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## THE JOURNAL OF EMERGENCY DISPATCH

## Future of EMS

### Is Here

Emergency Nurse triage offers alternative care for low-acuity calls

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Horror stories within emergency medical services (EMS) can make even the layperson shudder. These aren't stories about patients who couldn't be helped—those who don't survive—as much as stories about patients EMS did help and by doing so jeopardized someone else.

“What happens to the guy down the road having chest pains when the paramedic is called out on a twisted ankle?” asked Rick Roller, of Louisville Metro EMS (Ky.) (LMEMS). “It might sound like I'm exaggerating, but it happens. Everyone in the field has their horror stories.”

The stories are as old as emergency phone services, and the same goes for the question of what to do about it. As a former Lt. Colonel over Operations at LMEMS, Roller wanted more emergency vehicles, if the usual destination of the ER remained the standard response for 9-1-1 callers.

But while most of his paramedics might have agreed at the time, there were others in EMS who did not.

“Dr. Richmond disagreed,” said Roller, now a program manager for LMEMS working in the city's 9-1-1 communication center. “He said the answer was in distinguishing the non-emergent calls from the true emergencies.”

Dr. Neal Richmond is chief executive officer of LMEMS and five years ago, he was before the city council describing the definitive EMS operation.

A major issue holding back optimal service, Dr. Richmond recognized, was familiar to every EMS. People were calling 9-1-1 expecting ambulance transports for injuries or ailments that did not require a trip to the ER. Every time an ambulance was diverted for a patient with a sprained ankle or broken toe, definitive care was delayed for someone, such as a cardiac arrest or choking victim, desperately needing medical attention.

The issue boiled down to the inability to manage patient flow, particularly against public expectations of 9-1-1. The hands of EMS were tied. How do you limit ambulance transport to the most critical cases? Socioeconomic concerns added to the mix. For example, someone who does not own a car is more likely to call for an ambulance compared to an individual with a car at his or her disposal.

It was at about this same time that Dr. Richmond heard about the Priority Solutions Integrated Access Management (PSIAM) system developed by Priority Solutions, Inc., available to Medical Priority Dispatch System™ (MPDS) and ProQA users. The doctor, who was already a strong proponent of the dispatch protocol and quality improvement software, contacted the Academy.

“He watched a couple demonstrations and was sold,” said Kristen Miller, LMEMS chief of staff. “We had been tackling this problem for quite some time and had looked at various models for triage. The Academy offered the type of program we needed for alternative medical care.”

### **The Fourth Pillar**

At Navigator 2012, the International Academies of Emergency Dispatch (IAED™) unveiled the Emergency Communication Nurse System™ (ECNS™) to complement the philosophy behind PSIAM. The name of the triage software (PSIAM), developed by Priority Solutions™, Inc., was changed to LowCode™ to better describe what the software achieves.

ECNS, when used with the MPDS Protocol, can provide alternative care for Academy-approved, low-acuity, OMEGA Determinant Codes.

“Calls that do not require emergency response, after very compliant MPDS evaluation, are transferred to the Emergency Communication Nurse (ECN),” said Tami Oliver, R.N., IAED Emergency Communication Nurse specialist. “This specialized nurse further assesses the patient using the LowCode protocol to narrow down the type of assistance necessary.”

ECNS is the Academy’s Fourth Pillar of Care, with the same criteria of protocol, training, and “know-how” as the medical, fire, and police dispatch certifications and the same high-level oversight through the ECNS Standards Council. This detailed emergency nurse triage system is comprised of 212 protocols and designed for use alongside the MPDS and interfaced with the ProQA software. Accreditation as a Center of Excellence is required for use of the ECNS protocol.

The process is straightforward. A call comes into the communication center; ProQA is launched by the EMD, and, if after questioning the patient is assigned a pre-determined and locally defined low code (OMEGA Code), the call is transferred to the ECN. The ECN gathers more information and based on this structured assessment, provides a Recommended Level of Care (see sidebar below article).

LMEMS and MedStar Mobile Healthcare (formerly MedStar EMS), Fort Worth, Texas, are the two active users in the United States, although the United Kingdom and Australia have used the system extensively for the past 14 years. There are more than 1,000 trained and certified ECNs throughout the world.

### **Louisville MetroSafe**

LMEMS launched the ECNS (then known as PSIAM) as a pilot program on April 19, 2010, and went full throttle with the full program within months. The year prior was spent in testing, training, and determining which of the more than 60 OMEGA determinants would be sent to the ECNS for further evaluation and alternate care.

“Even if we didn’t have a ton of data that it would work we had a ton of data that something like this was needed,” Miller said. “It had potential for solving a problem everyone in the system knows exists.”

Roller admittedly had doubts about the program. Could it address the range of conditions they hear in the 103,000 medical calls the center answers each year? How do you convince an agitated caller that a lightsand- siren response is not necessary? Would the public accept the system, and what would it take to convince people?

One of the first calls transferred from the 9-1-1 line to the ECN made a believer out of Roller, at least as far as public acceptance.

“The caller was thankful,” he said. “She had been overwhelmed and said we did her a big favor by just talking to her and reassuring her. We were able to help and that felt good.”

Some calls, he said, may still require ambulance transport and that includes calls during which patient status changes while speaking to the ECN or after a complete evaluation determines ambulance transport is necessary. Not long after the program was implemented, Roller was talking to a caller having an allergic reaction that went from mild to critical in minutes.

“She started sounding agitated, and her voice went squeaky,” Roller said. “She was going into anaphylactic shock so I immediately sent an ambulance. The phone dropped, and then I heard the sirens. In a way, ECNS saved her life. An allergic reaction, without priority symptoms, would have placed her on a lower tier for response.”

### **MedStar Mobile Healthcare**

MedStar launched its pilot program on May 21, 2012, in collaboration with Baylor Health Care System, John Peter Smith Health Network, and Texas Health Resources. MedStar hired Susan Pelton, R.N.—a former paramedic with experience in dispatch—with funding for the initial one-year position through the hospital systems. For the first week of the program an ambulance was still sent on low-acuity calls while the ECN discussed options with the patient.

Matt Zavadsky, MedStar, associate director of Operations, said the “soft start” aided in transition. They got the “kinks” out of the system and tweaked the process in relation to public reception. It gave them a chance to weigh in on the year they spent behind the scenes before going live.

“We knew that it was no longer affordable to sustain EMS in the direction it was going,” Zavadsky said. “We were confident with PSIAM being used by certified ECNs. We were excited about it and we had to convince the community of the same.”

Public education took center stage. The first round was dedicated to the healthcare community and regulatory officials. Zavadsky went to every single municipal council—and there are 15 in their service area—armed with a presentation listing the benefits and countering real concerns the councils might have, such as liability issues.

The second level was a media blitz: television, print, radio, and live broadcasts. They wrote press releases and gave interviews.

“People knew just what to expect,” Zavadsky said.

And, for those who may have missed the messenger, the nurse educated callers one at a time once ECNS went live.

### **What about dispatch?**

Zavadsky and Roller paid careful attention to the people directly affected at their place of work. Not all dispatchers and calltakers were jumping up and down with joy; some were apprehensive. Would they accidentally drop calls? Would callers receive the same level of care? What happened if mistakes were made? They didn’t want to take chances because that’s not what they do.

EMA/MetroSafe Deputy Director Debbie Fox radiates a positive attitude; even over the phone her enthusiasm is unmistakable. In the business for 27 years, you'd think another new program to maintain in addition to EMD and ACE might ruffle her demeanor.

"We don't think like that," she said. "We think about the right thing to do. We think about what more we can do to ensure success for our community. The 'what if' stuff doesn't go far here."

Fox learned about the plan from Miller, who contacted her with this "really great idea," and in the fashion of the "awesome partnership" established among the agencies, scheduled a meeting among the "stakeholders."

Of course, Fox had reservations. She said so.

"Dropping a call was certainly a great concern and that can happen whenever there is a transfer," she said. "I certainly had confidence in EMS, and what they wanted to do, but I wanted to make sure the process was as seamless as possible."

They ran innumerable test calls in house before releasing the system to the public, and to date, they have yet to drop a call.

The calltakers and dispatchers—and MetroSafe has 60 positions with generally 35 active during each shift—rolled right along. There was no interruption in service, the calltakers have been receptive, and they can earn continuing dispatch education (CDE) hours toward MPDS recertification in classes taught by their in-house EMD instructor Diane Bagby.

Fox paused when asked about whether the EMDs (calltakers and dispatchers) felt threatened by someone—the ECNs—taking over their calls.

"I hadn't thought about that," she said. "The nurse is a piece that completes what we do. It's a resource allowing us to refer our callers to somebody who is just as concerned about them as we are. Our dispatchers see it as a real plus to their work. It complements what we do."

MedStar Communication Manager Tammy Moore is no less enthusiastic. Although MedStar shared the same concerns as LMEMS—dropped calls and the transition in general—the program has met with success inside the communication center. The Academy provided hands-on, interactive training, and Moore discussed the logic of having an ECN available for the low-acuity calls.

"The ECN is right here on the same phone line," Moore said. "No time is wasted in transferring the call and since we are all in the same room, we know what's going on with each patient. It's gone really well."

Outside the center has been the harder side of acceptance, Moore said. Despite a media blitz prior to going live, callers tended to be wary when it came to alternative care for their emergency. The tide, however, is turning, she said.

"People now actually call and ask for the nurse," she said. "Faced with a medical situation that's confusing, they want advice."

The ability to give genuine assistance in a low-acuity incident is a big plus, Roller said. Dispatchers, paramedics, and hospital staff providing emergency care rarely have the time to stop and talk. They understand that what they consider a low-level emergency is a crisis for the individual. But, face it, they don't have the time or resources to offer consolation.

“That’s the nature of EMS,” Roller said. “We’re trained to move quickly so we can get to the next person.”

### **Public response**

Community acceptance was also a priority.

“Our community’s reaction was a big concern,” Fox said. “We didn’t want them to think we were blowing off their calls. Yes, we have the repeat callers, but most of our callers have never had a medical emergency and they call 9-1-1 because they’re in the worst possible situation. We reassure them [if transferred to the ECN] that the nurse considers their care and their situation a priority.”

During the LMEMS pilot program, callers were given the choice of an ambulance in a situation that did not—by vetted low-acuity standards—require emergency transport. In one case, the caller’s wife complained of flu symptoms and alternative care provided at a doctor’s office was not an option he would entertain, despite the anticipated length of wait they might experience in the ER. The caller insisted on an ambulance. The next day, when Roller called for a follow-up, the patient was rather chagrined.

“He said they should have gone with my advice,” Roller said. “The patient processed at noon, went into ER by 1 a.m., and was released at 5 a.m. A visit to their primary physician would have maybe taken a couple hours that afternoon.”

The dispatcher no longer verbally provides this option, although ambulance transport is always an option available at any time during the process.

MedStar callers with MPDS-vetted lowacuity complaints are transferred to the ECN. The ECN provides treatment options, based on further assessment. The second time during the same call the caller demands ambulance transport, the ECN will suggest sending a community health paramedic in a non-emergency transport vehicle.

If that doesn’t work, MedStar will send an ambulance, Moore said.

“We will not refuse an ambulance to anyone that insists, and we certainly don’t want to discourage people from calling 9-1-1,” she said. “But the calls we receive from people asking for the nurse proves people are beginning to understand the system. It’s not about saving resources, it’s about doing what’s best for the patient.”

### **One leads to another**

Zavadsky said the “through the roof” results of a customer satisfaction survey and savings—and who can discuss healthcare without economics—have prompted spinoff programs. MedStar has saved nearly \$500,000 during the first three months of operations, a number Zavadsky estimates from the avoidance of ambulance and ER costs. The 99 ECN-assisted calls added up to \$148,500 for ambulance (at an estimated charge of \$1,500/patient) and \$356,400 for ER (at an estimated average ER expense of \$3,600/patient).

The success earned MedStar a \$2.1 million grant spread over five years for the “MedStar Patient Navigation” program. The money from the federal Centers for Disease Control and Prevention (CDC) will pay for aroundthe- clock ECN coverage and two additional community health paramedics. They also have a contract through a local Hospice agency to incorporate 9-1-1 ECN triage into patient at-risk services. The ECN talks to the patient while, at the same time, a community health paramedic and Hospice nurse are sent to the home or other facility.

“We’ve been thrilled with the results, and exceptionally excited about where we can go with this,” Zavadsky said. “We are living the future of EMS.”

A two-year retrospective study of the 1,712 LMEMS callers receiving alternative care through ECNS showed an estimated \$552,270 savings in ambulance costs, for a 26% decrease in overall transportation spending.

The savings combined with patient satisfaction led to a shared \$4.8 million Bloomberg grant awarded to five Metro Government agencies in Louisville. LMEMS plans to invest its share in reducing the number of low-severity medical 9-1-1 calls and related EMS runs.

ECNS is the hub of plans, Miller said.

“It’s proven to us that it does what the Academy has said it will do,” she said. “The system does not produce false positives and I can count on one hand the number of calls sent back to dispatch.”

Partially supported by the grant, LMEMS will fund a second full-time ECN, a third dedicated console, a care management pilot program, and outreach in areas with a high volume of 9-1-1 low-acuity calls.

Miller said plans call for increasing the number of triage calls and participating health facilities and transportation systems during the three year life of the grant. They recently signed a contract with a local cab company to provide transportation to appointments scheduled through the ECN.

“This is the coolest thing I’ve ever seen,” Miller said. “During the time in development, we either banged our heads on the wall or wondered at just how amazing this would be. We’ve taken the training wheels off and are now ready to see what else we can do.”

### **LowCode and EndPoint are high powered**

The clinical content product LowCode™, developed by Priority Solutions, Inc., is a software application used to identify low-priority calls based on the patient’s answers to questions at Case Entry. Low-priority (OMEGA) calls are automatically redirected to an alternative triage program for referral to more appropriate sources of medical care.

But don’t let the word “referral” throw you.

The nurse receiving the redirected call conducts an in-depth interview and evaluates the caller’s medical condition. After verifying there are no priority symptoms, the ECN gathers additional information about co-morbid conditions, medications, and allergies. A symptom-based protocol is selected.

Based on the information provided, the ECN provides a Recommended Care Level (RCL) from the 22 built into the system. The RCLs include scheduling an office visit with the caller’s primary care provider, dental care, poison control, crisis lines, or connection to a medical provider for advice and self-care instruction.

EndPoints™, an integrated Directory of [local] Service application, interfaces with LowCode to provide accessible local community resources that allows the ECN to assist the patient in scheduling the RCL appointments and offer other assistance, as necessary. EndPoints also operates like a confidential electronic medical record: it confidentially passes patient data to all resources involved in the specific case and stores call handling data for analysis and quality assurance.

“Actual emergencies will always happen but a large percentage don’t require hot response,” said Matt Zavadsky, associate director, Operations, MedStar Mobile Healthcare (formerly MedStar EMS), Fort Worth, Texas. “So, do we really want to use the costliest level of care when an alternative is better for the patient? We’re getting the patient to the right provider and into a continuum of care.”

LMEMS and MedStar EMS are the country’s two active users, and centers in New York, Florida, and South Carolina are close to roll out.

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