

FirstNet plays a vital role in GMR response “whether that incident is large or small”

November 15., 2022

by Jeffrey Marani - Director, Field Technologies, Global Medical Response



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As the director of Field Technologies for Global Medical Response (GMR), I'm responsible for the day-to-day operations of our IT field technology, including all field communications, LTE operations and mobile data terminals. I also function as the communications section chief for the Office of Emergency Management for GMR.

GMR's responses encompass everything from a single-vehicle accident to a large-scale event involving thousands of people.

My team's role is to make sure our first responders have the tools they need to do their job. That means we have to make sure the tools function when they're supposed to function. So, they can communicate when they need to at a moment's notice.

That could be on the ground, in the air or on the scene of the fire. It could be in a patient's home after they've gone home from the hospital.

And FirstNet® plays a vital role, no matter the size of the incident.

A nationwide operation

GMR operates across the country and employs close to 39,000 employees. Those employees are on the frontlines everyday – treating patients at motor vehicle accidents, on the fireground at wildfires and in the air transporting critical patients.

It's absolutely imperative that our teams be able to function efficiently and seamlessly. Communication is a huge part of that. For all of our missions – large or small – failure is not an option.

We need to partner with folks who understand that – who are going to help us ensure GMR is successful at delivering care at all levels across the country.

In many instances, our teams are out there using FirstNet and probably don't even realize it. They're relying on me to make sure that when they push the button, it just works.

Our communication centers are relying on data functionality and data coming from our ambulances. They rely on automatic vehicle location (AVL) and GPS technology to determine the closest, most appropriate ambulance to respond to a scene.

From a global perspective, we monitor every moving GMR piece of apparatus. We can't have that functionality unavailable. It affects everything from beginning to end. If we can't see where vehicles are, we can't send the closest, most appropriate unit to a response.

Critical connections

First responders in the field rely on communications technology to make sure they can live up to GMR's high clinical standards. They might be in the field transmitting a 12-lead EKG to the hospital. And they're now likely doing that from the patient's side.

That means that when they leave the ambulance, they need to have technology that's going to provide them mobile data wherever they are. So, when they attach that EKG to the patient, the emergency room physician or interventional cardiologist gets that EKG and can assist in making treatment determinations or point-of-entry determinations in the field.

They might also be using newer clinical innovations including video laryngoscope and ultrasound

technology. They're going to attach all of those diagnostic tools to their patient care report. When that report is done, they're going to transmit it to wherever it needs to go.

Going dark for the first time ever

In October 2018, GMR disaster operations was using a legacy provider. Hurricane Michael came along and presented us with challenges we hadn't faced before.

Hurricane Michael absolutely annihilated infrastructure in the Bay County area of Florida and the Florida Panhandle. It damaged both towers and backhaul. And Internet provision to towers was down. Even if the tower itself was up, the chances were that the backhaul to that tower was down. That meant the tower was completely unavailable.

For the first time in my career, we were dark. We were forced to migrate back to analog solutions. When I say analog solutions, we were dispatching on sticky notes.

I was in the national command center and received a call from the field that I don't ever want to get again. The voice on the other end of the phone was my COO. He was calling me from downrange, doing what he always does: checking on our frontline providers.

His exact words to me were, "Nothing works down here, except FirstNet."

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He was calling me from a borrowed FirstNet phone, because his phone wasn't on FirstNet at the time. We've since fixed that.

I immediately engaged our FirstNet representative, with whom we had already established a relationship. His response to me was exactly what I expected it to be and exactly what I've come to expect from the folks at FirstNet.

He said, "What do you need? When do you need it? And how can we help?"

I said, "I need phones. I don't need them tomorrow, I need them now."

His response? "Give me a couple of hours. I'm on this."

FirstNet showed up with equipment and a team of personnel to provision that equipment. Two to three hours later, we were communicating again.

And an hour after that, we had a crew doing a long-distance trip from one part of Florida to another, to transport a trauma patient who needed immediate higher-level care.

That crew was able to get turn-by-turn directions on their phone because they had FirstNet. They were able to communicate directly with the medical director who was sitting next to me in the national command center to continuously provide orders and direction to the crew transporting that patient.

If they weren't holding their FirstNet phone, they would've had absolutely no ability to do any of that. That basically solidified the fact that the largest provider of EMS in this country needed to be on the most reliable cellular service when the chips are down. That was FirstNet.

Keeping GMR connected

GMR uses FirstNet solutions in a myriad ways – from voice solutions to digital push-to-talk via our partner at ESChat to data solutions.

Our entire enterprise is using FirstNet in many locations, as a backup to terrestrial circuits that may fail. In many instances, that failover to a wireless circuit or a wireless service is completely transparent to the end users. They may not know a terrestrial circuit has failed and FirstNet has begun to pick up the service.

That's exactly what we want. We don't want providers worrying about what happens when something fails. It's the reason we partner with vendors like FirstNet. They believe in what we believe in: resiliency, redundancy and systems that don't fail. And if they do, it's transparent to the end user.

We also have learned – the hard way – that we need deployable LTE technology that we own, train on, test and use. GMR has five deployable systems, all with satellite backhaul, that one person can deploy near-instantly.

GMR is committed to funding technology that supports the operation. We've invested in our own customer-owned deployables, all with FirstNet, to support that mission. One of those is on top of our operations support unit, which is a large tractor trailer that we deploy to larger-scale incidents.

We own a cache of 1,200 Sonim XP8s that are sitting active and ready for us to deploy. So, we can hand one to every single ambulance that gets deployed. They're going to use it to message back and forth with dispatchers about their assignments or their current status. My dispatchers are going to use it to check on them during the hours of deployment.

Crew safety is paramount, and these devices are the lifeline back to the communications center. So, they're able to say to the dispatcher, "I have an unmet need," or "I'm in danger."

Communication is key

Communications is the piece of every incident that gets the most criticism.

Prior to FirstNet, there was never a guarantee everyone was going to be able to communicate efficiently and effectively. Sept. 11, unfortunately, taught us that.

Fast-forward to today: When my partners come together at a scene and we're using disparate radio systems, the easiest way for me to fix that is to simply hand them one of my FirstNet phones and say, "Here you go. Use this for the remainder of the incident."

If everyone arriving is on FirstNet, that means interoperability is almost seamless.

A COVID-19 response

GMR's Office of Emergency Management responded to a COVID-19 deployment on a military base.

I had just arrived on the scene and the branch chief immediately called me and said, "Jeff, we're struggling with communications here, we have no data, we have very limited voice. I need some help."

I immediately reached out to the Response Operations Group at FirstNet and requested a Satellite Cell on Wheels (COW). They arrived in just under six hours and the COW was on the air about an hour later. Personnel stayed with that device through the duration of the deployment and the difference was absolutely night and day.

As I watched my vehicle-tracking map from my CAD system, the moment the COW went live, the phones in that geographical area changed from a pinkish red (which meant we had no AVL from the devices) to a bright green.

The whole area lit up green.

I turned to my colleagues and said, "This is why we call for help. This is why FirstNet comes here for us to give us support at a moment's notice."

A lifetime in public safety

I've been involved in every natural disaster deployment with GMR since Hurricane Katrina. I spent 32 days in the field for Hurricane Katrina, as a communications technician and a dispatcher.

I know what it's like to pick up a microphone and have no one answer on the other end because the device isn't working. As a paramedic, I know what it's like to try to transmit an EKG and say, "Oh, the hospital didn't receive the EKG. Something must've failed in the network."

It's an advantage for me to know exactly what goes on – on both sides of the fence. I don't get to treat patients as often as I would like any longer, but I have an acute understanding of everything our first responders are experiencing in the field.

Those experiences have proven to me that there's nothing more important than communications. Absolutely nothing. And to be without them is setting yourself up for failure.

***Jeffrey Marani** is the director of Field Technologies for Global Medical Response, responsible for the day-to-day operations of all field technology. He started his career as an emergency medical technician in the field, moving into emergency communications in 1998, where he has been since. He's also a field-functioning certified paramedic and has responded to such major events as Hurricane Katrina and many others.*