

DPM NEWS

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Defining and Promoting Quality in EMS

Dr. Dorsett and Heather Lenhardt provide an in depth look at quality improvement on page 2.

Noncardiogenic Pulmonary Edema

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When there is no DNR...

Dr. Cushman offers insight on dealing with a cardiac arrest when there is no DNR on page 11.

Ever Better

The motto of the University of Rochester, *Meliora*, translates to “ever better”. Simple and to the point, this motto also provides an excellent way forward for EMS agencies and individual providers. As a region, many of our initiatives led by individuals, agencies, medical directors, or the region itself, are in the pursuit of becoming ever better; better providers, better patient outcomes, and better customer service.

Many of the articles in this newsletter focus on this theme. As an agency or an individual provider, one simple way to focus on improvement is through the MLREMS Care Bundles which are “intended to improve patient care” and “reflect current evidence and the consensus of content matter experts”. These documents distill certain categories of EMS calls into the few critical aspects of our care that can affect patient outcome. They represent a simple, focused approach to hone a provider’s attention and can be found at: <https://www.mlrems.org/provider/performance-measures/>. Data related to the criteria from the STEMI care bundle is provided on page 7.

On a related note, Heather Lenhardt is currently seeking more entries for a study on **Patellar Reduction**. If you have completed a patellar reduction since the procedure was added to our protocols, please complete the survey found here: <https://redcap.urmc.rochester.edu/redcap/surveys/?s=PHM8K4EHJC>.

As always, if you have any feedback or suggestions about this publication, please contact me at e.rathfelder@gmail.com.

Eric Rathfelder
Editor-In-Chief

Upcoming Events

Melinda Johnston

For more information about any event listed below, please visit the training calendar at MLREMS.org

July

- 10 - BLS Core Content Mod 1
- 10 - PALS Original (1 of 2)
- 11 - PALS Original (2 of 2)
- 16 - MRLEMS Council Meeting
- 17 - BLS Core Content Mod 2

August

- 20 - REMAC Meeting

Defining and Promoting Quality in EMS

Maia Dorsett MD, PhD

Heather Lenhardt MBA, EMT-P



EMS is traditionally defined as the intersection between public safety, public health and healthcare. While EMS lives within transportation on a federal level, any EMS provider or medical director recognizes that EMS is not a transportation service that involves medical care but a medical service that involves transportation. Traditionally, EMS has been measured by operational metrics such as response times or unit-hour-utilization. These methods are really only important in so far as they relate to the ability of an EMS system to provide quality patient care that is “safe, effective, patient centered, timely, efficient and equitable.” [1] EMS is a practice of *medicine* and therefore EMS quality should be assessed by its impact on patient outcomes.

In response to a need to create a common foundation to think about quality in EMS, the National Association of EMS

Physicians (NAEMSP) recently published a Position statement entitled “Defining Quality in EMS.” [2] The entirety of this position statement can be read [here](#). While this is titled a position statement, it can also be thought of as a vision statement – a goal for us to move towards together. There are 9 major bullet points to the position statement and they are worth reading individually (see text box at end of article). However, if we were to write our take home, it would be this:

Quality in EMS is a journey not a destination. It is the pursuit of an ever-evolving and challenging target. To achieve it, the EMS community must be engaged at all levels, from leadership to policy makers to information system design and most importantly, the frontline providers serving at the patient’s bedside.

It is key to note that quality *improvement* is different from quality *assurance*; assurance is looking backwards at work that has already been done, while improvement is about using this information to build a better system. Because the engagement of the frontline EMS provider is the key ingredient in a quality EMS system, both in recognizing clinical areas for improvement and in delivering quality care to the patient’s bedside, we decided to discuss two aspects of continuous quality improvement for this newsletter: Methods for Continuous Quality Improvement (Heather) and Creating a Culture of Improvement (Maia).

Methods for Continuous Quality Improvement

This year, for the first time, NAEMSP offered a one-day quality improvement workshop. The goal was to teach EMS personnel (medical directors and EMS professionals) the theory and methods for quality improvement. The foundation of this workshop was based on the work of Edward Deming, who was an American statistician who defined a theory of management and leadership called the **System of Profound Knowledge**.

The System of Profound knowledge is a framework of thought and action for leaders who wish to improve their organization. It holds that a comprehensive approach must be taken to reduce waste and variation and to increase quality. This approach consists of four components:

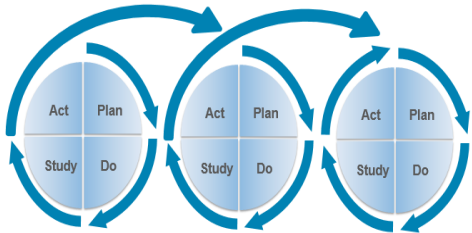
1. *An appreciation of the system:* this means that leaders must consider how any individual change affects the entire system. For example, there are a finite number of things that an individual provider can do with their time. If our intervention adds work, we need to think about what the individual provider may not be able to do because of the work we added. We have to prioritize our objective (quality and safety of our patients and providers) and think how an individual change affects our ability to achieve this overall objective.
2. *Understanding of variation:* Variability in outcomes is an inevitable part of every EMS system. No two patients are exactly the same and no two patient encounters are exactly the same. There are, however, two general types of variation:
 - a. **Common cause variation:** These are problems that have been built into the system. For example, we may consider rapid chart completion following an EMS call important to patient care because it makes the information readily available to in-hospital providers. If we want to improve performance and decrease variability, we need to recognize that there are system factors that affect this goal, including ease of use of the provider charting interface, automatic pulling of information from monitors into the PCR and ease of exporting the chart information.
 - b. **Special cause variation:** These are unexpected events that affect outcome. For example, we track medication error rates for our organization. We note that medication errors of a particular high risk medication have increased. We make a graph of time vs. medication error rate and realize that the increased rate of medication errors began after we changed concentrations of the medication secondary to drug shortages.

In EMS, we tend to focus on special cause variation (or blaming of individual providers which is not only unhelpful, but harmful). However, effective system management also requires reducing common cause variation and finding system-level fixes to improve care.

3. *Theory of knowledge:* The theory of knowledge is based on the idea that quality is achieved by leaders that look forward and either prevent errors before they occur or make strides towards a better outcome.

The fundamental idea is that we make a change based on our prediction of what might happen. For example, to prevent medication dosing errors, we provide quick-reference dosing cards that fit on badges for high risk medications such as fentanyl, ketamine and versed. We predict that this will lead to a decrease in dosing errors of these medications. We do not just assume that our intervention accomplishes its goal. Rather, we continue to measure medication error rates through time and assess whether our intervention needs to be modified in order to better achieve our goal.

This process described above is called the Deming Plan-Do-Study-Act cycle, a never-ending cycle of continual improvement. The Plan Do Study Act (PDSA) consists of a logical sequence of four repetitive elements: **Plan, Do, Study** and **Act**.



Plan: Recognize an opportunity for improvement and plan for change.

Do: Execute the plan and test the change for a short period of time.

Study: Review the test, analyze the results and identify what you've learned.

Act: Based on what you learned in the study step - If the change did not work, go through the cycle again with a different plan. If you were successful, incorporate what you learned from the test into broader changes. Use what you learned to plan new improvements, begin the cycle again.

4. *Psychology:* The success of a system and any quality improvement initiative is only as good as its ability to engage the frontline providers within the system. Deming understood that people are motivated above all else by working together to achieve a common goal and taking pride in their work. Building a culture of improvement is addressed in the next section of this article.

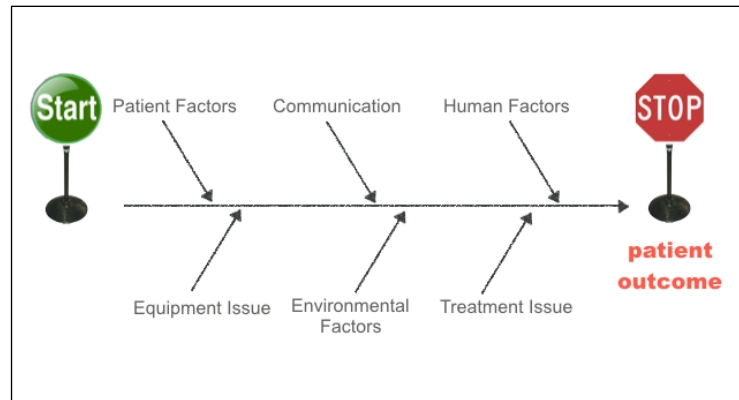
What is the culture of improvement and how can we build it together?

For quality improvement to be both successful and sustained, EMS must embrace a culture of improvement. A culture of improvement is one where all members are engaged in improving the quality of care provided. It is one where errors, harms, and near-misses are openly discussed because they present windows of opportunity for systematic change.

For a long time in medicine, we subscribed to the notion of blaming individual providers for bad outcomes. Instead of thinking about the system factors that lead to an error – sleep deprivation, stress, equipment failures, poor communication, inadequate education surrounding a particular condition – we blamed individuals. While there will always be some “bad apples”, the majority choose the profession of EMS because they want to take good care of people and make a difference in their community. This is a fundamental tenet of *Just Culture*. Blaming individuals for bad outcomes not only leads to harm to those individuals in terms of depression, job insecurity or worse, it sacrifices our richest opportunities to improve the level of care that we provide. Instead of punishing individuals for errors, we should reward those who bring them to our attention so that we can collectively brainstorm ways to implement change and prevent them from happening again.

How do we undo many of the deep-seated beliefs within EMS culture? First, we not only have to say that we are incorporating Just Culture principles in the quality management process, we must adhere to them when adverse events occur. Regionally, the Patient Safety Committee utilizes Just Culture principles and methodologies. In addition, continuing medical education should incorporate case-based discussions and in particular, discuss adverse events not with a focus on deficiencies of an individual provider, but rather with a focus on human and system factors that lead to the ultimate patient outcome (see Fishbone diagram below). I have always felt obligated as a physician within an EMS system to discuss my own difficult cases, errors made and opportunities to improve because vulnerabilities occur at all levels of practice and I encourage all clinical EMS leaders to do the same.

While continually reinforcing the role of system-level issues is important, commitment to quality improvement at all levels requires that the rationale for change is explained and feedback is solicited from individual providers prior to enactment of the change. This allows the change to be optimized in such a way that it has a chance of succeeding within the daily workflow. Expectations of providers should be clearly delineated, and feedback should be timely. One of the things that I love within the MLREMS system is the prehospital care bundles – they delineate the clinical goals and expectations for evidence-based quality care and are easily accessed on the MLREMS website [<https://www.mlrems.org/provider/performance-measures/>]. Finally, quality care and participation in quality initiatives should be openly rewarded and recognized.



From the medical director standpoint (and I know I am not alone in this), I feel as much pride in my association with an EMS provider when they come to me to discuss an adverse outcome or safety concern as when they make a remarkable clinical save. In recognizing the former, we enable the latter.

Conclusion:

As a practice of medicine, EMS quality is ultimately measured by patient outcomes. The success of quality improvement programs is built on the culture of the organization and the engagement of the frontline provider. So the next time you go to work and think, “it would be better if...”, don’t push that thought to the wayside. Think about a process improvement, which could be as simple as a checklist or educational intervention, to get you closer to that goal and talk to your clinical leadership about it. Although each individual idea may not succeed, the system gains a little each time this happens because it marks it a culture change that is sorely needed.

References

- [1] Committee on Quality Health Care in America, Institute of Medicine. (2001). *Crossing the quality chasm : a new health system for the 21st century*. Washington, D.C. :National Academy Press.
- [2] NAEMSP. “Defining Quality in EMS.” *Prehospital Emergency Care*. Published online 29 Mar 2018. Accessible at: <https://www.tandfonline.com/doi/full/10.1080/10903127.2018.1448495>
- [3] HealthCare Improvement Scotland – ihub <https://ihub.scot/2020-framework-for.../deming-s-system-of-profound-knowledge/>

Key bullets from the Defining Quality in EMS NAEMSP position statement .

- Quality in EMS must prioritize patient outcomes. The complexities of EMS and the diversity of the practice environment require attention to structural and process measures to build improved care delivery; however, the EMS community must strive to develop, promote and implement measures that capture meaningful effects on patient outcome.
- Quality efforts are dynamic. A high-quality EMS system should be continuously advancing toward a safer system that improves patient, provider, and population outcomes.
- Quality EMS care should embrace current evidence-based practice in all EMS domains from system design to clinical practice. EMS leaders should promote timely knowledge translation through the development, dissemination, implementation, and monitoring of evidence-based guidelines that inform practice at the national, state, and local levels.
- Adequate infrastructure to support quality efforts must be developed and supported at local levels. It should include the following features:
 - Imbued with methodology that promotes continuous improvement
 - Developed in partnership with EMS operational leadership, providers, and medical directors.
 - Adequately resourced to enable medical directors and quality personnel to perform data review and outcomes reporting
 - Integrated into daily operations
 - Linked to education and evaluation
- Quality efforts in EMS require seamless, automatic, large-scale bidirectional information sharing of patient data and outcomes. This should be supported via provincial, state, and national regulations as well as in partnership with local health entities.
- EHRs and reporting systems must support quality improvement monitoring and reporting requirements. Agencies of all sizes should have access and be able to implement this technology. Improving data capture for quality improvement will enable EMS agencies to analyze data and will allow regulatory and governmental agencies to understand the effects of EMS care.
- EMS should adopt uniform quality terminology and definitions. This will improve the ability of EMS medical directors, leaders, regulators, and policymakers to compare results between systems, regions, and countries.
- Quality improvement methodology and work requires partnership between the operational and medical community using a system-based approach in which patient / provider safety and quality care are highlighted. EMS should support and develop quality improvement training and/or certification for personnel dedicated to this effort.
- EMS leaders need to promote a culture of safety. Leaders must emphasize that the highest quality of care is only achieved when the process improvement program rewards those who identify and seek to prevent errors before they occur.

STEMI Follow Up Information

Heather Lenhardt MBA, EMT-P

This data represents STEMI's brought to SMH from January 1 – March 31, 2018 from agencies in our region.

<i>Metric</i>	<i>Average</i>	<i>Range</i>
At patient to EKG	7 minutes	2-15 minutes
Prehospital Notification	13 minutes	5-21 minutes
EMS on Scene Time	13 minutes	5-21 minutes
EKG to SMH Arrival	28 minutes	8-69 minutes
At patient to Balloon	86 minutes	56-125 minutes

Goal: first medical contact to hospital arrival within 60 minutes to reach the reperfusion goal of 90 minutes

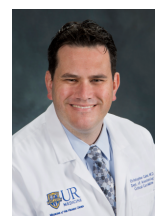
MLREMS STEMI Bundle

Metric	Goal
At Patient to EKG Time	10 minutes or less
Prehospital Notification	Within 5 minutes of STEMI identification
ASA 324 mg chewed by mouth	At any time
On Scene Time	10 minutes or less
Serial EKG(s)	Serial 12-lead EMS EKG(s)
Defib Pads	Applied to patients with identified STEMI

Mentorship (Part 3 of 3)

Christopher Galton MD, EMT-P

In the first part of this series I discussed why having a mentor has had a positive impact on my life as well as why I think mentors could be a positive force in your life. The second part discussed how to go about finding the right mentor for you. In the final part of this series, I will try to bring us full circle and address the most pressing question, now that I have a mentor, what should we do?



When I work with my mentors or I have mentees, I always start with a face-to-face meeting. This can be as simple as meeting for coffee, lunch, or some other informal setting. Before you commit to this, you need to analyze the type of relationship you have or will have with your mentor/mentee. I think the relationship between a medical student and the dean of the medical school would be different than the

relationship between an EMT working through paramedic school and their paramedic preceptor. Some meetings should happen during normal business hours in a traditional office setting, while some will happen in the corner pub after a long shift. Where to meet up has a lot to do with the type of relationship that will develop.

The next step is preparing for your meeting. In my case, that means developing a list of things I want to talk about in the weeks prior to the meeting, and then writing it down on a scrap sheet of paper that lives folded into my wallet until meeting time. Your list does not need to kill a tree if you are smart enough to use your smart phone. Maybe it is an email sent ahead of time or memorized if you did not get hit on the head with an oxygen bottle too often. Even if your mentor makes fun of your list (mine does every time), having a list demonstrates that you value their time and you want to be productive during your meeting.

During your meeting, what type of things should you discuss? In my mind, this meeting is broken up in three parts. The first part is usually spent catching up with my mentor on a personal level. Frequently I speak with my mentor or mentee about how things have been going because this is a relationship so it's OK to invest in it and be human. Any good mentor wants to know that their mentee is maintaining adequate priorities and perspective with everything going on, especially when things are getting really busy. The second part is a review of the previous meeting and progress on the subjects that you discussed at the last meeting. The premise of this relationship is based on the mentor providing guidance to the mentee, so they certainly want to hear about how you advanced the ideas that you both spoke of previously. The final part is the new material and this is typically where the list comes into play.

In this busy world, everyone's time is valuable. By the time my meeting hits, I have usually thought through what I want to say about the previous subjects as well as the newer things I want to talk about. It is OK and expected that your ideas are not refined, that is why you have meetings with your mentor. Part of their role is to help you refine those ideas into viable actions. A meeting should not be one sided and the mentor expects to have ideas bounced off them. You should expect them to critique and suggest things that you had not considered. Along those lines, it is OK to take notes during your interaction. Any mentor should be flattered that you are writing their ideas down. It shows that you value their opinions enough that you do not want to risk forgetting.

I have benefited greatly from having positive mentors in my life. I continue to have multiple mentors today who both directly and indirectly inspire me to be the greatest paramedic, physician, medical director, anesthesiologist, intensivist, coach, and friend that I can possibly be. If only they could help me find some time to sleep ...

If you have any questions about this column, please feel free to contact me at christopher_galton@urmc.rochester.edu.

Opioid Related Non-cardiogenic Pulmonary Edema

Aaron Farney MD

Recently, a paramedic called me to debrief after a somewhat unusual call. During our discussion, it became evident that the phenomenon of opioid-related noncardiogenic pulmonary edema (NCPE) is not widely known in the prehospital realm. As we are in the midst of an opioid crisis, the odds that the average field provider will encounter opioid-



related NCPE is increasing. The ability to recognize this phenomenon and knowing what to do will make all the difference to your patient.

A Hypothetical Case

You are called for a 25-year-old male, possible overdose, unknown if breathing. On arrival, the patient is unresponsive on his bathroom floor. Family reports they found him on the floor not breathing just prior to calling 911. They had last seen him well 15 minutes prior. He has a known history of heroin use, and you notice an empty syringe next to him. On exam, he is unresponsive, cyanotic, with agonal respirations and has a pulse of 40.

You immediately commence resuscitative measures. The airway is positioned, a nasopharyngeal airway is inserted, and positive pressure ventilations are initiated via a bag-valve mask connected to high-flow oxygen, with resultant resolution of cyanosis. Four milligrams intranasal naloxone is administered. About three minutes later, the patient wakes and you start to notice copious pink, frothy secretions. You suction, but it continues, and even seems to increase. The patient is now alert, complaining of shortness of breath and hypoxic to 78% despite a non-rebreather mask flowing at 15 liters/minute. Your partner asks you “did he aspirate...?”

What is happening, and what is the correct management?

Background & Prevalence

The physician William Osler first described narcotic-related pulmonary edema during an autopsy in 1880^{1,2}. Its presentation and clinical course was not appreciated until the 1950s-60s. The prevalence of opioid-related NCPE is about 2-10% of heroin overdoses^{1,2}. It is most commonly seen in heroin overdose but has been reported with other opioids.

Presentation & Clinical Course

Opioid-related NCPE typically presents as dyspnea accompanied by development of pink, frothy pulmonary secretions associated with ongoing hypoxia despite reversal of respiratory depression with an opioid antagonist (i.e. naloxone). It often presents immediately after reversal but can be slightly delayed, up to four hours¹. Most cases will resolve within 24-36 hours², but up to one-third of cases will require aggressive respiratory support¹. If left untreated, it can progress to complete hypoxic respiratory failure, hypoxic end-organ injury, and cardiac arrest. Cases that result in cardiac arrest are at high risk for anoxic brain injury.

Pathophysiology

The mechanism of opioid-related NCPE is poorly understood, in part because there are a variety of drugs involved, including the opioid antagonist naloxone. There are several published theories. Perhaps the most popular theory is increased pulmonary capillary permeability related to hypoxia and/or histamine release^{1,2}. Heroin in particular is prone to causing excessive histamine release, causing leaky pulmonary vasculature. Morphine is another drug known to do this.

Other theories blame naloxone. A patient who is opioid dependent, overdoses, and who is rapidly reversed with a high dose of naloxone subsequently experiences a catecholamine surge, particularly in those with concomitant cocaine use². A second theory blaming naloxone is that following a prolonged period of near or complete apnea, reversal that results in inspiratory effort prior to complete opening of the glottis can result in excessive negative pressure within the lung, drawing in fluid from the pulmonary

vasculature. Administering positive pressure ventilation prior to naloxone therapy may mitigate this. It is likely that opioid-related NCPE is multifactorial, with both the opioid agent and naloxone contributing. Regardless of the underlying etiology, treatment remains the same.

Management

The treatment of opioid-related NCPE is supportive and focused on correcting hypoxemia. Initial BLS measures include application of supplemental oxygen, preferably via a non-rebreather mask. Patients with hypoxia refractory to high flow O₂ warrant assisted ventilations. Any patient suffering from opioid-related NCPE warrants ALS care. The paramedic should have a low threshold for initiating CPAP therapy in the patient experiencing opioid-related pulmonary edema. Patient refractory to CPAP therapy warrant emergent consultation with an RSI medic or the closest emergency department, as they may require endotracheal intubation and invasive ventilation to correct hypoxemia. There has been no identified role for nitroglycerin or other medications in treating opioid-related NCPE.

Back to the case:

The medic recognizes that this patient is experiencing opioid-related NCPE. Only 8 minutes from the nearest emergency department, RSI is deferred in favor of immediate transport. CPAP is placed onto the patient at a pressure of 5 cm H₂O. The patient tolerates CPAP well, and oxygenation is improved to 90% on arrival at the emergency department, where care is transferred. The patient continues to improve on CPAP and is admitted for further monitoring.

Take-home points:

- EMS should administer only the amount of naloxone required to reverse respiratory depression, not mental status. Higher doses may increase risk of NCPE.
- Opioid-related NCPE occurs in about 2-10% of opioid overdoses.
- Patients may complain of shortness of breath and will develop pink, frothy pulmonary secretions and hypoxia despite opioid reversal.
- Treatment is focused on correcting hypoxemia with supplemental oxygen and CPAP.
- Cases *refractory* to CPAP may require RSI & invasive ventilation.
- All patients with opioid-related NCPE warrant transport.

References

1. Sporer KA & Dorn E. *Heroin-Related Noncardiogenic Pulmonary Edema: A Case Series*. *Chest* 2001; 5:1628-1632.
2. Sterrett et al. *Patterns of Presentation in Heroin Overdose Resulting in Pulmonary Edema*. *American Journal of Emergency Medicine* 2003; 21:32-34.
3. Grosbeider T & Sheperd SM. *Chapter 296: Injection Drug Users*. *Tintinalli's Emergency Medicine* 8th ed. 2016.

When there is no DNR...

Jeremy T Cushman MD, MS, EMT-P



The other day I was working and received a Medical Control Call from a crew wishing to not start resuscitative efforts on an elderly female with a history of cancer. Her family was next to her when she took her last breath and they did not want resuscitative efforts. Of course, there was no DNR, no MOLST.

This is certainly not an uncommon occurrence and as a provider we are stuck in that gray zone of no obvious death and no DNR/MOLST to make it clear that we don't have to begin resuscitative efforts. The crew did what was appropriate: assessed the scene, gathered the information, and spoke to Medical Control about the options. The crew that day did a great job when they called and I'll use this case to hit on the important items when making such a call:

Identify yourself, your agency, and your certification – The last item is probably the most important as it helps the doc recognize your protocol limitations (as an EMT-B obviously I can't ask you to put them on a monitor, for example).

Provide the clinical scenario – The crew identified an elderly female with a history of cancer and that this was an expected death. The medical history is important because although I am not suggesting that we don't resuscitate anyone with a history of cancer, the medical history makes it logical that the family would not want resuscitative efforts. If there is no medical history then I might want to ask some additional questions and/or speak to the family as to why they are not choosing to resuscitate. The fact that this event was expected is also helpful as it suggests that the family was preparing for, and therefore had discussions about, resuscitative efforts.

Provide the clinical exam – The crew identified that although the patient was not breathing and had no palpable pulse, that there were no signs of obvious death (lividity or rigor) and that the estimated time the patient was last seen alive was about 15 minutes prior to my conversation with the crew. This is also important information for the doc because first, I know the crew confirmed pulseless/apneic and knew their protocol that there were no findings of obvious death to be able to call it on protocol alone; and second it gives me a timeframe to consider that 15 minutes without any resuscitative efforts in a patient with multiple comorbidities is highly unlikely to result in any favorable outcome. This allows me the opportunity to determine that in addition to wanting to honor the patients/family wishes, I can also make a determination of "medical futility" that allows me (as a doc, not as a paramedic!) to withhold further medical treatment.

Share the family wishes – The crew clearly indicated that there were multiple family members in attendance and consent was unanimous to withhold any resuscitative efforts. I asked the provider to reconfirm that and could clearly hear the response of the family which is even more helpful for me. There was no concern by the crew to not resuscitate which is another important factor – you are there and can see that the house is in order, nothing is suspicious, and that the request is appropriate. In some cases I will talk to the family member so it's advisable to make that call from a short distance away from the family in a professional and respectful manner.

The crew provided the patient with the dignity in death that they deserve, and having some preparation for making that medical control call will help facilitate getting what you believe is in the best interest of the patient and family. In cases such as this, I would also encourage you, after providing your condolences to the family, to take the opportunity to mention that the MOLST form is available to help document and articulate the wishes of the family member so that in the future their wishes are followed. It takes just a couple seconds and does not need to be antagonistic, but the more we can educate our community on the value of the MOLST, the more we can follow their wishes and not be caught in that gray zone.

MLREMS EMS Awards Ceremony

Submitted by the MLREMS PIER Committee

This year, the Monroe-Livingston Regional EMS Council partnered with the Genesee Valley STEP conference to present the annual EMS Awards at a special breakfast ceremony. We are always looking for ways to enhance our ceremony each year, if you were able to attend and have any comments, please share them with us at mlrems@mlrems.org!

The following are the award winners for the 2017 MLREMS EMS Awards:

Agency of the Year

- Greece Volunteer Ambulance

ALS Provider of the Year

- Alex Cook

BLS Provider of the Year

- Victoria Ritzel

EMS Communications Specialist of the Year

- Brian Wright

EMS Educator of Excellence

- Peter Bonadonna

Harriet C. Weber Leadership Award

- Brian Bartolick

Physician of Excellence

- Eran Muto

Registered Professional Nurse of Excellence

- Joe Gervace

Youth Provider of the Year

- Raneiris Mella