



# HOSPITAL CASE MANAGEMENT

THE ESSENTIAL GUIDE TO HOSPITAL-BASED CARE PLANNING

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## Throw Away Paper Notes and Move Into World of Technology

*Choose wisely from the array of options*

The saying used to be that case managers were only as powerful as their little black book of resources. But, through technology, today's case managers have access to resources that go far beyond the pages of a book.

"It's a new world out there with a lot of exciting changes, and so many things that case managers can accomplish electronically in a fraction of the time it used to take," says **Cheri Bankston**, RN, MSN, senior director of clinical advisory services for naviHealth, a Cardinal Health company.

Technology has made a lot of changes in the way case managers work.

When used properly, it frees up case managers to spend more time at the bedside, Bankston points out.

"The whole future is electronic," says

**Toni Cesta**, RN, PhD,

FAAN, partner and consultant in North Bellmore, NY-based Case Management Concepts. "It is making life so much easier for case managers, particularly when patients move through the continuum," she adds.

As hospitals merge and create large healthcare systems, case management software becomes even more essential and useful,

Cesta says. "If all of the entities have case management software, they can communicate easily and get the entire

**"IT'S A NEW WORLD OUT THERE WITH SO MANY THINGS THAT CASE MANAGERS CAN ACCOMPLISH ELECTRONICALLY, IN A FRACTION OF THE TIME IT USED TO TAKE."**

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## Hospital Case Management™

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### EDITORIAL QUESTIONS

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picture of the patient across the continuum,” she says. For instance, if the software interfaces, case managers can see what tests and procedures the patient received at other levels of care and ensure that they aren't duplicated.

“Case managers can see what happens from the emergency department through the hospital stay and into the medical home, and how all the pieces become connected in a patient-centered medical home,” she says.

“There is so much technology that can support us in so many ways,” Bankston says. She urges case managers to become knowledgeable about everything that is available and decide what might be helpful to them.

Technology helps case managers coordinate with colleagues inside and outside the hospital, across multiple continuums of care much more easily than in the past, says **Yomi Ajao**, vice president of consulting for COPE Health Solutions.

For instance, when it's time for patients to transition to another care setting, case managers can connect with post-acute services and send

them the information they need electronically with the push of a few keys, rather than spending time faxing or calling, he adds.

“In the past, care managers tried to review every patient every day, but some of them may not have needed the attention and others had greater needs. Now, we can use algorithms to stratify patients by condition, by comorbidities, social determinants of health, and other factors so care managers can focus their energy and resources on patients who need it,” Ajao says.

“We're not at a point where technology will replace humans, but it does allow us to be more precise in our connections with patients and on how we focus our energy,” Ajao says.

When case managers relied on written lists of resources and contact information, it was difficult for them to share it with their colleagues, Bankston points out. “Now, case managers can pool all their knowledge in a database where everyone in the department can access it for better patient outcomes,” she says.

When it's time to transition patients, it's much easier to find the

## EXECUTIVE SUMMARY

The technology revolution can be a boon to case managers by saving time and making their jobs easier — but there are pitfalls to relying too much on electronic tools.

- New technology is changing the way case managers work by making it possible to research resources, communicate throughout the continuum, and even predict outcomes — but there's still no substitute for the human touch.
- Continue to focus on the patient and family members instead of the technology and rely on your experience, skills, and predictive modeling when you develop a treatment plan.
- Keep work-related information and photos out of social media and make sure that any emailing or texting that involves patients' information is encrypted.

resources they need and to connect them to post-acute services without sending out requests in an unsecured fashion, she says.

A laptop or tablet can be invaluable when you're educating a patient on a disease process or discussing a procedure, Bankston says. "Showing patients a short video is far more effective than just describing something," she says.

Case managers report that they find technology useful in communicating with patients after discharge and helping them avoid unnecessary readmissions.

UAB Medicine has successfully used automated interactive telephone calls to patients after discharge to replace follow-up calls from case managers, says **JoAnn Clough**, RN, MAON, ACM, transitional care coordinator, care transitions for the University of Alabama at Birmingham (UAB) Medicine. The calls are condition-specific and include a series of questions along with education about the disease.

"Patients often have a hard time understanding their discharge instructions while they are in the hospital because they are thinking about going home. Now that hospitals are at risk for patient care as long as 90 days after discharge, we had to find a way to interact with patients in their own home. The phone calls save a lot of time for case managers and have produced good outcomes," she says. (*For details on the UAB Medicine initiative, see page 66.*)

There are a lot of electronic tools that case managers can use early in the stay to help them make decisions and develop the discharge plan, Bankston says. The tools can predict the first level of care and functional gains in different settings. They can determine the readmissions risk

for patients and what they need at discharge, she says.

"Some of the newer tools use technology and predictive algorithms based on large data analytics and compare individual patients to those with similar diagnoses and functional levels in a large database to determine the length of stay, therapy needs, caregiver burden, and where the patient will function the best. Now case managers can have data when they talk to patients and families and help them make a decision," she adds.

**"ONE OF THE GREAT PROMISES OF TECHNOLOGY IS SAVING TIME FOR CLINICIANS BY SIFTING THROUGH DATA AND IDENTIFYING TRENDS."**

Technology continues to get better and better, says **John Banja**, PhD, professor in the department of rehabilitation medicine and medical ethics at Emory University's Center for Ethics in Atlanta.

The increase in technology in the healthcare field isn't going to eliminate the need for case managers, but it is likely to change the job descriptions, Banja says.

"Technology can lower costs by making treatment more efficient and help clinicians make medical decisions more effectively and quickly. One of the great promises of technology is saving time for clinicians by sifting through data and identifying trends," he says.

"Case managers often coordinate care for patients with significant

medical history and a clinical page that is hundreds of pages long. They could save a lot of time if they could use a program that would sift through the data and identify previous admissions and trends," Banja adds.

As it is perfected, artificial intelligence will help case managers by making a more robust kind of clinical record possible, Banja predicts. "With a good artificial intelligence system, case managers should be able to access patient history, identify the most likely discharge date, find out what the health plan allows, and download all the pertinent information they need in a few seconds instead of the hours it takes today," he says.

Cesta cautions case management leadership to carefully scrutinize any electronic medical record (EMR) software their hospital is considering and resist shifting case management functions to the new system unless it will do everything the case management software does.

"Large EMR companies are offering case management as part of their medical record software — but, in most cases, it doesn't provide what case managers need," Cesta says. "Pharmacy has its own specialty software, medical records has specialty software, and case management needs specialty software in order to function efficiently and effectively," she adds.

Vendors often tell the hospital decision-makers that the hospital can save money by getting rid of the specialty case management software, Cesta reports. "But EMR systems have a clinical focus and it isn't geared to the case management process," she says.

Case management departments need software that has a discharge planning component, a utilization

review component that doesn't go into the medical record, a daily workflow component, denials and appeals documentation, an avoidable delay section, a way to document readmissions, a component that sends requests to nursing homes, and a way to build report cards, among other features, Cesta says.

Vendors may say that case management modules are in the works, but don't fall for that, Cesta advises. "I've heard over and over that features I request will be available in six months — but a year or more later, it still hasn't happened," she says.

When choosing new software, factor case manager workload into the time it takes to use new software, Ajao suggests.

"Case management leadership should make sure the way the software is designed doesn't add more burden to the work of case managers and nurses. Templates and tools can make the life of case managers easier, but as we deploy them we have to make sure they are helping and not adding more work," he says.

As the technology revolution continues, it will continue to produce sophisticated artificial

intelligence technology that will change the world of healthcare, Banja says.

"The optimistic perspective is that, in the future, artificial intelligence technology may free up nurses, doctors, and case managers from searching through files and writing notes, which comprises 20% to 40% of their time," Banja says.

The pessimistic viewpoint is that technology is going to eliminate the human touch and people are going to find themselves mostly talking to machines that have voice recognition capabilities, Banja says. ■

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## Embrace Technology, But Use Caution

*Keep the human element in care coordination*

Technology in the hospital room is great, but don't get so wrapped up in it that you ignore the person in the bed, cautions **Yomi Ajao**, vice president of consulting for COPE Health Solutions.

Today's essential equipment, such as laptops or cellphones, can be a roadblock to building rapport with patients if they are not implemented correctly, adds **Cheri Bankston**, RN, MSN, senior director of clinical advisory services for naviHealth, a Cardinal Health company.

If you face the computer and not the patients, it appears that you are talking to the computer, and not the patient, she points out.

Technology will never replace the value of human touch, Bankston says. "Having conversations with patients and building rapport is essential, and you can't use technology to do that," she says.

When case managers concentrate on their laptops or tablets, it's almost impossible to engage patients and

create a good relationship. This can affect patient satisfaction as well as patients' adherence to their discharge plan, Ajao says.

"A primary measure of patient satisfaction is engagement. Care managers must engage the patient in a way that they will buy into their discharge plan. If patients are not engaged, care managers are not meeting their goals," he adds.

When patients are transitioning to another level of care, they should feel connected to the hospital-based case manager or social worker, Ajao says. "The connection is absolutely essential to the patient's recovery after discharge. Technology is no substitute for personal interaction. If case managers spend too much time using technology rather than talking with the patient, they may not have that connection," he adds.

Bankston advises case managers to make eye contact with patients and family members, if they are present, as soon as they enter the patient's

room. Focus on the patient and not the computer, she adds.

Go to the bedside to talk to the patient and conduct your assessment, and leave the computer in another part of the room. When it's time to document, excuse yourself and tell the patient you need to write things down so the rest of the team will know what you discussed.

"This will make a world of difference to the patients because they understand what you're doing," she says.

The array of software tools for case managers is increasing and getting better — but it's a mistake to totally rely on software, Ajao says.

"Technology can end up driving the bus if case managers aren't careful. It needs to be one tool in the overall decision-making process," Bankston says.

Case managers can use technology to support their decisions, but they also should rely on their experience and clinical knowledge, she says.

“Even though we have more and more tools and software, we cannot totally rely on software. We have access to predictive analytic tools, but we should keep in mind that the output the software is giving us is based on logic, and we still need to interject the human factor to get the whole picture,” Ajao says.

Always keep in mind that technology is just a tool, Bankston says.

“The bottom line is that case managers need to use their clinical judgment and insight about the patient’s condition as well as technology to create a successful discharge plan,” she says.

One worry is that if clinicians start to rely solely on technology and there is a glitch in the system, patients may be harmed, adds **John Banja**, PhD, professor in the department of rehabilitation medicine and medical

ethics at Emory University’s Center for Ethics in Atlanta.

Clinicians should be aware that artificial intelligence programs may make recommendations that their clinical knowledge tells them are erroneous, he says.

“The universal problem with any new technology is that you cannot anticipate the consequences. No complex system runs the way it’s planned,” Banja says. ■

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## Don’t Let Use of Technology Violate Patient Confidentiality

Every case management department should have a firm policy that prohibits staff from posting anything related to work, including photographs, on social media, advises **Elizabeth Hogue**, Esq., a healthcare attorney based in Washington, DC.

Also, when case managers send information to post-acute providers, fellow staff members, or patients via email or text, they should make sure the devices they are using are secure and the information is encrypted, she adds.

The same encryption requirements apply to teleconferencing or video chats with patients, adds **Yomi Ajao**, vice president for consulting at COPE Health Solutions.

“These kinds of communication all promote better patient engagement when they are used correctly in a secure type of way. Case managers should make sure they are using secure messaging any time they share patient information,” he says.

“When case managers want to engage with patients in different fashions, like email or texts, they need to do it in a way that patient

information is protected, even though it may be easier to connect without using encrypted tools,” he adds.

Social media makes it easier to interact with the rest of the world, but, in doing so, case managers must protect patient information, Ajao says.

“At the end of the day, it is best that care managers keep any references to work or their patients out of social media,” he says.

Make sure any email or text messages that include patient information are encrypted, Hogue says. “According to HIPAA, it’s permissible to fax patient information or talk about it over the telephone, but it’s not OK to email or text it. With today’s technology, it’s prudent to behave as though someone is filming you all the time,” she adds.

Don’t forget that email and text messages are written correspondence. They are permanent and even if you delete them from your device, it is likely that they still can be recovered, Hogue points out.

In a memo issued in December, CMS announced that it is permissible for members of a healthcare team

to send patient information via text message to other team members as long as they use a secure platform. However, CMS emphasized that texting of patient orders is prohibited regardless of the platform used. Instead, the memo stated, the preferred method is Computerized Provider Order Entry, although handwritten orders also are permitted.

“CMS acknowledges that texting as a means of communication with other members of the healthcare team has become an essential and valuable means of communication,” Hogue says.

However, she points out, in order to be in compliance with the Medicare Conditions of Participation, providers must use and maintain systems and platforms that are secure and encrypted and that minimize risks to patient privacy and confidentiality.

“Providers are expected to implement procedures/processes that routinely assess the security and integrity of texting systems in order to avoid negative outcomes that compromise patient care,” Hogue adds. ■

# Interactive Post-discharge Calls Improve Outcomes, Save Time for Case Managers

*Patients are more engaged, experience fewer readmissions*

**R**eadmissions have dropped and patient satisfaction has increased among patients at University of Alabama at Birmingham (UAB) Medicine who agree to receive interactive post-discharge phone calls.

When participants in the program are readmitted, their stays are shorter than other patients with the same condition, says **JoAnn Clough**, RN, MAON, ACM, transitional care coordinator, care transitions for UAB Medicine.

Patients who participate report a higher level of patient satisfaction with discharge teaching and care transitions than those who are not in the program, Clough adds.

UAB Medicine includes the School of Medicine and the UAB Health System, with six hospitals and 2,300 beds. UAB Hospital is the third-largest public hospital in the country.

The organization began the interactive calls in the spring of 2014 after partnering with a patient engagement technology company to develop disease-specific questions to

ensure that patients understand and are following their treatment plan.

“Technology has enriched our level of engagement with our patients and has made our process more efficient. The technology system makes the initial calls and collects information from the patients, allowing the nurses at UAB to call only patients who indicate they have an issue,” Clough says.

Informing patients about the follow-up phone calls is part of the discharge education process, Clough says. “The inpatient case managers tell patients to expect the calls and tell them it is important to participate because the UAB nurses will be following them to make sure they are doing well,” she adds. About 80% of patients participate.

All patients who agree to participate receive an automated phone call the day after discharge and are asked to answer a series of questions including how they feel, if they have a follow-up appointment, transportation, and if they filled their prescriptions. The first call also includes education on what signs and

symptoms indicate patients should call their doctor or go to the ED.

“The calls teach patients about their condition and how to manage it, and supplement the discharge teaching. They are designed to coach the patients so they learn what to watch for and what action to take,” Clough says.

Patients with certain conditions receive additional questions specific to their condition. Follow-up calls are made at intervals that vary according to the condition. For example, heart failure patients receive 45 calls over 45 days, and pneumonia patients are called 15 times over 30 days.

The software automatically identifies problem areas based on the patients’ answers, and alerts the nurses at a UAB call center. For instance, heart failure patients are flagged if they report gaining more than three pounds in a day or five in a week, she says.

The call center nurses receive a daily report and follow up with the patients who need it. Information on patients whose answers indicate they have a problem are in red at the top of the page. “The nurses are generalists and work closely with the staff at the clinics. If there is an issue that requires a provider, they can send them a message asking for assistance,” she says.

The calls usually are placed at 10 a.m. If patients don’t answer, they get another call around 1 p.m. When the phone rings, the caller ID cites UAB Medicine as the source of the call. The first call typically takes about three minutes; the others less than two minutes.

## EXECUTIVE SUMMARY

Readmissions have dropped and patient satisfaction has increased among patients at UAB Medicine who receive interactive post-discharge follow-up calls.

- Patients answer a series of questions about how they are feeling, their understanding of their treatment plan, and their adherence to the plan, along with education about symptoms and signs of problems.
- The number and frequency of the calls depend on the patient’s diagnosis.
- Nurses in the call center are notified if answers indicate a patient needs intervention, and they connect the patient with the clinic team.

Patients can opt out of the calls whenever they choose, but most continue participating, Clough says.

“Patients do appreciate the calls, and some ask to be re-enrolled when the program is over. Some patients call us if they know they aren’t going to be home to take the call,” she says.

The hospital also sends patients an email link to a multimedia education program that they can view at home at their convenience. The programs are interactive and use art, animation, and plain language to address

multiple learning styles and health literacy, Clough says.

The UAB team also uses technology to educate patients before any procedure or when they have a new diagnosis, Clough adds.

Patients who are scheduled for diagnostic procedures also receive a link to a video that explains the procedure and what to expect during the recovery period. An automated process scans the data files, identifies patients scheduled for procedures in two weeks, and sends them the link.

After the procedure, patients receive follow-up calls through the care transition technology.

“The technology extends the reach of clinicians past the four walls of the clinic or hospital. The messages and education delivered engage and empower patients to take a more active role in their care. We know we’re doing a better job of supporting and educating our patients now that we can reach out to them via technology, while they are in their home,” Clough says. ■

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## Community Health Worker Program Cuts Costs, Admissions for Heart Failure Patients

*CHWs pair with continuum case managers to coordinate post-discharge care*

A pilot project at Sentara RMH Medical Center in Harrisonburg, VA, that paired community health workers and RN continuum case managers to coordinate post-discharge care for at-risk heart failure patients resulted in a 79% decrease in total health care costs for patients in the program.

Patients in the program also experienced statistically significant decreases in admissions, readmissions, and ED visits, says **Patra H. Reed**, DNP, RN, CNML, CCCTM, Blue Ridge regional director of integrated care management for Sentara Healthcare.

Sentara RMH Medical Center developed the role of continuum case manager in 2014 as a way to improve post-acute care for chronically ill patients with complex needs who were being readmitted to the hospital or frequently visiting the ED. The 238-bed hospital added community health workers two years later.

The patients targeted for the

program had longer-than-average lengths of stay, a long list of comorbidities, multiple discharge needs, and often had psychosocial and financial issues, Reed says. Many didn’t qualify for home health or other resources.

The continuum case management program started with two RNs and quickly expanded to three.

“In the beginning, we focused on our very complex patients, many of whom had our most resource-consuming diagnoses: heart failure, sepsis, and pneumonia. We followed the most complex patients regardless of diagnosis, and some of them did not have the “big three” diagnoses,” Reed says.

An analysis showed that the patients in the continuum case manager program had fewer ED visits, fewer readmissions, and lower costs of care after the program began.

Because of its success, the program was receiving more referrals than the three nurses could handle.

When Reed’s team analyzed what the case managers were doing, they determined that the nurses spent at least 50% of their time on tasks that didn’t require the education and expertise of a registered nurse.

“After a comprehensive literature review, we decided to provide a better skill mix by adding community health workers to the program. This allows the RNs to work at the top of their licenses and to reach more patients,” she says.

The hospital foundation agreed to give the department a grant to pay for three community health workers for 18 months. After the results of the heart failure study, the foundation agreed to provide another six months of funding so the hospital could complete the study of patients with diagnoses other than heart failure.

Each community health worker is assigned to a continuum case manager and works with him or her as a team. They have an office that is

offsite from the hospital, but spend a lot of time in the field and at the hospital meeting new patients and visiting patients who already are in the program. The heart failure team is at the hospital almost every day, Reed says. The other two teams visit several times a week.

By teaming up with the community health workers, the continuum case managers were able to double their patient loads from 20 to 25 complex patients to nearly 50. “The community health workers do a lot of the self-management education and community referrals. They help the patients navigate the healthcare system and assist with the financial paperwork that bogged the case managers down,” she says.

When patients are referred to the program, the continuum case manager and the community health worker visit them in the hospital, explain the program, and begin to develop a rapport. Once the patient is discharged, the team sets up a home visit as quickly as possible.

On the first visit, the team goes over the discharge instructions, answers questions, and makes sure that patients have follow-up appointments and plan to go.

“Transportation is a big problem. A lot of times, patients leave the hospital with an appointment but don’t go because they have no way to get there. We help them access transportation so they can see their physician for follow-up care,” Reed says.

Medication reconciliation is a top priority for the RNs, Reed adds.

“We try to reconcile the medications when the patient leaves the hospital, but often the medication in the home is different from what patients told us in the hospital. Often, the case manager finds other medications on the kitchen table or in the medicine cabinet. We make sure the patient knows exactly what they are supposed to take and we provide medication boxes if needed,” she says.

The certified heart failure nurse also sets up telemonitoring equipment that heart failure patients use to monitor their weight, blood pressure, and other vital signs.

After the visit, the continuum case managers and community health workers involve the family as they create a plan of care and set a schedule for follow-up visits and phone calls. They divide the workload based on the patient’s needs.

The nurses in the program manage the plan of care and concentrate on the clinical aspects of care. They work directly with the patients’ physicians and may accompany patients to physician appointments. The nurses make sure that each patient’s specialists and primary care physician are informed about the patient’s condition and other providers’ treatment plans. They work closely with the rest of the team on medication reconciliation.

The community health workers help patients navigate the healthcare system, connect them to community services when appropriate, and focus on the nonmedical part of the treatment plan, such as diet and exercise.

The nurses and community health workers touch base with the patients frequently in the beginning and taper off as the patients stabilize. Patients stay in the program for as long as needed. Most stay in the program for 90 days after discharge, but some heart failure patients may need support longer.

“The team makes up to six community referrals for each patient in the program. We make sure all of them are in place before we close the file. Patients can always contact the team for assistance after they are discharged from the program,” Reed says.

Before developing the community health worker role, the hospital staff reviewed the literature on the subject and talked to people from other organizations that employ community health workers.

“The main idea is that they are a trusted member of the community,” Reed says.

The team made a high school diploma a requirement, but the three people hired all had a college degree and work experience in a healthcare

## EXECUTIVE SUMMARY

After total healthcare costs decreased by 79% for at-risk heart failure patients who were followed after discharge by a team of RN continuum case managers and community health workers, Sentara RMH Medical Center expanded the program.

- The team meets patients at the hospital and visits them in their homes, conducts an assessment, and divides the workload depending on the needs of the patient.
- The case manager who is a certified heart failure nurse also sets up telemonitoring equipment that heart failure patients use to monitor their weight, blood pressure, and other vital signs.
- By teaming up with community health workers, the continuum case managers could double their workloads and work at the top of their licenses.

related field. Each had worked with a vulnerable population in a service area, as a pharmacy tech, manager for a homeless shelter, and in a home for disabled adults.

“All of them were already engaged in the community and had a good understanding of the resources that were available,” Reed says.

The hospital received a grant from

the Virginia Department of Health and used their curriculum to train the community health workers. The curriculum includes communication techniques, safety instruction, resources in the community, and disease-specific education.

Heart failure patients took the Minnesota Living with Heart Failure Questionnaire, which monitors

patient perception of quality of life, when they joined the program and again in 90 days.

“The results show that the patients felt their quality of life had increased dramatically. This demonstrates that supporting the emotional and psychosocial aspects of heart failure as well as medical issues can have a significant effect,” Reed adds. ■

## Community Hospital Uses Mobile App to Improve Communications, Accelerate Throughput

For cases in which time-to-treatment is a critical factor, improved communication between prehospital providers and ED staff can enable clinicians in the ED to be better prepared to expedite needed treatment. But in a world in which much of this communication still is carried out by radio or phone, how might a hospital or prehospital provider elevate the communications process?

The Valley Hospital in Ridgewood, NJ, has turned to a mobile app capable of facilitating instant communications between EMS providers and the ED in a HIPAA-compliant fashion. Called Twiage, the app not only enables prehospital providers to alert the ED about incoming patients, it also can convey vital signs, symptoms, demographic information, and even photos or videos when that kind of information is pertinent.

Certainly, asking all EMS providers in a given region to use a particular app is a challenge because there are typically multiple agencies serving a number of different hospitals. Still, early results are showing promise at The Valley Hospital, and this is before

leaders there have given the green light to expand use of the app to the paramedic teams that handle more acute cases such as strokes and STEMI, where added information, including pictures and videos, can provide valuable insight to hospital-based care providers.

“SOMEONE WOULD TAKE THE CALL, BUT BY THE TIME THE EMS [PROVIDER] ARRIVED, THAT SOMEONE MIGHT NOT BE THE PERSON WHO RECEIVED THE PATIENT.”

The 351-bed Valley Hospital is not a trauma facility, but it is a designated stroke and STEMI center, and the facility’s 60-bed ED typically sees 190-200 patients a day. In the past, EMS providers might call into the ED to let staff know that a patient was on the way, but there

was little consistency regarding who was on the receiving end or how the information was handled.

“Someone would take the call, but by the time the EMS [provider] arrived, that someone might not be the person who received the patient,” explains **Caitlin Burke**, RN, the clinical practice supervisor in the ED at The Valley Hospital. “It might be the triage nurse or the charge nurse, but if there was a change of shift, the information might go home [on a slip of paper] in the pocket of a nurse.”

With the Twiage app, no one needs to be available to take the call because the EMS provider sends the information electronically using a tablet or smartphone. The information is displayed on three computer screens in the ED: one used by the charge nurse, one used by a registrar who sits in the ambulance bay from 11 a.m. to 11 p.m., and one used by the ambulance triage nurse.

With the information available in three locations, there is a “catch-net” to ensure that ED personnel are aware of a pending arrival, Burke says. At least one of the three people notified of the incoming patient

will acknowledge receipt of the information to the EMS provider, a task that is easy to execute with the push of a button. Burke notes that the ambulance registrar typically sees such notices first. “[He or she] will receive the notification, acknowledge it, and then pass the information along to the charge nurse who can then look at her screen and see the report,” she says. “Our ambulance nurse is the person who assigns all of the rooms, so that is why [the hospital] wanted this individual to get the notices as well.”

At press time, the hospital had not yet extended use of the app to paramedics, but there had already been some occasions when it was helpful to receive pictures or video from the EMS team prior to a patient’s arrival.

“They have sent videos of patients having seizures ... and a couple of times they sent pictures of injuries and we were able to decide before the patients got here whether they could go to our minor treatment area,” Burke notes. “You can get a bit of history on what is coming.”

## Prevent Missed Communications

The EMS providers find value in using the electronic notifications, too. In fact, it was **Lafe Bush**, a paramedic and director of Valley EMS, who brought the technology to the hospital with the idea that it would help with throughput in the ED and increase the level of knowledge on incoming patients. He believes it has made a difference. “Before ... the non-paramedic units — the basic life-support ambulances — would make a phone call to the ED, and the hope was that the charge nurse wasn’t too busy at the

moment and was able to answer the call,” Bush says. “A lot of times, what would happen is there would just be that miss in communication, so the ED wouldn’t know that a patient was coming, and then the patient would arrive and it would be a slower process to get that person into the area of the ED where he was going.”

“IT ALLOWS [THE ED PROVIDERS] TO KNOW THAT THE PATIENT IS COMING, WHAT TYPE OF EMERGENCY THE PATIENT IS HAVING, AND WHAT THEIR VITAL SIGNS ARE — SO WHETHER THEY ARE CRITICAL OR NON-CRITICAL.”

Now, with the electronic communications process, EMS providers can be assured that ED clinicians are fully informed of pending arrivals.

“It allows [the ED providers] to know that the patient is coming, what type of emergency the patient is having, and what their vital signs are — so whether they are critical or non-critical. It also gives them an ETA [estimated time of arrival], and then it will show them where that ambulance is or, more specifically, where the device that sent the notification is, so they can track it,” Bush explains. “If [the EMS provider] says he is 15 minutes out, and then he has to stop for some

reason, and the ED does not see the ambulance in 15 minutes, staff can look and see precisely where the ambulance is ... so it gives the ED a better handle on ETA.”

Bush envisions more potential gains from the app when paramedics begin to use it.

“There is a new part to the Twiage app called Stat that allows end users to have the program on their computer, so a neurologist can have the program on his phone or [other electronic device] and he can turn the app on if he is the neurologist on call,” he explains. “If [a paramedic] selects stroke [on the app], it will automatically notify the neurologist.”

Further, the app enables the paramedic to send video of the stroke exam to the neurologist so that he can see exactly what is going on and can meet the patient in the ED with a better understanding of the patient’s condition, Bush notes.

“We have just started trialing that [functionality] with one of our neurologists,” he says. “We are hoping that it will decrease the amount of time it takes for [appropriate] patients to receive clot-busting medications that can resolve the stroke symptoms.”

Down the road, there is also the potential for the app to integrate with the hospital’s electronic medical record (EMR), further streamlining the registration and documentation process. That isn’t possible now because not all prehospital providers in the region are charting electronically yet, and those who do are using a variety of electronic systems, Burke explains.

“Operationally, it is a challenge for us, but our EMR vendor and our [information technology team] say it is possible,” she adds. Both Burke and Bush acknowledge there were significant hurdles involved

with transitioning to the electronic notifications. For example, even though the hospital system pays for the Twiage app, it has taken time to educate all the ambulance corps in the region about the new approach and to convince all the prehospital providers to load the app onto the phones or tablets they use while transporting patients, Bush observes.

“Not every ambulance carried a phone, so then it became a question of whether people could load the app onto their personal phones, so there was some work that needed to be done in that area,” Bush reports. “It is 100% HIPAA compliant, so the nice thing is that any information that is put into the app [and sent to the ED], such as a patient’s name, a photograph of a car accident, or video of a stroke exam ... as soon as you arrive to the hospital and the case is closed, all of that information is wiped off the device.”

Consequently, if someone kept that information on their phone, it is not likely that he would be walking around with that data, Bush notes.

“Originally, that was one of the concerns — making sure that the information would be all wiped off, because we didn’t want people loading this information on their personal devices,” Bush says. So far, 15 of the volunteer agencies that serve the hospital with prehospital services have adopted the app.

There have been challenges on the receiving end of the electronic notifications as well. For instance, ED-based staff need to be sure to acknowledge the incoming notifications; otherwise, the prehospital providers will stop sending them, Burke says.

“We hover around the 70% to 80% compliance rate,” she says.

“I check every single day, though, to see what our acknowledgment rates are, and some days we are at 100%.” Burke has noted that when the acknowledgement rates are high, use of the application by prehospital providers goes up over the next few days.

“If they don’t feel the notifications are being acknowledged, then they won’t use the app the next time, so that is why we have been harping on our staff to have a very high compliance with acknowledging the notifications,” she explains.

## Identify Champions

Other hospital systems pondering a similar change should take steps to get the community and all the players on board first, Burke advises.

“I would partner with your prehospital resources and see if this is something where they perceive there is a need,” she says. “You don’t want to wind up giving them something that they don’t want to do.”

Further, from a project management perspective, it’s important to involve IT team members, legal services staffers, and hospital brass at an early stage. Burke says that the implementation would have gone smoother at The Valley Hospital if all these stakeholders had been brought into the process earlier because there

were many elements that needed to be approved.

“The hospital steering committee is where we wound up bringing this,” she says. “We wanted the app, but we should have brought it there first. I think a lot of our issues would have ended up being nonissues.”

For an implementation of this nature to succeed, it is critical to identify a champion on both the prehospital and ED ends of the electronic communications process.

“There need to be people who will own the process and make sure that people remember to use it in the beginning when it is new,” Bush advises.

On the ED side, make sure the champion is constantly logging into the system and driving the process, Bush notes. On the EMS side, designate someone who will connect with all the prehospital providers in the service area.

“We have 15 towns in our primary area and probably another 17 towns in our secondary area where we provide mutual aid,” Bush says. “To get all those towns onto this system and to constantly remind them to use the application until it becomes hardwired into the process — you really need champions for that, and you need to get them involved early in the process. The earlier they are involved in the implementation, the better off it is going to be.” ■

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# HOSPITAL CASE MANAGEMENT

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## CE QUESTIONS

1. According to Toni Cesta, RN, PhD, FAAN, case managers need their own specialty software to function efficiently and effectively, rather than using the hospital's electronic medical record software.
  - a. True
  - b. False
2. According to Cheri Bankston, RN, MSN, what should case managers do to build rapport with patients while using technology in the hospital room?
  - a. Make eye contact with patients and family members and face them, not the computer.
  - b. Leave the computer in another part of the room and go to the bedside to conduct your assessment.
  - c. When it's time to document, excuse yourself and tell the patient you need to write things down.
  - d. All of the above
3. According to Yomi Ajao, it is acceptable for case managers to reference work or patients on social media.
  - a. True
  - b. False
4. At UAB Medicine, the number of interactive follow-up phone calls patients receive varies according to their conditions. How many calls do heart failure patients receive and at what intervals?
  - a. 45 calls over 45 days
  - b. 30 calls over 30 days
  - c. 15 calls over 30 days
  - d. Depends on the severity of illness

## CE OBJECTIVES

After reading each issue of *Hospital Case Management*, the nurse will be able to do the following:

1. identify the particular clinical, administrative or regulatory issues related to the profession of case management
2. describe how the clinical, administrative or regulatory issues particular to the profession of case management affect patients, case managers, hospitals or the healthcare industry at large
3. discuss solutions to the problems facing case managers based on independent recommendations from clinicians at individual institutions or other authorities.