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INSIDE

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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

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SUBSCRIBER INFORMATION:
Customer Service: (800) 688-2421
CustomerService@AHCMedia.com
AHCMedia.com

EDITORIAL EMAIL ADDRESS:
jspringston@relias.com

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AUTHOR: Dorothy Brooks
EDITOR: Jonathan Springston
EXECUTIVE EDITOR: Shelly Morrow Mark
EDITORIAL GROUP MANAGER: Terrey L. Hatcher
SENIOR ACCREDITATIONS OFFICER: Lee Landenberger

of 65 years who presented to EDs at the participating sites between 2013 and 2015. Roughly 10% of these patients were seen by transitional care nurses, and these patients were, on average, 10% less likely to be admitted when compared with similar patients who were not evaluated by a transitional care nurse.

In other findings, researchers reported that at two of the three participating sites, inpatient admission rates remained lower during the 30 days following the ED visit for the patients who were seen by transitional care nurses in the ED and discharged to the home setting compared to similar patients who were not seen by transitional care nurses.

While further investigation is warranted to assess ED revisit rates among the patients seen by transitional care nurses, investigators noted that the study offers evidence that there is value in providing ED-based, geriatrics-focused care to older patients deemed at risk by clinicians. Further, the approach used by the participating medical centers in this study offers a roadmap for other EDs that consistently see a significant number of older adults.

Consider Potential for Discharge

Because of demographic changes in recent years, EDs are seeing a growing number of patients older than 65 years of age. The Emergency Care Research Institute notes that this population now accounts for 25% of all ED visits. In response to this trend, many hospitals have developed ED-based geriatrics initiatives or changes.

For instance, the three participating centers in this study (Mount Sinai Health System in New York, St. Joseph's Regional Medical Center in Paterson, NJ, and Northwestern Memorial Hospital in Chicago) follow the Geriatric Emergency Department Innovations in Care through Workforce, Informatics, and Structural Enhancements (GEDI WISE) model, an approach developed to address the unique healthcare challenges of this growing population of older adults. (*See also: Three-tier Accreditation Process for Geriatric EDs Is on the Launch Pad, p. 42.*)

A key part of the GEDI WISE model is the transitional care nurse, explains **Ula Hwang**, MD, MPH, the lead author of the study and an associate professor of emergency medicine, geriatrics, and palliative care at the Icahn School of Medicine at Mount Sinai.

"This is a nurse who is based in the ED and is focused on facilitating assessments and identifying patients who can benefit from care coordination that will [ease] their transition of care out of the ED, primarily with the goal of having them discharged ... hopefully back to home," she explains.

Transitional care nurses don't necessarily evaluate all older patients who present to the ED. Rather, these nurses focus on patients who potentially can be discharged, Hwang notes.

For instance, a patient who arrives at the ED in cardiac arrest and is intubated is going to be admitted, so a transitional care nurse will not see this patient. However, a patient who has been discharged from the hospital recently and has some ongoing chronic health concerns may benefit from seeing the transitional care nurse to determine what added steps or interventions can help this patient avoid a readmission. Hwang says that a typical case might involve

a patient who presents to the ED complaining of dizziness.

"We know in the background that this patient recently had his diuretic medication changed, and perhaps the dosing is too high," she says. "The patient is in the ED with a non-specific complaint of dizziness, he is not acutely ill, and he is not someone who needs to be resuscitated."

The transitional care nurse likely will assess the patient's functional status and cognitive function, and then ask about the patient's medications, Hwang observes.

"The nurse will then have a geriatric pharmacist review the patient's medications."

The pharmacist will identify that the patient's diuretic was hiked recently, and adjust the dosage.

"The transitional care nurse might now be able to reach out to the primary care provider [PCP] and explain that the patient is in the ED for dizziness and that [the pharmacist] is going to modify the patient's dosage so that his blood pressure does not drop dramatically, causing the dizziness," Hwang explains.

The nurse can arrange a follow-up appointment for the patient with his or her PCP so that there is a clear handoff and the patient's blood pressure and symptoms of dizziness are monitored appropriately.

"The nurse can also make sure that the medication is filled with the appropriate dosing before the patient is discharged," Hwang offers.

The nurse will make a follow-up phone call to the patient later to make sure he or she is feeling better and answer any questions the patient may ask, Hwang adds. "Knowing how to facilitate all of this is an example of what a transitional care nurse could do," she says. "Maybe it is going to take a little bit longer in the ED because you are going to make all these calls to the [PCP] and coordinate the medication management, but you have also just saved the hospital money because you have avoided a hospital admission."

While the goal is to avoid an unnecessary hospital admission, the transitional care nurse also focuses on a taking a more holistic view of the patient. "It's looking at their function [in terms of their ability to walk], their psycho-social elements, and what is going on with their social supports at home," Hwang says. "Understanding the bigger picture is what makes the geriatric transitional care nurse different from someone who might be looking at the transitions of care for someone with sickle cell anemia or younger patients who are homeless and have other types of social support needs that are very different from the older population."

EXECUTIVE SUMMARY

New research suggests that transitional care nurses with geriatrics training can help facilitate the discharge of older patients who present to the ED for care. Investigators found that such interventions can reduce hospitalization in this patient group, enabling patients to avoid hospital-associated risks such as functional and cognitive declines and healthcare-associated infections.

- The authors of a new study investigated the effect of transitional care nurses on hospitalization at three hospitals that follow the Geriatric Emergency Department Innovations in Care through Workforce, Informatics, and Structural Enhancements (GEDI WISE) model, an approach developed to address the unique healthcare challenges of this growing population of older adults in the emergency environment.
- In the GEDI WISE model, transitional care nurses assess older adults for cognitive function, delirium, agitation, functional status, fall risk, and any signs of caregiver strain. They work with pharmacists, social workers, and other specialists to coordinate care and implement appropriate support services so that patients can be discharged safely.
- Investigators considered more than 57,000 patients over the age of 65 years who presented to EDs at the participating sites between 2013 and 2015. Roughly 10% of these patients were seen by transitional care nurses, and these patients were, on average, 10% less likely to be admitted when compared with similar patients who were not evaluated by a transitional care nurse.
- Transitional care nurses do not necessarily evaluate all older patients who present to the ED, but rather they evaluate those patients who potentially can be discharged with appropriate support systems in place.

Typically, a transitional care nurse will assess patients for cognitive function, delirium, agitation, functional status, fall risk, and any signs of caregiver strain. The results of these evaluations will guide what care coordination or support services may be needed so that the patient can be discharged safely. However, Hwang notes the three centers involved in the study have developed their own approaches for identifying patients who require a transitional care nurse and for implementing the overall GEDI WISE model.

For instance, while two centers (Mount Sinai and St. Joseph's) have created distinct geriatric EDs, Northwestern Memorial Hospital has elected to offer the GEDI WISE program components as part of the main ED.

"We don't have a specific space that is dedicated only to older adults, although we do have some rooms that are designed with older adults in mind," explains **Scott Dresden**, MD, MD, MS, FACEP, a co-author of the study and director of geriatric emergency department innovations in the department of emergency medicine at Northwestern Memorial.

Dresden notes the senior-friendly rooms feature doors instead of drapes, non-skid floors, and (generally) windows. "We try to get our older patients placed in those rooms as much as possible, but we use them for other patients as well, especially cancer patients," he says.

However, aside from this handful of rooms, the ED at Northwestern Memorial has focused primarily on providing senior-focused care through the transitional care nurses (referred to as GEDI nurses here) and a team consisting of an ED-based pharmacist, physical therapist, and social worker who are on hand to work with the GEDI nurses. "The GEDI nurses will go to the patients wherever they happen to be in the ED," Dresden notes. "They don't have to be in a designated space."

Establish a Baseline

What triggers the involvement of a GEDI nurse in a patient's care at Northwestern Memorial? Generally, an emergency physician or nurse will request a GEDI nurse when they raise concerns about an older patient and think that added evaluation would be helpful in optimizing the patient's care and eventual disposition. Dresden notes that a typical example might involve a patient who has multiple medical problems, takes several medications, and appears confused.

ULTIMATELY, WHAT WORKED BETTER WAS WHEN A NURSE OR PHYSICIAN WOULD CALL THE GEDI NURSE, SPECIFY THE CONCERN, AND ASK FOR AN EVALUATION.

"The GEDI nurse will do a thorough evaluation, looking for delirium, dementia, fall risk, polypharmacy, and those sorts of things," he says. "They will do an overall, comprehensive evaluation and then work on trying to do the care coordination for whatever the patient needs, whether that involves the pharmacist in the ED, the physical therapist, or our social worker in coordination with primary care." In the early days of the GEDI WISE program, the ED used an instrument called the Identification of Seniors at Risk (ISAR) score to assess all older patients at triage to determine whether evaluation by a GEDI WISE nurse was warranted.

"That is still the recommendation of the Geriatric ED Guidelines that were published and endorsed by ACEP [American College of Emergency Physicians], ENA [Emergency Nurses Association], and the American Geriatrics Society, but we found that this screening was not very specific," Dresden observes. "We had a lot of patients who would screen positive, but the nurses kept saying that [the screening] wasn't all that helpful."

Ultimately, what worked better was when a nurse or physician would call the GEDI nurse, specify the concern, and ask for an evaluation, Dresden notes.

"Those were the consults that helped the most, so after the funding we received through [a Medicare Health Care Innovations award] ... ended, we modified the program very slightly, and removed the ISAR [screening] at triage," he says.

However, Dresden stresses that using the ISAR for a period helped establish a baseline for the types of patients who might benefit from further evaluation by a GEDI nurse.

"As we learned what [the GEDI WISE approach] can do and who it can help, it helped to change the culture in the ED," he says. "But after our nurses and physicians became more aware of the types of things that can put older patients at risk, we found that the screen itself wasn't all that helpful." Northwestern Memorial has developed its own training program for GEDI nurses. Typically,

these nurses spend time in a skilled nursing facility, assisted living environment, and a geriatric clinic; they also conduct rounds with a palliative care team, Dresden shares.

"[Additionally], we have geriatricians, pharmacists, and social workers who give didactic sessions in a classroom setting, so there is a wide mix of classroom and experiential learning," he says. Dresden adds that one or two GEDI nurses are available in the ED at Northwestern Memorial between 8 a.m. and 10 p.m., Monday through Friday.

Training for transitional care nurses is delivered in a similar fashion at Mount Sinai, Hwang observes.

"They have an orientation with regards to protocols and they have education modules [that focus on] communicating and working with older adults," she says. "At some of our other sites, there is a two- to three-week curriculum where [the nurses] rotate through outpatient geriatric clinical services just to see what it is like to work in an outpatient geriatric clinic, palliative care clinic, and, more specifically, to get training on the assessments that are done."

Consult Guidelines

Dresden's advice to other EDs interested in improving care for older adults is to start by focusing on the Geriatric ED Guidelines. "It is a good list of how to improve care," he says. "The main thing is identifying patients who are at risk and identifying ways to [address] those risks."

This can occur in various ways, but it will require resources. "We found that emergency physicians and emergency nurses are overloaded with many tasks," Dresden advises. "I think if we had just said here are all these protocols that we are going to put in place for our bedside nurses and our emergency physicians, I don't know that it would have been as successful as [our program] is, so having a separate team that comes along and works alongside [the physicians and nurses] really helps."

Another step that can be helpful is to work with colleagues who are exploring similar innovations. For instance, Dresden notes that Northwestern Memorial is part of the Geriatric Emergency Department Collaborative, a group that was established by the Hartford Foundation and West Health. "We are working with that group on disseminating models like this throughout the country," he adds.

> "THE MAIN THING IS IDENTIFYING PATIENTS WHO ARE AT RISK AND IDENTIFYING WAYS TO [ADDRESS] THOSE RISKS."

Dresden explains that focusing on the care team rather than creating a designated space for the care of older adults may make implementing improvements in this area somewhat easier for many EDs. "It makes [the model] a lot more flexible," he says.

Hwang agrees that the focus should be on the care that is delivered rather than the space. In fact, she notes that while Mount Sinai Hospital contains a designated 14- to 20-bed unit that is equipped with senior-friendly features, the geriatrics care team often sees patients in the main ED when the space is full. Also, there are times when the unit must be flexed into use for younger patients, too, which has been the case this winter.

"Especially with the flu, there has been a lot of crowding and boarding of patients in the ED, so the space has now been overrun by boarding patients," she says. Hwang reiterates that the designated space is not what makes the geriatric ED, but rather the assessments and care that address the needs of older adults — aspects that are evident throughout the main ED, too. "That is what really makes a geriatrics ED," she adds.

Repurpose Existing Resources

When taking this approach, hospitals should assess what resources they already have in place, Hwang advises. Some staff may be able to be repurposed to provide geriatrics care in a way that is effective and efficient.

"If your ED does not already have a social worker or access to transitional care services, maybe those services already exist in your hospital," she says. "[Look at how] the ED can bridge with those services and how the ED might leverage technicians."

Hwang notes that some Veterans Administration hospitals are using technicians to fulfill some of the assessments that transitional care nurses typically perform. For example, technicians might conduct a fall risk assessment in consultation with the emergency physician.

"It is taking into account that bigger picture of what is going to happen to the patient, whether they will be admitted or discharged," she says. "And that additional information

about fall risk or their medications or their functional status can help facilitate transitions of care." Avoiding hospitalization is not just a money-saving exercise, Hwang stresses.

"People sometimes think if they are hospitalized it will be better for them, but it is actually not — especially in the case of older adults," she says, noting that older adults often become more frail following an inpatient discharge. "If a patient doesn't need to be hospitalized, then we should try to avoid it."

Now that it has been shown that transitional care nurses with geriatric training can reduce hospitalization among older adults who present to the ED, innovators are looking for additional ways to improve care to this patient population. For instance, at Northwestern Memorial, Dresden just implemented a universal screening program for delirium for all patients who 65 years of age and older, and he is looking into developing a protocolized screening approach for elder abuse.

"These are major problems in EDs throughout the country — delirium and elder abuse," he says. "They are hard to find, so those are new areas we are looking to explore ... so that those patients aren't slipping through the cracks." ■

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SOURCES

- **Scott Dresden**, MD, MD, MS, FACEP, Director, Geriatric Emergency Department Innovations, Department of Emergency Medicine, Northwestern Memorial Hospital, Chicago. Email: s-dresden@northwestern.edu.
- **Ula Hwang**, MD, MPH, Associate Professor, Emergency Medicine, Geriatrics and Palliative Care, Icahn School of Medicine, Mount Sinai, NY. Email: ula.hwang@mountsinai.org.

Three-tier Accreditation Process for Geriatric EDs Is on the Launch Pad

ACEP recognizes the growing role that emergency medicine plays in the care of older adults, especially in a value-based health system

In recognition of the fact that older adults present unique care needs, the American College of Emergency Physicians (ACEP) has taken a leading role in a new effort to provide Geriatric Emergency Department Accreditation (GEDA) to EDs that meet the standards spelled out in the Geriatric Emergency Department Guidelines, a series of recommendations the ACEP board of directors and several other national emergency medicine and geriatrics organizations endorsed in 2014. (*http://bit.ly/2F7dzXM*)

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, is leading the accreditation effort for ACEP. "We just launched on Jan. 1, so there are eight hospitals doing pilots at different levels [of accreditation]," he explains.

Biese anticipates that the accreditation program will be available to all hospitals by this summer, and his goal is to accredit at least 50 EDs by the end of 2018. Biese notes that this is a conservative number that should be easily achievable.

"We already know of 30 sites that have pre-emptively said that they want to apply for accreditation," he notes.

Given the reality that hospitals have differing levels of resources at their disposal based on an array of factors such as trauma level, size, demographics, and community needs, the accreditation program includes three tiers, with tier one representing the most comprehensive accreditation level.

"The [three tiers] are essentially based on how many of the [27 geriatric ED guidelines] you are able to meet, and as you go higher up you are meeting more of them," Biese notes. "To be a tier two, you need to do 10 of the guidelines, and to be a tier one, you need to do 20 of them. However, not every tier one ED is going to do the same 20 guidelines."

Biese notes that some hospitals may not employ an ED-based pharmacist, while others will lack case management. In more rural settings,

hospitals may need to collaborate to obtain these services, he says. Tier three accreditation is designed primarily for smaller hospitals that may not have 24/7 access to advanced imaging or full-service labs. They also may face staffing challenges. To obtain this lowest level of accreditation, there are no requirements for outcome measures, but the ED will need to offer mobility aids and show evidence of adherence to a urinary catheter avoidance policy. Further, the ED must employ one physician and one nurse who can provide geriatric-focused education.

Biese anticipates that accreditation at the tier three level primarily will involve submitting information online to document that the ED meets the required standards. For tier two accreditation, EDs will need to submit information showing they meet the standards for tier two, and there will be the option of a site visit by a member of the board of governors for ACEP's GEDA initiative. Tier one will require submitting information online to show that hospitals meet the tier one standards and also will involve a site visit.

Consider the Benefits

Why is ACEP addressing accreditation in this area? Biese notes that the organization recognizes the growing role that emergency medicine plays in the care of older adults, especially in a value-based health system.

"There is a clinical role, and there are all the downstream decisions that are made," he explains. "As emergency medicine's role in overall health system resource utilization evolves, ACEP sees setting standards for how older adults are treated in the ED as part of the evolution." While EDs will not face any penalties if they decline to pursue GEDA, there is potential upside for those that do, Biese shares.

"We know there is interest in the country for geriatric EDs because hospitals are proclaiming that they have geriatric EDs, so this speaks to the recognition of a need and an attempt to address that need," he says. "We also feel there is a need for clarifying what that means for the public. If [a hospital] says it has a geriatric ED, what should that mean regarding how older Americans are cared for in that ED? That is what we are trying to build."

"AS EMERGENCY MEDICINE'S ROLE IN OVERALL HEALTH SYSTEM RESOURCE UTILIZATION EVOLVES, ACEP SEES SETTING STANDARDS FOR HOW OLDER ADULTS ARE TREATED IN THE ED AS PART OF THE EVOLUTION."

Currently, there are more than 100 self-proclaimed geriatric EDs in the United States, and Biese anticipates that many of these facilities will want the recognition afforded by the GEDA process. "We feel there is a good bit of interest because we haven't marketed the approach yet, but there is a long line of folks waiting to apply as soon as we get through the pilot phase," he says. In the meantime, Biese and colleagues are working with the pilot sites to fine-tune the accreditation criteria and work out any bugs in the process.

Hospitals or EDs interested in the GEDA process should first thoroughly review the Geriatric ED Guidelines, Biese advises. "It lays out a good listing of things that one ought to be thinking about relating to how to make the ED better for older adults, but also with the knowledge that not all of the guidelines will necessarily be applicable to your site," he says. "It points you in the right direction."

Second, identify both a nurse and a physician champion who would like to help move this work forward. Asking both a nurse and a physician to take the lead on this task is critical, Biese advises.

Third, by this summer, when GEDA should be ready for dissemination, explore the program and consider reaching out to leaders of the effort to get more insight on what is needed to move forward.

"The accreditation process is a good tool for accelerating this work in the ED," Biese notes. "It gives the ED a voice to advocate for the resources it needs to healthcare leadership. Healthcare systems respond to recognition." ■

SOURCE

- **Kevin Biese**, MSD, MAT, Vice Chair, Academic Affairs; Co-director, Division of Geriatric Medicine, University of North Carolina at Chapel Hill School of Medicine. Email: kbiese@med.unc.edu.

Flu Season Strains ED Capacity Across Country

But relief may be near as the CDC says weekly decreases in reports of patients presenting with flu-like symptoms

While EDs across the country remain challenged by flu-related volume, there are finally signs that the peak of this year's season has come and gone, and the CDC is now able to report weekly decreases in the number of patients with flu-like systems seeking care. Still, by the end of February, data show that flu activity remained widespread in every state except Oregon and Hawaii, and health officials warn frontline providers that flu activity is likely to remain elevated for several more weeks.

Most concerning is the fact that pediatric deaths continue climbing. In the latest figures, the CDC notes 97 children have died from flu-related illness this season. Further, the hospitalization rate for patients with flu-related symptoms remains high. Thus far, the CDC reports there has been an overall rate of 74.5 hospitalizations per 100,000 people in the United States, with the most hospitalizations occurring among patients older than 65 years of age.

"Influenza A H3N2 viruses continue to dominate this season, and these viruses are often linked to more severe illness, especially among children and people aged 65 and older," noted **Anne Schuchat**, MD, the acting director of the CDC, during a mid-February conference call with the media. "However, we are seeing an increasing proportion of B viruses circulating as well as smaller increases in the proportion of H1N1 viruses."

Specifically, the latest figures show that in patients who have tested positive for the flu virus, 65% have influenza type A, and three-quarters of these patients have the H3N2 strain. The remaining 35% of patients have influenza type B.

"It is not uncommon for there to be second waves of influenza B activity during an influenza season," Schuchat cautions. "In past seasons similar to this one, an estimated 34 million Americans have gotten sick with the flu."

People at highest risk of serious flu complications include the very young, the very old, pregnant women, and people with conditions such as heart or lung disease, Schuchat advised.

"Clinicians don't have to wait for confirmatory flu testing and should begin treatment with antiviral drugs immediately if they suspect flu in a severely ill or high-risk patient," she said. "There is a lot of flu out there right now. If it looks like flu, it probably is. Antivirals could mean the difference between a milder illness and a hospital stay or worse, and [these medications] work better if they are started earlier."

While there have been spot shortages of antiviral medications in some areas experiencing high influenza activity, Schuchat noted that manufacturers say there is product available.

"Staff here at the CDC have been working closely with the commercial supply chain and pharmacies to address gaps in the market and increase access to brand products when the antiviral generics aren't available," she observed. "Flu continues to be a priority for the CDC, and we are working 24/7 to protect Americans from it. This is a difficult season, and we can't predict how much longer the intense flu activity will last." To cope with flu-related volume, hospitals in many regions have been creating additional treatment areas, canceling elective surgeries, modifying visitation, and boosting staff. For instance, Midtown Medical Center in Columbus, GA, installed a portable clinic outside its ED to manage the intense influx of patients in mid-February. The clinic, which was set up in a trailer in the hospital parking lot, was designed to both expedite care and to separate flu patients from other ED patients to prevent transmission of the virus. The hospital said it was treating as many as 100 patients per day who were presenting with flu-like symptoms.

Other hospitals that have set up mobile units or surge tents to decompress their EDs include Palmetto Health Richland in Columbia, SC, Grady Memorial Hospital in Atlanta, and Lehigh Valley Health Network's hospitals in Salisbury Township, PA, and Bethlehem, PA.

On the other side of the country, Kaweah Delta Medical Center in Visalia, CA, established two surge tents outside its ED to deal with flu volume that was related in part to the recent closure of a nearby medical center.

In Maine, where flu season often peaks later than in other parts of the country, epidemiologists report that Maine Medical Center in Portland already has had to divert incoming flu patients to other hospitals several times thus far this year. The hospital also has taken steps to pair flu patients in double rooms, and it is using specialty beds from other parts of the hospital to manage flu-related capacity. ■

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

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.

ED MANAGEMENT®

CME/CE INSTRUCTIONS

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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.