

## EMS 10 Award Winner Todd Stout Creates Virtual EMS Manager

**Jamie Davis (JD) - 00:00:27** Hi this is Jamie Davis, the Podmedic, back with another episode of Innovations in Patient Care, and we are back with another interview from the EMS 10 Awards this year that were presented at the EMS Today 2012 Conference. EMS 10 is that award offered to the EMS provider, the EMS Medical Director, the manager, who has come up with a brand new way, or an innovative way to change the things they are doing in a better way. These are often the unsung heroes, nominated by their peers and recognized and voted on by their peers and eventually we whittle it down to 10 and we recognize them every year. We've recognized them here in the past on the show, and we're going to continue to recognize them.

**JD - 00:01:10** This time, I have Todd Stout. He's the owner of FirstWatch. FirstWatch is a software database management system that actually helps EMS systems, fire departments, Police systems, municipal systems, look at all of the data they collect throughout the course of their activities and in a real time basis, or near real time basis, track trends and alert supervisors to things that are going on, when they go on, when they happen. So perhaps you were noticing an uptick in a certain type of emergency call, a certain type of patient that may be occurring, you get notified right away, hey something is going on, we're having more of this type of patient. We're revisiting this particular patients home on a regular basis, there is something else going on here, perhaps they need additional care. All of this is part of what Todd's system, FirstWatch puts together and he was recognized this year as an EMS 10 Awards winner, Todd Stout from Firstwatch.net.

**JD - 00:02:18** Todd I want to just first off, start off with congratulating you for being recognized as one of the EMS 10 award winners this year. There was a lot of competition this year among the nominees. I saw the other folks that were nominated; it was really a lot of amazing ideas as I talked to and interviewed all the people, but yours is quite different because it's really a software approach to how we do EMS. It's almost the systems operations approach and yet you've really changed the way we look at how we manage our EMS services. Just tell us a little bit about what FirstWatch is, first of all.

**Todd Stout (TS) – 00:02:59** You bet, thank you very much for your kind words, so FirstWatch is really a hosted software system that we pull data from EMS and other public safety providers from their databases where their data is kind of hiding and not quite as useful as it could be. We bring it all together into the FirstWatch system and we can make it available in a more human friendly way.

**TS – 00:03:28** I created it originally in 1999 for Kansas City for MAST back then, to watch for increases in calls that could indicate some kind of weapon of mass destruction and that was long before the September 11<sup>th</sup> attacks and anthrax letters, but the public health director there was interested in that. That's really what we do, we watch for trends in calls that could indicate symptoms and then a few years later after September 11<sup>th</sup> and the anthrax letters, Jerry Overton asked me if we would make it available for Richmond Virginia where he worked, along with John Washko and some other folks really built the first internet version of that utility that had been running in Kansas city and frankly in Microsoft Access for a long time. Really if you think about it, watching data for trends in syndromic surveillance or bioterrorism bio-surveillance type stuff isn't really a lot different from watching data for other kinds of trends. Indicate operational needs, response times, chute times, times in the dispatch center that are able to improve things, compliance to clinical protocols there's all kinds of things as we really try to make data useful for mostly EMS organizations mostly because that's my background, but increasingly fire and police are finally realizing the value as well.

**JD – 00:05:00** It's interesting because a lot of organizations out there especially with the money crunch that's going on now among municipal and county and state wide systems they are really looking at maybe we shouldn't just be doing things the way we've always done it. Maybe we should be looking at how we make units available and stage units around our area because we may be under covering some areas, over covering others and looking at the data is really the only way to find that out.

**TS – 00:05:31** Well it really is and you know, I was an EMT and a medic back in the 80's and everyone was sort of doing the best we could and a lot of things based on how well somebody sold something, what one person's antidote experience was and it was really people just doing the best they could and now as you said, the funding sources are a lot tougher so you have to do more with less anyways and we've all gotten a lot wiser and realized we should actually be working on things that actually make a difference for our patient and make a difference for their care, and that means research and data analysis which we are really proud to participate in as much as we as a small company can and I can talk about some of those things later if you want, but it's really for one thing, I just always hated doing repetitive, boring, non-human brain using work and that's what computers are really, really good at. Part of our mission is to figure out how do we make it so that we can save the human brain for the important stuff and let the computers do the stuff that computers do so well, which is, counting, finding, sorting, and filtering and things like that. That's really in a nutshell what we try to do whether it's to detect things that could indicate some kind of bioterrorism or flu like problem or pediatric drowning notification or long hospital drop times so that units can get back on the streets and do their jobs. All those things, there's parts of it that require the human to really have a sense of the big picture and context, people and patients, but there's a lot of that work that's time consuming and a computer can do really fast. That's really what we're trying to do, trying to get the best marrying of what the computers can do and what humans can do and save the humans for the good stuff, for the important stuff.

**JD – 00:07:45** You've put together a virtual EMS supervisor that basically looks for different triggers in the data in the system, now is that a real time set up where if something is going on real time, an EMS Supervisor can be alerted to a problem?

**TS – 00:08:01** Yeah, we call it near real time because it's within a few minutes but the term Virtual EMS Supervisor was phrased by Bruce Evans, who was the former EMS Chief for North Las Vegas Fire and now is in Colorado. Bruce started looking at things like a lot of other customers have done but Bruce pulled a lot of things together, he's an awfully sharp fella and started looking at things, as he sort of calls it, high risk, often low volume type incidents. And a few of the things that he looked at, and one of them has gotten really popular with our customers is what he called a "rekindle" and other people call it a "recall" and so one of the things that we do, that again is easy for computers, hard for people, is we will automatically every time an agency uses this rekindle/recall trigger, every time they respond to a house or address that they have been to before, more than a certain number of times, like two times in 24 hours, or three times in 48 hours, the system will send out an alert to whoever has been notified. Often a dispatch supervisor or field supervisor and they can try to take a look at what's happening and that came from a situation that has happened in every EMS system I've worked in where a crew went out to a residence three times in 48 hours, the first time they transported the patient, the second time the patient refused, the third time they went out it was a code. And it made Bruce kind of stop and think, "Gosh, I really wonder if it really would have made a difference if we had convinced that patient to go that second time. Maybe they wouldn't have coded, maybe this wouldn't have been a problem." It's a great example of keeping track of that on a real time basis by humans would be really tough. Doing it by a computer is actually really simple and can make a big difference. He's got another that he's set in place for North Las Vegas where he wants to know about any time a call's cancelled because of a vehicle

failure. Low volume, high risk type problems I want to make sure, because if we didn't get to a patient because the vehicle broke down, they want to know about it right away. For sure if it broke down while a patient was on board it would be an even bigger liability risk, patient care risk, so he wants to make sure none of those just sort of sneak by without understanding what happened. Those are just two examples of the idea of rather than requiring someone to go run a report, first of all, create a report in the first place, second, have the time to go run a report and interpret it and tell somebody what's going on, all which has happened after the fact, we can actually notify people while that call is still going on or very shortly thereafter and make an immediate change.

**JD – 00:10:56** In a lot of systems, without this type of system in place, the only way the supervisor would find out about it was at a meeting a week later when someone says, "Yeah, 16 broke down with a patient in the back last week."

**TS – 00:11:10** Or when the lawyer calls, or when the patients family calls to try to understand why they moved the patient from one ambulance to the other in the middle of the trip to the hospital, while they are doing CPR or something like that. From just getting the information to the people who need it perspective, real time means something. I was a paramedic in Kansas City at MAAS, and it was a good system, good quality improvement process was a good system, but it was pretty routine for a QA person to come talk to me about a cardiac arrest from a QA perspective, three weeks after the call. I always tell people, can you guess the first words I said when they came to talk to me and it was always can I see the chart? Three weeks later, I'm not going to remember the details of the call and in a busy system, I might not even remember the call. This process, this idea, whether it's by monitoring dispatch data Bruce was talking about, or monitoring electronic patient care data, if I can identify that there's something to check on with a patient, starting with a paramedic, or a dispatch person, I can identify that right away and I can talk to that person about either how great their call went or there might be some questions about how that call went, while they're still on that shift, while they are still at the hospital, but certainly by their next shift, it's going to be fresh on their mind. I think paramedics and EMTs and people in our industry generally want to do well, they want to do the right stuff, and if you can help me understand how I could have helped that patient better while it's fresh in my mind, I'm going to have a lot better chance of having that information stick. That's what I really like about it, it's not just here's a way to beat up on people because I can find more stuff wrong, I can actually help our customers help their medics learn stuff, and benefit from good and bad feedback right away which is only going to help patient care.

**JD – 00:13:09** And that's what it's really all about improving that patient care paradigm. I think of that rekindle that brings up that patient that has called again, and I think of the hospital system that right now if you readmit a patient for something like congestive heart failure within a certain period of time after they've been discharged, Medicare won't pay for it because they said we are supposed to manage these patients, release them back in the field and back to their homes in such a way that they are stable and stay home and take care of themselves that use home care resources, so that when the paramedics come back to that house after they went to the hospital the day before, clearly something got dropped along the way. Looking at the system wide approach to this can really help the hospital and the EMS side, reduce call volume on the EMS side and reduce readmissions that aren't going to get paid for on the hospital side. By working together you can identify some of these problems.

**TS – 00:14:08** That's a great segway into my current favorite research thing that we're working on with the folks in Sedgwick County, Kansas and Dr. Sabina Braithwaite. In that system in Wichita Kansas, the Sedgwick County area, we have been monitoring their dispatch data, their Dr. Clawson ProQA data, and about half of their hospital ED's data from syndromic surveillance, bioterrorism monitoring perspective for years and years and years. The EMS Operations folks have been working hard to look at things from

an operational perspective using that data and they recently got some funding on the public health side to get data from the rest of the hospitals in Sedgwick County from the ED perspective and they have implemented Sansio ePCR there as their way of doing electronic patient care and they have had the medics capture the hospital medical record ID number in that ePCR record for quite some time now for patient follow up and billing purposes and things like that, so they have the guts of a system to tie those things together but they're all in different ? 00:15:20 FirstWatch's place, we were able to add those other hospitals into the monitoring system, we were able to add the electronic patient care record information in the monitoring system, and because the medics do the hard work connecting the dots between grabbing the inpatient medical record ID, Dr. Braithwaite and her team can actually look at every patient that they take from the dispatch process, including ProQA and call taking, what the medic thought and what they said happened in the field, to the actual discharge in the emergency department, to discharged from the hospital. That's really a thing that, instead of just once in a while on a few things, they can literally look at nearly any aspect of their system in terms of, if I did X with this patient because of location or whatever reason, and Y with another patient, and X means they are in the hospital two days less and Y means two days more, what an amazing opportunity to try to learn from that. That's a great example of kind of using the data to not only improve their response times and their performance of their day to day activity, which they do which is like Bruce's Virtual EMS Supervisor but also to make some long term potential changes in what medics do with patients to improve their actual go home outcome. To me, it's one of the most exciting things because a few people have done that in a few places, there are a few places that can do it on a regular basis but for the most part, it's a big, manual, giant, heck of a process. Those folks can literally think of a question and use our system to run the numbers and to see does it makes sense to do a bigger study to see what's going on. You're going to see some neat stuff coming out of Dr. Braithwaite's office there in Sedgwick County.

**JD – 00:17:13** I've actually talked to Dr. Braithwaite before on another program and I'm excited to just find out what she's doing about that, that's pretty amazing. It's great to see that we are tying the EMS more and more into that healthcare system rather than having us be the stand alone part of public safety that does health care, but doesn't work with health care. That's great to see that you're doing that.

**TS – 00:17:39** Especially with somebody like Dr. Braithwaite and her team there, honestly they're butt-kickers. They get stuff done. I'm sure it's going to shake up some things and cause some controversy, but at the same time if somebody doesn't get that going and come up with some practical results, we are really going to lose some momentum. I'm awfully excited we are able to help them with that, and sort of essentially we've partnered FirstWatch with Sedgwick County EMS and the hospital systems that they have there to do this. They're already doing some pretty amazing work so just keep an eye on them.

**JD – 00:18:18** I definitely will, that sounds very exciting. Real quick before we wrap up, you've been recognized here as EMS 10 award winner this year which is a great honor, I think for what you're doing and certainly brings what you're doing to the fore-front so that other people can take a look at it. What do you think of programs like the EMS 10 Innovators Program that recognizes those people, those paramedics, and those medical directors that are making changes and coming up with a new way to do things or a new way of looking at the data in a new way we've always collected What do you think of programs like this as we move forward and start on next year's nominations?

**TS – 00:18:56** I think it's important, I feel pretty humbled because I had worked with folks early and had some good ideas a decade ago with FirstWatch. Now it's grown so much, we now have 118 live sites around North America, we process a new record every two seconds, its grown well beyond one guy, me, doing this. I've got an incredible team of people so I've been trying to be very clear with my staff and

with our customers that I feel so lucky to be recognized like this but it's really their work and it's really our customers work, like Dr. Braithwaite and the folks in Toronto, Los Angeles and all the other places that share their ideas and allow us to pass it on, but I think the award part of it, my dad is Jack Stout, and he was a big person who believed in having systems that had incentives to make anything work better. I like to do the right things because they're the right things but like anybody else people like to be recognized for it and it gives you that little extra "oomph" to go on through harder times, through tough times and it also, I think, awards like these and the other folks that won this year, and as I was researching it, the previous years, there are some amazing people doing incredible things and if I was a young paramedic, young supervisor, young manager now instead of an old fart like I am, it would be really good to see the kind of work that is being recognized because that's what you want to do. You want to show people this is what we want more of, and I think EMS 10 and similar kind of things like that, do nothing other than recognize something good so the people working hard can feel even a little better but send the message that, "Hey, more of this kind of behavior is good" I think is important and people will strive for that, I just feel lucky to be a part of it.

**JD – 00:21:07** Well Todd, I want to thank you very much for joining us here on Innovations in Patient Care, and if folks want to find out more about FirstWatch, where can they go on the web to find out about it?

**TS – 00:21:16** The best place would be [www.firstwatch.net](http://www.firstwatch.net) , if you go to firstwatch.com it's a breakfast restaurant chain, you'll get a good breakfast but you won't get any kind of business intelligence or key performance indicators, or anything like Virtual EMS Supervisors but they got there first. It's really a pleasure.

**JD – 00:21:44** Well thank you very much Todd, we'll talk to you again soon.

**TS – 00:21:47** Thanks so much take care.