



Management

Best Practices – Patient Flow – Federal Regulations – Accreditation

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Continuous quality improvement process pin-points delays, speeds STEMI patients to life-saving treatment

Health system finds opportunities for improvement at the point of entry

Faster throughput can clear waiting rooms and boost patient satisfaction, but there are also instances where time-to-treatment can make a critical difference in outcomes. For example, for patients suffering from ST-segment-elevation myocardial infarctions (STEMI), the most severe form of heart attacks, every 15-minute delay in providing balloon angioplasty to clear blocked arteries results in a 1% increase in mortality, according to **Ehtisham Mahmud, MD**, co-director of the Sulpizio Cardiovascular Center at the University of California, San Diego, and

EXECUTIVE SUMMARY

- Using a multidisciplinary team approach, the University of California, San Diego, Health System has been able to significantly reduce average door-to-balloon angioplasty times for patients with the most severe form of heart attacks, beating national recommendations by more than a third. The multidisciplinary team meets monthly to review all cases involving patients with ST-segment-elevation myocardial infarctions (STEMI) to see where process improvements can be made.
- Using this continuous quality improvement (CQI) process, the health system has reduced average door-to-balloon times from 120 minutes to less than 60 minutes, and administrators are now aiming for further progress.
 - Among the improvements instituted by the multidisciplinary team are the implementation of a “greeter” with enough clinical expertise to quickly pick up on potential STEMI heart attacks as soon as patients walk into the ED, and the purchase of an electrocardiogram (EKG) machine so that evaluations can be done in the triage area.
 - ED staff have prepared “STEMI” packets, including items such as special IV tubing and disposable leads, so that patients headed for the catheterization laboratory are prepared to undergo the procedure soon after arrival.
 - All the clocks and devices used in the ED are synchronized so that analysts can later review how long it took to complete each step of the care process. Points of delay can then be targeted for improvement.



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chair of the UC San Diego Health System's door-to-balloon time committee. Treatment delays for STEMI patients can also lead to severe complications, including arrhythmia, heart failure, and chronic debilitation, adds Mahmud.

This is why the UC San Diego Health System has made door-to-balloon time for STEMI patients a constant target for improvement. And these

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efforts have paid off handsomely: In the past year, the health system, which includes three EDs, has brought average door-to-balloon times down to less than 60 minutes, beating national recommendations by more than a third, say hospital administrators. While such an improvement requires institutional leadership and commitment, sources from UC San Diego say there is no reason why other EDs cannot follow a similar roadmap to success. (*Also, see Study: ED crowding does not interfere with time to treatment for STEMI patients, p. 124.*)

Analyze the process

For one thing, it's not hard to get clinicians to rally around a goal with such clear benefits, explains **David Guss, MD**, chair of the Department of Emergency Medicine at UC San Diego.

"Improving time from door to balloon [for STEMI patients] has real impact on patients and saves lives, so it is one of those goals that is associated with something meaningful," he says.

To tackle the issue, UC San Diego established a multidisciplinary team consisting of all the key players, including ED leadership, general cardiologists, interventional cardiologists, pharmacists, and catheterization laboratory staff. "You can't just delegate this to junior people to take care of," stresses Guss. "They can play very important roles in monitoring and tweaking, but you need leadership so that it is very clear that this is an important endeavor for the institution, and then you've got to stick with it."

The way the team addressed the issue was by breaking the entire process, from the time a patient arrives at the ED until the final act of opening an artery occurs, into all of its individual parts to see where delays were occurring and where there were opportunities for improvement, explains Guss. "Then, rather than pointing fingers or executing blame, we decided we would all work together to make the process as effective as it could be," he says.

The health system's electronic medical record (EMR) system facilitates this type of analysis because it time stamps every action, says Guss. "All of the clocks in the ED and all of the apparatus that we use are synchronized so that even if there is something that is not entered into the EMR, you can still look at the time stamp on an EKG and see exactly when it was performed," he says. "You can look at the interpretation of the EKG and know exactly when it was performed,

and you can look at the paging system and see exactly when a page went out.”

Look at the point of entry

By carrying out this type of analysis, team members quickly became aware of a major opportunity for improvement as soon as the patient walks in the door of the ED. Traditionally, patients entering an ED at UC San Diego would first encounter a registration person who had relatively little medical training, so this person’s ability to recognize someone who could potentially be having a heart attack was limited, says Guss. To solve this problem, the health system created a “greeter” position to be the first point of contact for all patients. *(Also, see Management Tip on making your case for a greeter, p. 124.)*

The “greeter” is an emergency medical technician who has received added training from the health system’s educator on how to recognize potentially life-threatening conditions, such as heart attacks, explains Beverly Kress, RN, BSN, the director of nursing, emergency/critical care, at UC San Diego. “Sometimes there are subtle symptoms, especially in females, that would alert [a clinician] that a patient is having a heart attack,” says Kress, noting that upper-abdominal, gastric discomfort can be a tip-off for heart attack.

“The first person a patient will see behind a window is the greeter, and instead of [collecting demographic] and registration information, the greeter will find out why the patient is presenting to the ED, and chest pain is always going to warrant getting the patient straight to the back immediately,” she says. The patient can then receive an EKG at the same time he or she is providing registration information.

“We realized that often these patients were not getting EKGs for 10, 15, or 20 minutes after arrival, so we put an EKG machine in the triage area and made it the very first action that gets taken, even while the patient’s history and basic vital signs are being obtained,” says Guss.

“Then we made sure that the EKG is brought to the attention of someone who can accurately read it immediately, and right there, we were able to shave 10 to 15 minutes off of our average door-to-balloon times.”

Standardize procedures

The multidisciplinary team also created a “code STEMI” that ED staff will activate whenever

they identify a STEMI patient. This action, which involves notifying the telecom operator, alerts several key people to take action: a rapid response nurse will come to the ED to provide an extra set of hands; a pharmacist will prepare the appropriate medications for a heart catheterization procedure; the cath lab team will prepare for a STEMI procedure; and a member of the security team will secure a trauma elevator that can go straight to the cath lab, so that there are no interruptions and no time lost, explains Kress.

By creating “STEMI packets,” ED personnel have been able to further trim steps out of the patient preparation process, notes Susan Watson, RN, BSN, a nurse manager in the ED who is also part of the multidisciplinary STEMI team. “In the cath lab, they use different tubing than we use in the ED [to facilitate the administration of several drugs at once], so instead of them having to change the tubing once the patient is transported upstairs, we go ahead and initiate the cath lab’s specific tubing, and we immediately put the patient on a transport monitor,” says Watson. “The cath lab also uses disposable leads, which the ED does not use, so we go ahead and use the type of leads that the cath lab uses so that no time is wasted once the patient gets to the cath lab.”

Implement a CQI process

The multidisciplinary STEMI team meets monthly to analyze every STEMI case and to evaluate why certain cases went well and why others went less optimally, says Guss. “We set standards for how long each step should take, and then we can go back and dissect why [a particular step] took two or three minutes longer than the standard,” he says. “Sometimes, it is just an outlier or a breakdown in the system, and other times, it represents a problem with the system that we need to tweak.”

Establishing targets is no problem because there are plenty of established benchmarks for STEMI patients, but you need to stay on top of it, says Guss. “It has got to be a CQI [continuous quality improvement] process,” he adds.

One way the health system intends to further improve door-to-balloon times is by working on better field determination of STEMI patients because a significant number of these patients enter the ED via ambulance, explains Guss. “There is enough general education out there in the community so that when people have chest pain, they don’t just jump in their cars and drive in, they

dial 911 and get picked up,” he explains. “So we are working with the medics to make sure they get EKGs rapidly, and we are just now instituting a system where we can get access to those EKGs while the patient is still in the field, so that we can activate a STEMI response before the patient even gets to the hospital.”

With this kind of CQI process in place, individual changes are not difficult to achieve, explains Guss. The new greeter position and the purchase of an additional EKG machine took some time because they required institutional expenditures, but he notes that most of the improvements were not complicated. “It was just a matter of creating a culture in which this was going to be a top priority for us,” he says. “Failure was not going to be acceptable, and once that point was made clear, everything else fell into place.” ■

SOURCES

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Management Tip

Make your case for a “greeter” with ample ammunition, staff support

Having a person up front in the ED with enough medical expertise to pick up on the sometimes subtle signs of ST-segment-elevation myocardial infarctions (STEMI) can help to speed these patients to appropriate treatment, but it is important to consider the larger advantages of having this type of “greeter” position as the first patient contact.

“There are not enough STEMI patients to make this a financially viable decision,” explains **David Guss**, MD, chair of the Department of Emergency Medicine at the University of California, San Diego Health System. Consequently, Guss advises colleagues to look at the full range of potentially life-threatening conditions where added medical expertise at the point of entry to the ED can make a critical difference in outcomes.

Further, you may find that ED personnel are wholly supportive of such a move. “There was no resistance from staff [to the creation of a ‘greeter’ position],” explains **Beverly Kress**, RN, BSM, the director of nursing, emergency/critical care at UC San Diego. “They recognized this was an important role that needed to be placed in our waiting room.” ■

Study: ED crowding does not interfere with time to treatment for STEMI patients

One new study suggests that crowding in the ED does not necessarily prevent patients who are having ST-segment-elevation myocardial infarction (STEMI) heart attacks from receiving needed treatment quickly.¹ It’s an issue of some concern because data show the number of EDs in the United States is dwindling even as demand for emergency care continues to rise.

In the latest single-institution, prospective observational study, researchers at Advocate Christ Medical Center in Oak Lawn, IL, found that heart attack patients needing angioplasty to clear away blocked arteries waited an average of 65 minutes for treatment, and that the level of crowding at the hospital did not impact this wait time. Researchers report in the *Annals of Emergency Medicine* that, on average, the ED was filled to 127% of capacity over the course of the study period from June of 2007 to October of 2009.

However, the specific hour that patients arrived at the ED did have an impact on wait times. The STEMI patients who arrived between 6 a.m. and 6 p.m., when an angioplasty team was at the hospital, waited an average of 55 minutes for treatment. Those who arrived in the evening or on weekends, when an angioplasty team was on call, waited an average of 76 minutes for treatment. Expert guidelines suggest that patients requiring emergency

angioplasty should receive the procedure within 90 minutes of arrival at the ED.

While the results of this study suggest that ED crowding had no ill effects on one group of critically ill patients, Erik Kulstad, MD, a co-author of the study, suggests that there is no doubt that such crowding is having an adverse effect overall. He points out, for example, that while patients in need of emergency heart procedures are given priority, this may well draw staff and resources away from the care of other patients. Further, it should be noted that numerous studies have found a link between ED crowding and delays in care. ■

REFERENCE

1. Harris B, Bai J, Kulstad E. Crowding does not adversely affect time to percutaneous coronary intervention for acute myocardial infarction in a community emergency department. *Ann Emerg Med.* 2011 July 28 [Epub ahead of print]

Chest pain units help EDs streamline care, boost throughput for low- to moderate-risk patients

Keys to success: High chest pain volume, partnerships with cardiology and radiology

The ED at Shands Critical Care Center at the University of Florida in Gainesville, FL, sees about 9,000 patients every year who present with chest pain, and until recently, a high percentage of the low- to moderate-risk patients were being admitted to the hospital for further observation. However, this was creating a bed crunch that Shands Cancer Hospital, where the ED is housed, could ill afford.

“We are a heavy-volume academic center; 75,000 patients a year come to the ED,” says Preeti Jois, MD, an assistant professor of emergency medicine at Shands Critical Care Center Emergency Department. “So we looked for ways to alleviate the logjam with beds, and we decided one way to do it would be to create a unit where we could better evaluate the low- to moderate-risk chest pain patients that we were otherwise admitting.”

The approach offered several advantages: The patients could be evaluated more efficiently,

significantly shortening their length-of-stay (LOS) while also boosting throughput in the ED. Further, even without the routine 2- to 3-day hospital stay typically required to evaluate these patients, they could leave the hospital with a definitive diagnosis as opposed to receiving referrals for follow-up testing. This would also mean if these patients returned to the ED with chest pain, providers would have their cardiac evaluations in hand and could immediately rule out a heart problem. (*Also, see Chest pain units guided by ‘a clear plan of action,’ p. 127.*)

Hospital administrators bought into the approach, and the “chest pain ER” at Shands opened in August of 2011. Jois is the medical director of the eight-bed, 1,500-square-foot unit that is housed within the main ED, and she indicates that some of the benefits of the unit were apparent in just the first three weeks. “We had 51 patients go through the new unit, and we admitted five of them,” she says. “So if you think about it, we have diminished our low-to-moderate risk admissions by about two-thirds to one out of about every 10 patients.”

Such units do require an investment in personnel, says Jois. Shands agreed to fund five dedicated mid-level providers, a nurse, and a tech to manage the chest pain unit, and there is also significant involvement and support from cardiology,

EXECUTIVE SUMMARY

Hospitals that see a high volume of patients who present to the ED with chest pain are finding that they can expedite care by establishing a chest pain unit to evaluate the low- to moderate-risk patients who have normal initial electrocardiograms (EKG), but no other apparent conditions that can explain their symptoms. The directors of these units say they have trimmed what used to be a two- to three-day hospital stay to a 10- to 18-hour observation period, and patients are able to leave the hospital with a definitive diagnosis.

- In its first three weeks of operation, the chest pain ER at Shands Critical Care Center at the University of Florida in Gainesville, FL, helped the hospital reduce low- to moderate-risk admissions by two-thirds.
- Data on 30-day outcomes from the chest pain center at Providence, RI-based Rhode Island Hospital suggest that only three in every 1,000 patients treated has had an adverse cardiovascular event following discharge.
- The director of the chest pain unit at Palmetto Health Richland in Columbia, SC, says screening and evaluation carried out in the unit have enabled providers to pick up cardiac problems in patients who would not have met the criteria for admission to the hospital in the past.

she says. However, the approach can make sense for busy EDs that see high volumes of chest pain patients. “It benefits both the provider and the patient and, ultimately, the hospital as well because now you have a place where you can actually do decision-making at evaluation without necessarily admitting a patient for three days,” adds Jois. “If you have freed up a bed for someone who really needs it, you have benefitted the whole system, and your throughput in the ED is positively impacted as well.”

Keep an eye on outcomes, performance

While the chest pain unit at Shands is brand new, other hospitals have operated chest pain units for many years. Providence, RI-based Rhode Island Hospital, for example, has been operating a seven-bed chest pain center within the confines of its ED since 2007, explains **Anthony Napoli**, MD, the director of the unit. “Patients were coming into the ED more frequently with chest pain,” he says, noting that many of the patients who went on to be admitted to the hospital were in need of observation. The chest pain unit offered a more direct and simplified way to care for this patient group under an observation protocol that was designed for their specific needs; it streamlined the process, says Napoli.

“Also, up until that point, it had been difficult to identify a particular group of physicians who would, in a way, take ownership of this standardized observation period,” adds Napoli. “So one of the main things [the chest pain unit] accomplished was it provided a way to give this group of patients a home, if you will, that used the skills of the particular group we involved — emergency medicine and cardiology.”

As with the Shands unit, the chest pain unit at Rhode Island Hospital has significantly reduced the amount of time patients need to spend in the hospital. The average LOS for a patient admitted to chest pain unit is now about 16 hours, says Napoli. However, the approach has also eliminated variation in how these patients were traditionally cared for. “Now we have a process where there is a clear step-by-step progression of their care,” he says. “This has allowed a much faster arrival-to-disposition time for individuals, and it enables them to receive all the necessary components of their care.”

Process measures that assess the relative efficiency of care are important, but Napoli stresses that the gold standard should involve seeing how

patients who have been cared for in the chest pain unit are doing 30 days after discharge. “Even if they do well during their observation stay, that doesn’t mean [the visit] was a success at preventing a major adverse cardiovascular event (MAC),” he says. “The whole point of admitting these individuals to the chest pain unit is to insure that they are not having unstable angina.”

Consequently, Napoli has implemented a process whereby all patients are contacted 30 days after discharge from the chest pain unit to see how they are doing, and the results, thus far, suggest the chest pain unit is working well. “We have an extremely low rate of adverse outcomes,” he says, reporting that in the last set of data that was collected, roughly three in every 1,000 patients treated in the chest pain unit had an adverse cardiovascular event at 30 days post discharge. “Since that data was reported, we haven’t seen any adverse outcomes at 30 days, so the rate is probably even lower now because we generally see about 1,600 patients in the chest pain unit every year,” says Napoli.

Nurture relationships

Troy Privette, MD, the director of the chest pain unit at Palmetto Health Richland in Columbia, SC, agrees that in addition to expediting care, chest pain units clearly have the potential to improve care. “It’s a benefit that we are doing a lot more screening and tests on cardiac patients than in the past,” he says, noting that many of the patients who are admitted to the chest pain unit may not have met the criteria for admission to the hospital previously, and yet, some of them end up having a positive work-up. “We are picking up positive tests in people who would have been ruled negative just based on predictive screening.”

The chest pain unit at Richland Hospital has been operating for nearly a decade, and it averages about 10 patients a day, which is about half of all the patients who come into the ED with chest pain, says Privette. “We are there 24/7, and we can keep the work-up rolling. The unit has basically shortened what used to be a 2- or 3-day process to about 18 hours,” he says. “Patients are really happy with it. We get a lot of requests from patients who want to stay in the unit rather than go upstairs.”

However, Privette stresses that the key to the success of any chest pain unit is a good working relationship between the emergency department and cardiology because the two departments must

work together in order to expedite care. Jois agrees with Privette, noting that hospital and ED managers who are interested in implementing a chest pain unit need to take the time to nurture buy-in and support from other departments, especially cardiology and radiology.

“[At Shands], there has been a lot of involvement and support from cardiology. They send us treadmill support staff to come over and run the treadmills in the confines of the unit,” says Jois. “You cannot do this as an isolated person in the ED.” ■

SOURCES

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Chest pain units guided by a ‘clear plan of action’

Not all chest pain units operate within the walls of the ED, and policies can vary. Many units, however, follow a similar process for identifying patients who are suitable for this type of care, and then providing enough testing and evaluation so that an underlying cardiac problem can be picked up or ruled out when a patient’s status is not immediately clarified through the initial electrocardiogram (EKG). “Obviously you are teasing out patients who have an asthma exacerbation, pneumonia, or a chest wall contusion,” explains **Preeti Jois**, MD, medical director of the chest pain ER at Shands Critical Care Center in Gainesville, FL. “Those are not going to be people you put in the chest pain unit.”

Typically, patients referred to chest pain units will have serial blood markers drawn, repetitive EKGs, and they will undergo stress testing or sometimes cardiac computed tomography (CT), says Jois. And in many chest pain units, patients receive a cardiac consultation before they leave, so they are equipped with targeted education and

they are connected with a specialist for any needed follow-up care.

“It is an easy population to define, and an easy population to provide a fairly regimented care plan for,” explains **Anthony Napoli**, MD, the director of the chest pain unit at Rhode Island Hospital in Providence, RI. “Most facilities have an opportunity to improve the care of these individuals and improve the timeliness with which they get this care because this is something that, unlike other medical diagnoses, lends itself to a fairly clear plan of action.”

While you don’t necessarily need dedicated space, Napoli stresses that it is important to have staff who are geared toward the care of this patient group, and a leader who oversees the unit. “You need someone who will take charge of evaluating the process you have implemented and who will insure that patients have effective outcomes,” he says.

A key factor that you can’t get around is that you need to have a high enough census of patients to justify creation of a chest pain unit, stresses **Troy Privette**, MD, director of the chest pain unit at Palmetto Health Richland in Columbia, SC. “If you don’t have a fairly large chest pain population coming through your ED, it is probably not going to be worth the time, expense, and the structure to set it up,” he says. “But for those who do have significant volume, it is definitely worth the time and effort.” ■

ED diversion: Multi-disciplinary approach engages high utilizers, helps them better navigate the health care system

Collaborative model pairs high-risk patients with community health workers

Like many EDs across the country, the ED at St. Charles Medical Center in Bend, OR, sees its share of patients with urgent or primary care needs, and many of these patients frequent the ED 10 or more times a year. It’s a problem because not only does the hospital lose money on a significant percentage of these patients, but the truth is most of these individuals could be receiving better care in a more appropriate setting, explains **Robin Henderson**, PsyD, the director of behavioral health

services in the St. Charles Health System.

However, getting frequent ED users to change their health care habits is often anything but easy. Many of them have complex social and behavioral health needs in addition to medical problems. Nonetheless, the St. Charles Health System is beginning to make headway with this patient group through a new program that routinely identifies frequent ED users and develops interventions designed to address their needs more appropriately. In some cases, these individuals are being paired with community health workers who then help them to better navigate the health care system.

The approach has reduced the inappropriate use of the ED by 45% to 70% in the cohorts of patients that the health system has analyzed thus far, says Henderson, and she expects the health system to make further progress. “When we first started the program, we identified people who were visiting the ED 50 and 60 times a year. It was absolutely remarkable,” she says. “What we are trying to do is get to the point where that never happens again.”

Identify high utilizers

The ED diversion project is just one of many initiatives that is flowing from a health care collaborative that includes the Medicaid payer and federally qualified health clinics in the region, the St. Charles Health System that either owns or manages all four hospitals that serve the area, and Health Matters of Central Oregon, a non-profit group in Bend, OR, that contracts with the other collaborative members to provide them with community health workers.

EXECUTIVE SUMMARY

Working with partners, the St. Charles Health System in Bend, OR, has implemented an ED diversion project that is helping patients who frequent the ED connect with more appropriate settings for their primary care needs. The hospital identifies high ED utilizers using claims data, then a multidisciplinary engagement team establishes care plans for these patients. The most at-risk patients are paired with community health workers to help them better navigate the health care system.

- The ED diversion project has reduced unnecessary ED utilization by 45% to 70% in cohorts of patients that the hospital has analyzed thus far.
- The hospital contracts with a non-profit organization to supply and train community health workers.
- Community health workers follow a structured model that includes more than 80 different pathways to follow, based on patient conditions.

All of these entities came together in response to a mandate from the Oregon legislature in 2009 to look at ways to create a single point of accountability for health care dollars flowing into the region, as well as to engage in initiatives that would reduce the overall cost of health care, explains Henderson. “In our early meetings, we really wanted to come up with projects that could deliver a big win quickly, and one of the problems that we all knew we had was the problem of high-frequency utilizers of the ED,” she says. “We ran an initial report 18 months ago and identified about 600 patients who had visited the ED 13 or more times in a year. We decided that was the group we wanted to address.”

When the ED diversion program first went live in the last quarter of 2010, investigators focused on high ED utilizers over the previous year, but the program has since been tweaked to look more closely at quarterly trends, explains Henderson. “We may look at someone who has had four ED visits in the last quarter and decide we need to engage that person,” she says. “We know that ED use can be very cyclical and we have seen that as this program as played out over the last year.”

Each hospital has a multidisciplinary engagement team comprised of one or more ED physicians, a nurse case manager for the ED, a social worker, a behavioral health consultant who specializes in primary care intervention, and, sometimes, a community health worker will be part of this team as well, says Henderson. These teams then meet weekly or bi-weekly to review the health records of each identified high-utilizing patient to evaluate why this person keeps coming back to the ED for care.

“Some patients are coming in continuously with chronic pain issues because they are not integrated into primary care,” says Henderson, noting that other patients may have transportation issues, mental health problems, or other barriers that keep them from accessing primary care in a more appropriate setting. Whatever the issues are, the engagement team will use all of the information it has to develop a care plan designed to help that patient receive the best care in the most appropriate setting.

In many cases, the barriers or issues that prompt patients to use the ED inappropriately can be resolved by connecting the patient with a behavioral health specialist or a social worker. However, a select number of the higher-risk patients will be paired with a community health worker who will then provide one-on-one guidance and support to these individuals to help them work through their

often complex medical and social issues.

Link high-risk patients with a health advocate

Health Matters of Central Oregon is involved with a number of health care initiatives, but one of its responsibilities is to hire and train community health workers for the ED diversion project. “These are paraprofessionals. They’re not leading the [engagement] team, they’re there to support the team,” explains **Alisha Fehrenbacher**, MHA, MGA, the chief executive officer of Health Matters. “The providers give guidance to community health workers so that they can help patients navigate the system.”

The community health workers follow a structured format that is based on the Pathways Community Health Access Project (CHAP) model that was developed by Mark Redding, MD, and Sarah Redding, MD, in Mansfield, OH. The model identifies specific pathways or intervention strategies to follow based on patient conditions. However, in all cases the role of the community health worker is to build a rapport with patients and to act as their advocate, adds Fehrenbacher.

Health Matters recruits community health workers from the area being served and then trains them through a class that is now embedded at a local community college, says Fehrenbacher. “It’s an opportunity to help with navigation, health care costs, and satisfaction with the system ... and it is also workforce development, so we are trying to build this workforce to help augment and assist with delivery system reform,” she says.

While the approach was initially funded through grants, the St. Charles Health System now pays for two community health workers to work with the ED diversion project, and it will soon bring on a third. One of these individuals, **Becky Wilkinson**, works out of an office at St. Charles Medical Center.

“Most of the patients who are frequent users of the ED are not always easy to get a hold of. There are times when I call them or go to their homes to try to engage them, but I have found it is more successful for me to catch them when they are in the ED,” says Wilkinson. “I will either see them on the bed board because I know their names or I will get called by a member of the ED staff.”

Keep the focus on barriers

Typically, when Wilkinson is notified that a high-utilizing patient is in the ED, she will immediately

go to the ED to meet with the patient and explain the program. Very few patients are resistant to being involved, says Wilkinson, noting that she tells patients that her role is to be an advocate for them. “I have patient-clients who have severe behavioral health issues or are developmentally delayed, but I also have patients who just need some life skills,” she says.

The way the model works, there are more than 80 pathways, each representing some sort of barrier, adds Wilkinson, noting that common barriers involve transportation, housing, or lack of phone service, and there are many combinations of barriers. The community health worker’s job is to work with the patient toward resolving each barrier.

For example, Wilkinson explains that she has just begun working with a woman who has been coming into the ED frequently with chronic back pain problems as well as several behavioral health issues. “I learned that this patient does have a primary care home, but she has not been able to access it. She could not get an appointment, and felt that they were just not available to her, so she was coming to the ED for care,” explains Wilkinson.

Wilkinson enrolled the patient in the program, and provided her with education about the type of care she would be able to receive in a primary care setting. “I said I would make an appointment for her with her primary care doctor and go with her to the appointment so that we could try to coordinate her care and get her in to see a shoulder specialist,” says Wilkinson. “A lot of times, patients are so overwhelmed with all of their personal issues and mental health issues that they just don’t seem to be good advocates for themselves, so I will sit down with this patient before the appointment and we will work out some goals for the visit.”

Wilkinson says she always asks patients if they want her to speak with the provider or if they would prefer for her just to observe. “Most of the time, I help them explain to the doctor what is going on and then we discuss how we can coordinate care for the next step in their chronic issue,” she says.

Get patients established in medical homes

Having someone who will act as a health advocate is what makes the critical difference to many of these high-utilizing patients, says Henderson. “What we find with a lot of the people who use the ED frequently is that they are comfortable there. These are the people who care for them. It is, in essence, their medical home,” she says. “So what

Becky [Wilkinson] and the other community health workers do is facilitate the transfer of the medical home from the ED to a [more appropriate setting], whether that is a safety-net clinic, a primary care clinic, or wherever that patient wishes to engage.” (Also see *Management Tip: Multidisciplinary approach key to helping patients access care appropriately*, p. 131.)

Many of these patients just need assistance in navigating the health care system, adds Henderson. “What used to happen is people would walk out of the ED with a sheet of instructions that would say to call their primary care provider,” she says. However, many individuals would fall through the cracks for any number of reasons. Maybe the patients were no longer welcome at their primary medical home because they had missed too many appointments, they had some type of mental health issue that was getting in the way, or they lacked transportation or childcare, she says.

“Now, whatever the issue is, the community health workers figure it out and attempt to renegotiate that relationship,” says Henderson. “What we see happening time and time again is that once people are established with their primary medical home, they don’t need the ED to fulfill that role anymore.”

Another benefit to the program is that ED providers and registration personnel are highly satisfied with having a resource than can help them manage patients who keep returning to the ED for care. “Most of my patient-clients have been to the ED so many times that it is frustrating for the physicians, especially because they feel that they can’t help them and that they are not fixing the problem,” says Wilkinson. “They don’t know what else to do with these patients, so I am constantly getting thanked [for stepping in to help these patients].”

Wilkinson observes that area clinics have also come to rely on her knowledge of these patients when they are making care decisions. “I know more about these individuals than they are going to tell their doctors, so it is easy for the physicians or the clinics to call me and ask my opinion about what would work best to help keep a patient on track,” she says.

Wilkinson, who has been a community health worker since January 2011, is currently working with about 60 patient-clients, but she acknowledges that some of them just need help getting connected with a primary care home, while others need more active engagement over a period of time. “What I have found is that there are definitely peaks and valleys ... but I always stay in touch [with patient-clients] and make sure that

they are following up with their specialty visits or whatever they need to do,” she says.

The ED diversion model offers some financial appeal to St. Charles Medical Center because the ED there actually loses money on Medicaid patients, and the vast majority of patients who are identified for the program are on Medicaid, says Henderson. However, that benefit does not carry over to the other three hospitals that are involved in the program.

“This is a conscious choice we have all made because it is the right thing to do for our patients,” says Henderson. However, the financial case for the model may become more compelling if Oregon takes similar steps to its neighbor, the state of Washington, which has put hospitals on notice that it will only cover three non-emergency ED visits by Medicaid recipients. Washington lawmakers expect to save \$34 million a year through the move, which went into effect October 1, 2011.

In any event, Henderson stresses that the approach fits in well with the move toward accountable care organizations. “We have to figure out how to engage people more with their health care in the medical home model. That is where health care is going, and we have to prepare ourselves for a new way of getting reimbursed.” ■

SOURCES

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COMING IN FUTURE MONTHS

- EDs grapple with drug shortages
- Creative approaches reduce imaging, curb radiation exposure from CT
- The case for taking appointments in the ED
- Infection control in the ED

Management Tip

Multidisciplinary approach is key to helping patients access care appropriately

If you want to have success in directing frequent ED utilizers to more appropriate settings of care, you have to look beyond their clinical needs, stresses Robin Henderson, PsyD, the director of behavioral health services for the St. Charles Health System in Bend, OR, a group that has implemented an ED diversion project that is successfully reducing inappropriate ED utilization. "You have to recognize more than just the physical body that walks into your ED," she says. "When someone has chronic pain, it impacts them emotionally, it impacts their family life, and it impacts their ability to work."

Henderson advises colleagues to tackle this issue with a multidisciplinary approach that considers all barriers and prioritizes care coordination. "What it comes down to is meeting a patient where they are, and that is what care coordination is," she says. ■

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CNE/CME OBJECTIVES

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

CNE/CME QUESTIONS

1. According to **Ehtisham Mahmud**, MD, for patients suffering from ST-segment-elevation myocardial infarctions (STEMI), the most severe form of heart attacks, every 15-minute delay in providing balloon angioplasty to clear blocked arteries results in:

- A. a 10% increase in the risk of brain damage.
- B. a 50% increase in the potential for complications.
- C. a 35% increase in mortality.
- D. a 1% increase in mortality.

2. How did a multidisciplinary team at the University of California, San Diego Health System pinpoint where delays were occurring in the treatment of STEMI patients?

- A. by having a clinician shadow a STEMI patient throughout his ED visit
- B. by breaking down the entire process, from the time a patient arrives at the ED until the final act of opening an artery occurs, into all of its individual parts, and then time stamping when each step occurred
- C. by interviewing every clinician involved with caring for STEMI patients
- D. by posting an auditor in the ED waiting room to track the flow of STEMI patients

3. Chest pain units are designed to evaluate what type of patient?

- A. patients who are undergoing STEMI heart attacks
- B. patients who present to the ED with any type of chest pain
- C. low- to moderate-risk patients who present to the ED with chest pain
- D. all of the above

4. According to **Anthony Napoli**, MD, the advantages of having a chest pain unit include:

- A. faster arrival-to-disposition time for patients cared for in the unit
- B. less variation in care
- C. a very low rate of adverse cardiovascular events
- D. all of the above

5. **Troy Privette**, MD, says one key to the success of a chest pain unit is:

- A. a unit based within the confines of the ED
- B. a good working relationship between cardiology and the ED
- C. stress testing available in the unit 24/7
- D. a unit with at least 10 beds

6. In the ED diversion project at St. Charles Health System in Bend, OR, the role of community health workers is to:

- A. build a rapport with patients and to act as their advocate

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- B. get uninsured patients covered by Medicare or Medicaid
- C. provide assistance to overworked ED clinicians
- D. track down health information about patients