Avoiding Costs, Risks Through Reduced Hospitalization Among Older Adults

The authors of a recently published study highlighted the value of transitional care nurses providing geriatrics-focused attention to older adults in the ED

There are many reasons for emergency clinicians to avoid hospitalizing patients when appropriate alternatives are available. Expenses can be reduced drastically, but so can the incidence of hospital-associated risks like central line-associated bloodstream infections (CLABSI) and methicillin-resistant *Staphylococcus aureus* (MRSA) infections. Furthermore, research shows older adults face even greater risks when they are hospitalized, including a heightened potential for falls, ulcers, adverse drug reactions, and functional as well as cognitive declines.

> INTERVENTIONS THAT CAN HELP FACILITATE THE DISCHARGE OF APPROPRIATE PATIENTS TO THE HOME SETTING MAY OFFER CONSIDERABLE VALUE.

Consequently, while hospitalization is required in many cases involving older adults who present to the ED with acute care needs, interventions that can help facilitate the discharge of appropriate patients to the home setting may offer considerable value in both clinical and financial terms. In fact, new research involving three medical centers suggests that older patients seen by transitional care nurses with geriatric training are less likely to be admitted than similar patients who do not receive these specialized evaluations.[1] Investigators studied the care of more than 57,000 patients over the age

Community Hospital Uses Mobile App to Improve Communications, Accelerate Throughput

New tool allows EMS providers to relay critical information about incoming patients to the ED

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.

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 smart phone. 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 observes. 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

EXECUTIVE SUMMARY

To improve communications between EMS providers and the ED, The Valley Hospital in Ridgewood, NJ, adopted Twiage, an app that enables prehospital providers to notify the ED electronically that a patient is on the way, along with any key clinical information. The approach replaces the need for phone or radio notifications, which can tie up ED-based staff or get missed when the ED is busy, according to administrators. The app also allows users to provide pictures or video when such information can guide hospital-based staff in preparing for a patient's needs.

• The app is HIPAA-compliant so that patient information can be conveyed electronically safely. The information is automatically wiped off the electronic devices as soon as a patient arrives at the hospital and the case is closed.

• Prehospital providers can use the app to notify the ED that a patient is coming, what type of emergency the patient is experiencing, what the vital signs are, and when the ambulance will arrive. The app also is capable of transmitting pictures or video when such information can be helpful.

• Currently, the app is only used by basic life-support prehospital providers, but plans are in place to expand its use to paramedics that service The Valley Hospital.

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 observes. "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."

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 of question of whether people could load the app onto their personal phones, so there

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CME/CE OBJECTIVES

After completing this activity, participants will be able to:

1. Apply new information about various approaches to ED management;

2. Discuss how developments in the regulatory arena apply to the ED setting; and

3. Implement managerial procedures suggested by your peers in the publication.

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. Thus 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 electric 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 observes.

"We hover around the 70% to 80% compliance rate," she says. "I check every single day, though, to see what our acknowledge 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 notes 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 non-issues."

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." ∎

SOURCES

- **Caitlin Burke**, RN, Clinical Practice Supervisor, Emergency Department, The Valley Hospital, Ridgewood, NJ. Email: cburke@valleyhealth.com.
- **Lafe Bush**, Director, Valley EMS, Ridgewood, NJ, Email: lbush@ valleyhealth.com.

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CME/CE QUESTIONS

1. **According to Ula Hwang, MD, MPH, associate professor of emergency medicine, geriatrics, and palliative care at the Icahn School of Medicine in Mount Sinai, NY, what makes the geriatric transitional care nurse different from someone who might be looking at the transitions of care for a patient with sickle cell anemia or younger patients who are homeless and present other types of social support needs?**

   a. Case management expertise
   b. Access to specialty providers
   c. Higher-level training
   d. Understanding the bigger picture

2. **Scott Dresden, MD, MD, MS, FACEP, director of geriatric emergency department innovations in the department of emergency medicine at Northwestern Memorial, advises other EDs interested in improving care for older adults to start by:**

   a. hiring staff trained in geriatrics.
   b. creating a distinct geriatrics ED.

   c. focusing on the Geriatric ED Guidelines.
   d. providing geriatrics training to all emergency physicians.

3. **Kevin Biese, MSD, MAT, the vice chair of academic affairs and the co-director of the division of geriatric medicine at the school of medicine at the University of North Carolina at Chapel Hill, states that the three tiers in ACEP's new geriatric ED accreditation program are essentially based on:**

   a. how many of the Geriatric ED Guidelines a hospital can meet.
   b. the level of geriatrics training staff have achieved.
   c. demonstrated outcome measures related to the care of older adults.
   d. whether a hospital has designated space for the care of older adults.