INSIDE

How state-driven telepsychiatry solutions are making a big difference to EDs and patients .......... cover

The advantages of a system-wide deployment of telepsychiatry in multiple EDs .......... 18

Take steps to improve identification, care of victims of intimate partner violence in the ED .......... 19

Time for a refresher on how to place splints? Experts say yes; here’s why .......... 21

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States leverage telepsychiatry solutions to ease ED crowding, accelerate care

North Carolina and Texas devise regional solutions to mental health care emergencies.

Telepsychiatry would seem to have a lot to offer busy EDs that see a significant number of mental health patients but lack the in-house psychiatric resources to meet these patients’ needs. In fact, the allure

EXECUTIVE SUMMARY

Many states are having success turning to telepsychiatry-based solutions to connect mental health patients with needed care while also decompressing crowded EDs. Just one year into a statewide telepsychiatry initiative in North Carolina (NC-STeP), administrators say the approach has saved as much as $7 million, and hospital demand for the service is higher than anticipated. In Texas, mental health emergency centers (MHEC) that use telepsychiatry to connect patients in rural areas with needed psychiatric care are freeing up EDs to focus on medical care.

• In just 11 months, 91 North Carolina hospitals have at least started the process to engage in NC-STeP.
• Much of the savings from NC-STeP come from involuntary commitment orders being overturned as a result of the telepsychiatry consults, reducing the need for expensive inpatient care.
• Implementing NC-STeP has involved multiple hurdles including credentialing difficulties and technical/firewall challenges.
• The Texas model provides 24/7 availability of psychiatrists via telemedicine through a network of MHECs. In-person staff at the MHECs perform basic screening tests and blood draws so that medical clearance can be achieved without the need for an ED visit in most cases.
• Funding for the MHECs comes from the state, hospitals in the region, and local governmental authorities that reap savings or benefits from the initiative.

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Prepare for hurdles

While the statewide telepsychiatry effort has delivered multiple benefits, other hospitals or regions that are interested in pursuing a similar strategy should be prepared to tackle numerous obstacles along the way, observes Davies. For instance, she notes that the credentialing of mental health providers at all the participating hospitals has been particularly challenging.

of telepsychiatry is such that some regions have moved quickly to leverage the approach, particularly in rural areas where access to psychiatric expertise is limited. North Carolina is a case in point: In the summer of 2013, state legislators established the North Carolina Statewide Telepsychiatry Program (NC-STeP), appropriating $2 million per year to operate the program, with an initial focus on giving EDs across the state remote access to psychiatric expertise.

The state was not starting from scratch on this initiative. The Elizabeth City, NC-based Albemarle Hospital Foundation had already demonstrated success from this approach, providing telepsychiatry services to 18 hospitals in 29 counties, with some impressive outcomes in terms of substantially reduced lengths-of-stay (LOS) in the ED for patients awaiting discharge to inpatient treatment, and a drastically reduced need for involuntary commitments.

While the Albemarle Hospital Foundation program served as a starting point for NC-STeP, the new program, which is administered by East Carolina University’s (ECU) Center for Telepsychiatry and e-Behavioral Health in Greenville, NC, has grown even faster than anticipated, according to Sheila Davies, PhD, the coordinator of NC-STeP and the president and CEO of MedAccess Partners, a telemedicine consulting firm in Kill Devil Hills, NC. (Also see: Carolinas HealthCare system gets jump on potential for telepsychiatry, p. 18.)

“We are now at 53 hospitals participating, meaning they have the equipment in their facilities; of those 53 hospitals, 39 hospitals are actually live. The others have the equipment and their personnel have been trained; we are just waiting on the credentialing of the providers, so [these hospitals] will be going live within the next couple of months,” says Davies. “Beyond that, we have another 38 hospitals that are on the list in various discussions or phases of implementation. Some are reviewing contracts and some are just beginning their credentialing phases, so that takes us up to about 91 hospitals that are engaging [or are] looking at engaging in NC-STeP.”

Further, even though the statewide network is still in the early stages, the program’s return-on-investment (ROI) thus far is impressive indeed. “You’ve got a $2 million program saving about $7 million,” explains Sy Saeed, MD, the director of both NC-STeP and ECU’s Center for Telepsychiatry and e-Behavioral Health. “The 30,000-foot view of this is that in the first 11 months of this program, there were about 7,000 encounters, and we cut the average LOS for patients by about half.”

Saeed adds that much of the savings stem from the fact that as a result of the telepsychiatric consults, about one-quarter of the patients who present to the ED with involuntary commitment orders (IVC) get those orders overturned.
“Every provider that participates has to be credentialed at every single hospital … and that is a huge investment of resources from the processing of the paperwork to verifying the credentials,” she explains. “The other thing that exponentially grows as a challenge is that one of the components of credentialing a provider is verifying hospital affiliation, so if we continue to build the network, and we may have one [mental health] provider hub serving 25 hospitals, and then another one comes on as a 26th hospital — now [we] are having to verify their affiliation with the other 25 hospitals.”

Davies says that administrators are overcoming this challenge just by persistence and diligence, but it is very time-consuming. “A lot of work goes into this on the provider side and the hospital side,” she adds.

Hospitals or health systems interested in developing this type of program should also be prepared to work through significant technological or information technology-related problems, although these won’t necessarily be related to hardware.

“We’ve really got the equipment that we are putting in each of the hospitals and each of the provider’s [offices] right down to a well-oiled machine,” says Davies. “We know exactly what needs to go in each of these facilities and it works really well, but you do need to navigate firewall issues with each of these, and that can be quite taxing.”

Further, with participating hospitals and mental health providers all using an array of electronic medical records (EMR), the push and pull of patient information to and from the various provider sites can be difficult, and it is still a work in progress at NC-STeP.

Administrators are developing a web portal so that there will eventually be a single port of entry that both emergency providers and mental health providers can use to arrange psychiatric consults and exchange information about patients.

“Developing this portal has been the single most expensive part [of the program],” notes Saeed. “From the $2 million funding [from the state], roughly 40% has gone toward [the portal]. It is an enormous, monumental task, and extremely time-consuming to work out all the details.”

While the financial savings from NC-STeP are attractive, funding the program is still a struggle because a large percentage of the patients receiving telepsychiatric services lack insurance of any kind, and another sizable percentage are on Medicaid. “What I told legislators is that if you are running a business and 40% of the patients who bought your product don’t pay you a dime, and another 40% pay you below cost, how do you survive? And the answer is, you don’t. That is a big issue,” says Saeed.

Funding would be greatly improved if North Carolina expanded Medicaid under provisions in the Affordable Care Act, but since the state has not moved on that initiative, Saeed is seeking additional funds from the entities that are actually saving money from the program. “For example, for Medicaid, this is going to save about $1.8 million just from overturned IVC orders; for Medicare, the savings are about $1.3 million; for third-party payers, the savings are also about $1.3 million,” explains Saeed. “Funding of this program ought to come from those people who actually reap the benefits of this … so that is our strategy for now.”

Think beyond ED focus

The program has received financial help from the Duke Endowment, which has provided $1.4 million to NC-STeP, but demand is such that administrators are having to do more with less. “The state funds were to help us onboard up to 59 general hospitals, and right now the Duke Endowment funding is to give us the ability to bring on 17 more hospitals, but we are already past that threshold,” observes Davies. “That [demonstrates] how well this has been embraced by hospitals — the need for this program and the demand for it.”

Beyond ROI, Saeed is anticipating additional benefits from the program in terms of better treatments and outcomes. “As physicians, we need to narrow the gap between science and practice. That [involves] standardizing treatment so that the majority of people are provided treatment that is consistent with the best evidence out there,” he explains. “Telepsychiatry offers a great opportunity. If you have a program that is up and running in 50 EDs, there is your opportunity.”

Further, as development of the network continues, the focus will expand beyond decompressing EDs that see large numbers of mental health patients. “One of the things I have said all along … is that if we build a program with the sole purpose being to get people out of the ED, we will be building the wrong program,” says Saeed. “We live in certain times when psychiatric treatment has never been more effective, and we owe it to our citizens and population to provide
them with these effective treatments that indeed lead to recovery.”

Consequently, the program’s ultimate aim is to provide mental health care to people in community settings so that they are less likely to show up in the ED in the first place; that means taking the savings from the program and reinvesting them in community-based care, observes Saeed. “Overall, the focus is population-based care in community-based settings and not just the ED,” he says.

Consider centers for mental health emergencies

The state of Texas is also leveraging telepsychiatry to meet the demand for emergency mental health care, but it is taking a different tack in that the idea from the start has been to enable people with mental health emergencies to bypass the ED altogether. “It takes all of the models of emergency care that have been developed over the years, and then takes them a step further,” explains Avrim Fishkind, MD, president and chief medical officer of JSA Health Telepsychiatry based in Houston, TX. “Most models are about how to get people out of the ED more quickly. Our model is how do you keep people from ever getting there in the first place.”

Fishkind explains that the model was developed as part of a collaborative effort that the state initiated in 2005. He was tapped to chair a committee to redesign psychiatric emergency services for the state, and the model evolved from that process.

At the heart of the approach are free-standing mental health emergency centers (MHEC) which are equipped with a psychiatric emergency service or receiving area for both voluntary and involuntary patients; an extended observation unit, which usually includes six beds and is capable of housing both voluntary and involuntary patients; and a crisis unit that typically includes 16 beds, explains Fishkind. Also included in the MHEC model are mobile crisis teams.

“The reason [the model] was designed this way is that most emergency models are in big, urban cities, so there is a big hospital, and it can afford to have a big psychiatric emergency service,” observes Fishkind. “But many mental health emergencies are occurring everywhere around the country — in rural locations, suburban locations, virtually everywhere including jails and schools and all kinds of different places.”

With the dearth of psychiatrists in rural locations, the MHECs are staffed via telemedicine around the clock. When a patient is brought in by the police or voluntarily, MHEC staff will put a call in to one of the remote psychiatrist providers, explains Fishkind. Most telemedicine encounters can be arranged in 15 to 20 minutes on average, he says.

“The psychiatrist is on a 42-inch, high-definition TV interviewing the patient in crisis, sometimes from as far away as Israel or Spain, or sometimes locally from Texas,” says Fishkind. “Our psychiatrists literally span the globe and have Texas licenses.”

A remote psychiatrist also makes rounds at the MHECs three times a day, seeing patients on the crisis residential unit, the extended observation unit, and patients who are brought in by the mobile crisis teams, explains Fishkind.

Establish criteria for first responders

There are multiple dispositions available to the providers, explains Fishkind. “When we see patients we can send them home, we can put them in the extended observation unit, we can put them in the crisis unit following them, or we can admit them to the hospital,” he says. “We have this entire range of wrap-around services available after we see the patients in the MHECs.”

The in-person staff at the MHECs include nurses, social workers, and psychiatric techs, and the centers are equipped to handle most of the tasks involved with getting the patients medically cleared so that they don’t have to visit an ED first, explains Fishkind. “We do our own EKGs, blood draws, and all the basic medical components that need to get done,” he says.

“About 2% of the patients who reach us who haven’t gone to the ED first are found to have some medical condition that warrants them going to a medical ED and they are sent, but the EDs that were previously overcrowded and going on diversion due to the number of mental health patients backing up the ED don’t have any problem taking a few cases occasionally who need a better medical workup or medical treatment,” says Fishkind. “We take a far larger number of these patients, preventing them from ever getting to the ED … so we have a great relationship with all of the area EDs.”

A set of criteria has been established so that first responders
can determine when it is safe to take a patient directly to an MHEC rather than a medical ED, explains Fishkind. “Psychiatry has this reputation of being very, very conservative about medical issues, and so many psychiatric hospitals won’t even accept a patient unless they have had their blood drawn in an ED no matter what the circumstance,” he says. “We don’t have that rule.”

**Make the case with data**

Funding for the MHECs comes from multiple sources. First, communities can apply for state funding to establish MHECs, but local stakeholders need to be willing to provide ongoing support as well, explains Fishkind. “Wherever these centers are built we ask the local EDs to help pay a certain amount of money every year to help defray the cost of running the MHECs,” he says.

Such requests are not as difficult as one would expect once hospitals analyze all of the unreimbursed care that they are providing to psychiatric patients who sit in their EDs for an average of two and a half days, observes Fishkind. “If you ask a hospital to pitch in some money for an MHEC where the costs are one-twentieth of what they are spending on these patients per year, it is not real hard to get them to provide some funds,” he says.

The savings come, in part, from the fact that the MHECs only pay for psychiatrists for the times they are engaged. “If you wanted to keep one psychiatrist on board around the clock 365 days of the year, you would pay easily two-and-a-half times as much for psychiatric time if you could even find a psychiatrist to do it as you would when you are just paying for the psychiatrists when they are needed for the emergency cases as they come in, and when they make rounds every day,” observes Fishkind.

Other sources of funding include local governmental authorities that are often willing to kick in money to prevent regional jails from filling up with patients who have mental health diagnoses, notes Fishkind. “The average cost of an episode of care in an MHEC is about one-fifth the cost of being jailed or going into an inpatient psychiatric unit,” he explains. “So everyone not only gets a social win and a clinical win, but a financial win as well.”

Fishkind acknowledges that people tend to be surprised to hear that this type of model is succeeding in Texas because the state is always near the bottom in per capita spending on mental health. “However, we also have an incredible R&D [research and development] community here that comes up with all kinds of amazing things to do, and this wasn’t hard because every step of the way the people who led it did careful assessments of the costs savings,” he explains.

**Get constituents together**

Currently, there are nine MHECs in operation in Texas with several more in the planning stages, says Fishkind. “We are starting to get calls from other states and internationally about the model because it is the first time in history when you can really staff psychiatric emergency services outside of major urban centers,” he says. “I am frequently called to consult in communities that want to do this.”

Fishkind cautions that there are often obstacles to implementing this type of approach. “The key for EDs to realize is that whatever plan they want to put in place … there is going to be a need to call together all of the constituents,” he says. “These would include advocacy groups, the local mental health authority, the local psychiatric hospitals, the local jails, local judges, and the local commissioner’s courts or whatever body actually governs that particular area.”

What’s difficult about this process is that these entities have often been at odds in recent years as different stakeholders placed blame for why psychiatric patients were filling up area EDs, observes Fishkind. “It is not beyond the EDs to be the good guys in the whole thing and call a process together with all of the relevant stakeholders to get started on how to find a solution,” he says. “We do find EDs occasionally who have just said enough is enough. They find a champion within their hospital to start this process of bringing in all the stakeholders, looking at models that work, and go from there.”

**SOURCES**

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Carolinas HealthCare system gets jump on potential for telepsychiatry

Long before the state of North Carolina decided to implement its statewide telepsychiatry program (NC-STeP), some health systems in the state were already delving into the approach. For instance, Charlotte, NC-based Carolinas HealthCare System was among the first to deploy telemedicine in the state, and the potential to use the technology for psychiatric consults was recognized early on, according to Brad Watling, MD, FACEP, FAAEM, system medical director at Carolinas Medical Center in Charlotte, NC. “It had some fits and starts … but over the last couple of years we have hit the ground running with it,” he says.

Having psychiatrists available to see patients who present to the ED with mental health needs has made a big difference to emergency physicians, observes Watling. “We have the ability as emergency physicians to make a quick determination on the obvious [psychiatric] patient,” he explains. “What we don’t have are a lot of the nuances … so to have someone side-by-side is great.”

The remote encounters that take place between the psychiatrists and patients, utilizing the telemedicine technology, work very well, adds Watling. “I have even had some patients say that they really appreciate it, especially those patients that don’t have to stay and end up being able to receive follow-up as outpatients,” he says. “It just gives us a comfort level. Emergency departments and emergency physicians in general aren’t real comfortable with the fact that patients are having real long lengths-of-stay (LOS) and are sitting in the department because we aren’t really designed to manage that, so this certainly has been helpful.”

Anticipate hurdles

While the telepsychiatry system is humming now, there were a number of challenges involved with implementing the approach. The first hurdle involved getting both the emergency and psychiatric providers accustomed to the new technology and how the interactions would work, explains Watling. “I see this [issue] with any new technology,” he says, likening the difficulties to what providers experienced during the first implementation of electronic medical records (EMR).

A second challenge involved getting the resources and the behavioral health organization in place so that the approach functioned optimally, and this took some time, acknowledges Watling. “The technology piece is not that difficult. It’s a matter of getting emergency medicine and psychiatry sitting at the table and coming up with how it is going to work, and then deploying it in an organized fashion,” he says. “It is typical of anything. You’ve got to put the work in and dedicate the resources. It is not something that happens overnight.”

“As time has gone on, the [remote psychiatric consultants] have become much more acceptable to where for any new physician in any one of my departments there is an expectation that they are going to have the ability to get this done in a reasonable fashion; and not only the emergency physicians, but the staff in general,” says Watling. “As you can imagine, [emergency physicians] don’t interact [with the remote visits] as much as the nursing staff and techs in the department. But to have a psychiatrist essentially laying eyes on a patient at every stage in [his or her] stay is a wonderful thing.”

Manage resources

One benefit to the system-wide implementation is that seven of the EDs within the Carolinas HealthCare System function similarly in terms of their EMR programs and operations. “When we are doing telemedicine evaluations, it is our own equipment and our own portal that we are using to go between the emergency psychiatrists who are in our system and our EDs,” says Watling.

While psychiatrists can evaluate patients remotely, they also see patients in person on occasion, notes Watling. “There are facilities where we have psychiatrists that round, and there are some where we have psychiatrists who come into the ED from time to time, so there is a little bit of variability,” he says. “However the majority of all evaluations are done through telemedicine. Certainly, in all of the facilities that I work in, it has got to be around 90% if not more.”

Watling adds that with the shortage of psychiatrists, telemedicine is almost a necessity. “From an emergency standpoint, we probably have more [psychiatrists] than most [health systems], but they are still a resource that needs to be better utilized, and telemedicine allows that.”
Use screening tools, partnerships to improve identification, care of victims of IPV

With all the problems that emergency providers face on a daily basis, it can be especially difficult to identify and manage patients who may be victims of intimate partner violence (IPV). Some of these individuals are reluctant to share that they are in danger at home, and providers are often hesitant to push for this information — either because they lack ready access to resources to respond, or they aren’t sure what the next steps should be.

However, with ample evidence that victims of IPV often frequent EDs for care, it’s clear that emergency staff have an opportunity to not just provide treatment to these individuals, but also to connect them with resources that can help to make them safe from further harm.

Improve identification, response

Researchers have found that there is considerable room for improvement in the way victims of IPV are managed in the emergency setting. For instance, a study by investigators at the University of Pennsylvania in Philadelphia found that while most women who are victims of IPV visit EDs for medical problems, most (72%) are not identified as being victims of abuse. Further, while most hospitals have social workers to counsel patients, researchers found that these services are only used infrequently.

In another study, researchers concluded that while up to one-third of ED patients have a history of IPV, identification of the problem by health care practitioners is very low, ranging between 4% and 10%. Investigators also found that most victims of IPV say they would be comfortable disclosing the problem to their physicians, but identification and referral tend to be “inconsistent.”

Investigators at The Emory Center for Injury Control (ECIC) in the Department of Emergency Medicine at Emory University School of Medicine in Atlanta, GA, have been looking at ways to potentially improve the identification of IPV in the emergency setting for several years. One of the techniques they have tested involves using a kiosk so that patients can answer screening questions about IPV without human interaction, and without taking up precious provider time.

“Our screening tools actually screened for a lot of things like drug use, alcohol use, and other types of safety behavior … and patients would get a printed handout that was very specific to what they screened positive for, including IPV, with a list of referrals related to whatever the issues were,” explains Shakiyla Smith, MPH, administrative director at ECIC.

There have been several iterations of the study, but one of the things researchers noticed is that it is hard to get patients to use the kiosks without having research assistants...
on hand to draw them over to the machines. “We had pretty good success or acceptability of the patients to take the screening, which is good, but then if someone was not directing them there, that was an issue,” explains Smith.

For EDs that are already using a kiosk to retrieve other types of patient information, adding screening questions about IPV would be a simple modification, notes Smith. “That is probably ideal,” she says. “You could easily add two to five questions or so, and it wouldn’t amount to a huge burden.”

However, Smith stresses that if EDs are going to ask screening questions about IPV, then they need to be prepared to do something about it when patients indicate that they may indeed be at risk. “A lot of hospital systems have questions [that they ask] as part of their intake process, but then they don’t do anything about it when a patient says yes,” she explains. “Someone needs to follow up, at least with flyers or resources that you can refer the patient to...because I think it is worse to ask and not do anything than to just not ask at all.”

When inquiring about IPV, it is important to keep the questions behavior-specific because while most victims know they have relationship issues, they may not frame them in terms of IPV, notes Smith. For example, rather than querying whether someone has experienced domestic violence, it is better to ask whether they have ever been punched or slapped by a partner. Such questions remove the ambiguity and leave little room for misinterpretation.

You can find several validated screening instruments for IPV on the website of the CDC’s National Center for Injury Prevention and Control: (http://www.cdc.gov/ViolencePrevention/intimatepartnersviolence/index.html).

One of the most commonly used instruments is a four-item screener called HITS, which was copyrighted in 2003 by Kevin Sherin, MD, MPH, MBA, FACPM, FAAFP, health officer and director of the Florida Department of Health in Orlando, FL. Each item is scored from one to five, and a score of greater than ten is considered positive for IPV. The instrument can be viewed here: http://www.orchd.com/violence/documents/HITS_eng.pdf.

Prioritize screening

Jacqueline Campbell, PhD, RN, FAAN, a professor and noted expert on IPV at Johns Hopkins University School of Nursing in Baltimore, MD, says there needs to be a renewed commitment to routine screening for IPV in all health care settings, but she also notes that clinicians need to persevere when patients are not forthcoming on the issue or they are unable to respond.

“What happens often times when you look at ED records is that the question [regarding IPV] was just never asked,” says Campbell. “One assumes that it was because there was no privacy or that the patient was half conscious or in a physical state in which they were unable to respond, but [in such situations] the question needs to be flagged as ‘not asked’ or ‘needs to be asked,’” she says. “Then it is up to the staff in the back to make sure that the question gets asked.”

Campbell points out that emergency staff would not forget to ask patients about whether they are allergic to medications, so questions about IPV need to be similarly prioritized, she says.

What stops some clinicians from inquiring about IPV is they are unsure of how to respond if a patient reports she or he faces danger or violence at home. Having established relationships with community organizations is vital in these instances, advises Campbell.

“We are very fortunate in this country that almost every community has domestic violence service organizations that would be thrilled to work with EDs to make sure [clinicians and staff] know where to call, how to call, and who to call,” explains Campbell. “We also have the National Domestic Violence Hotline, which is often times used just to set the victim up with a phone and some privacy, and then they can make that call themselves. But we have to make it easy for the provider to allow that to happen.” (The Hotline numbers are: 1-800-799-7233 or 1-800-787-3224. You can also visit the website for the Hotline at www.thehotline.org.)

Consider TBI protocols

In Washington, DC, an organization called DC Safe is working with EDs and urgent care centers in the region to improve the emergency response when victims of IPV present for care.

“There needs to be a building of capacity in terms of how to deal with these cases in a crisis situation because when someone walks into an ED, the [personnel there] have so many patients that their system is strained, especially in a city like the District of Columbia. They are trying to get someone in and out, and they are just moving so quickly...
that sometimes things get missed,” explains Natalia Marlow-Otero, the executive director at DC Safe. “The intent is to have … all of the nurses, or at least the head nurse [at these facilities] trained on how to administer a risk assessment, and to call our response line to dispatch a forensic nurse examiner and crisis advocate so that the client can get all of [his or her] needs met within the first 24 hours.”

There is also an accountability aspect to the quick response, notes Otero. “We find that when there is an intervention early on, within the first 24 hours, the [offender] in these cases tends to be arrested five days earlier, and the probability of the client being re-assaulted or worse goes down considerably,” she says.

Otero acknowledges that recent media attention related to the mass circulation of a video depicting the wife of a prominent NFL player getting punched in an elevator may, at least, be heightening awareness of the scope of the problem. “I think sometimes people have a very specific picture in their minds about who a victim should be, and I think it is these kinds of cases that make them think well maybe they were wrong. Maybe a victim can be just about anybody,” she says.

Campbell agrees, noting that she has been asked more questions about the health care response to IPV in recent months than she has in a long time. “There is increased attention to this across the board,” she says.

The Joint Commission requires hospitals to have protocols in place to deal with family violence, and these should include links to appropriate local resources, but the relationships need to be set up and nurtured, advises Campbell. Further, she says the policies and procedures surrounding these relationships need to be continually revisited as the leaders and personnel within a typical ED are constantly changing. Things can easily slip when a key manager or clinical champion leaves, she observes.

Another problem Campbell has observed in her work with EDs is that traumatic brain injury (TBI) is often not considered in women who present with head injuries, broken jaws, or black eyes. “We are really good now, fortunately, at identifying athletes who have had a concussion and making sure that we use [the appropriate] protocols on them,” she says. “But we just haven’t made that translation [to abused women], so there needs to be some TBI protocols geared toward anyone who is in the ED, either because they have been involved in a fight or have been physically assaulted.”

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Study: Education, training on proper splint technique needed in EDs, urgent care centers

Investigators aim to prevent potential for major complications

New research suggests that frontline providers could use a bit of a refresher on how to properly place splints on pediatric patients. In fact, this may be an understatement, according to some provocative findings by investigators from the University of Maryland (UMD) School of Medicine in Baltimore, MD. In a study looking at 275 pediatric cases that were initially treated at community hospital EDs and urgent care facilities in Maryland and then later evaluated by UMD pediatric orthopedic specialists, researchers found that the splints were applied incorrectly in more than 90% of the cases involving possible
fractures, creating the potential for excessive swelling, blistering and other skin problems, and improper immobilization of the fracture.

The data, which were first presented at the American Academy of Pediatrics National Conference and Exhibition in San Diego, CA, in October, verify what many orthopedic specialists have observed anecdotally for years, according to Joshua Abzug, MD, senior author of the research and an assistant professor of orthopaedics at the UMD School of Medicine. “This is a trend that [orthopedic specialists] have realized for a long period of time, but no one had ever truly investigated in depth,” he observes.

For instance, Abzug shares that what he has noticed is that many patients who are referred to him from EDs and urgent care centers have splints that are not placed in a way that optimizes function for the patients. Further, he notes that when the splints come off, there are often problems that could have been avoided. “Most of these problems relate to skin and wound issues, such as blisters and actual wounds from the splinting into the skin,” says Abzug. “Major complications can occur, but even the smaller wounds may take a week or two to heal.”

Having to look a mother in the face to explain such an injury is challenging, stresses Abzug. “Then the mother has to be instructed on how to take care of the wound, and when to come back in for visits related to a wound that was preventable,” he says.

Consider common splint problems

Splints typically include a rigid piece of material that is placed on the injured extremity and then wrapped with soft padding and an elastic bandage to hold the splint in place. Splints are supposed to stabilize a potential fracture until a patient can be seen by an orthopedic specialist who will then remove the splint for further evaluation of the injury.

In the study population, the most common problem that researchers identified with splints was the elastic bandage was placed directly on the skin; this occurred in 77% of cases. In 59% of the cases, the joint was not immobilized correctly, and in 52% of cases the splint was not the right size. As a result of all of these issues, skin and soft tissue complications were identified in 40% of the patients.

Researchers note that patients in the study had many different types of fractures, ranging from broken arms and legs to finger, ankle, and knee fractures. Further, they point out that bone fractures are very common in children and adolescents; nearly half of all boys and a quarter of all girls experience a bone fracture by the time they are 16 years of age.

Highlight proper technique

The study results point to a need for more training and education on proper splinting techniques, says Abzug. “I am absolutely by no means trying to imply that emergency physicians do a poor job, but my concern is that at some point they have been taught to splint, and they may not be teaching each other correctly, or at least in an optimal manner,” he says. “Most emergency medicine programs don’t require any time with [orthopedics] and even if these programs do, it is probably minimal in nature.”

It is also quite possible that at least some of the splints that are applied in EDs or urgent care centers are done by someone other than a physician, offers Abzug. “All the splints aren’t necessarily being applied by physicians. They are being applied by physician extenders in EDs, techs and nurses,”

EXECUTIVE SUMMARY

A new study suggests that most of the splints applied in EDs and urgent care settings on pediatric patients with potential fractures are being placed improperly, leading to the potential for complications such as excessive swelling, blistering and other skin problems, and improper mobilization of the fracture. Researchers at the University of Maryland say this points to a need for better education and training of frontline practitioners on splinting techniques. Investigators plan to create and disseminate educational materials on correct splinting techniques for display in EDs and urgent care facilities. A second study is planned to evaluate the impact of these interventions.

• In a sample of 275 patients who were initially seen in community hospital EDs and urgent care facilities in Maryland and then later evaluated by pediatric orthopedic specialists, researchers found that the splints on more than 90% of the potential fracture cases were placed incorrectly.

• The most common problem that researchers identified with splints was the elastic bandage was placed directly on the skin; this occurred in 77% of cases. In 59% of the cases, the joint was not immobilized correctly, and in 52% of cases the splint was not the right size.
he says. “The physician may say there is a fracture … and then tell someone else to put the splint on while he or she moves on to the next patient.”

While most of the complications observed during the study were not severe, Abzug says the aim of this research is to prevent any major complications from an improperly placed splint. “My real goal is to create some literature, probably in the form of flash cards that can be handed out or some posters that can be applied to the wall that show some dos and don’ts for applying the splints,” he explains.

The materials, which will include photographs of correctly placed splints and specific instructions on how to apply splints using up-to-date guidelines, can then be displayed in EDs and urgent care centers. “Then hopefully a change of practice can occur so that splints will be applied appropriately,” says Abzug. He adds that once the materials and education are disseminated, a second study is planned to evaluate the impact.

**CNE/CME OBJECTIVES**

After completing this activity, participants will be able to:

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

**COMING IN FUTURE MONTHS**

- EDs face a flu season that is both early and severe
- The case for “trauma-informed care”
- A novel approach for predicting capacity
- Developing a flex-bed track

**SOURCE**

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### CNE/CME QUESTIONS

1. According to Sy Saeed, MD, much of the savings achieved through NC-STeP is a result of:
   - A. improved ED throughout
   - B. reduced ED utilization by mental health patients
   - C. involuntary commitment orders being overturned
   - D. improved efficiency

2. Saeed says that the single most expensive part of NC-STeP involves:
   - A. paying for the psychiatric providers
   - B. covering the costs of uninsured patients
   - C. funding the credentialing process
   - D. developing a portal

3. Saeed wants to take the savings achieved under NC-STeP and reinvest them in:
   - A. ED improvements
   - B. community-based care
   - C. psychiatric educational initiatives
   - D. psychiatric research

4. According to Avrim Fishkind, MD, wherever mental health emergency centers (MHEC) are built, who is asked to pay a certain amount of money every year to defray the cost of running the MHECs?
   - A. area EDs
   - B. local residents
   - C. philanthropic organizations
   - D. all of the above

5. Fishkind says that the average cost of an episode of care in an MHEC is about what percentage of the cost of being jailed or going into an inpatient psychiatric unit?
   - A. one-fifth
   - B. one-third
   - C. one-half
   - D. three-quarters