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# Best Practices

## IN EMERGENCY SERVICES



## Q&A with Todd Stout

Founder and president, FirstWatch

*Having worked in positions ranging from chief operating officer for a major metropolitan EMS authority to senior manager with a public safety communications software company, Todd Stout had a vision when he started FirstWatch 15 years ago. Computer-aided dispatch systems were growing increasingly more sophisticated, thereby allowing for more detailed 911 data to be captured. At the same time, expectations for what public safety, fire and EMS should deliver was growing.*

*With his experience as an EMS practitioner and manager, and his expertise in data mining and public safety computer systems, Stout saw the potential for a new firm that would harness information technology to help customers in public safety make better and more efficient use of their resources to improve emergency care and safety. In 1998, he founded Stout Solutions, which became FirstWatch in 2002. From its first customers—MAST in Kansas City, Mo. (now the Kansas City Fire Department) and the Richmond (Va.) Ambulance Authority—FirstWatch has grown to a company that serves more than 240 agencies throughout North America. Initially focusing on real-time biosurveillance of weapons of mass destruction or outbreaks of SARS, H1N1 and other potential pandemics, FirstWatch has transformed itself into an organization that finds ways to*

*improve operational performance and efficiency, from reducing hospital drop times to identifying crime trends and other issues facing public safety and EMS.*

*Stout's roots in public safety run deep. His father is Jack Stout, a pioneer in the design of high-performance EMS systems. Todd Stout got his start working as a stock boy at Medevac MidAmerica and MAST in Kansas City. He later became an EMT, paramedic and flight medic. After working as a consultant on EMS systems design for his father's firm, The 4th Party, he was brought on as vice president and chief operating officer at Oklahoma City Emergency Medical Services Authority (EMSA). He has also held positions as director of business development for LifeFleet Ambulance in Irvine, Calif., and was a senior manager for TriTech Software Systems in San Diego. Stout was elected to the National EMS Management Association (NEMSMA) board of directors in 2010 and is active with the EMS Chiefs of Canada and other groups. In March, he was named one of 2012's "Top 10 Innovators in EMS" by JEMS.*

*Stout spoke with Best Practices about the importance of using data to improve worker safety, public safety and operational efficiency.*

### **Q** Congratulations on being chosen a top EMS innovator. What does the award mean to you?

To me, it's more of a FirstWatch team award than a Todd Stout award. I credit this award to my team and customers at FirstWatch.

Over the years, our customers have come to us with challenges they need help with. Some people come to us with specific requests. They'll say, 'You know, if you would do X and Y, that would save me 16 hours a week.' They're very specific with an idea, and they know how FirstWatch works and what we can do for them. Then there's the other end of the spectrum. They just call with a problem: 'Holy cow, we have to get a

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handle on STEMI and strokes. I don't have the resources to deal with this.'

We've learned from both of these types of customers. Increasingly, we can say, 'We built something for Los Angeles or Toronto that might help you.' Sometimes it's a problem we haven't heard about or faced yet, so we try to figure out how to apply the tools we've got to solve that problem.

One of the earliest examples of this is when we were just focusing on biosurveillance. We had a public health customer that had a FirstWatch alert, or 'trigger,' set up to notify them of respiratory problems. The customer said, 'That's great, but when I get an alert, I have to open up every run to

see what hospital the patient was taken to, then call the hospital and ask them about it, which means getting someone on the phone and convincing them it's OK to talk to me. It would be really great if we could have a listing that groups the calls by what hospital they went to, what time they got there, what the unit was and what the problem was. For example, at 8:15 this morning, medic 23 came in with a chest pain. That way, when I call the hospital, I can cycle through three or four patients at a time, and it will be easier to get someone to talk to me.'

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So we built our 'Destination' page to do that. It makes it easier for customers and hospitals, and we wouldn't have thought of it. The customer came up with the idea; we just built it. Now the Destination page is useful for all kinds of things, including flu monitoring and identifying geographic clusters of seizures and other events.

**Q Your father is the designer of the original high-performance public utility model, such as MAST in Kansas City and EMSA in Oklahoma. He literally changed the face of EMS. What is his lasting legacy?**

It's really three things. One is the perspective of delivering results. Another is system status management, and the third is the public utility model.

During my father's time, most private and public EMS agencies were really focused on doing the best you can with what you've got. They might measure average response time, but that was about it. There was no way to measure their performance. At that time, things were also simpler in terms of the demands and what you could do with data. My dad moved us toward focusing on results and outcomes, and introduced concepts such as the fractile response time. Instead of stating responses as an average, organizations would measure performance based on percentages—for example, responders should arrive on scene within eight minutes, 90 percent of the time.

Now the outcomes we measure are more sophisticated, more clinical and more patient-focused, and people are discounting response times. Now we know that if you get there faster, it doesn't necessarily help the patient so some people believe it's silly to measure response times. But the only thing sillier than measuring response times is measuring nothing at all. My father's work moved forward the concept that there should be standards, that you could and should measure performance and outcomes.

As we moved toward measuring results, system status management became the next step. What system status management is, at its heart, is trying to match supply with demand. It's not rocket science in terms of the concept. Wal-Mart knows how much toilet paper they need to stock because they know how much people are going to buy on any given day. People have to have more

tellers at the bank on payday than on other days. But weirdly enough, for the most part in EMS before my dad came in, it was much more about running 24-hour shifts and the same number of units operating on a fixed-schedule, fixed-location model. We were covering geography, which is important, but we weren't doing a great job covering demand. System status management changed that.

The public utility model was an attempt to improve EMS in areas where there were public and private providers all competing and trying to provide service in the same area. Like a public utility, you can't have 10 companies running wires to every house; it's cost-prohibitive. It was the same with EMS. A city would give a contract to an ambulance service to be the exclusive provider in that area. There would be government oversight to make sure good care was provided at the lowest possible cost.

**Q Would it be correct to say the public utility model has fallen out of favor?**

In its purest form, yes, yet aspects of it exist everywhere. In California, for example, almost every city and county has a contract for the provision of ambulance service. They go out to bid every five years or so. The vast majority of them look a lot like what the public utility model does, and quite often their contract language looks a lot like the language my dad wrote in the original public utility model contracts 30 years ago.

**Q Jack will forever be associated with system status management, which can be a double-edged sword. What do you say to his critics?**

System status management is actually very comprehensive in its approach. The reason it's become a double-edged sword is because people have gone home from workshops and seminars and implemented part of system status management, but not all of it. At the root of it is matching supply with demand, but maximizing the productivity of their workforce and moving people and units to the times and locations they're needed is not all of it. What my dad taught was that you can use system status management to improve employee morale and to ensure geographic coverage. It's a balance.

People tend to think system status management has to mean street corner posting

or squeezing the most productivity out of your staff that you can. System status management is more of an approach to thinking about how you do stuff. Just this morning, there was a post on the International Association of EMS Chiefs listserv that said, 'In the U.S., we use demand-based deployment, but what about high-risk locations like bridges, special events, or airports?' If you are doing real system status management, you would take that into account. System status management is a tool. You have to adapt it to your organization.

**Q You work with a lot of EMS agencies and fire departments all over the country. What common priorities are you seeing?**

The obvious one is that people have to do more with less. The idea of somebody sitting around chatting with their coffee cup for a couple of hours during the workday is unheard of; you are going all the time. What I hear from leaders is they need an easier way to know what's going on, to quickly put information together, at the moment, at a glance, without futzing around with details.

Hospital drop times are really big. The time a unit spends waiting to hand off a patient at the hospital is time it's not providing coverage on the street.

Improving response times is another big issue. A lot of departments are having to do brownouts and close stations, and they need to be able to figure out immediately what the result of that action is, not wait until six months later to do an analysis. There aren't enough resources to get to each patient in eight minutes. So they are trying to figure out which patients they really need to get to in eight minutes.

Another issue is clinical performance and measuring and improving actual patient outcomes.

**Q What themes are emerging as newly important?**

Community paramedicine, and what EMS can do differently than just responding to emergencies and taking people to the hospital. EMS has the potential to play a big role here, because we're already out in the community.

Frequent users is another one. We're working with Dr. Jim Dunford in San Diego on the Beacon Project. They have identified

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a group of people who are ‘super users’ of EMS. Many of those people have underlying health, social or addiction issues that the system is not handling well; the goal is to work with frequent users and get down to what these people really need.

Our role is creating triggers in FirstWatch to identify them and their responses. We alert the Beacon team, which includes the University of California San Diego, San Diego Medical Services and the county, that one of their case-managed people has been picked up and taken to the hospital so that a case worker can respond quickly.

**Q We keep hearing about the need for more data, the need for better data and the need for more useful data. What’s going on? What are people doing with all that data? What do they want to do with it but can’t yet? What’s the missing piece?**

The issue is there is more and more data, coupled with less time to deal with it. I think the missing piece is how to make the data useful and really easy to work with so that people can figure out where the problems are in a timely manner.

Let’s say I have a problem in my system because medics are starting to overuse one hospital. If I don’t find out about it for a few months, I’ve got a system habit that can be hard to break. If I can find out about it right away, we can act on it quickly and fix it before I have to retrain 100 people.

**Q What are the most common mistakes that people make with data?**

The most common mistake is probably not looking at the big picture. Here’s an example: Let’s say I’m looking at response times. I see a call where paramedics are late because they got lost. I’d ask them, ‘What happened?’ I’m approaching it from the standpoint of, *Here’s a problem and you should fix it.*

But what if I knew the context, and when I looked at that paramedic unit I

could see they only get lost 1 percent of the time, while others are averaging 5 percent? I may say, ‘You’re already rocking it, so I’m not going to go beat you up about that one call.’ Instead I should be looking for the paramedics who are getting lost 10 percent of the time and get them into a map-reading or navigation course.

**Q Why did you become a board member of NEMSMA, and how can the organization help EMS?**

I’d been a part of NEMSMA as a member. I joined because I thought it was an organization full of smart people doing good work. Even though I work mostly on software now, everything is focused on patient care and doing the right thing, so I’ve always stayed involved with EMS. I really felt like I had benefited from being a member, and if they needed people to step up and help out at the board level, it was the least I could do.

I think NEMSMA can help the profession by making sure it is in fact *a profession*. NEMSMA is big into education and best practices sharing. EMS for many reasons is a very local thing, and that’s OK and natural; each community can choose how it wants to provide EMS. But the challenges faced by EMS leaders have a lot of similarities across locales. There is no reason every EMS leader has to figure out everything from scratch. NEMSMA connects people and lets leaders know there are resources they can reach out to and ask if anybody has ever dealt with the same problems.

**Q As the president of a small company, how would you describe your leadership philosophy?**

A non-EMS person told me a long time ago that your employees treat your customers the way you treat your employees. I’m a big believer in that.

You have to hire the right people, of course. But if you trust your employees, if you treat them well and are fair and transparent, and if they know you have their best

Read more about FirstWatch at [firstwatch.net/](http://firstwatch.net/).

interests at heart within the parameters of running a business, then your employees are going to be more likely to treat their patients or customers that way.

**Q What would you say to a paramedic just entering this profession? What do you think the future holds for EMS?**

I have to go back to my beginning, when I was lucky enough to work for MAST. Some paramedics and EMTs love emergency calls and hate the rest of the calls, such as taking people to dialysis or taking grandma home. I was lucky to work with people who taught me that EMS is about more than the emergency calls. We were taking care of people.

I would pick up these little old people to take them from their house to the hospital. I had a couple of them who wanted us to turn the stretcher around so they could see their house one last time because they didn’t know if they were coming back. Or they would stop to hug their spouse of 50 or 60 years, because they knew they might not see them again. Those aren’t emergency calls, but they’re one of the most momentous events of these people’s lives.

During those calls, there wasn’t a lot of serious critical emergency stuff to do, so you would end up talking. I was going through a divorce at the time, and I got more unsolicited useful personal advice than you can imagine. I’d say, ‘How long have you been married? Oh, 62 years? How’d you do it?’ You’re talking, you’re taking their mind off their issues, you’re helping that person feel cared for, respected and listened to, maybe for the last time in their life.

If people say my kid wants to be an EMT or paramedic, I say this is a great industry. The life skills you learn are huge. **BP**

— Jenifer Goodwin, associate editor

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