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Using nurses to answer non-urgent 911 Calls

Protocols and partnerships are critical to success of implementing a nurse triage program

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In 2009, Rick Roller, assistant director for Louisville (Ky.) Metro EMS, was recuperating from a serious motorcycle accident that had left him with a broken back and other injuries. When he eventually returned to work, his colleagues figured Roller should take it easy. So they asked him to head up the launch of one of the nation's first 911 nurse triage programs. A nurse himself, Roller could work regular hours and stay put in the communications center.

"I was probably the most skeptical person in Louisville," Roller says of the program, which took its first caller in April 2010. "But then I started seeing that this has the potential to make a huge impact."

Over the next three years, the program grew from a single nurse answering a handful of non-urgent 911 calls a few days a week to three nurses who talk to patients 12 hours a day, seven days a week. His team is continually working to maintain and expand their network of transportation and alternative care options for patients who don't need the emergency department.

And Louisville is beginning to collect data showing that nurse triage is saving money. From February 2011 to February 2013, nurses spoke to 3,380 callers. If all of those patients had gone to

an ED via a Louisville Metro EMS ambulance, total BLS charges at $434 per transport would have been $1.46 million.

By using a variety of other modes of transportation—including cabs, wheelchair vans and even a private ambulance provider that charges a bit less—along with diverting some patients to doctors' offices or urgent care clinics instead of the hospital, transportation costs fell to $1.05 million—a 28% drop.

"For 30 years, no matter what your problem was, we only offered one solution: a trip to the emergency department," says Kristen Miller, chief of staff of Louisville Metro EMS. "What business stays in business when they ignore customer need and only offer one product? We need to be adjusting our solution to the customer need."

"We determined a year or so ago to change our model of how we do business," she adds.

While nurse triage has been used for more than a decade in the U.K. and Australia, the concept has been slower to take hold here. Faced with difficulties in finding alternative destinations for patients, early attempts at nurse triage programs in the U.S. petered out.

Yet there are signs that's beginning to change as EMS agencies seek out ways to use their own, and the healthcare system's, resources more efficiently—and potential partners are interested in hearing what EMS has to offer. For instance, as part of its $9.8 million federal Innovation Grant, the Regional Emergency Medical Services Authority in Reno is developing a seven-digit nurse triage line as an alternative to 911.

In Fort Worth, Texas, MedStar Mobile Health added nurse triage last spring. The nurse's salary is paid for by four local hospitals that see the program as a way of preventing unnecessary ED visits, says Matt Zavadsky, MedStar's public affairs director. The program is going so well that MedStar is adding a second nurse. "We know we have to change to survive in the new health arena. We have to demonstrate value to the check signer," Zavadsky says. "What we're doing, and what Louisville is doing, is finding ways to show that."

Protocols make it possible

One of the keys to nurse triage is having a means for dispatchers to reliably distinguish between urgent and non-urgent calls, and subsequently giving nurses a scientifically validated method to further evaluate patients and determine what help they need.

Both MedStar and Louisville rely on LowCode protocols and software, created by Priority Dispatch Corp. Priority Dispatch was already well known for its emergency medical dispatch protocols and ProQA software, which guides dispatchers through a series of evidence-based questions that categorize 911 callers into a range of call types, from low (Omega) to high-priority (Echo).

LowCode extends that by enabling nurses to drill down fu
asking questions to further assess patients, says Mark Re
on the situation, nurses may counsel patients on self-care at home or make an appointment with

a physician or urgent care clinic. Communities can also customize it, determining exactly which codes should be sent to the nurse.

In Fort Worth, the nurse also has the option of sending a mobile healthcare paramedic to the home. MedStar's mobile healthcare paramedics travel in non-transport vehicles and have received additional training on patient assessment and navigating patients through a complex healthcare system.

Another element of nurse triage is follow-up. In Louisville and Fort Worth, nurses contact patients 24 hours after the initial call to make sure they've gotten what they needed.

In the United States, Richmond (Va.) Ambulance Authority launched the nation's first nurse triage pilot program in 2004. But the program struggled, says Wayne Harbour, the Ambulance Authority's chief clinical officer, in part because patients didn't want to speak to a nurse. "We'd put them through to the nurse, but as soon as they were talking to her, they'd say, 'Just send an ambulance,'" Harbour says. "And the Virginia code we have to follow is if somebody really wants to go to the hospital, we have to take them."

But the even bigger obstacle was a lack of physicians, clinics and urgent care centers willing and able to make room for patients referred by the nurse, and they reluctantly dissolved the program a few years ago. "There were very few doctors' offices that would take patients, and the patients themselves didn't want to wait greater than two hours," he says. "It was an idea that was probably five or six years ahead of its time."

Building and maintaing partnerships

The team at Louisville Metro EMS is well aware of the challenges faced by Richmond. Led by chief executive officer and medical director Neal Richmond, M.D., they spent the better part of a year recruiting a network of family health clinics, urgent care clinics and physicians willing to take referrals, as well as overcoming skepticism from some physicians that nurse triage is safe.

They launched their program with a $50,000 grant from Passport Health Plan, a Medicaid managed care plan, plus $50,000 of in-kind donations and their own funds. Initially, nurse practitioners at Spalding University staffed the triage line in return for clinical training credits.

The program got a boost in 2011, when Louisville was one of five U.S. cities chosen to receive $4.8 million in grants over three years from Bloomberg Philanthropies. The grants were awarded to cities that had developed innovative programs to improve city services.
"Each run a crew makes averages one hour to one hour, 15 minutes. For each call we're taking out of the 911 system, we're providing another hour of coverage to our streets," Miller says. "If I don't have a crew waiting at the hospital for an hour with someone with a sore throat, I have a crew ready to respond to someone having a cardiac arrest."

With several more years of viability shored up by the gra
expanding and fine-tuning the program. For instance, wh
team initially asked callers if they were willing to speak to a nurse. Many refused. Today,

dispatchers don't give callers with clearly non-urgent problems that choice. They tell them that they will be transferred to the nurse.

As they gained experience, Roller and the other nurses gained confidence in their new role. "If I have a patient resistant to triage, I might say, 'Ma'am, if you still want to go to the hospital after talking with me, I'll make sure you get there. But if you go to the hospital, you're probably going right to the waiting room. A hospital wait for this is probably four to six hours. Or, I can get you in to see a doctor right away or I'll make an appointment for you,'" he says.

They've also learned more about who is calling 911 with non-urgent medical needs. Initially, Richmond says, they suspected most callers would be uninsured. Instead, the more typical barrier is not being able to get an appointment with a doctor in a timely manner, and not having a way to get there, he says.

To address that, Louisville Metro EMS has worked hard to identify healthcare and transportation partners. One physician has given them a standing appointment at 1:20 p.m. daily. Other partners include a dentist/oral surgeon's office, federally funded clinics and First Stop Urgent Care, which promises to see patients within 40 minutes and is equipped with X-rays and a lab and is intended to serve as an alternative to EDs.

MedStar has faced some of the same challenges as Louisville. Before launching nurse triage, an analysis found that just over one-half of the non-urgent calls appropriate for nurse triage were coming in Monday to Friday from 9:00 to 5:00; those are the hours the nurse has covered. With their second nurse, they'll have two nurses answering calls during the heaviest hours in the afternoon and be able to cover until about 11 p.m. weekdays and some weekend days. They'd like to have a nurse taking calls all night, but there are no urgent care centers open then, Zavadsky says.

At MedStar, each of four hospitals covers 25% of the nurses' salaries. Because the hospitals have skin in the game, they're also more committed to making sure patients triaged by nurses have a place to be seen. Several of the hospitals run clinics, including a pediatric clinic, where staff have been told to give priority to patients referred by MedStar nurses, Zavadsky says.

As in Louisville, transportation is also a challenge for many patients. So if patients don't have a car or can't get a ride to their appointment, MedStar will foot the bill for a cab ride—one way. "We only pay for the trip to the appointment. We tell patients that we don't pay for their trip back," Zavadsky says. "Some of them say, 'How am I going to get home?' And we say, 'How would you have gotten home if we had brought you to the ER?'" To help patients get home, MedStar nurses can offer a bus pass, he says.

Paying for the patients' bus or cab fare is well worth it, he adds. MedStar estimates its cost to transport a patient at about $300. "For us, the choice is eating $300 or eating $20 for a taxi," Zavadsky says. "I'd rather eat the $20."

To maintain the hospitals' support, MedStar is also collect
stands to save the healthcare system as a whole. National estimates show the average cost of an

ED visit is $774; physician charges add to that. Although MedStar hasn't been able to collect data on how much patients end up spending at clinics or urgent care, it's safe to say it's a lot less than the ED, Zavadsky says.

A work in progress

Despite some positive signs, all agree: Nurse triage is still very much a work in progress. At MedStar, about 54% of patients who speak with the nurse go to an alternate destination; 46% still get sent to the ER. In some cases, after hearing more from the patient, the nurse decides the patient would be best treated at a hospital. For other patients, especially those with mobility problems, sending a cab isn't appropriate. Still other patients refuse anything other than an ambulance. "If a patient insists on an ambulance three times, we will send them one," Zavadsky says.

In Louisville, the operators of wheelchair vans and other alternative means of transportation won't go into the home to help patients into the vehicle. So as in Fort Worth, if a patient has mobility issues, they're getting an ambulance. Of the 3,380 triaged by the nurse, 2,335 of the patients still had an ambulance dispatched to pick them up. Many of those responses were handled by a private company that charges $396 a trip—$38 less than Louisville Metro EMS. But there have been issues with that solution, too, Richmond says. While they thought giving some non-urgent transports to the other company would be a revenue gift, the company recently told them they were at capacity and didn't necessarily want them, he says.

Yet the team at Louisville Metro is determined to press forward, seeing nurse triage as one step in a process of innovation that will move their EMS agency into a new era of healthcare. "This is the beginning," Miller says. "We're using it as a springboard for a bunch of new initiatives we want to do."

That includes plans to add community paramedics who can make house calls for nurse triage patients as needed, as well as finalizing plans to host medical outreach clinics in high-volume addresses. Again partnering with Spalding University, the plan is to send a paramedic and nurse practitioner student to head off issues that might result in a 911 call. "We are helping patients on the front end rather than the back end, which saves us some resource capacity," Miller says. "We feel like EMS has done the same thing for 30 years, and it can't continue."

That's good news to Roller, who has little interest in returning to his EMS administration job. In pain for months after his motorcycle accident, the experience gave him a renewed compassion for those who are suffering and at the mercy of the healthcare system, he says.

"When Kristen put me in charge of this program, I was in a ton of pain. I've been in the medical field long enough as a paramedic and a nurse to know that there isn't enough time to really talk to patients. Patients get asked, What is your issue? Are you in pain or not? That's how you get talked to," he says. "Once people find out you are really o

Today, during an eight-hour shift, nurses answer betwee
unpleasant and uncooperative, but many are thankful someone listened to them and tried to

help, Roller says. “I had a call from an elderly lady who started crying, saying, ‘Thank you so much for helping me. I didn’t know where to go and what to do,’” he says. “I feel like I’m doing more to help my patients, my community, the agency I work for and the surrounding medical facilities.

“I used to go from board meeting to board meeting,” he adds. “Now I get, ‘God bless you.’ I’ll take that any day.”

About the author

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