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INSIDE

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Emergency Providers Urged to Recognize, Treat Patients with Alcohol Use Disorder

By Dorothy Brooks

Opioid misuse might not be the only addiction-related problem that has worsened over the course of the COVID-19 pandemic. Researchers from Washington University School of Medicine in St. Louis highly suspect a 34% increase in alcohol sales in recent months means there has been a rise in the number of patients with alcohol use disorder (AUD), too. But will these patients receive treatment for their AUD? If current trends hold true, not nearly enough, according to data on more than 200,000 people with and without alcohol use problems.[1]

After reviewing data gathered between 2015 and 2019 as part of the National Survey on Drug Use and Health, researchers found even though most individuals with AUD accessed healthcare regularly, fewer than one of every 10 of these patients received treatment for AUD. This was true among the roughly 70% of patients who self-reported when a provider asked about their drinking.

The FDA has approved three medications for AUD.[2] Treatment programs, such as Alcoholics Anonymous, exist. Still, in speaking with experts about the issue, numerous barriers remain. Nevertheless, emergency providers often are uniquely positioned to help patients toward recovery.

Most emergency providers regularly encounter patients with AUD. A 2018 report revealed the rate of alcohol-related visits to the ED increased by nearly 50% between 2006 and 2014. During this period, the number of patients presenting to the ED with alcohol-related emergencies increased from 3 million to 5 million annually, representing a significant burden on the healthcare system.[3]

Charles Murphy, MD, associate clinical professor of emergency medicine at the University of California, San Francisco, says some EDs use validated screening tools, such as the Alcohol Use Disorders Identification Test (AUDIT) or the four-item CAGE screening questionnaire, to diagnose AUD.[4] More often, providers identify the condition when patients present in alcohol withdrawal. Either way, counseling on the disorder may not occur because of a lack of time, real or perceived. "I would say that emergency providers do

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AUTHOR: Dorothy Brooks
AUTHOR: Stacey Kusterbeck
EDITOR: Jonathan Springston
EDITOR: Jill Drachenberg
EDITORIAL GROUP MANAGER: Leslie Coplin
ACCREDITATIONS DIRECTOR: Amy M. Johnson, MSN, RN, CPN

a lot of counseling that is not well documented in the medical record and not billed for, which can make it hard to identify retrospectively," Murphy observes.

That said, emergency providers may not prescribe medications for AUD, either because they are unfamiliar with available medications or they may believe such prescriptions are better left to a patient's primary care provider. Further, Murphy acknowledges stigma may play a role in some cases. "Although we have made progress in this area, many people still hold a belief that those with alcohol use disorder suffer from a lack of character/strength of will, rather than a treatable medical condition," he says.

However, considering the primary focus of emergency providers is recognizing and treating acute illness or the acute decompensation of a chronic illness, Murphy says emergency providers are comfortable treating alcohol withdrawal, even in its most extreme form, delirium tremens. "It's an acute decompensation of the chronic disease of AUD and is potentially life-threatening," he explains. "Stabilizing a patient in alcohol withdrawal is exactly what we are trained to do."

What emergency providers have not been trained to do, historically, is treat the underling chronic disease. Murphy notes some emergency physicians do not believe it is their job to do so. "The lack of training means that we do not even think about offering MAT [medication-assisted treatment] most of the time," he says. "When we do, we may not be familiar with the medications and their contraindications."

While unfamiliarity with the treatment options for AUD is one barrier, **Wilson Compton**, MD, MPE, deputy director of the National Institute on Drug Abuse, believes the single largest contributor to the undertreatment of AUD is patients with the condition resist the idea they need help. "When people are asked whether they think they need treatment, over 90% say they don't see a need for treatment, even when they are objectively telling you about the problems that alcohol is causing and they are reporting symptoms related to alcohol consumption," he explains. "They still don't recognize that they have a condition that may benefit from treatment."

Compton notes a common scenario involving AUD would be a patient who tried to quit or better control his drinking but could not. In fact, the patient might have made several attempts to quit, but was unsuccessful. "That is a very classic sign of losing control over consumption," Compton says. "[Patients] may continue their use of alcohol despite harms. The harms can be physical, [such as] upset stomach, gastrointestinal irritation, bleeding, or more severe things like liver disease or heart disease."

There also are mental harms. For instance, Compton notes some people become remarkably depressed and melancholy after drinking heavily; yet, they still might continue to drink — even though the drinking is causing those problems. "There can also be social problems, problems with family, friends, and work ... and some may continue to drink despite recognizing that it has caused those problems," Compton says. "These are the kind of symptoms that I would use as a clinician to diagnose somebody [with AUD]."

Patients might resist help for AUD because they surmise that abstinence is the only solution, but that is not necessarily the case. "Absti-

nence may be the healthiest and best long-term outcome, but I am thrilled if people cut down on their drinking, reduce the harms, and improve outcomes in any other way," Compton says. "Focusing on ways to reduce the consequences and reduce the high-risk drinking may be the most successful approach. That is a way to get around that all-or-nothing approach, recognizing that some people may not be able to maintain those lower levels [of alcohol consumption]. Abstinence may be the only approach for them."

However, Compton explains while survey data suggest clinicians are asking patients about alcohol consumption patterns more routinely, they are not necessarily trying to help patients change that behavior.

Murphy, who has conducted research into the efficacy of medications for AUD, believes all patients with moderate to severe AUD should be offered appropriate pharmacotherapy whenever possible.[5] "Of the three FDA-approved medications for AUD, one is not conducive to use in the ED [disulfiram], one is not particularly effective in active drinkers [acamprosate], and one may interfere with treating acute and chronic pain [naltrexone]," he says. "None are perfect for the ED setting. Because we are not trained to use them, [such prescribing] requires a little thought. This increases cognitive load because we must look up the information prior to offering treatment. That is a big barrier."

Nonetheless, Murphy recommends offering one of the medications any time a clinician believes a patient has an alcohol problem. "For example, any patient in alcohol withdrawal in the ED almost certainly meets the criteria for moderate to severe AUD. Any time you are treating a patient with withdrawal, offer [him or her] MAT to treat AUD unless there is a clear reason not to do so," Murphy advises. "If your patient is amenable to starting MAT, and you have easy access to these medications in your ED, go ahead and give them a dose. If you don't have access to them, just write a prescription for a one-month supply, congratulate the patient on their decision, and refer to them to ongoing treatment."

Of the three available medications, Murphy believes naltrexone probably is the best choice for ED patients, followed by acamprosate. "Gabapentin is not FDA-approved for treatment of AUD, but it can be a useful adjuvant as well," he adds.

Compton notes many patients want to try to quit or cut down on their drinking on their own. "While that is successful for many, we know that adding medications can improve the outcomes and increase their chances of reducing alcohol-related harms and alcohol-related consequences," he says.

While views may differ among clinicians on what the role of emergency providers should be regarding managing patients with AUD, Murphy believes most providers would consider it a standard of care to provide patients diagnosed with AUD with resources on how to access treatment in the community. Furthermore, he notes the American College of Emergency Physicians (ACEP) wrote a policy statement supporting the use of screening, brief intervention, and referral to treatment (SBIRT) for ED patients with suspected AUD.[6] ACEP also offers a resource kit designed to make the process as easy as possible for emergency physicians who are unfamiliar with SBIRT.[7]

"As emergency providers, we see patients with AUD every shift. Many have repeated visits related to alcohol use. We see them for withdrawal, trauma, pancreatitis, altered mental status, [and] hypothermia," Murphy observes. "Often, we treat the acute issue, and then send them out, and the cycle repeats."

In such cases, the patients often feel helpless, and providers feel powerless to help them. "This contributes to burnout and leads to the belief that these patients are beyond our help and are unlikely to recover," Murphy says. "We can fix that problem by simply offering [approved medications] to our patients."

Many patients will decline treatment, but Murphy says more patients will accept treatment than emergency providers might expect. For example, he recalls one emergency patient who was invited to enroll in treatment as part of a pilot study on extended-release naltrexone and case management for AUD treatment. The patient initially declined. Two or three days later, he called back asking if he could enroll because he wanted to make a change. "This happened many times throughout the trial. It showed me how important it was to just offer help during the ED visit," Murphy stresses. "Even if the patient declines the offer [of treatment], you have planted the seed that change is possible and help is available."

"What we have seen with opioid use disorder is that by starting treatment in the ED before that person leaves, you can improve their outcomes," Compton says. "That might be an approach to consider for AUD as well, not just referring the patient for treatment but making sure that there is active engagement in treatment while they are still undergoing clinical care." ■

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Logistical, Economic Barriers Hinder Updated Treatment Options for Common Infection

By Dorothy Brooks

One of the more common healthcare-associated infections, *Clostridioides difficile* infection (CDI), is a major public health threat. The CDC reports there are more than 223,000 cases of CDI in hospitalized patients and 12,800 deaths associated with the infection per year.[1]

Generally, cases of CDI occur while patients are taking antibiotics or shortly after such treatment has concluded. It is a particularly stubborn infection that often recurs. For instance, the CDC reports one in six people who contract CDI will do so again two to eight weeks following successful treatment for the earlier infection.[2]

However, the good news is evidence suggests newer treatments for CDI offer superior results, both in terms of treating initial infections and preventing recurrent cases. This evidence is detailed in revised guidelines for managing CDI.[3]

Stuart Johnson, MD, a professor of medicine at Loyola University Medical Center in Maywood, IL, served as the chair of the guidelines committee. He explains the advice represents a focused update to the last iteration of the guidelines released in early 2018. "The scope of the update includes new data for fidaxomicin and bezlotoxumab," he notes.

Johnson adds the recommendations are restricted to the care of adults, but he says that the latest agents offer important advantages over older agents, such as vancomycin. "Unfortunately, implementation [for the newer agents] has been challenging because of costs and logistics, particularly the logistics for bezlotoxumab infusions," he laments.

First, regarding the benefits, Johnson explains both fidaxomicin and vancomycin are administered orally and demonstrate little systemic absorption, making them both fairly safe. However, while both agents will deliver a predictable resolution of symptoms from CDI, fidaxomicin has the edge when it comes to delivering a sustained response.

"Particularly in that two- to four-week period after treatment where the risk of recurrence of CDI is significant — that is where we see the difference with fidaxomicin," Johnson notes. "Fidaxomicin provides a better sustained response [against] recurrences than vancomycin."

The guidelines also suggest fidaxomicin is preferred over vancomycin for a first recurrence of CDI as well two or more recurrences; however, the certainty of the evidence behind this observation was lower, according to Johnson.

The other listed in the guidelines, bezlotoxumab, is what Johnson describes as an adjunctive treatment to be used in addition to standard antibiotic therapy. "Studies show that an infusion [of bezlotoxumab] had no effect on an initial course of [CDI], but it decreased significantly the chance of recurrence [of CDI] after a standard of care antibiotic is discontinued," he explains. "We looked at the data. Although there is evidence that some people with an initial episode of CDI, particularly those who are at high risk for a recurrence, could benefit from the infusion ... we restricted our recommendations for bezlotoxumab to patients who have already had recurrent CDI."

In short, the evidence from two randomized clinical trials the guideline authors reviewed showed the effect of bezlotoxumab was seen only in terms of its effect on recurrence of CDI. The evidence showed the addition of bezlotoxumab to standard of care antibiotics significantly reduced recurrence at 12 weeks, Johnson notes. Further, a subanalysis of hospitalized

patients showed the infusion shortened hospital admission at 30 days.

To define which patients would benefit most from bezlotoxumab infusions, the guideline authors delineated the following risk factors: patients with an episode of CDI in the previous six months, patients older than age 65 years, patients who are immunocompromised, and patients with severe CDI upon presentation.

Johnson explains the evidence showed patients with no risk factors did not benefit from bezlotoxumab infusions. However, for patients who are suitable candidates for the infusions, the guideline authors acknowledged there are logistical barriers, particularly for patients who present to the ED.

"Most hospitals do not do the infusions for patients in the ED. This is almost always arranged through a referral to an infusion center," Johnson says. "However, you've got the time to do this if you are going to consider [prescribing] bezlotoxumab. [The infusion] can be given any time during the course of the antibiotic prescribed to treat CDI."

The guideline authors considered the logistical barriers when making their recommendations. "If you look at real-world experience with bezlotoxumab ... it is almost always given in an infusion center in an outpatient setting. For practical reasons, we restricted our recommendations for bezlotoxumab to patients who had already had a CDI episode in the past," Johnson explains.

Although the recommendations for a third treatment option, fecal transplant, have not changed with the new guidance, Johnson notes it is recommended as an option for patients who have experienced at least two recurrences of CDI and have failed to achieve a sustained response following antibiotic treatment. Still, he cautions the FDA has not approved fecal transplant, so the cost of such treatment would need to come out of the patient's pocket.

Further, Johnson stresses any donors and donor specimens need to be screened thoroughly for transmissible infectious agents such as *E. coli* species as well as SARS-CoV-2.

While CDI generally is acquired in an institutional setting, the infection can be contracted in the community, leading to patients with pre-existing CDI infections who present to the ED. However, most cases occur in patients who are taking antibiotics or have recently completed an antibiotics course. Johnson says the telltale symptom for an emergency provider to consider is new-onset diarrhea. "It is usually not a grossly bloody diarrhea but it can be very voluminous, with multiple watery stools," he says. "Abdominal cramps are frequent; not uncommonly, there is a low-grade fever."

In *C. difficile*, the spores are widely disseminated in the environment, but most people are not susceptible. "Presumably, healthcare personnel are exposed quite frequently, but they don't develop a productive infection because they are not susceptible, meaning that their colonic microbiome is diverse and able to exclude a productive infection due to *Clostridioides difficile*," Johnson observes. "On the other hand, if a person has been on antibiotics, and presumably has other risk factors, and they are exposed to spores of *Clostridioides difficile*, they can quite easily develop a productive infection."

The incidence of CDI is predominantly an antibiotic-associated problem. "The most effective efforts to prevent this have dealt with antibiotic stewardship intervention," Johnson says. ■

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Equipping Clinicians with Appropriate Training on Firearms-Related Injuries

By Dorothy Brooks

While an official count is unavailable, at least one analysis suggests 2020 was one of the deadliest on record with respect to gun violence.[1] Relying on data from the Gun Violence Archive (2012-2020) and the CDC (1999-2019), the Everytown for Gun Safety Support Fund reported firearms-related homicides and

nonsuicide-related shootings resulted in more than 19,000 deaths in 2020, a 25% increase from 2019.[1] Ultimately, the authors noted that when all the numbers are tallied it is likely the information will show that more 40,000 people died last year, a figure that, if confirmed, will represent the highest rate of gun deaths in 20 years.[1] Pointing to such data, several healthcare organizations believe it is time for healthcare professionals to do what they can on the prevention front to identify patients at risk, leverage those encounters to promote safety, and address access to firearms when that is a concern. However, admitting there are knowledge gaps when it comes to firearms-related counseling, there are new efforts to shore up medical education in this area.

For instance, clinicians from the Johns Hopkins Center for Gun Violence Prevention and Policy have collaborated with experts across the United States to establish priorities on firearms education and to set standards for continuing medical education.[2] In a similar vein, the Emergency Nurses Association (ENA) has unveiled new resources aimed at helping clinicians most effectively intervene when they have a patient who is at risk.[3]

"Our patients are dying of gun violence and gun injuries. We as clinicians of all types and of all disciplines are ill-equipped to address risk factors for violence and mechanisms for prevention because, to a large degree, we lack education and training," explains **Katherine Hoops**, MD, MPH, an assistant professor of anesthesiology and critical care medicine at Johns Hopkins University.

Hoops says only about 20% of clinicians receive any kind of training on firearm injuries or injury prevention during their medical education. "When you consider that this is one of the leading causes of death in adults and children, that really doesn't make a whole lot of sense, that our medical curricula don't match what is a huge burden of disease and mortality in our patients," she says. Gun violence is a hot-button issue that can make clinicians reluctant to broach the subject with patients. Hoops suggests that for many clinicians, some of this discomfort likely is related to their lack of training. "If we encounter a gun-owning patient, we are worried about engaging in these conversations [if] we ourselves don't have any technical familiarity with firearms," she says.

Further, some clinicians are worried they will encounter resistance from patients, and possibly even fracture their relationship with some of them over counseling on the topic of firearms. Still, Hoops says that should not stop clinicians from addressing the issue. "We counsel on a lot of potentially divisive and inflammatory subjects. We approach all of those hard conversations with humility and with respect for all perspectives," she says. "When we do that, coupled with good education and knowledge of what works and what doesn't, then we can break down a lot of those barriers between us and our patients."

Hoops observes the American Academy of Pediatrics has recommended screening and counseling about firearm access and safe storage.[4] How each physician wants to approach screening and counseling is individualized. "I am a pediatric intensivist in my clinical life. The setting in which I will counsel patients looks very different from how my colleagues in general pediatrics will counsel their patients or how an emergency provider will counsel [his or her] patients," Hoops shares. "We need to appreciate better who is at risk, what the risk factors are, what the contexts are in which people choose to own firearms, and then better understand each individual patient and where they are coming from in order to provide the best counseling that is tailored to their specific situation."

To develop the curriculum, Hoops and colleagues assembled a group of subject matter experts from medicine, nursing, and public health.[5] Combing through the literature, the group established categories of content identified in published research as highly relevant to firearm injury education, including intimate partner violence, peer violence, mass violence, suicide, and unintentional injury. The group also created another category that focuses on general content that is relevant to all types of gun injuries.

Training should enable clinicians to be able to describe fatal and nonfatal firearm injury epidemiology and to recognize the basic types of firearms and ammunition. The content also covers topics related to firearm access, ownership, transfer, and usage. Ultimately, clinicians should be able to provide effective counseling to their patients on firearm injury prevention, including topics such as safe gun storage. Additionally, regarding the issue of suicide, the curriculum covers the epidemiology of suicide and suicide attempts related to firearms, and offers guidance on how to assess for suicide risk and appropriately respond when patients are at risk.

"One of the most common scenarios that I see now for providing this type of counseling in my daily practice is for adolescents who present after a suicide attempt," Hoops observes. "We know that firearms carry a very high case fatality rate — 80% to 90% or more. When youth can access firearms and attempt suicide by firearms, they are much more likely to die."

Consequently, whenever Hoops encounters an adolescent who has made a suicide attempt by whatever means, it is a routine part of her practice to always screen for access to

firearms. "We know that the majority of firearms used in suicide come from the home [of the adolescent] or the home of a close friend or family member," she states. "If [the adolescent] does have access to a firearm, then I, with their permission, talk to their adult caregiver or one of their family members to try to come up with a solution for safe storage ... either storing it elsewhere away from the home or getting access to a safe storage/locking device."

Regarding youth suicide, the issue is gun access, not ownership, according to Hoops. "Even if that youth is not the direct owner of the firearm, [in Maryland] we can still petition the court to remove firearms from the home if we believe they are at imminent risk of harming themselves," she reports. "One of the things that we do highlight in the curriculum is how clinicians need to become more aware of state and local policies that they can leverage to protect their patients."

Hoops stresses the curriculum is not just for physicians, but rather is intended to drive education for many medical disciplines and clinical practice settings. "I believe that if we are going to make a difference in this area, this requires an all-hands-on-deck approach," she says. "If we think that this counseling and intervention would be best provided in a particular ED or other setting by a case manager, social worker, or an advanced practice provider, that is a very institution- or practice-specific question. Each one will know what is right for their setting, but all of us are responsible for knowing and understanding the material."

Unfortunately, there is no consensus about what the role of emergency nurses should be in the realm of firearms safety, explains **Lisa Wolf**, PhD, RN, CEN, FAEN, director of the Institute of Emergency Nursing Research at ENA. "Like with other nationwide organizations, there is a wide variety of opinions on this ... but I think we may be getting closer to the idea of firearms safety as a public health issue," she predicts.

The ENA's Firearms Injury Prevention Education program includes a webinar, online learning modules, and a podcast series that delve into how to identify patients at risk, and what steps emergency nurses can take to reduce the chance such patients will encounter harm from firearms.[3] "There is definitely an opening or a space where we can view gun safety as separate from owning guns," Wolf says. "[We can] give people the tools to have firearms in a way that reserves them for their stated purpose of sports shooting or hunting ... and provide the parameters so that they can make sure that the people around them are not injured by the firearm."

Wolf stresses there are large swaths of people who come to the ED who are at high risk of injury if firearms are accessible. These include patients with suicidal ideation, victims of intimate partner violence, the geriatric population, and children. "These are four very specific groups that we need to assess [for access to lethal means]," Wolf observes. However, in research on the subject, Wolf and colleagues discovered nurses are fearful that bringing up the subject of firearms may result in anger or even violence.[6] To circumvent this problem, Wolf advises nurses begin any such discussion in the context of safety as opposed to asking patients first whether they own firearms. "If you assume the patient has a gun, then it becomes less of an inquisition and more of a collaborative planning situation," she says. "This is a real threat to safety, especially for children."

When parents understand clinicians ask everyone about firearms access, it becomes less of a divisive issue, particularly if providers explain firearms are a significant cause of injury in young children. "In the case of a suicidal patient or a patient presenting with concerns around intimate partner violence, this is a calculus. We have to know where it is safe for this patient to go. It is a critical piece of information for discharge planning," Wolf says.

Wolf advises EDs to designate a person who can delve more deeply into firearms safety/access issues with patients who are at high risk. This may be a role for a social worker or case manager who works in the emergency environment or a behavioral health professional who can respond to the ED when the need arises. ■

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Liability Exposure for Vendor 'Extremely Difficult' if AI Tool Used in ED

By Stacey Kusterbeck

EDs are using many new tools to support clinical decision-making, including artificial intelligence (AI). "AI has the chance to revolutionize ED practice, which can be a chaotic atmosphere," says **Samuel D. Hodge, Jr.**, JD, professor of legal studies at Temple University.

Multiple recent studies have demonstrated the benefits of AI tools in the ED setting, particularly for radiology and clinical decision-making.[1-5] "However, numerous issues need to be considered," Hodge cautions.

In terms of malpractice liability for providers, hospitals, or vendors, some important questions include: What happens if the AI tool is incorrect and the physician relies on the results? Can the emergency physician (EP) escape liability if the AI tool is faulty? Will malpractice insurance policies cover litigation involving AI tools used in the ED? The answers to these questions remain mostly unclear. "The use of technology in the ED is still in its infancy. The issues have not been fully litigated," Hodge explains. "If I were going to implement AI technology in an ED, I would want an indemnification agreement from the software company."

If something goes wrong and the EP relied on an AI tool for decision-making, Hodge says, "there is no question that the physician, hospital, and technology company will be sued. Each will file cross-claims against the other."

An indemnification agreement could shift the responsibility to the tech company, if there was an error in the software. "Enforcement of indemnification agreements is a matter for a court to determine," says **Kenneth N. Rashbaum**, JD, a partner at New York City-based Barton LLP.

Indemnification clauses are standard provisions in AI license agreements, but states vary as to enforceability criteria. "Indemnification agreements may be narrow or otherwise restricted," says Rashbaum, who has litigated enforceability of indemnification provisions in multiple cases.

Indemnification clauses can be restricted to certain claims (e.g., intellectual property) and would not apply to other claims like malpractice. The clauses also can be restricted in many other ways (e.g., dollar amounts, limits on available and applicable insurance, and time frames). "Enforcement of contracts depends upon the law of the particular state and the criteria of a particular judge," Rashbaum notes. "Liability limitations in litigation are dependent upon many factors."

In any case, the EP must use a reasonable standard of care in applying the results the AI tool provides. Juries probably will not accept that the EP blindly relied on an AI tool, and will expect the EP to rely on clinical judgment. "This is going to be the sticking point that will be litigated. It could be that they all end up being joint tortfeasors and a jury will have to assign a percentage of liability to each," says Hodge, adding the litigation could turn into a "blame game."

In a case like that, the EP might argue the AI tool pointed in the wrong direction (e.g., to a cardiac problem). The plaintiff could counter that the EP should have considered other factors that pointed away from that (e.g., history, risk factors, or physical exam). "Plaintiff's counsel rarely limit their cases to one argument," Rashbaum says.

For the EP defendant, it is tempting to argue the AI tool caused a misdiagnosis. "But attributing liability to an AI provider would be difficult and could carry significant risks for the defense," Rashbaum warns. The main reason is an AI tool is meant to assist the EP, not provide a substitute for reasoned clinical judgment. "Blaming the AI tool is somewhat analogous to blaming a textbook that the clinician consulted during treatment. A jury would most probably be unimpressed with such a defense and may be hostile to it," Rashbaum explains.

The licensing agreement with the AI provider probably would include strong disclaimers of liability. "This would make it extremely difficult to attribute fault to the AI provider in a treatment setting, especially in an ED," Rashbaum says.

Disclaimers often are the subject of contentious negotiations during litigation. Generally, courts will enforce the language of the contract if the parties are of equal commercial bargaining strength, if the provision does not violate public policy (which varies by state) or existing law, and the provision is written clearly to indicate the intent of the parties, according to Rashbaum.

A potential exception: If the defense team can prove the AI tool was faulty because of the data used to create the algorithm. For example, defense lawyers might hire expert witnesses from the IT field who testify the tool omitted data from representative populations such as age, gender, or race. Even so, it would be an uphill battle for the defendant to deflect

liability in this manner. "The clinician and his or her defense team should weigh the advantages and disadvantages of bringing such a technically dense defense before a state court jury that may view the defense, to the extent they can understand it, as blame-shifting," Rashbaum says.

EPs may wonder if they should document the use of an AI tool in the medical record. "There is rarely any advantage in documenting a reference to a textbook or research paper, and reference to use of an AI tool is no different," Rashbaum reports.

In fact, documenting the fact an AI tool was used could open new areas during the EP's cross-examination. "These would not play to the strengths of the clinician defendant," Rashbaum cautions.

For example, plaintiff attorneys might ask the EP: What other factors did you consider in reaching a diagnosis, ordering tests, or providing treatment? Did you over-rely on AI to the exclusion of other necessary elements, such as medical history, history of present illness, or presenting symptoms? "AI provides probabilities, not diagnoses," Rashbaum says.

Skillful cross-examination could convince a jury the EP made a mistake and is blaming the AI tool for it. "Negative consequences in the trial could result, including potential increase in the amount of damages awarded because the jury disliked the scapegoat strategy," Rashbaum explains. ■

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Neurologic, Cardiovascular Conditions Most Common Diagnostic Errors in ED Claims

By Stacey Kusterbeck

Of diagnosis-related ED malpractice claims, neurologic and cardiovascular diagnoses were the most common errors, according to the results of a recent analysis.[1] "The underlying issues that predispose EPs to diagnostic error are cognitive bias and underlying systems factors. These underlying issues have not largely changed much over recent history," says **Amish Aghera**, MD, the study's contributing reviewer.

The Doctors Company, a Napa, CA-based medical malpractice insurance company, analyzed 326 closed claims from 2014-2019. Thirty-one percent involved either the neurologic or vascular systems. Most diagnostic errors involved one of three issues: Ordering of diagnostic tests (53%), consult management (33%), or ongoing assessment (32%). The researchers were not surprised by these findings. As for the ability of EPs to always make the right diagnosis, "the end result is multifactorial," says Aghera. "It's sort of commonly known and appreciated that there is going to be some level of cognitive bias." Of claims with paid indemnities:

- The top three final diagnoses (i.e., what the diagnosis should have been) were cerebral artery occlusion with an infarction, intraspinal abscess, and acute myocardial infarction.
- The top category for missed, delayed, or wrong diagnoses was cerebrovascular disease (including subarachnoid hemorrhages and cerebral artery occlusions).
- The second most common category for missed, delayed, or wrong diagnosis was ischemic heart disease (including acute myocardial infarctions, acute coronary syndrome, and coronary atherosclerosis).

The findings show the connection of ED providers to so many other areas of the healthcare system.

"It is easy to see how someone would fall into the trap of a delayed diagnosis," says Aghera, director of the Center for Clinical Simulation and Safety at Maimonides Medical Center in Brooklyn. "The bigger question is, as we see these types of studies show that we fall short in similar areas: What can we do to put ED providers in the best position to make the correct diagnosis?"

EPs are trained to appreciate the high-risk nature of certain cardiovascular or neurology diagnoses. "We know that missed dissections or abscesses can have devastating consequences for patients. Ultimately, it leads to lawsuits, because the consequences are so significant," Aghera observes. "If we are trained to do this, what is it about the environment we work in that allows providers to be prone to delayed or missed diagnosis?"

One surprise was there were not many systems issues identified. For example, none of the claims involved problems with transmittal of test results. "Decreased frequency in systems issues may be related to the advancement in EHR technology — specifically, alerts built into the system," says **Jacqueline Ross**, RN, PhD, the study's author and coding director in the Doctors Company patient safety and risk management department. These specific issues arose in the ED malpractice claims:

• EPs struggled to access tests, such as CT or MRI, to diagnose neurological conditions. "It's probably pretty uncommon to find an EP working in an environment where they can easily access MRI to make a diagnosis like a spinal abscess," Aghera says.

This creates an underlying bias. EPs know if they start down a certain diagnostic path, they are going to be committing that patient to hours (or even days) of diagnostic imaging. If symptoms are not clear-cut, the EP may be more inclined to wait and see if symptoms worsen before putting the patient through an extensive workup. The solution to this, says Aghera, "is to put providers in a position where they can make decisions that can be executed more easily."

However, easier access to tests means higher costs. Aghera says the answer, perhaps, is "some combination of decision support or algorithms working in the background to help identify a select few patients who are at higher risk."

• EPs lacked easy access to consultants. "At the end of the day, for any given practitioner to make a diagnosis, you need information," Aghera notes.

The patient is a big part of that, but so are test results, nurses, and ancillary staff. Some cases also need input from consultants. "There may be something subtle about a patient presentation for an uncommon diagnosis that can tip a provider off that something unusual may be going on," Aghera observes.

One-third of cases involved either a delay or failure in obtaining a consult. It happened most often with neurology, orthopedics, and cardiology cases. One malpractice claim involved a woman in her 50s who presented with slurred speech, left-side facial droop, and left arm drift. A CT showed no acute bleed, and the symptoms were mild. The EP did not consult neurology. The patient did not see a neurologist until after admission.

By that time, the symptoms had worsened; even after the hospitalist ordered a neurology consult, the consult did not happen until six hours later. Ultimately, a CT angiogram showed a bilateral dissection of the internal carotid artery. The patient was transferred to a higher level of care.

She was discharged to a stroke rehabilitation facility with a paralyzed arm and memory deficits. The resulting malpractice claim included multiple allegations, but much focus was on the EP's failure to consult a neurologist early. "It's important for patients to get triaged to the right levels of care," Aghera stresses.

If a patient was hit by a car, that patient would want to be seen at a trauma center where there is access to appropriate testing and definitive care. "Stroke centers work the same way, with very clear systematized pathways of care that put patients on a pathway for earlier diagnosis and treatment," Aghera observes. "This is just not possible in smaller hospitals."

• The EP failed to order CT scans, MRIs, or blood tests. Test ordering came up in 53% of cases. For cases in which an MRI was not ordered, the delay occurred after the decision to admit (e.g., ordering an MRI to rule out stroke). "The cases involved multiple specialties and levels of care, and involved the failure to order the test stat instead of routine," Aghera notes.

• There were breakdowns in care during the initial assessment. In 15% of cases, this issue arose. Part of the problem is patients interact with so many caregivers in the ED — nurses, technicians, radiology technologists, ancillary staff, EPs, and consultants. "Providers should consider all the information available in the EHR when formulating their differential diagnoses to avoid anchoring bias," Ross offers. In one case, a subdural hematoma was missed in a man in his 60s who presented after a motorcycle accident while wearing a helmet. The patient exhibited no neurological deficits. The EP sutured a hand laceration, and the patient was discharged. "The expert reviewers criticized the EP for failing to do a head CT due to the patient's history of being on warfarin and having recent head trauma," Aghera reports.

• Patients did not follow the ED treatment plan. This was a problem in 9% of claims. Poor communication with patients is a contributing factor. "Providers should give patients detailed discharge instructions in plain language," Ross says. There are socioeconomic factors to consider, too.

Some patients own no transportation to follow-up care and/or are not equipped with insurance to pay for it. "Many EDs have case managers who can assist with resources and referrals to assist patients in need," Ross suggests.

ED providers cannot communicate with the patient as much as they would like. "If we could all take care of one patient at a time, we would probably not make mistakes," Aghera predicts. "But that's not the way our system is designed. There's more and more pressure on ED providers to work faster." The goal is to "put the patients in a place where the system is designed to capture their diagnoses, as opposed to being shepherded through in the most efficient manner possible," Aghera adds.

The study's findings could help EDs justify reallocating money into integrated systems or AI decision support tools. "The nice thing that we gain from the data from the malpractice world is you can almost put a dollar [amount] on what it costs when things go wrong," Aghera says. "It helps ED administrators to think about this more holistically." It is hard for EDs to demonstrate value for a process or initiative that prevents a misdiagnosis from happening. "But one bad case could be easily a million dollars or more. If you can prevent just a few cases, and reinvest that reinvest that money in safety products, you could probably catch a lot more latent errors that are waiting to happen," Aghera offers. ■

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Risk Factors for Physical Restraint in ED

By Stacey Kusterbeck

Investigators recently identified some trends when it comes to who is more likely to be physically restrained in the ED.[1]

Researchers analyzed 726,417 adult visits to three hospital EDs in the Yale-New Haven Health System that occurred from 2013-2018. A total of 7,090 patients were physically restrained. Of this group, 64.8% were male, 28.8% were Black or African American, 71% presented with either Medicare or Medicaid, and 2.3% were homeless. Visits that were higher-acuity, visits later in the day, and visits with behavioral chief concerns also were more likely to include physical restraint.

Of 195,092 adult ED visits from 2016-2018 at Massachusetts General Hospital, 1.4% involved physical restraint.[2] Black patients; men; those with public or no insurance; young age; a diagnosis pertaining to substance abuse, psychotic disorder, or bipolar disorder; history of violence; and currently homeless all were traits that led to a higher likelihood of physical restraint.

Another research group analyzed 165 agitated patients during ED visits that occurred in 2016 and 2017 at a community hospital, of which 112 were physically restrained.[3] "We wanted to examine what factors result in a higher risk of being placed on restraints in the ED, including factors that are present even before the patient presents to the ED, such as their age," says **Zaira Khalid**, MD, the study's principal investigator and assistant professor of psychiatry at Central Michigan University.

The agitated patients who were not restrained were included as a control group. "Our hope is that the data can help identify factors that would place an individual at a higher risk so that other interventions, such as medications, can be utilized earlier on to hopefully prevent restraints being utilized," Khalid says.

Khalid and colleagues found patients with these factors were more likely to be restrained: Younger age, intoxication, lower BMI, a previous diagnosis of depression, taking antipsychotics as a home medication, and haloperidol or olanzapine administered in the ED. Patients with these factors were less likely to be restrained: Diazepam or ketamine administered in the ED or a current prescription for benzodiazepine. EDs can use these data "as a platform for the development of risk management protocols and training for early identification of at-risk patients," says **Neli Ragina**, PhD, director of students and residents clinical research at Central Michigan University.

ED providers and hospitals face potential legal exposure if patients are physically harmed either in the process of restraint or while restrained. There also is the possibility of psychological harm, says **Leslie Zun**, MD, professor of emergency medicine at Chicago Medical School/Rosalind Franklin University.

Some patients complain to the hospital about physical restraints, claiming they were traumatized by the incident. This raises more questions about what happened. "We don't know how it was handled, whether it was explained to the patient, or

whether anyone used verbal de-escalation or attempted to medicate the patient," Zun notes. "The first approach is to see if you can get by without restraining someone."

Staff can ask what worked in the past for the patient, medicate that person, use verbal de-escalation, maintain a designated quiet space to put the patient until he or she calms down, or ask a family member or friend to help. Early intervention could prevent situations from spiraling out of control. "Some patients are brought in by police kicking and screaming or come in already severely agitated — that's a very small number of patients, and there's not a lot we can do," Zun says.

Other patients arrive somewhat agitated, but are not yet exhibiting overt symptoms. Zun says if a patient presents with any type of mental health complaint, it is helpful for the triage nurse to ask if the patient is experiencing mild, moderate, or severe agitation. "We are working on a protocol where if they did report agitation, [we] medicate the patient at triage or in the treatment room, rather than waiting until they escalate and need to be restrained," Zun explains.

A third group arrives calm, but tempers flare at some point during the visit. Sometimes, this happens because of what transpires in the ED. Other times, it is because of the patient's psychiatric condition. "This behooves us to assess them early, find out what they need, and address their problem before restraint becomes really the only option," Zun offers.

Most agitated patients without mental health disorders can be treated with verbal de-escalation, according to Zun. Patients may be agitated because of concrete issues, such as waiting all day without eating or wanting a specific family member to come to the ED. "Mental health patients are more difficult. They may have more difficulty controlling themselves and may need help," Zun reports.

To improve care of agitated patients, Zun recommends practice and analysis. "You can have dry runs — 'We have an agitated patient in Room 10,' and see how people would address it," Zun offers. "Just like you'd practice responding to a patient in cardiac arrest, why don't we practice mental health emergencies as well?"

Some patients will need to be restrained despite the ED's best efforts to avoid it. If so, says Zun, "you need to follow proper policy and procedure."

In the rare cases where restraint is necessary, Zun recommends a staff debrief and a patient debrief. For staff, it is a chance to ask questions: Was there a better way to deal with this? Could we have done something differently to prevent restraining this patient? Did we use proper technique and avoid harming the patient or staff? For the patient, before discharge, transfer, or admission, it is a chance for staff to explain and apologize. ■

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Opioid Prescription in ED Can Set Patient on Dangerous Path

By Stacey Kusterbeck

EPs might write an opioid prescription just to tide patients over before outpatient follow-up is possible. Yet even that single prescription puts patients at risk for a future opioid overdose, according to a recent analysis.[1]

In a 2020 study of why patients returned to the ED within 30 days of their index visit, 57% said it was because of pain.[2] "Interestingly, we found that only 23% of patients who returned for pain were discharged with an opioid prescription," says **Sophia Sheikh**, MD, FACEP, lead author of both studies and clinical assistant professor at the University of Florida School of Medicine — Jacksonville. Patients who reported a pain score higher than three on the first ED visit were 11 times more likely to receive an opioid prescription. "This led us to wonder what the potential risk for opioid overdose might be in this group of patients who were discharged with a prescription opioid," Sheikh says, noting 25% of these patients recorded a high predicted probability for opioid overdose within the next six months, based on the Risk Index for

Overdose or Serious Opioid-induced Respiratory Depression, a validated tool that calculates risk of overdose.[3]

Sheikh and colleagues compared this risk in two groups: Those who were already taking opioids for chronic pain before the ED visit vs. those who were not. "We were surprised to see that these groups shared similar predictive factors. There was no difference in overall risk scores between the two groups," Sheikh reports.

This, despite the fact patients using opioids chronically exhibited more than double the number of predictive factors than patients who were not using opioids. The group already using opioids tended to record heavier weighted predictive factors (e.g., history of mental illness and substance abuse).

Race was a differentiating factor between the two groups. Most people who were using opioids for pain before their ED visit self-identified as African American. This, compared to the mostly Caucasian group of patients who were not using opioids. Previous research has demonstrated racial disparity in opioid administration.[4] Considering all these findings, "our study indicates risk stratification measures are needed in the ED setting when prescribing opioids," Sheikh concludes.

William Hopkins, JD, a partner at Austin, TX-based Spencer Fane, suggests ED providers take several steps before deciding to prescribe opiates. Consider the patient's history, including potential chemical dependence, as well as whether there are other medications that can be prescribed instead that do not carry the same risk as opioids. Check prescription drug monitoring programs to find out if the patient already has received prescriptions for opioids. Engage in a detailed conversation with the patient about the possibility of addiction and abuse before securing informed consent.

All this clinical evaluation and medical decision-making should be documented in the patient record. If it is, says Hopkins, "the doctor, the ED, and the hospital are on pretty solid ground in defending themselves in an eventual lawsuit based on the later addiction or abuse by a patient."

It always is possible the patient or family could sue the ED, alleging that prescribing opioids caused overdose or addiction. "That is going to be a difficult case to prove," Hopkins notes.

Assuming the use of opioids is clinically justified, the rationale is clinically documented, and the patient has provided informed consent, the plaintiff would have a hard time establishing causation.

Legal problems are more likely if the ED failed to ensure the prescription was not given to someone the ED or hospital knew (or should have known) either had chemical dependency problems, was susceptible to addiction or abuse issues, or had a contraindication. Otherwise, says Hopkins, "even with the prescription being given, what the patient does with the medication after he or she has left the hospital is not the responsibility of the ED or the hospital." ■

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Poor Pediatric Readiness Is Big Risk Management Worry

By Stacey Kusterbeck

Injured children treated in high-readiness EDs recorded lower mortality rates vs. similar children in low-readiness EDs.[1]

The National Pediatric Readiness Project is a longstanding initiative to improve pediatric emergency care. "But there has only been one study suggesting a link between ED readiness and improved outcomes," says **Craig Newgard**, MD, MPH, professor of emergency medicine at Oregon Health & Science University.[2] Newgard and colleagues wanted to examine the relationship between ED readiness and outcomes on a broad scale in U.S. trauma centers. "Because trauma centers are the

most developed form of regionalized healthcare in the world, this seemed a perfect setting to evaluate the potential impact of ED readiness," says Newgard.

Researchers analyzed data on 372,004 injured children seen at 832 EDs in U.S. trauma centers from 2012-2017. They expected to find better-prepared EDs recorded higher survival rates. "But we did not know 'how ready' an ED had to be to start improving survival," Newgard reports.

In fact, Newgard and colleagues found survival only increases among trauma centers in the highest quartile of readiness. Also, there was no association between high ED readiness and fewer in-hospital complications. "This probably reflects these events occurring well after the ED visit, later in a hospital stay," Newgard says.

Newgard is unaware of any specific examples of ED pediatric readiness that were used in medical malpractice claims. "However, the measurement of ED readiness is based on national guidelines for ED pediatric care," he notes.

Poor readiness means EDs are noncompliant with established guidelines. "It would seem prudent from a risk management perspective to run an ED that is fully compliant with national guidelines and, therefore, fully ready to care for children and maximize their survival after injury," Newgard offers.

A joint policy statement from the American Academy of Pediatrics/ American College of Emergency Physicians/Emergency Nurses Association on pediatric readiness in the ED recommends resources and training to provide optimal emergency care for children.[3] "A plaintiff's attorney will try to show the recommendations in the policy statement were not followed," says **Jonathan M. Fanaroff**, MD, JD, FAAP, professor of pediatrics at Case Western Reserve University School of Medicine in Cleveland.

Fanaroff says resuscitation equipment and supplies should be in the ED. Also, medications should be checked daily for expiration. "If expired medications are used, [plaintiff attorneys] will argue that substandard care was provided," he cautions.

Administrators also should designate a pediatric emergency care coordinator (PECC) to help coordinate high-quality pediatric care. "If a poor outcome occurs and the ED does not have a PECC, the plaintiff's lawyer may argue that the hospital was systematically unprepared to care for children," Fanaroff says.

The vast majority of ill and injured pediatric patients aren't seen at large specialized children's hospitals.[3] "The reality is most kids get treated in community EDs that don't have pediatric ED staff," says **Brigitta U. Mueller**, MD, MHCM, MSJ, CPPS, CPHQ, FISQua, FAAP, executive director of patient safety, risk & quality at ECRI.

An EP in a small community ED generally would not be held to the same standard as an EP in a high-volume pediatric ED. "Consider a traumatic brain injury, where there are vastly different capabilities due to access to a pediatric neurosurgeon," says **Andrew Furman**, MD, MMM, FACEP, executive director of clinical excellence at ECRI.

If a small community ED cannot meet the child's needs, transfer delays could become an issue in subsequent litigation. Regardless, whether the plaintiff can successfully argue the ED was negligent for delayed transfer depends on the circumstances. If a blizzard caused the delay, there should not be liability for the ED. "But if the failure was to recognize and initiate timely transfer of a surgical emergency, such as appendicitis, there may very well be liability," Fanaroff says.

Transfer decisions require both the sending and receiving hospitals to play roles. "These roles are best to establish proactively," Furman says. Some large pediatric centers dispatch their own personnel to the sending ED to provide diagnostic and/or treatment guidance to the onsite EP while awaiting transport. "It is important as a physician to know when action is immediately required and when there is time to consult with other experts," Furman observes.

Katherine Remick, MD, FAAP, FACEP, FAEMS, executive lead for the EMS for Children Innovation and Improvement Center, says plaintiffs can try to prove an ED was unprepared for pediatric patients by checking for a resuscitation cart, availability of resuscitation equipment, policies on abnormal vital signs in children, and clinical decision support tools for specific complaints. "Ideally, all emergency departments follow evidence-based guidelines. But uptake may be slower in certain areas," Remick reports. ■

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Initiative Focuses on Patient Harm Caused by Diagnostic Errors

By Stacey Kusterbeck

The Recognizing Excellence in Diagnosis (REDx) initiative aims to reduce the risk of harm from diagnostic error, including the ED. In this project, the Leapfrog Group will partner with the Society to Improve Diagnosis in Medicine (SIDM) to identify best practices in ED diagnosis.

"We will encourage EDs nationally to adopt and use these in pursuit of diagnostic excellence," says **Mark L. Graber**, MD, FACP, president emeritus of SIDM.

The initiative will establish a benchmarking system. This will allow EDs to find out how they compare to other EDs. "The ED is the first stop for patients with acute medical issues," Graber notes.

Decisions on whether to admit, send home, or initiate a diagnostic workup in the ED are complex and error-prone. "Compared to other settings, there are many factors that add to the challenge in the ED," Graber observes.

EPs do not know the patients and are seeing them at one point in time without a sense of the illness's trajectory. There also is time pressure, past medical records are not always available, and distractions are constant. "Many high-harm diagnostic errors reflect delays in diagnosing acute conditions that present to the ED," Graber says.

These include strokes, dissecting aneurysms, heart attacks, and acute infections. EDs have successfully diagnosed heart attacks, notes Graber, thanks in part to ECG guidelines for patients with suspected myocardial infarction (MI) and immediate availability of specialists. Many EDs are focused on the quality monitor "door-to-balloon time" (i.e., from first presentation to the ED to the time of angioplasty or bypass surgery) and are constantly seeking to improve it. "Adding all of this up, the management of patients with an MI is now both timely and highly accurate," Graber says.

In contrast, says Graber, the error rates for many other vascular and infectious conditions are much higher, with no clear standards for timeliness. "This is where paying attention to the quality of care and improving diagnostic timeliness and accuracy could pay major dividends," Graber says. ■

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1. **The single largest contributor to the undertreatment of alcohol use disorder (AUD) is:**
   a. clinicians are unfamiliar with the treatment options.
   b. lack of time during patient encounters.
   c. patients resist the idea they need help.
   d. lack of awareness of how patients with AUD typically present.

2. **Which is true regarding malpractice liability if the emergency physician (EP) uses artificial intelligence (AI) tools?**
   a. Malpractice insurance policies are required by law to cover hospital liability resulting from use of AI tools.
   b. Indemnification agreements significantly increase liability exposure for EPs using AI tools.
   c. Juries could assign a percentage of liability to ED providers and AI vendors.
   d. Unlike textbooks or published studies, AI tools provide doctors with a legal substitute for clinical judgment in the ED.

3. **What percentage of clinicians receive any training on firearm injuries or injury prevention during their medical training?**
   a. 10%
   b. 20%
   c. 30%
   d. 40%

4. **Following successful treatment for the initial infection, the CDC reports one in six patients will contract *Clostridioides difficile* infection again in:**
   a. three to six days.
   b. 10 to 12 weeks.
   c. 12 to 18 months.
   d. two to eight weeks.

5. **Which did an analysis of ED malpractice claims reveal?**
   a. Of claims with paid indemnities, the top three final diagnoses were cerebral artery occlusion with an infarction, intraspinal abscess, and acute myocardial infarction.
   b. Faulty transmittal of test results was alleged in most claims.
   c. There was no evidence indicating EP defendants struggled to access MRIs to diagnose neurological conditions.
   d. Many claims alleged EPs over-relied on recommendations of neurology consultants to the patient's detriment.

6. **Which factor makes patients more likely to be physically restrained in the ED?**
   a. Presenting with private insurance
   b. Triaged as lower acuity
   c. Presenting with either Medicare or Medicaid insurance
   d. Taking diazepam or ketamine administered in the ED

7. **Which did a recent study reveal regarding pediatric readiness in EDs?**
   a. Injured children were far more likely to survive, even if EDs were only slightly better prepared.
   b. Strong ED readiness was closely linked to fewer in-hospital complications.
   c. Injured children treated in high-readiness EDs recorded lower mortality rates compared with similar children in poorly prepared EDs.
   d. EPs in small community EDs were held to the same standard as EPs in high-volume pediatric EDs.