week. Nursing assistants on light duty provided administrative support.”

Bentley adds that the hospital always tries to get the ED staff vaccinated first, but that they don’t step up unless the vaccination carts are there, so accessibility is key. But she believes the most influential factor in the hospital’s policy was the provision requiring all employees who refuse the vaccinations to sign a declination form and to wear a mask.

The vaccinations were offered to employees free of charge, and there was also plenty of information about the program available to employees who may have had questions about the policy or the shots, explains **Linda Roquemore**, OTR/L, CEAS, the hospital’s director of employee safety. “We sent out

notices and posters with flu education ahead of time, which gave everyone time to process and make an informed decision,” she says. “With help from our HR department, we were able to set goals and timelines for compliance.”

### ***Make the commitment***

During a three-month campaign, from October 2011 through December 2011, a flu coordinator reported weekly on how many employees had received their shots, and employees were given a firm deadline for when they had to either receive their flu vaccination or fill out the declination form explaining why they declined.

“The vast majority of employees see this as a safety issue. They see it as a way of not only protecting themselves, but also their patients, and they really respond to the responsibility,” says Douville. “Everybody that gets a vaccination gets a little silver disk on their ID badge so that they can show that they were vaccinated.”

Douville acknowledges that there are employees who have an allergy to eggs or another health-related reason why they should not receive the vaccine, but these employees are still required to wear a mask if they come within six feet of a patient and if they have a direct role in caring for patients, he says.

The hospital’s parent company, Nashville, TN-based HCA (Hospital Corporation of America), took the lead on the flu vaccination initiative, making funding available for the vaccinations, as well as staffing to support the initiative, says Douville. Not all hospitals have access to those resources, but Douville stresses that there should still be an organizational commitment to make headway on this issue. “I don’t understand why a hospital can accept a 60% or 70% flu vaccination rate,” he says. “It doesn’t have the herd immunity effect that you need to actually reduce the likelihood of the spread of the virus in a health care institution.” ■

## SOURCES

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## Sentinel Alert sounds the alarm on worker fatigue; hospitals urged to mitigate risks

*Experts: Keep an eye on worker shifts, limit distractions during handoffs*

With hospitals open for business on a 24/7 basis, it can be difficult for physicians, nurses, and allied professionals to get adequate rest as well sufficient time between scheduled shifts. And experts say these are the types of issues that lead to worker fatigue, which not only heightens the risk for adverse events, but also creates safety challenges for the hospital workers themselves. For all these reasons, the Joint Commission, based in Oakbrook Terrace, IL, has issued a Sentinel Alert, urging health care organizations to take steps to improve the workplace policies and procedures that lead to worker fatigue.

One of the most effective ways that ED managers can combat fatigue is to keep an eye on the shifts

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### EXECUTIVE SUMMARY

Noting that there is a documented link between worker fatigue and adverse events, the Joint Commission has issued a Sentinel Alert, urging health care organizations to focus on the issue and make sure that policies and procedures are in place to mitigate risks.

- Experts advise hospital leaders to monitor worker shifts and make sure that people are able to leave work as scheduled when their shifts have concluded.
- Limit health care workers to no more than three consecutive days of 12-hour shifts, especially if these shifts are at night.
- Scrutinize handoff procedures so that worker fatigue does not lead to errors during this potentially hazardous time. Make sure that distractions are at a minimum during these transitions, and that patient information is conveyed in both verbal and in written form.

that people are working and, in particular, to make sure that people are actually leaving their jobs when their shifts are concluded, explains **Ann Rogers**, PhD, RN, FAAN, a sleep expert at Emory University's School of Nursing in Atlanta, GA. "Our data suggest that very few nurses leave work on time. They are working almost an hour beyond their shifts so that a 12-and-a-half-hour shift becomes a 13-and-a-half-hour shift," she says.

Rogers also emphasizes that no one should ever be working more than three consecutive days of 12-hour shifts, especially if these shifts are during the evening and nighttime hours, and she says that double shifts should be banished. "We have seen people scheduled for 20-hour shifts and longer," says Rogers. She adds that the overall tally of hours is important as well. "We have seen that when nurses work over 40 hours per week, the risk of them making an error goes up."

### Reevaluate policies on strategic naps

When designing shifts, try to avoid start times between the hours of 2 a.m. and 5 a.m., and 2 p.m. and 5 p.m., because these hours are when the body is trying its hardest to sleep, explains **Linda Scott**, PhD, RN, NEA-BC, FAAN, professor and associate dean for graduate programs at Grand Valley State University's College of Nursing in Grand Rapids, MI. Scott has conducted research into worker fatigue in the health care environment. "When you think of people getting up at 2 or 3 o'clock in the morning when the drive to sleep is the strongest, they are at risk for a drowsy driving accident," she says. "When they get to work they are sluggish, so they struggle. And then they work an extended period of time, become fatigued, and then they have to drive home during another period of time when the drive to sleep is the strongest."

Another issue that managers need to consider is making sure that all staff members receive breaks during their shifts during which they are completely relieved from their work responsibilities, says Rogers. "Research has shown that breaks really do help, so whether you are talking about nurses, physicians, pharmacists, or allied health professionals, they really do need a lunch break, and they really do need 10-minute breaks every couple of hours because we just can't continue to concentrate at the highest level for 16 hours," she says.

For staff who work during the nighttime hours, a strategic nap is one of the most protective things they can do to prevent fatigue and ensure that they will be able to drive home safely, says Rogers.

However, she says that many organizations actually prohibit such naps. In fact, it can be grounds for firing at many institutions, says Rogers, noting that hospitals and other health care entities that have such policies should reevaluate them with worker fatigue and patient safety in mind.

### ***Scrutinize handoff procedures***

The Joint Commission urges hospitals to take a close look at their handoff procedures, when one caregiver transfers a patient's care to another caregiver, because these transition periods are a "time of risk that is compounded by fatigue." However, too often these critical handoff periods are given as a reason to extend a resident's work hours, explains **Christopher Landrigan**, MD, MPH, the director of the Sleep and Patient Safety Program at Harvard Medical School in Boston, MA.

"The reason for this is the notion that if we are going to reduce the duration of resident work hours, then inevitably what is going to happen is that you are going to have more transitions between physicians that are changing shifts," says Landrigan, noting that people question whether reducing work hours is really safer if that leads to more transitions between caregivers, which are hazardous themselves. "We know that there are many, many examples of serious medical errors that arise as a consequence of faulty handoffs, but it is not at all clear that reducing hours all by itself inevitably leads to worse handoffs."

In fact, Landrigan says that multiple studies have demonstrated that when work hours are reduced, the care of patients becomes safer, despite the handoff problem. "That is because in most of these cases, the programs or institutions that have done a good job of designing new schedules and reducing work hours have been very conscientious about focusing on the handoff problem and making sure that they develop robust systems for transmitting information."

How should organizations evaluate handoffs in terms of safety? There are several elements to consider, says Landrigan. First, think about the environment in which the handoff takes place, he says.

"Very often in medical settings when patients are being handed off, it is in a busy ED or in a busy setting of another type where there are lots of interruptions; somebody is trying to hand off information and he is being distracted by phone calls, pagers, and other activities," explains Landrigan. "We know from the medical literature, as well as broader liter-

ature on this issue, that those kinds of chaotic environments are recipes for problems, so to the extent possible, find a protected space and a protected time frame where interruptions can be minimized."

Secondly, think about both the verbal handoff process and the written handoff process and try to optimize those, advises Landrigan. "Studies have demonstrated that when there is both a written and a verbal handoff, it is better than just having one or the other," he says. "And when both of those handoffs are structured and standardized, and some team training is done in a particular clinical environment to make sure that they are high quality, then the risk of handoff errors goes way down."

Landrigan acknowledges that it can be tough to invest in staffing and quality processes when the pressure is on to reduce costs, but he emphasizes that organizations need to remember that safer care is less expensive care. "Adverse events are very common and very expensive, so pretty much anything we can do to reduce adverse events, such as improving handoffs and reducing provider fatigue, has the potential to eliminate these adverse events and thereby reduce costs." ■

## SOURCES

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