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Emergency and primary care providers are working side by side to provide cost-efficient care to a sparsely populated region in North Carolina, and some experts see the approach as a model for the future in rural communities . . . . . 4

One consequence of the national opioid crisis is that patients with sickle cell disease are finding it harder to receive appropriate treatment when they present to the ED in excruciating pain from their disease. Read expert advice on how to manage this complex patient population when there is no objective way to verify that a patient is in pain . . . . . 8

## How to Respond to an Unusual Hepatitis A Outbreak

*Emergency providers in San Diego offer extra vaccinations and additional education*

**D**espite the availability of a vaccine for hepatitis A virus (HAV), there have been serious outbreaks in several U.S. regions this year. In particular, public health authorities in San Diego declared a local health emergency in early September 2017. In that city, there have been more than 540 cases of HAV, including 20 patients who have died and more than 350 who have been hospitalized.

Since August 2016, there have been more than 450 confirmed cases of HAV in Michigan, including 18 patients who have died from the ailment and more than 300 who have been hospitalized. Several other states and cities have reported outbreaks of HAV, too, a reality that should be raising the alert level of emergency providers, given the highly contagious nature of the virus.

### Increase Screening

The ED at the University of California, San Diego (UCSD) Medical Center has taken several steps to manage the

outbreak, including creating a vaccination program for HAV within the ED, explains **Ted Chan**, MD, FACEP, FAAEM, professor and chair of the department of emergency medicine. “Our EMR [electronic medical record] will flag patients who are homeless or at risk for HAV, and we will offer the vaccination,” he explains. “We have given more than 400 patients the HAV vaccination, which is not a common vaccination to give in the ED. This has been coordinated with our county agency so that all of this information is recorded in an immunization registry.”

In addition to making sure appropriate patients are offered the vaccination, the hospital has made sure that staff members are protected with vaccinations as well, especially frontline clinicians who are most at risk, Chan offers. “We have done a fair amount of education with our staff in terms of recognizing patients who are at risk for HAV,” he says. “We have diagnosed HAV in more than 150 patients who have presented to our department.”

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# RELIAS

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During the current outbreak, investigators have found at least half the infected individuals have been homeless, illicit drug users, or recently incarcerated. Other outbreaks have been tied to contaminated food. Close contact with an infected person puts individuals at risk, as the virus spreads easily.

## Maintain Awareness

When a patient is diagnosed with HAV in the ED at UCSD Medical Center, standard precautions are taken to prevent transmission to others, and most of the time the patient is admitted to the hospital, Chan explains. “Hepatitis A is not always a diagnosis that requires hospitalization, but because of these patients’ social situation in terms of their lack of a home and the ability for follow-up, most of these patients have been admitted to the hospital for their care,” he says, noting that many of the patients carry chronic diseases and/or present with other complications.

One of the biggest challenges in confronting the outbreak has been spreading awareness about the fact that the region is experiencing the largest outbreak of HAV in the country in many years. “We don’t see many outbreaks like this ... we see sporadic cases,” Chan observes. “This has been unusual ... so we just need to make sure it is on everybody’s radar screen so that they think about HAV when patients have vague symptoms with nausea, belly pain, and that sort of thing in the right patient population.”

Typical symptoms of HAV also may include fever, vomiting, anorexia, and malaise, which can be followed by jaundice. However, Chan says his team has noted a wide

range of presentations in patients with HAV who have presented to his ED. “Some of the presenting symptoms have been very mild and some have involved patients who were significantly ill,” he says. “I have been impressed by the range of acuity, the severity of illness, and also the vague symptomatology that these patients have come in with. Hep A might not come to the top of the list [of potential diagnoses] immediately.”

The ED has worked closely with the county public health department to follow the outbreak and keep clinicians informed. In fact, local public health authorities visited the hospital and presented information about the outbreak to all the physicians, Chan explains. “They have been sending out regular alerts on the outbreak to all emergency physicians in the county,” he says.

Chan adds that the hospital also has worked closely with the fire department because these officials often are the ones who make first contact with the patient population most at risk for HAV. “There has been a high level of engagement with our city and our county on this issue,” he says.

## Employ Contact Precautions

Similar to what is happening at UCSD Medical Center, all patients entering the EDs at Scripps Mercy Hospital in San Diego and Scripps Mercy Hospital in Chula Vista, CA, undergo screening for risk factors for HAV, according to **Craig Uejo, MD**, a preventive medicine specialist at Scripps Health who is helping lead the health system’s clinical response to the outbreak. “Those patients identified as being at risk are being offered the hepatitis A vaccine,” he explains.

To protect against transmission, the hospitals use the “Education, Sanitation, and Vaccination” recommendations suggested by the County of San Diego and the San Diego mayor’s office, Uejo relays. “Those measures include sending notices out to our staff members containing critical information about the pathogen, disease risk factors, signs of illness, and reminders of proper contact precautions,” he says. The measures also include sanitizing bathrooms and waiting areas in the EDs with bleach solutions and offering the HAV vaccine to all Scripps staff members who work in the EDs.

Uejo adds that Scripps hospitals are in direct contact with county public health authorities regarding vaccine supply as well as outreach to patients. “Also, in conjunction with the county, we are sending our Scripps Medical Response Team out into the community to provide hepatitis A vaccinations to those who are considered at risk,” he says. “The county is providing us with locations and contact information to assist in these efforts.”

## Ask About Travel

While San Diego is at the center of this latest HAV outbreak, Chan advises emergency providers in other cities to be on the alert for HAV as well. “When we focus on travel questions, we always ask questions about travel outside the country, but it may

### EXECUTIVE SUMMARY

Recently, several regions in the United States have experienced unusual outbreaks of hepatitis A (HAV). The most severe of these outbreaks is in San Diego, where emergency providers have taken extra steps to identify patients with HAV promptly and to offer vaccinations to patient groups deemed most at risk. Health officials there report they have been impressed by the range of acuity, the severity of illness, and the vague symptomatology that patients with HAV present with when they come to the ED. Health officials warn that HAV might not come to the top of the list of potential diagnoses immediately considered by providers.

- The ED at the University of California, San Diego Medical Center has identified at least 150 patients with HAV.
- A prompt in the hospital’s electronic medical record will flag patients at risk for HAV so they can be offered vaccinations while in the ED.
- During the current outbreak, investigators have found that at least half the patients identified with HAV are homeless, illicit drug users, or recently incarcerated.
- Most patients identified with HAV in the ED have been admitted to the hospital so they can receive appropriate treatment and follow-up care.

be worth asking patients about travel from other parts of the country that have an active outbreak,” he says.

Chan also advises frontline providers to stay aware of what is happening in their local public health agency. “The first case [of HAV] in your local community might not be at your hospital. It might be at another hospital, and the place that would know about that would be your local public health agency,” he says.

*Editor’s Note: A tool originally developed in the midst of the Ebola outbreak has been adapted for use by frontline providers in the identification and management of patients with*

*hepatitis A. The “Identify-Isolate-Inform” instrument is available, along with supporting research material, at: <http://bit.ly/2ABEKLO>. ■*

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# Medical Home Within ED Serves Needs of Sparsely Populated Region

*North Carolina facility serves as one model for healthcare delivery redesign in rural communities where outcomes have not kept pace with their urban counterparts*

There is ample evidence suggesting new solutions are needed in the way healthcare is delivered in rural America, according to **Margaret Greenwood-Ericksen**, MD, MPH, an emergency physician in the department of emergency medicine at the University of Michigan, who has been researching this subject.

“We know things are not going the way we want them to with rural health,” she says. “Health outcomes [in rural areas] are worse than they are in the general population, and rather than becoming healthier, like what we are seeing in some communities in urban areas, we are seeing rural populations stagnating, not getting healthier, and in some cases, with

some conditions, we are actually seeing worse outcomes over time.”

Multiple factors likely play a role, including the fact that there is a significant shortage of both emergency and primary care providers in rural areas, shares **Greenwood-Ericksen**, who notes that there also may be behavioral or cultural factors that keep patients in these regions from accessing the care they need.

“While it is hard to know which of those things is contributing to this, what is clear is that rural health is not headed in a good direction,” she says.

In particular, Greenwood-Ericksen maintains that policies and models that work well in urban areas do not necessarily produce the same results

in rural settings. For instance, she explains that in an urban setting, you can put a clinic in a community that is struggling and see outcomes improve, but such an approach will not work in a rural area because the residents are spread across a large geographic area.

“Also, both populations have major social determinants of health that can really affect their health outcomes, but they are very different,” she observes. “Maybe there is an issue around affordable housing in a city, but for a rural area, housing may be [easily accessible] because it is not very expensive, but the area may have major issues with food insecurity.”

For all these reasons, healthcare delivery models must be tailored to the regions they serve, and Greenwood-Ericksen believes the prevailing focus, particularly among payers, on limiting ED use is not a good approach in many rural communities where access to care is a big issue.

“The problem in rural areas is it can be really challenging to get in to see a primary care provider, especially when there are not many available. And there are also not very many urgent care options, either,” she explains. “Emergency departments may be, for many people, one of the only accessible [facilities] in which they can get care.”

However, that doesn't mean that there isn't room for innovation in rural healthcare delivery. Greenwood-Ericksen favors the creation of a new model of care whereby both emergency and primary care providers work

## EXECUTIVE SUMMARY

Carolinas HealthCare System has developed a model whereby a medical home is embedded in the ED, and emergency physicians work alongside primary care providers to take care of patients who present. The approach is employed in Anson County, NC, a sparsely populated region about 60 miles southeast of Charlotte, but developers believe the model could work well in other rural communities.

- The ED is housed in a new 43,000-square-foot facility that includes 15 inpatient beds and offers ancillary services.
- All patients who present to the ED undergo a medical screening exam, which determines whether they will be directed to an emergency physician or a primary care provider (PCP).
- Only the encounters that involve emergency physicians are billed as ED visits. The encounters involving PCPs are billed at a lower rate.
- The idea behind the concept is to get patients linked into primary care so that their chronic conditions can be addressed, thereby lessening their need for frequent ED visits.
- In its first year of operation, the medical home in the ED saw a 125% increase in primary care visits and a 7% decrease in emergency visits.

together out of a central location where people are accustomed to accessing their care, and she has published her ideas around this concept.<sup>1</sup>

## Focus on Outcomes

In fact, Greenwood-Ericksen notes that Carolinas HealthCare System has developed a model quite similar to what she describes in Anson County, NC, a sparsely populated region about 60 miles southeast of Charlotte.

“I think everyone is aware that in rural communities across the country, rural hospitals are closing,” explains **Michael Lutes**, president of the southeast division, Carolinas HealthCare System. “So what we really wanted to do was focus on a new model of care that was innovative and would truly improve the health status of Anson County.”

To do that, investigators looked at the historic data and found that about 60% of the ED visits at Anson County’s legacy facility could have been seen at a primary care provider’s office, Lutes explains.

“What would happen is [patients] would come to the ED and we would treat their emergent condition, but not the underlying chronic condition,” he says. “Then, three days later, the patients would be back because no one was managing their underlying chronic condition.”

Further, health outcomes in the region simply were not what they should be under the old system, Lutes advises.

“That really challenged us to think about a different model,” he says.

Planners focused on designing an approach that would direct patients to the right care setting so that their underlying issues would be addressed, thereby breaking the cycle of repeated ED visits, Lutes observes. A lot was

riding on the new approach, so to make sure the flow would work as intended, the healthcare system rented a warehouse and built a prototype facility out of cardboard.

“We had physicians, nurses, and all the different clinical staff building this new innovative model,” Lutes recalls. “I think we used 6,000 pounds of cardboard.”

## Employ Flexibility

All this prep work resulted in the healthcare system replacing Anson Community Hospital with a 43,000-square-foot facility that includes 15 inpatient beds and also a

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24-hour ED that shares space with a medical home model.

Opening for business in 2012, the facility today receives patients who present for care and receive a medical screening exam as required by the Emergency Medical Treatment and Labor Act. The results of that exam then determine whether patients are directed to a primary care provider in

the medical home or to an emergency provider. “We have criteria on what is appropriate to transition patients to an emergency provider or the medical home,” Lutes explains. “If they get transitioned to the medical home, it is not billed as an ED visit.”

Further, once patients are plugged into the medical home and receive subsequent appointments to see a primary care provider, these patients no longer need to go through the medical screening exam. These patients can access patient navigators who help the patients negotiate through the healthcare system and access the necessary care.

While medical home patients and emergency patients are billed differently, they all are seen in the same space.

“On the right side of the department, the rooms are licensed to the medical home, and on the left side they are licensed to the ED,” Lutes notes. “And what we have done is actually built all the rooms to hospital code so that we can flex the rooms to accommodate patient needs.”

Early results suggest the approach is working as intended. “The first year we opened we saw a 125% increase in primary care visits and we saw a 7% decrease in emergency visits,” Lutes observes. “We transitioned nearly 2,700 patients who came to the facility to the medical home who would have gone to the ED [if the medical home was not available].”

Today, the medical center sees about 16,000 emergency patients and 15,000 primary care patients per year, data that are predictive of improved outcomes down the road, according to Lutes.

“We believe if we can transition 2,000 patients into a medical home each year, then the health outcomes [in the community] five years out will significantly increase because we will

now be finally treating those chronic diseases, whereas before such patients would have just gone to the ED.”

In addition to providing a medical home to patients, the facility is equipped with a range of resources on site, including social workers, a pharmacy, an operating room, a lab, and a dedicated area for behavioral health, Lutes explains.

“We have a community room that is focused on education because that is so important to improving outcomes,” he says.

Lutes adds that a range of specialty services, such as OB/GYN, general surgery, and pulmonary care, offer services through a satellite clinic located on the facility’s campus. Also, the center is hooked into the Carolinas HealthCare System’s vast telemedicine platform so that patients and providers can be connected with specialty consults virtually when needed.

## Address Staffing

Regarding on-site providers, access to clinical staffing is a frequent barrier in rural parts of the country, and this was certainly the case in Anson County before the new medical center was built. However, the new facility has proven to be a lure to many experienced clinicians, Lutes observes.

“When we built this new facility and explained our commitment to improve the health outcomes and focus on health disparities in the community, we actually had people who were from Anson County but did not practice there want to come back and practice in the town they grew up in,” he shares. “We are fully staffed in our medical home, and, honestly, it is probably the first time we have been fully staffed in a number of years — since before opening the facility.”

Further, most of the staff members are either from the community or live within 20 minutes of the facility, Lutes adds.

“They are excited about the things we are doing and our commitment to the community,” he says.

For instance, in the first three years of operation, the health system focused intensely on access and identifying healthcare needs, Lutes recalls. As part of this effort, the health

THE OVERALL GOAL OF THIS EFFORT WAS TO REDUCE THE RATE OF THE INCIDENCE OF DISEASES SUCH AS CANCER, OBESITY, AND OTHER CHRONIC CONDITIONS.

system deployed a mobile unit into the community that could provide health screenings where they were most needed.

“We utilized heat maps to look for areas of the county that either had high ED utilization or patients that had not been in to see a doctor, and we knew they were eventually going to wind up in our ED,” Lutes notes.

The overall goal of this effort was to reduce the rate of the incidence of diseases such as cancer, obesity, and other chronic conditions. These are what Lutes refers to as lag indicators, and the health system expects to see improvements in the coming years. Coming up with a new healthcare

delivery model always is challenging, but it does not have to be more expensive, Lutes observes. Indeed, he notes that the Carolinas HealthCare System built the Anson facility for a modest \$20 million. While the facility is quite similar to what is referred to as a micro hospital, the intent behind it differs quite a bit, he explains.

“Oftentimes, micro hospitals are built in high-growth areas to meet a demand for extra beds,” Lutes says. “We built this as a model for how to improve the health outcomes in the community, not as a play to capture more market share.”

Lutes adds that the population hasn’t increased in Anson County in 50 years, so it is hardly a high-growth area.

Lutes acknowledges that the innovative facility would not have been possible without the expertise and resources of a large healthcare system, but at the same time it was equally important to work closely with the community and, in particular, local providers.

“They were excited because they realized that we needed to do something different, and that the traditional model wasn’t working in that community,” Lutes notes. “Overall, I think it has been well received.”

While Carolinas HealthCare certainly is thinking about using the Anson County delivery model in additional rural areas, other health systems have taken an interest in the approach, too. Eleven health systems from six different states have come to visit the facility.

“Just in the last week, I have heard from three different health systems who want to come tour our model,” Lutes boasts.

One thing that Greenwood-Ericksen finds exciting about the model in Anson County is that it links primary care providers with the

ED in a central location where people are accustomed to accessing their care. It also enables the healthcare system to potentially shift some of the higher-level costs associated with emergency care to a lower-cost billing structure. However, she notes that further innovations on the billing side would make it easier to deploy such approaches.

“The payment structure is a big barrier to implementing these models,” she admits.

In fact, some states are experimenting with the use of global budgets whereby payers give hospitals a set amount, and then the hospitals can transform the way they deliver care to what they think is best for the community.

“That removes some of these complicated concerns around costs and the fact that the ED is a more expensive setting,” Greenwood-Ericksen notes.

One problem is that while some healthcare delivery innovation is taking place in rural areas, information about these efforts often is not disseminated in the scientific literature, making it hard for other health systems to learn about new ideas that could work in their own settings, Greenwood-Ericksen laments.

Also, luring emergency providers to work in rural communities remains a stubborn problem.

“I think a concern of emergency physicians working in a rural area is that they feel like they are going to be pretty unsupported,” she says. “By that I mean that they feel as though they won’t have a lot of outpatient resources available to them.”

The model in Anson County addresses this issue by pairing emergency providers with primary care providers in the same space. “It assures emergency providers that they have adequate and appropriate outpatient

access,” Greenwood-Ericksen offers. “I think the more you can provide resources for physicians and a sense that they are part of the community ... and that they are supported by both the hospital and the community, the more they are going to like their job and ... stay in it.”

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MUCH TIGHTER.”

Greenwood-Ericksen has engaged in discussions with some rural hospitals that are interested in redesigning their healthcare delivery process, and one of things she always addresses in these conversations is what the obstacles are to making such a change. Communication is high on the list.

“There are different methods you can use to communicate, and they need to be tailored to the setting you are in, but that really involves getting your primary care providers together with your emergency medicine providers and having that conversation about what is going to work for people,” she advises. “It is really hard to line that communication up in an effective way, so it is a big issue, but I think electronic medical records will

help with that.” Another big barrier is resource availability. “Rural areas tend to have fewer resources available to them partly because less funding goes to rural areas and hospital margins are so much tighter,” Greenwood-Ericksen notes. “You may have some really good ideas for care delivery redesign, but you might not have the resources available.”

One possible way to get around a resource problem is to partner with other organizations in the community. For example, some hospitals work with community partners to manage patients with substance use problems, but these pathways need to be developed, Greenwood-Ericksen observes.

Finally, with any large-scale change, one must find a way to pull all staff in the same direction. “Change is hard and no one likes it, even if you think it is going to make things ultimately better,” Greenwood-Erickson says. “It is hard to get everyone on board to agree to revolutionize the care you provide, so getting buy-in from your physicians and other providers is potentially a barrier, but also an opportunity.” ■

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# Opioid Crisis Affects Sickle Cell Patients Presenting With Related Pain

*Experts note that opioids are still a first-line therapy for patients with sickle cell disease, but providers are reluctant to prescribe opioids in the current climate*

**A**t this point, the deadly ramifications of the opioid crisis are well known. The National Institute on Drug Abuse reports that more than 90 Americans die from opioid overdoses every day and that millions more suffer from substance use disorders. However, one consequence that is not discussed often is the undertreatment that many patients with sickle cell disease receive when they present to the ED in excruciating pain from their

disease. “There are definitely a lot of new barriers being put into place,” explains **Caroline Freiermuth**, MD, an assistant professor in the division of emergency medicine at Duke University School of Medicine and a national expert on caring for patients with sickle cell disease. “Not only is the government now getting involved, but insurance companies are cracking down on what medications they will fill and for how long, so we are seeing some patients with sickle cell

disease who come to the ED simply because they can’t get their outpatient medications filled.”

Sometimes, the problem is due to an insurance company’s unwillingness to pay, but other times clinicians are skeptical that these patients are really in pain. “It’s a frustrating thing for both the patients and the emergency physicians because there is no objective way to decide whether someone is having a pain crisis,” says Freiermuth, who educates emergency providers on how to manage sickle cell patients who present with pain crises. “There are no lab values that say the patients are not having a pain crisis, and there are no vital signs that rule out a pain crisis, so you really have to take people at face value.”

Contributing to the problem is the fact that while most sickle cell patients will never go to the ED in a given year, less than 5% will go the ED very frequently, Freiermuth shares. “That colors the perceptions of the providers in the ED. Then they think that all patients with sickle cell disease are coming to the ED frequently, and that they only want pain medications.”

Much of the blame for the opioid crisis has been directed at physicians, especially emergency physicians, who have become much stingier about who gets opioids in the ED and who gets a prescription to go home with, Freiermuth observes. But this reluctance can result in unnecessary suffering on the part of sickle cell patients who require opioids to relieve painful episodes that are caused by

## EXECUTIVE SUMMARY

One under-the-radar consequence of the opioid crisis is that patients with sickle cell disease are finding it more difficult to receive appropriate care when they present to the ED in excruciating disease-related pain. With no objective way to confirm that these patients are in pain, some emergency providers may decline to provide opioids, causing unnecessary suffering and a mistrust of the healthcare system. Experts note that management of sickle cell disease is complex and not well understood by most frontline providers. However, these experts note that opioids remain a first-line therapy for patients who present with pain crises.

- New barriers include insurance companies cracking down on coverage for opioid prescriptions and the fact that emergency providers are much more reluctant to dispense opioids. Further, providers may be skeptical that patients with sickle cell disease are really in pain.
- Experts note that only a small percentage of sickle cell patients frequent the ED, but the behavior of these patients affects provider perceptions of all sickle cell patients.
- Providing IV opioids to sickle cell patients while they are in the ED should not contribute to the opioid crisis, according to experts. Instead, such habits encourage emergency providers to limit prescriptions for opioids to one or two days, counseling patients to connect with a primary care provider.
- Instead of rejecting pain medications for high-using sickle cell patients, experts stress that providers must carefully consider the reasons why a patient frequents the ED. They further note that resources must be deployed to help providers effectively manage this patient group.

their disease. Beyond suffering, there may be other consequences. “The more acute pain a patient has, the higher the likelihood that the patient will develop chronic pain,” Freiermuth notes. “Distrust of the medical system is also a big problem, and then patients won’t seek care in the future when they are having pain because of the care they have had in the past.”

There is unsettled science on whether untreated acute pain from sickle cell disease can lead to adverse outcomes, but Freiermuth notes that many complications of the disease tend to occur in the setting of an acute pain crisis. For instance, she points out that acute chest syndrome is the number one cause of death for patients with sickle cell disease, and it frequently occurs in the setting of a pain crisis.

## Treat Pain Aggressively

“Right now, the disease-modifying drugs that we have for sickle cell disease can reduce the amount of pain, but they by no means take it away, so opioids are still a first-line therapy for sickle cell disease,” explains **Jeffrey Glassberg**, MD, MA, an assistant professor of emergency medicine, hematology, and medical oncology, and associate director of the comprehensive sickle cell program at Mount Sinai School of Medicine in New York City. However, he notes that the medical community’s increasing awareness of the dangers associated with the dispensation of opioids is affecting the care of sickle cell patients for whom opioids still are indicated for the treatment of pain.

Glassberg maintains it is important to separate the two different ways that emergency physicians give opioids: by administering them in the ED and by writing prescriptions.

“In terms of prescription writing, doctors are being encouraged to be much more cautious and parsimonious about who they write prescriptions for and how much they write prescriptions for, and that is something I actually support,” Glassberg says. “In today’s climate, people who have legitimate indications to be receiving these medicines should still be receiving them from one doctor who really has the knowledge, the capability, and the training to prescribe these medicines, monitor for signs of trouble, and make sure that people are on the lowest dose.”

Consequently, Glassberg suggests that emergency providers shouldn’t be writing prescriptions for opioids just because someone says they have sickle cell disease, as this task can be managed much more effectively by a provider who regularly oversees the patient’s care. For instance, Glassberg’s sickle cell clinic, which now takes charge of more than 200 adult patients with sickle cell disease, has affected healthcare utilization.

“We have seen substantial reductions in the number of ED visits, the number of admissions, and the length[s] of stay of those admissions,” he says. “One of the things I attribute that to is that we are very aggressive about making sure that our patients always have the lowest possible dose of [opioids] as outpatients.”

Glassberg acknowledges that sometimes that means directing patients to arrive for weekly visits so that they can be evaluated constantly, even though the clinic providers know they will not be reimbursed by payers for weekly visits. However, such frequency enables providers to better titrate the medicines the patients are on and keep close tabs on their sickle cell disease.

“That is the kind of service that patients can get from a very

knowledgeable sickle cell provider or someone who knows a lot about pain management,” he says. Therefore, Glassberg encourages emergency physicians to use caution when writing prescriptions for patients who say they can’t access their physician or who don’t visit a physician. “You really have to get them better access to a provider rather than just refilling prescriptions for opioids,” he says.

That said, Glassberg suggests emergency physicians should feel much more open to administering opioids to sickle cell patients while they are in the ED. “Because of the climate, people seem to be more reluctant to give opioids in the ED, but the truth is if you have a patient with sickle cell disease, I think the practice [of administering opioids in the ED] should continue, and in many centers where physicians may be withholding opioids, the practice should increase,” he says. “We should be very aggressive about treating pain in an ED, especially for someone with sickle cell disease.”

A dose of IV morphine that is administered to a patient in the ED is not a bottle of pills that can be diverted or sold on the street, so it is not one of the things that is contributing to the opioid crisis, Glassberg observes. “Sickle cell disease is a rare condition, and these patients unquestionably have many causes for acute and chronic pain,” he says. “And if you are giving them pain medicine in the ED, you are not enabling the opioid crisis.”

## Careful With High-use Patients

A sickle cell crisis is extremely painful, but patients don’t always react to this pain in the way emergency physicians expect, which can

cause skepticism that the pain is real, Glassberg explains. “People with sickle cell disease are trained to distract themselves and to use techniques to minimize their experience of pain, so you might have a patient who says he has 10 out of 10 level pain, and yet he is playing on his cell phone,” he says. “That just doesn’t jive with what most physicians see as someone who is experiencing the worst pain of their life, so it creates a problem for the physician-patient relationship because the physician can’t verify if the patient is telling the truth.”

Compounding the problem is the reality that there is a small number of high-use sickle cell patients who tend to present with more psychiatric disorders. These patients may be coming to [the ED] every month, every week, or every day. Physiologically, it is not possible for a patient to experience a sickle cell crisis every day, Glassberg notes.

When such a high-use sickle cell patient presents to the ED, the physician’s approach may be that he or she is not going to treat the patient’s pain. However, while a decision to withhold opioids may be the correct decision in some cases, such a call never should be made on the fly by an emergency physician, Glassberg stresses. “The first thing you do when someone is utilizing in a way that you think is inappropriate is make a very careful assessment of why that might be, and if it is a reversible cause or a treatable cause, then you address that reason,” he says.

For example, Glassberg notes that patient might be visiting the ED every day because he has avascular necrosis in his hip, which is a condition associated with sickle cell disease that can cause constant pain. “The physician may conclude that the patient could not be having a sickle cell pain crisis, but the truth is the patient is

having legitimate pain, which is being caused by a complication of sickle cell disease,” he says. “If it is severe enough, some of our patients get a hip replacement.”

Further, one of the most common reasons why sickle cell patients may frequent the ED is because they experience small infarcts in their brains, which can affect their executive functioning, Glassberg says. “It might be a patient who can’t follow a treatment plan. You tell them to take their medicine or to go to the doctor, but they don’t do anything,” he says. “They just come back to the ED the next day because they are feeling pain, and this is because they are basically having a traumatic brain injury from their sickle cell disease.”

As these cases suggest, Glassberg notes that providers must do their best to determine what a high-use patient’s unmet need is before concluding that the patient should not be given pain medication. He refers clinicians to research on caring for this specific patient group.<sup>1</sup>

“In some very rare cases, you may decide after careful consideration that for this individual, opioids are making things worse and that you need to stop using IV meds or switch to something else,” he says. “But what we are seeing occasionally is the emergency physician deciding in the moment that [he or she] doesn’t think someone is having sickle cell pain, and that is something that really should never be done.”

Certainly, conducting careful assessments on high-use patients requires resources, Glassberg acknowledges. “You have to establish some kind of system to get the ultra-utilizing patients the help they need because it is too frustrating to providers to take care of patients with a high level of need without any help, and [providers] will then transfer

their frustration to everyone they see with sickle cell disease,” he explains. “So the leadership of the institution, the hematologists, and the outpatient providers have to put in place things to mitigate the effects of extremely high-utilizing patients.”

## Implement Care Plans

While the management of sickle cell patients is complex and not well-understood by most frontline providers, there are steps that healthcare systems can take to facilitate the care of these patients when they present to the ED. For example, practitioners who take care of patients with sickle cell disease in the Duke Health System have developed individualized care plans for these patients that are embedded in the health system’s electronic medical record (EMR).

“When these patients come to the ED, we can just pull the care plans up, and they indicate what doses the patients should receive for an acute pain crisis,” Freiermuth explains. “That makes it very easy for our physicians in the ED to say they are just going to follow the plan.”

Duke hematologists also have started to make themselves available for consults to primary care providers who often need expert guidance in managing patients with sickle cell disease. The idea is to enlarge the group of providers willing to manage patients with this complex condition, thereby improving the care of this patient population while also reducing the need for ED visits.

“Our Duke Sickle Cell Center sees about 600 patients who drive from all over the state to be seen by our hematologists because it is a place where they can get care,” Freiermuth notes. “Many patients use hematologists as their primary care provider, which is

not ideal, but it is the way things are because they don't have access to a [traditional] primary care provider who is comfortable managing their disease."

The dearth of providers with the knowledge and experience to manage patients with sickle cell disease is partly because the life expectancy for patients with the disease has more than doubled in recent years. "In the 1970s, the life expectancy for a person with sickle cell disease was 18, so there wasn't a need for adult providers. The only physicians who would care for sickle cell patients would be pediatricians," Glassberg explains. "Now, people live much longer, and it is purely because of comprehensive care and early identification."

The most recent studies on the issue note that the average lifespan for people with sickle cell disease is 42 years for men and 48 years for women, but Glassberg notes that those figures were compiled before clinicians started using hydroxyurea, a drug that helps reduce the incidence of pain crises as well as the need for transfusions in sickle cell patients.

Glassberg strongly suspects the drug has extended the lifespan of sickle cell patients further, creating a greater need for experienced providers. "It is only recently — over the last 40 years — that sickle cell disease has become an adult disease, so we don't have a lot of adult hematologists who have expertise in this disease, and we don't have a lot of internal medicine physicians, and this is a problem," he says.

## Get Educated

Until that problem is solved, patients with sickle cell disease who are experiencing pain crises may have

few alternatives other than to present to the ED. Glassberg strongly advises clinicians to believe these patients when they say they are in pain.

"You should take the patient's words at face value," he says. "If you are concerned about contributing to the opioid epidemic, then you can be cautious about the prescriptions you write; you can counsel the patient that you are happy to treat their pain [via IV] right there, but that you need them to follow up with somebody who is going to follow them long term ... so you won't be providing prescriptions for more than a day or two."

These steps, along with mechanisms in place to help emergency providers care for high-use patients, would go a long way toward improving the care of sickle cell patients, Glassberg explains.

Freiermuth advises emergency clinicians to educate themselves about sickle cell disease, and realize that it is a chronic disease process. "Patients are still dying early because of the high morbidity and mortality for their disease. These patients have strokes at early ages, and they have kidney failure by their 30s, so

their sickle cell disease causes a lot of underlying issues," she says.

Further, when it comes to pain, Freiermuth encourages clinicians to give patients the benefit of the doubt. "You may get burned by a few patients, but I would rather get burned by a few than undertreat the many." ■

## REFERENCE

1. Koch KL, Karafin MS, Simpson P, Field JJ. Intensive management of high-utilizing adults with sickle cell disease lowers admissions. *Am J Hematol* 2015;90:215-219.

## SOURCES

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## CME OBJECTIVES

After completing this activity, participants will be able to:

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  - a. identifying patients with the ailment.
  - b. developing treatment plans.
  - c. coordinating with public health officials.
  - d. maintaining awareness of the outbreak.
2. **One concern emergency providers express about working in rural communities is:**
  - a. they may not be supported by outpatient resources.
  - b. they worry that their pay will be less.
  - c. they prefer caring for a more diverse patient population.
  - d. there is a high burden of chronic disease.
3. **The first thing an emergency provider should do when a patient with sickle cell disease is using the ED in a way the provider thinks is inappropriate is:**
  - a. try to validate that the patient is, in fact, in pain.
  - b. perform a careful assessment of why the patient is frequenting the ED.
  - c. counsel the patient on the dangers of opioid use.
  - d. arrange for a psychological consult.



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