

# Best Practices for EMS Time-Critical Diagnoses:

# STEMI



**WI ORH**  
Office of Rural Health

 **the  
PARAMEDIC  
foundation**

**Patient Care Policies  
and Procedures Toolkit**

# VISION

S T A T E M E N T



Deaths from heart attacks, stroke and trauma make up the largest collection of preventable deaths in the country. Each EMS agency can impact the care of these patients a great deal. To be successful in providing the highest standard of care to our patients and communities, we need to commit ourselves to a higher standard. We need to commit ourselves to becoming engaged partners in our respective systems of care. If we do this, we will provide greater value to our communities and the patients we serve.



# INTRODUCTION

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In 2016, the Office of Rural Health developed and delivered an assessment of EMS agencies related to patient care policies and practices titled, EMS Patient Care Assessment. The assessment focused on the care of patients with time critical diagnoses: stroke, STEMI, trauma and cardiac arrest. This was developed with experts in those areas. The assessment followed the model of a previous assessment of ambulance service management and leadership. For each patient care attribute in the STEMI Protocol Review, for example, there were five response options. Rather than the traditional “rate your agency on a 1 – 5 scale,” the response options were in narrative form. The options represented a “ladder” of policies/practices, from lower capacity to high capacity, representing the gold standard in patient care for that attribute.

One goal of this format is to provide examples for agencies of what a high capacity EMS service’s policy might look like regarding patient care. These can serve as a roadmap for improvement in order to become a high capacity agency. While the assessment itself can serve as this roadmap, it will also be useful to have a more detailed guide. The Patient Care Policies and Procedures Toolkit will explain why an agency may want to change their policies/practices and how they can implement them.

This document is divided into four systems of care. Each of these systems is then further divided into two primary subsections, the first being a workbook which serves as a “checklist” of completion for each of the corresponding policies and procedures manuals and the corresponding levels of achievement. Following each workbook is a development support section, again categorized by the systems’ attributes. This section provides support information, links to helpful data and more detailed explanations into the development of these attributes’ features.



# STEMI

## Policy and Procedures

Quick identification, quick system activation and appropriate treatment in cardiac care can make the difference between life and death. Achieving the following attributes will ensure best practices for addressing STEMI care.

### Gold Standard Attributes

1

#### **Attribute 1: STEMI Protocol Development**

The agency will have adopted and vetted protocols for the care of STEMI patients based on recognized cardiac care guidelines, e.g. American Heart Association (AHA) or other recognized/accredited cardiac care center.

2

#### **Attribute 2: Protocol Review**

The agency will have an adopted Protocol Review Policy Board, which includes representatives from the agency's operations team, administration, and medical director, that will review, on a regular basis, care provided by the agency to the STEMI patient.

3

#### **Attribute 3: STEMI Training**

The agency will conduct regular training (more than once a year) on STEMI care in cooperation with other community cardiac care stakeholders, e.g. hospitals, other responder-based agencies and staff.

4

#### **Attribute 4: STEMI Quality Assurance Policy**

Agency will have a QA/QI policy as it pertains to STEMI cases. It reviews all cases and collects data points pertaining to those cases. These data points are then reviewed on a regular basis with the agency's medical director.

5

#### **Attribute 5: Working with Hospitals on STEMI Quality Assurance**

Agency's medical director or representative will meet with the receiving cardiac hospitals on a regular basis to review the STEMI case data.

## Attribute 1: Protocol Development

It is imperative for an agency to have a STEMI protocol that outlines the fastest possible recognition, appropriate pre-hospital treatment, and accurate identification of the fastest STEMI care pathway.

### Gold Standard

**Agency has standard STEMI protocols, based on current AHA guidelines.**

### Create Current STEMI Protocol

- 1** **Set up** a meeting with the medical director to discuss the creation of STEMI protocol.
- 2** **Review** AHA or other STEMI accredited system guidelines.
- 3** **Draft** STEMI protocol to address the following attributes:
  - A.** Fastest possible recognition of a STEMI
  - B.** Appropriate treatment
  - C.** Correct identification of closest and most appropriate destination facility
- 4** **Vet** protocol.
- 5** **Adopt** protocol. Sign off by medical director.
- 6** **Update** protocol every 2 years by reviewing with medical director, leadership and staff.

## Attribute 2: Protocol Review

Having STEMI protocols is a good start, but the resources in communities change and a system's ability to treat a STEMI patient can fluctuate. It is important to regularly assess STEMI protocols for this purpose.

### Gold Standard

**Agency has updated standard STEMI protocols and the operations officer, medical director or administration conducts regular reviews of those protocols with leadership and staff at minimum every 2 years.**

### Establish Regular Protocol Review

1

**Identify** leadership and individuals (education manager, clinical coordinator, administration or specific person) responsible for protocols inside the agency.

2

**Draft** review policy containing the following attributes:

- **A. Define** “issues” within operations and care.
- **B. Define** the entry point for any incident into the review process.
  - o Receives a complaint
  - o Identifies substandard performance
  - o Experiences adverse patient outcomes
- **C. Identify** the time for which a review should take place following the incident.

3

**Confirm** that a review of the protocol which relates to the reported issue gets reviewed during the process.

4

**Identify** the people who should review process and be sure to include this in policy.

5

**Ensure** review process includes common aspects that repeatedly need to be reviewed. These include but are not limited to:

- **A.** Closest appropriate destination facility
- **B.** Treatment in line with current and active AHA guidelines

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- 6** **Add** a communication tree and education standard for assuring compliance of any changed aspects of the protocol during a review process.
- 7** **Include** staff in regular reviews with operations officer, medical director or administration. Add this into education standards or their job descriptions. Ensure staff are aware of when meetings are scheduled. Consider setting multiple meetings to ensure compliance with attendance. Scheduling the event on the same day or on a regular interval will help.
- 8** **Keep staff informed** of any changes to policy or protocol as it pertains to STEMI care.
- 9** **Develop an assessment** for staff that will test them on any changes to protocols or policy.
- 10** **Review** protocol at least once every two years.

## Attribute 3: STEMI Training

The degree of training should be directly correlated to the level of service the agency provides. STEMI training should include recognition and treatment of a STEMI, appropriate destination pathway decision, the role of EMS in STEMI care, and Protocol compliance for STEMI care.

### Gold Standard

**Agency conducts regular training (more than once a year) on STEMI care in cooperation with other community cardiac care stakeholders (hospitals) and staff.**

### Establish a STEMI Training Protocol

- 1 **Identify** and communicate agency training standards and skills competencies for staff.
- 2 **Conduct** scheduled trainings for STEMI care and operations more than once a year and not in conjunction with an identified issue.
- 3 **Require** attendance at trainings in job descriptions or company handbook.
- 4 **Develop** an education calendar or procedure that clearly communicates to staff when and where trainings take place.
- 5 **Review** cases that involve STEMI calls.
- 6 **Determine** educational outline and skill competencies training with medical director.
- 7 **Include** agency's local STEMI system of care hospitals.
  - A. Identify the closest STEMI referring or receiving hospital.
  - B. Identify a point person at each of the hospitals who will engage with the agency on training events and case review.
  - C. Develop any agreements, contracts or procedures which will facilitate the transferring of STEMI case information and protect sensitive material.

## Attribute 4: STEMI Quality Assurance Policy

Policies, procedures and protocols are only effective if compliance is maintained and if they remain relevant. It is imperative for agencies to engage in regular quality assurance reviews in a positive, educational environment inclusive of the entire system.

### Gold Standard

**Agency collects data and reviews all STEMI cases on a regular basis with medical director.**

### Adopt a Quality Assurance Policy

- 1 Identify** agency quality assurance (QA) policy and ensure updated.
- 2 Establish** review process that includes STEMI referring or receiving hospital.
- 3 Include** the following components for a successful QA policy:
  - A.** A Non-reprisal section
  - B.** A defined review team
  - C.** A policy creation date
  - D.** Timeliness of reviews
  - E.** A review sample size
  - F.** A designed feedback process
- 4 Adopt** a procedure to consistently pull STEMI cases for review.
  - A.** Identify a point person or team that is responsible for pulling the cases for review.
  - B.** Identify case selection criteria, such as specific percentage of trips, random selection or care providers.
  - C.** If the agency uses an electronic patient care reporting (ePCR) system, work with vendor to flag trips or pull reports electronically.

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**5 Select** data components for agency to collect, such as the following:

- A.** First Medical Contact (FMC) to Electrocardiogram (EKG)
- B.** Percentage of patients who receive a 12-LEAD EKG
- C.** On Scene Time (FMC to in route to destination)
- D.** Arrival Time at receiving facility.
- E.** Percentage of patients who receive PCI treatment within of 90 minutes of FMC
- F.** Percentage of Patients who receive Fibrinolytic Therapy within 30 minutes of FMC.

**6 Define** goals for agency performance using established metrics.

**7 Develop** a system or a process for getting information from the review process back to the practitioners. Conduct some reviews in person with the practitioners depending on the case.

**8 Engage** medical director in review process in the following ways:

- A.** Discuss medical director responsibilities as outlined in contract.
- B.** Develop a secure, HIPAA compliant way for the medical director to access case reviews and data.
- C.** Work with medical director to develop a calendar of review dates well in advance.

**9 Be prepared** for reviews and don't waste time.

## Attribute 5: Working with Hospitals on STEMI Quality Assurance

An agency will need to identify a point person within the local system of care and set a day of the week or month (depending on volume) to have a phone conference with staff to review STEMI cases. This allows for feedback from the hospital and improved outcomes for the agency.

### Gold Standard

**Agency's medical director or representative meets with the receiving cardiac hospitals on a regular basis to review all STEMI case data.**

### Establish QA Review with System of Care

- 1 Identify** the hospital's point person for STEMI review.
- 2** The agency should **consider** any agreements protecting the handling of PHI.
- 3 Identify** the multi-agency clinical review team.
- 4** Within the review team, lay the **ground rules** for case review, stress education and the creation of a learning environment. Develop a non-reprisal policy to encourage open and honest feedback while preventing an environment for attacking practitioners.
- 5 Identify** the acceptable means of communication and the expectations for meetings with the receiving hospitals.
- 6 Check** with the hospital to see if there is an existing internal process for reviewing STEMI cases.
- 7 Develop** a feedback form for the hospital, which outlines the type of feedback the agency wants to receive, including opportunities for improvement and outcome data on STEMI patients.
- 8 Schedule** regular face-to-face meetings. Discuss cases and use root cause analysis to identify strengths and opportunities for improvements.
- 9 Share** PHI data electronically.

# STEMI

## Protocol Recommendations

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### **A STEMI Protocol should outline the following objectives:**

- Fastest possible recognition
  - Appropriate pre-hospital treatment
  - Accurate identification of the fastest STEMI care pathway
- 



**Recognition:** Use a designated easy to learn algorithm to educate staff on the signs and symptoms common to a patient experiencing a STEMI. Simple acronyms like “STOP” (shortness of breath, tightness of the chest, or pressure) can be helpful reminders. Indicators can also include symptoms such as cold sweats, weakness, fatigue, heart palpitations, dizziness, loss of consciousness and identified pain located in the chest, throat, neck, jaw, arms or back.

An adequate medical history, family history and description of the events leading to the pain can be helpful in identifying a STEMI.

The use of 12-Lead acquisition and transmission can be a valuable part of the identification/recognition component of this protocol. It can assist in identifying the appropriate transport pathway, as well as reducing activation times of the system’s PCI team.

Another valuable attribute to having a successful cardiac care system is making the effort to educate your respective communities on the signs and symptoms of a heart attack as well as how to perform adequate chest compressions should the patient need them. The faster the system can be activated, the better the outcome will be for the patient.

Providers should identify the time of onset, time of first arrival on scene or FMC (first medical contact) while assessing the patient for a STEMI.

A commonly accepted STEMI system goal is reperfusion therapy within 120 minutes of symptom onset. Early recognition and documentation of the time of onset of those symptoms is an important aspect of a successful system.

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**Appropriate Treatment:** We highly recommend partnering with the local STEMI hospital to assure that protocol treatment guidelines can be integrated into the entire system of care. Reliance on existing treatment algorithms from places like AHA or other accredited cardiac centers can also be helpful. The following links are examples of useful resources.

**RESOURCES TOOLBOX: Treatment**

[www.heart.org/HEARTORG/Professional/MissionLifelineHomePage/EMS/Recommendations-for-Criteria-for-STEMI-Systems-of-Care\\_UCM\\_312070\\_Article.jsp#.WKJFHYWcFRQ](http://www.heart.org/HEARTORG/Professional/MissionLifelineHomePage/EMS/Recommendations-for-Criteria-for-STEMI-Systems-of-Care_UCM_312070_Article.jsp#.WKJFHYWcFRQ)

<https://www.dhs.wisconsin.gov/ems/treatment.htm>

**RESOURCES TOOLBOX:**

**Find your nearest STEMI referring or receiving center here!**

<https://www.tctmd.com/cathlabmap>

**System of Care Pathway:** Any effective STEMI protocol should have transport time objectives for patients. The timed objectives for reperfusion therapy of a patient suffering a heart attack will remain relatively consistent. For example, obtaining thrombolytic therapy within 30 minutes from FMC, primary PCI within 90 minutes from first medical contact and reperfusion therapy within 120 minutes of symptom onset. System transport pathways may vary significantly from system to system based on the proximity of designated resources. Due to this, the identification of the nearest STEMI receiving hospitals and the nearest STEMI referring hospitals is paramount. Identify their capabilities, for instance Thrombolytic Therapy vs. PCI primary care. Use this information to help dictate the transport destination pathways to obtain the timed goals of the respective system. This may mean direct transports to a PCI capable facility. As always, work with your local STEMI system hospitals and align protocols to the overall objectives of the system.

**Protocol Review:** Having STEMI protocols is a good start, but the resources in communities change and a system's ability to treat a STEMI patient can fluctuate. It is important to regularly assess STEMI protocols for this purpose. Any agency should develop a procedure for the regular review of protocols. A suggested system would be to review protocols on each even or odd year. Developing a policy that requires regular review of protocols may serve as a support mechanism to achieve this goal. Within the development of this policy, it should clearly define the person within the agency who will be responsible for making sure this process happens when it should. Once this person is identified, include this responsibility into that individual's job description or definition of responsibilities.

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Develop a segment outlining the medical director's role and responsibility as it pertains to this process. It is essential that the medical director take an active role in creating efficient and effective assessment and care procedures. It may be advantageous to include this into the sponsoring hospital agreement or the agency's individual contract with the medical director if one exists.

In addition to having regular participation from the agency's medical director, stay in contact with the local STEMI system hospitals to make sure that their own capabilities or goals have not changed. This includes simultaneous review of the guidelines presented by the AHA to ensure that generally accepted care has not changed as well.

## 3 Core Components of STEMI Training

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**The degree of training should be directly correlated to the level of service the agency provides, but regardless, these four components are an excellent place to start for any agency. They are:**

- Recognition and treatment of a STEMI
  - Appropriate destination pathway decision
  - The role of EMS in STEMI care
- 

### **COMPONENT 1:** **Recognition and Treatment of a STEMI**

Creating core educational objectives for practitioners is an important part of being a successful agency. Typically relying on state or national educational standards alone will not guarantee quality of care or compliance with specific agency protocols and procedures. Setting educational standards and clear objectives up front will go a long way in making an agency successful in all aspects, not just STEMI care.

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## THE FOLLOWING EDUCATIONAL OBJECTIVES ARE A GOOD BASE LINE FOR STEMI CARE:

1. The practitioner should be able to identify three typical and three atypical signs of acute coronary syndrome (heart attacks).
2. The practitioner should be able to identify common risk factors that are associated with increased instances of heart attacks.
3. The practitioner should be able to identify which patients need or qualify for a 12- LEAD EKG in the field.
4. Criteria for STEMI activation

It is important to recognize that some patients who are experiencing a heart attack have NO symptoms or have atypical presentations. Atypical STEMI presentations tend to be less obvious and less sudden than traditional heart attack presentations. Atypical symptoms become more prevalent when dealing with specific populations of patients. The list below recognizes some of the patients with atypical symptoms.

- patients who have had previous open-heart surgery
- diabetic patients
- women
- patients with other co-morbidities
- patients with polypharmacy

Outside of an assessment to identify symptoms, a good SAMPLE assessment can be very valuable. Past medical and family history, medications and events leading up to the onset of symptoms can help determine an accurate identification of a STEMI in the field.

## SYMPTOMS OF ACS

TYPICAL	ATYPICAL
Pressure, tightness, or a squeezing or aching sensation in your chest or arms that may spread to your neck, jaw or back.	Lightheadedness
Nausea, indigestion, heartburn or abdominal pain	Restlessness
Shortness of breath	Unusual fatigue
Cold sweats	Abdominal discomfort
Fatigue	Shortness of breath
Lightheadedness	Dizziness

## **RISK FACTORS FOR ACS:**

**Age:** Men ages 45 or older and women age 55 or older are more likely to have a heart attack than younger men and women.

**Tobacco:** Smoking and long-term exposure to secondhand smoke increase the risk of a heart attack.

**High blood pressure:** Over time, high blood pressure can damage arteries. When you age, these arteries become less adaptable and more rigid. This paired with other risk factors and other co-morbidities like diabetes can enhance your risk level greatly.

**High Cholesterol:** Elevated levels of LDL (bad cholesterol) are likely to narrow arteries, which can increase your risk of a heart attack. Higher levels of triglycerides can also increase your risk. Higher levels of HDL (good cholesterol) can lower your risk of a heart attack.

**Diabetes:** Uncontrolled diabetes can increase your risk of a heart attack as well as cause a patient to present with atypical symptoms.

**Family History:** A family history of heart attacks is linked to increased risk of heart attacks.

**Lack of physical activity:** Inactive lifestyles contribute to higher levels of LDL and triglycerides, which increase risk level.

**Obesity:** Obesity is associated with high cholesterol, diabetes and high blood pressure, which increases your risk of a heart attack. Lowering your BMI just 10 points can decrease that risk.

**Stress:** Stress has long been associated with increased risk for a heart attack.

**Drug use:** Using stimulants, such as cocaine, amphetamines or even caffeine can trigger a coronary artery spasm leading to a heart attack.

**History of pre-eclampsia:** This condition causes high blood pressure during pregnancy and increases the lifetime risk of heart disease.

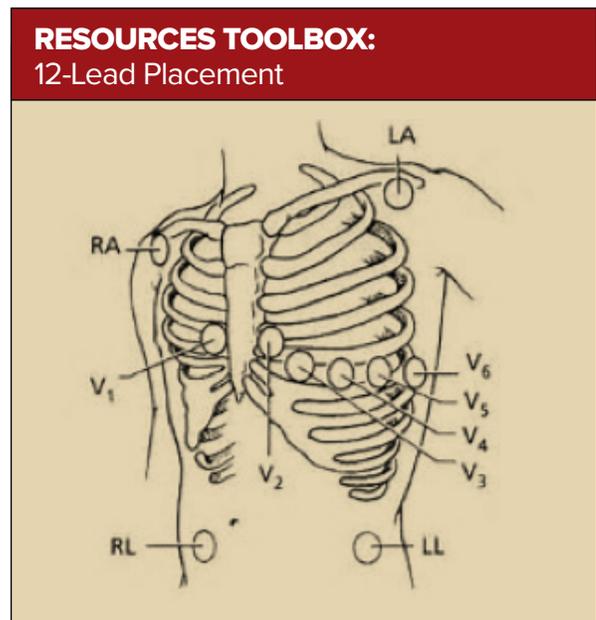
**History of auto-immune disease:** Auto-immune diseases such as lupus, rheumatoid arthritis and psoriasis can increase your risk of heart disease and/or a heart attack.

## PATIENTS NEEDING A 12-LEAD:

Early 12-lead acquisition and transmission can be valuable to the recognition and treatment of a STEMI. Any patient who is experiencing the symptoms above, especially if they have associated risk factors, should receive a 12-lead EKG.

If the agency has the capability to obtain and transmit a 12- LEAD EKG, then this procedure can be invaluable in the field in identifying a STEMI early in the field. A few educational considerations when contemplating 12-lead transmission:

1. Lead placement and appropriate site preparation is important in obtaining clean and reliable 12-leads.
2. Multiple EKGs present, especially when paired with identified changes in a patient's condition or with performed interventions can be highly valuable to the care team.
3. If the agency is capable of interpreting EKGs in the field, then place MI locator charts in the ambulances to help facilitate and assist in identification of ischemia.



**RESOURCES TOOLBOX: MI Locator Chart**

I Lateral	aVR	V1 Septal	V4 Anterior
II Inferior	aVR Lateral	V2 Septal	V5 Lateral
III Inferior	aVR Inferior	V3 Anterior	V6 Lateral

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## **COMPONENT 2:** **Appropriate destination decision**

“Time is muscle” is at the core of STEMI treatment and our decisions, specifically our transport decisions. These can mean the difference between a patient having a continued active lifestyle or dying. We have found, through experience, that the wrong transport destination decision could result in delays of PCI of 60 minutes or more. It is important to make destination decisions based on what will be best for the patient’s care. For some agencies, especially rural agencies, transporting to the closest appropriate STEMI facility may mean leaving your coverage area, which can be detrimental to those groups who are operating with limited resources. For this reason, education must be heavily associated with standard operating procedures and policy development.

Find the nearest STEMI referring or receiving center here <https://www.tctmd.com/cathlabmap>. This link will allow you to enter the address of any agency into a mapping system. It will show the closest cardiac centers and their respective capabilities. It will also help identify drive times for practitioners to these hospitals.

Use the AHA transport guidelines in the absence of local system of care recommendations. These guidelines suggest that you transport to a PCI capable facility with the goal of FMC to PCI treatment being less than 90 minutes. If it is not possible to get a patient to a PCI center inside of that time frame, then we suggest getting the patient to a referring facility capable of fibrinolytic therapy within 30 minutes of FMC. In more rural areas, this may not be something an agency can achieve on its own. Consider adding mutual aid agencies and flight resources to the destination determination procedure.

We encourage any agency to confirm that each practitioner in the department knows what destination options are available to them and which is the closest appropriate facility within the agency’s operating area. Integrate the communication center into this aspect of STEMI training. Outlining an appropriate Standard Operating Procedure (SOP) and having the communications center reference the calls location to the closest appropriate STEMI care facility would be very valuable in assisting a practitioner in the field with a destination decision. The integration of local dispatch centers can also help in alerting mutual aid in instances where coverage areas lose resources. Developing MOUs with adjacent EMS resources to help manage coverage areas while transporting a patient to the nearest appropriate facility is a must. These Memorandums of Understanding (MOUs) can also be used for Trauma and Stroke transports.

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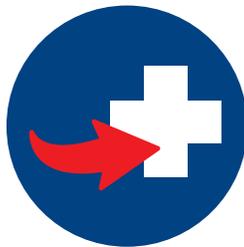
### **COMPONENT 3:** **EMTs role in STEMI care**

The practitioner's role in STEMI care is multi-faceted, so it is important to understand how an EMS practitioner fits in. The roles are:

- Early identification and treatment
- Appropriate navigation of patient to PCI capable or referring facility
- Transfer of care to receiving hospital or cath lab
- Documentation of data and submission of FMC time
- Follow up and case review with entire STEMI Policy and Procedures.

As in the treatment of trauma patients, it is important that any obstacles that may delay transport to the appropriate facility be limited. This includes treatment on scene, such as IVs. Keep any activity resulting in longer scene times to a minimum. Once arrived at a receiving facility, keep the patient on the cot until the physician directs otherwise, because he may want to take the patient directly to the cath lab. Remember, EVERY MINUTE COUNTS!

Data collection and joint case review are a key metrics for any successful program. If we don't measure performance, we cannot improve it. Located in this document "tool box", is a STEMI CARD (page 22). This can be used to keep track of important times and treatments for both agency and the hospital.



# STEMI

## Quality Assurance Policy And Review

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Policies, procedures and protocols are only effective if compliance is maintained and if they remain relevant. It is imperative for agencies to engage in regular quality assurance reviews in a positive, educational environment inclusive of the entire system. Since the release of the IOM report in 1999, *To Err is Human*, emphasis has been placed on encouraging practitioners to be open and honest when discussing their care, especially when that care may have been wrong and even harmful to a patient. For a review process to be successful, not only is an environment that encourages honesty needed, but the entire system should be included. During this process, an agency should review the policies, procedures and protocols that guided the practitioners in their decisions for those cases. This section should help direct the review team in determining the metrics that should be documented and reviewed, as well as help identify possible policies and procedures that can assist in achieving this measure of excellence.

Here are a few core components that should be present in your QA Policy and review process. The Quality Assurance Policy should include the following components.

### ■ **Non-Reprisal Policy**

- This states that in instances that are not deemed to be incredibly egregious, purposefully harmful or vengeful, practitioners will be protected from punitive measures.

### ■ **Business Associate Agreement**

- It is important that agreements be in place with other members of the system of care. These can be hospitals, other EMS agencies or fire departments. This agreement should spell out how PHI is handled, the purposes for sharing PHI and the process in which that occurs. This offers a sense of security and ensures protection for all agencies involved and spells out obligations of each.

### ■ **Clinical Review Team**

- Outline the individuals who should be involved in the review process and what their obligations are as they relate to the review of patient cases. Variety on the review team is a good thing. Include multiple care levels and various operational staff.

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## ■ **Process**

- Outline the process of the review from beginning to end. Include the claims that are to be reviewed, when they should be reviewed. and how the information from the review to get reported back to practitioners. Existing systems such as root cause analysis, SWOT analysis and FISH bone diagrams can be extremely helpful in discovering system failures.

## ■ **Protection**

- Study the benefits of the (Patient Safety Act of 2005) and the benefits of joining a PSO. (Patient Safety Agency)

Outline specific performance measures that the review team will be looking for. Having data and quantifying performance is an important part of improving. Below are suggestions for STEMI based metrics to measure.

## **METRICS TO MEASURE:**

- Percentage of patients who have CP that received a 12-lead EKG pre-hospital
- Percentage of accurately identified STEMIs in the field
- Protocol compliance for treatment
  - % of patients who received aspirin, nitro, oxygen, etc.
- Number of STEMI patients who were transported to a PCI capable facility
- Percentage of those patients who made it to a PCI capable facility within 90 minutes of first medical contact.
- Number of STEMI patients who were transported to a non-PCI capable facility
- Percentage of those patients who received fibrinolytic therapy within 30 minutes of FMC

The best way to capture this data is directly from an electronic patient documentation software. Depending on the agency's abilities and resources, this can be difficult and prove to be a barrier to collecting data. Using a STEMI card (page 22) can help facilitate the capturing of this data.

Agencies should have an associated policy which directs the corresponding EMS team members to fill out this card, provide a copy to the receiving facility and attach this card to a printed version of the chart. This policy provides an easier way of collecting this data.

# STEMI Card

Estimated Time of Symptom Onset

•  
•

Time to First Medical Contact

•  
•

Arrival at Facility

•  
•

Time of First EKG (if applicable)

•  
•

Pain Scale (1-10 scale)

/10

Check the appropriate facility

- STEMI Referring Facility
- STEMI Receiving Facility
- Neither

Check all that apply

- Patient has previous cardiac history
- Patient has family history of heart attacks
- Patient smokes
- Patient is diabetic
- SUDDEN ACUTE ONSET
- Patient took Nitro prior to arrival

Patient Name: \_\_\_\_\_

Patient Age: \_\_\_\_\_

Patient Sex: \_\_\_\_\_

Transporting Agency: \_\_\_\_\_

## QA POLICY REVIEW

An agency will need to identify a point person within the local system of care and set a day of the week or month (depending on volume) to have a phone conference, in which the review of the STEMI case is completed. This allows for feedback from the hospital and perhaps a report on the location of blockage along with cath lab times. If received, attach any such documentation and reports to the patient's PCR and maintain these for internal review process.

The most successful review processes include representation from the entire STEMI care team. Building these relationships and being able to discuss case reviews allows each component of the STEMI care team to reflect on a case from different perspectives. This open and honest discussion will allow for the identification of weaknesses inside of the system and facilitate the improvement of those systems. It is not unusual to find roadblocks to an open process which encourages open discussion, particularly of case reviews that were sub-standard and resulted in poor outcomes. The development of policies and agreements to help encourage these open discussions may be mandatory. This can be done by integrating the review process into your PSES (Patient Safety Evaluation System). Outlining the process and handling of PHI information or scoped data into a business associate agreement with the involved parties of the STEMI system care team is essential.

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