

Friday Night [under the] Lights... 2015



Happy Friday.

Best to everyone this week. Tough week in several areas around the country weather-wise. I hope things settle down a bit this weekend. Feel free to send any excess water to Texas or California...

The Annual Cardiac Arrest FNuL...

If I ever decided to get really fancy and specifically name issues of FNuL (you know, the Annual New Car Buyers FNuL, the Swimsuit FNuL, etc), I'd call this one the Annual Cardiac Arrest issue. It's an opportunity to take a good look at our collective performance in managing one of the toughest patient populations in EMS and certainly a condition with a significant morbidity and mortality.

While there are many important metrics to pay attention to in EMS (think **Things That Matter**) one of the oldest and perhaps most useful to look at still is our performance in managing patients in cardiac arrest. Fortunately, it's not a super-common event in most communities as you know, but it's an important one. Our public often sees cardiac arrest and violent trauma as the main reasons EMS exists (and while we all know there are many more, these two are certainly biggies).

But the reason it's important for an EMS system to look at their cardiac arrest data is probably more detailed and telling than you'd think. *Let's break it down...*

- The first one is obvious. Patients in cardiac arrest are certainly considered among the most acute, life-threatening conditions we are called for. They have no blood flow, their vital organs are not perfused and they are clinically dead. Without intervention, they will die in minutes.

- It's a very, very time sensitive condition. Every second the human body goes without oxygenated blood flow (perfusion) not only decreases the patient's chances of a recovery, but end-organ damage is worsened approaching an eventual point of no return. The most critical is neurologic function. But other organ systems are involved as well and certainly there are sub-populations of post-arrest patients that suffer renal failure, hepatic insults, ischemic gut, etc. The goal of maintaining and restoring blood flow as quickly as possible impacts not only mortality, but morbidity. So, not only is life itself on the line, but quality of life can change dramatically in patients who are not resuscitated rapidly or effectively from the initial event.
- Effective resuscitation requires a well-coordinated, **team** approach. Those patients that receive care from a skilled **team** (including the public) have the best chances of survival. So looking at cardiac arrest data, a community can better assess exactly how integrated and effective that team is.
- Time measurements must be synchronized. In order to understand the importance of time (or maybe more appropriately areas that may take too much time), clocks, watches, CADs, defibrillators and patient care records should be as close to each other as possible. While ideal, this remains a significant challenge in most communities (a gentleman I will discuss below published a good paper on the implications of those challenges in the late 1990s).
- Details matter. We've learned that well over the past decade. We know that it's not just the rate of chest compressions, but its things like minimizing interruptions, depth and rescuer fatigue that can make a huge difference. If we remember that no human body likes a lack of blood flow for even a few seconds, it can drive our efforts to be extremely diligent in delivering quality compressions. Compress like your life depends on it – someday it might...
- Return of Spontaneous Circulation (ROSC) no longer signals an end point of resuscitation (Yes! Got the pulse back)... It signals the beginning of the next step – Post resuscitation care. Looking at what happens (and how) at the hospital is an important factor influencing survival. Cardiac arrest data for a community can help identify the impact of particular centers on outcome. Destination absolutely matters.
- Cardiac arrest is one of those conditions that has a uniform set of metrics with specific definitions – that means we can compare apples to apples and we can use change over time to measure our progress (or not).
- Finally, following cardiac arrest data within a specific Practice over time is a good indicator of the impact of all those efforts I described above. It's a way to evaluate all the components and focus on those that may need work. It's also useful to compare rates between Practices and identify areas for improvement and Practices that have stellar data that can help others reach new goals...

So based on that, most progressive EMS systems spend a significant amount of time and effort measuring cardiac arrest. Today's Gold Standard of community cardiac arrest data is a program based at Emory University called CARES (Cardiac Arrest Registry to Enhance Survival). The Registry is designed to allow data gathering and sharing in an effort to improve a disease that has had an historically low overall survival rate. AMR is a major participant in CARES and has more patients entered each year than any other single EMS system. We're proud to participate.



~~There's very little paperwork involved...~~ Strike that – I was thinking of something else...

CARES was the brainchild of Dr. Bryan McNally and his colleagues at Emory. Many years ago he had a vision of using data from arrests to improve survival and facilitate productive discussion. That vision has certainly come true. [www.mycares.net].



And, quick side note from my trip early this week ... I had no idea that our colleagues in Gulfport MS have actually started a CARES program to help spread the word...

So... Drum Roll. That said, the 2014 audited CARES data is now available.

How did AMR do as an organization? The data in the left hand column is AMR data. The data on the right is the CARES National data. It's valuable to compare ourselves with the rest of the CARES data.

	<u>AMR</u>	<u>NATIONAL</u>
• Total cases	6513	39444
• Bystander CPR initiated?	47.2%	41.4%
• AED applied prior to EMS?	26.8%	27.9%
• Overall survival to admission	27.1%	26.6%
• Overall survival to discharge	11.2%	10.3%
• Good /moderate cerebral performance	9.2%	8.1%
• Utstein Survival	35.4%	32.8%

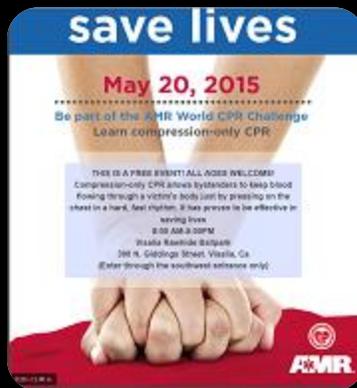
While every community should continuously strive to improve survival, I am extremely pleased with our collective performance this year.

To take a statistical liberty, if the National survival to discharge rate was the same as the AMR rate, an additional 355 patients would survive each year – Almost one more per day. Strong work along a continuing journey...

Which reminds me – Our next huge effort.

Don't forget about the AMR World CPR Challenge.

This year, once again, it takes place on the Wednesday of EMS Week – May 20th ...



Our AMR Community Bystander CPR rate continues to climb. Get involved on the 20th and send me your stories and pictures. It's a tremendous way to Make a Difference and Have a Blast Doing It... If you have questions or need help, reach out to Doug Petrick, Tawnya Silloway or Lynn White...

I really want to see how innovative we can get this year. I've got a \$100.00 gift card for a dinner out for whoever sends me the craziest picture of teaching Compression Only CPR...

A personal note...

I have been very fortunate in my career to work alongside tons of brilliant, talented people that have helped change the face of EMS. They've personally helped nurtured and developed our profession by advancing the science and applying just the right amount of "art" to make it happen. Sometimes I think about how lucky I've been to learn from folks that have the gift of scientific exploration, an almost insatiable hunger to learn more and an uncanny ability to teach and communicate. People like that light other's fire. Mine certainly has, thanks to them...

In my last year of residency I had the huge fortune to spend some time with an icon in the world of resuscitation and EMS – Dr. Joe Ornato. He's a fascinating guy who sees *way beyond* what the rest of us see. He's passionate about resuscitation and has spent his entire professional life pursuing better ways to improve outcomes from sudden cardiac death. He's the kind of guy that's always thinking about the physiology of arrest, opportunities to improve outcome, areas that need further and deeper exploration and all the practicalities of taking the evidence and translating it into action in the streets.

When I finished my residency, he offered me a faculty position with him in emergency medicine. Watching what he did and how he did it – I felt like I had won the lottery (plus I didn't have to move and there was this nurse in the ICU that was not-too-shabby and would eventually make a pretty good wife, but that's neither here nor there...). I remember how tremendously excited I was for that opportunity.

It was tough to keep up with Joe in those early years. Not only was he the Chief of the Division, he was the medical director of the ambulance service at the time (CVAS), he was actively engaged with grant writing, scientific research, IRB proposals, medical students, residents and (of course) hospital politics. Joe's the kind of physician that always stopped what he was doing to explain and he can explain things better than almost anyone I know. He has a unique style when he teaches and anyone that knows him or has ever attended one of his gazillion lectures has seen it. When he teaches, he smiles. His eyes open wide on the key points. It's a gift. He's fun to watch and fascinating to listen to.

He taught me a ton in my early career. There are so many stories; I wouldn't know where to begin...

He coached me through the terror of having to appear on television. The news wanted to do a story on the weather turning cold and they asked our group to do an on-camera interview (yikes, nothing scarier than being on live TV).

I told him I didn't want to do it – he could. Instead of just doing the 37 second interview, Joe took me into his office and proceeded to teach me about the media – I remember him saying things like “you're the one with the expertise, make sure you know more about the topic than the reporter will ask you”. He reminded me of the importance of speaking slowly and clearly (don't even go there) and how important it was to make sure your face had a positive, credible look (the smile that he brings to his lectures).

When I finally did the interview on camera in the Code Room, I remember seeing him standing in the doorway with a “thumbs up” when the bright light of the camera was turned off. While it sounds silly, that professional “nudge” from him was something I've carried with me to every interview I've had to do since then.

Pick up any ACLS or BLS textbook and look at the inside cover. You're certain to see his name. He's published scores of articles, textbooks and educational material that's helped guide the world in resuscitation principles.

Joe taught me how to use the computer. He mentored me in writing. He taught me so much about research integrity and how to take an idea to a study and carry it out (one of the more interesting studies we did was applying a headband with the letters AAA on it to all unconscious and cardiac arrest patients when they came into the ED so we could interview them later and ask them if they could describe any of the details of their ED stay (“well, come to think of it, I do remember an odd headband I was wearing that had AAA on it” – We could have proven patients float above themselves during arrest – not surprising, no one we talked to remembered any such event).

I credit Joe with giving me an opportunity to explore the world of EMS medicine. I could never have picked a better mentor and professional colleague. Thanks to him (and many others along the way since then) I developed a non-treatable case of the EMS bug.

Joe had a cardiac arrest several weeks ago.

When Dr. Allen Yee (a friend of mine and Medical Director in Chesterfield Fire Department in Virginia) called me, I was devastated. It was this unbelievably surreal discussion on the phone. No way. *Not Joe*. He's battled that cardiac arrest demon all of his career. It just felt wrong that this wonderful guy had dedicated his life to improving outcomes from something that struck him...

But Joe's story has a great ending. Joe is now home, neurologically intact and (as one of our nurse friends said) "he's the same ol' Joe" (by the way, one of my long-time Medic colleagues in Richmond started his discussion with me by saying Joe's wife had consented to sharing his condition and details with his EMS and Emergency family).

It just so happened that Joe was cared for by the Henrico Fire Department – and he just so happens to be their Medical Director. His wife is a cardiologist and insisted on transport to the more distant MCV Hospital, bypassing another facility in favor of more comprehensive care. A decision that's well supported by science, but sometimes difficult to politically implement in some communities.

What Joe spent decades teaching everyone else, worked for him. What Joe spent his career researching was actually used on him. His wife's transport decision based on her decades of experience with in-hospital cardiac arrest was instrumental for him.

I can't tell you how happy I am that Joe is with us today (along with thousands of his friends and colleagues all over the world). Words could never even begin to describe it.

It's a very personal in-your-face reminder of how important what we do is. Focusing intensively on the appropriate management of cardiac arrest REALLY CAN WORK. My friend and colleague might look like a column on a CARES report somewhere in Virginia.

And just like this one set of data for this one event on this one day for this one person and his family, there are thousands of others in that CARES database that have just as powerful a bond people in their world.

In a really neat coincidence, the Henrico Fire Department was recognized nationally at the Congressional Fire Service Dinner in Washington DC for Fire Service Based EMS.

...on the same night their Medical Director went home from the hospital.

Thanks to every single one of you for giving your best to battle sudden cardiac death – *its working*.

WTH...

Tonight's *What The Heck* is from Bryan Fleming [AMR Boulder]. He took this picture in Denver.

Nice to have choices I guess...



Epilogue...

I had the pleasure of spending a little time this week with Rich Bartus [AMR South Region Operations and Finance Officer] during a great visit we had in Gulfport MS. He was sharing a personal story and said he wanted to ask me a medical question. He always reminds me he's keeping a sharp eye on the Clinical Budget in the South so I was *more than happy* to return the favor and help him with his medical question.

I didn't realize that all of Rich's kids were born at home. When his wife went into labor in the middle of a stormy night, the medics were called out to his house. Since there was no electricity, the medic handed Rich a flashlight and said, "Here you hold this high so I can see what I am doing." Soon, a baby boy was brought into the world.

"Whoa there," said the medic, "Don't be in such a rush to put that flashlight down. I think there's another one coming." Sure enough, within minutes he had delivered a baby girl. "Hold that light up, don't set it down there's another one!" said the medic. Within a few minutes he had delivered another baby girl. "No, no don't be in a hurry to put down that light, it seems there's yet another one coming!" cried the medic.

Rich was puzzled by the events of that day and asked me - "You reckon it might be the light that's attractin' 'em?"

Bless his heart.

That's it from my world. *Happy Friday.*

As always, thanks for what you do and how you do it – because one day it might be someone near & dear to you...

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