



# **Santa Barbara County Emergency Medical Services**

## **Quality Improvement Plan 2015**

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*The Santa Barbara County Emergency Medical Services Agency, as a part of the Public Health Department has the mission to improve the health of our communities by preventing disease, promoting wellness, and ensuring access to needed healthcare. Within this Mission, the Emergency Medical Services Agency strives to protect and improve the health and safety of the people in Santa Barbara County through the provision of high quality emergency medical services, through reasonable costs, community involvement, continuous evaluation, prevention programs and anticipatory planning.*

*The American Medical Association has defined quality of care as the degree to which care influences the probability of optimal patient outcomes. The National Roundtable on Healthcare Quality also includes in their definition of quality of care that health services are consistent with current professional knowledge. Continuous Quality Improvement (CQI) is a process derived from a philosophy that focuses on processes rather than on individuals, and which contends that improvements can be made in most areas. The scientific method is at the core of CQI, requiring objective data to analyze and improve processes to meet the needs of those we serve and to improve the services we offer. Through the use of CQI we can offer our patients evidence-based best practices which are continually evolving to provide the highest quality, standardized care throughout Santa Barbara County.*

*Quality Improvement requires commitment, dedication and purpose. CQI can only function well in an environment that fosters input from all levels of personnel in the system, and that provides consistent standardized feedback to the system participants. To be successful, a program must work from an integrated approach, with the intent to motivate its' participants to do their best and utilize the tools of education to support this. Trust is imperative amongst the participants for the process to succeed.*

*With these guidelines in focus, the Santa Barbara County EMS Agency continues to develop a Quality Improvement program that will truly be of benefit to the individuals within our communities that access our emergency medical services.*

## **Table of Contents**

- I. Structure and Organizational Description***
- II. Data Collection and Reporting***
- III. Staffing***
- IV. Equipment and Supplies***
- V. Documentation***
- VI. Clinical Care and Patient Outcomes***
- VII. Skills Maintenance and Competency***
- VIII. Provider Education***
- IX. Public Education and Prevention***
- X. Risk Management***
- XI. Annual Update***



## ***Structure and Organizational Description***

The Santa Barbara County Emergency Medical Services Agency is the coordinating body for a county of 2,735 square miles with a 2014 population estimate of 440,668. The county's emergency medical response is provided by multiple response agencies. These agencies include two BLS Fire Departments; Santa Barbara City Fire in the south county and Santa Maria City Fire in the north county. There are also two BLS Optional Skill provider agencies; Lompoc City Fire Department in the west, and Guadalupe Volunteer Fire Department in the Northwest. ALS coverage includes four agencies; Carpinteria-Summerland Fire Department in the far south, Montecito Fire Department southeast of Santa Barbara, Santa Barbara County Fire Department who respond to all unincorporated areas of our county, and American Medical Response as the single private ambulance company throughout the county. Additionally, CALSTAR and American Medical Response provide air and ground critical care transport services within the region. There are approximately 450 EMT-Basic, 175 EMT-Paramedic, and 20 Critical Care RNs that make up the individuals working for these agencies.

Santa Barbara County contains five hospitals spread out over the geography. At the north end of the county is Marian Regional Medical Center, licensed for 435 beds. This facility is a designated Level III Trauma Center with a helipad, a designated STEMI Receiving Center, and "The Joint Commission" (TJC) Certified Primary Stroke Center. At the South end of the County lies Santa Barbara Cottage Hospital, a designated Level II Adult and Pediatric Trauma Center with a helipad, a designated STEMI Receiving Center, and a TJC Certified Primary Stroke Center, with 412 licensed beds. On the western side of the county is Lompoc Valley Medical Center, with 60 licensed beds. In the center of the county, Santa Ynez Valley Cottage Hospital is a designated Critical Access and Rural Hospital with 11 licensed beds. Goleta Valley Cottage Hospital to the south has 122 licensed beds. Each of these hospitals has an Emergency Department that receives patients from the EMS system, and all are involved in the quality improvement activities of the system.

The Santa Barbara County EMS Agency sits within the County Public Health Department and is formed under the leadership of a part-time Medical Director and a full time Administrative Director. The agency encompasses five additional full time positions which are currently organized as follows; Clinical Performance Improvement and Trauma System Manager RN, Cardiac Programs Coordinator RN, Contracts and Compliance Performance Improvement Coordinator, Disaster Services Program Manager, and an Administrative Assistant. In addition there are several part-time positions which include EMD QI RN, MRC Coordinator, IT Specialist and Epidemiologist.

The EMS Medical Director provides medical oversight to the system, which includes quality improvement and educational activities. The Clinical Performance Improvement Coordinator RN facilitates the Continuous Quality Improvement activities of the agency under the guidance of the Medical Director with the involvement of other agency personnel as appropriate.

The Santa Barbara County CQI plan is an inclusive, multidisciplinary process that focuses on identification of system-wide opportunities for improvement. CQI refers to methods of data evaluation that consider factors such as structure, process, and outcome. Improvement efforts focus on identification of the root causes of problems, interventions to reduce or eliminate these causes, and the development of steps to correct inadequate or faulty processes. The focus of the CQI Program is not disciplinary in nature, but rather to use the analysis of high quality data for ongoing educational efforts.

The County has recommended to all EMS partners, both first-responder BLS and ALS providers, as well as Base Hospital providers, that they institute CQI programs within their organizations. These programs are submitted to the County EMS Agency and are monitored by the County Medical Director and CQI Coordinator. Each ALS and BLS Provider and Hospital provides qualified personnel to coordinate their internal CQI program. This person is responsible for developing and maintaining their agencies internal CQI Program including CQI processes related to personnel, equipment and supplies, safety, skills maintenance, and competency. This individual is responsible for representing their agency at the County CQI functions, specifically the CQI Committee groups.

Outline of Provider Agency Responsibilities related to CQI:

1. Designate personnel who manage the internal quality improvement process for that agency. The pre-hospital agency representative is responsible for internal CQI processes related to personnel, equipment and supplies, safety, skills maintenance, and competency.
2. In cooperation with the SB County EMS Agency, implement an internal CQI Plan and provide education to all personnel within the agency regarding CQI responsibilities.
3. Assist in the identification of indicators needed and ensure compliance with the county CQI plan.
4. Share results of internal CQI activities with the CQI committee, as well as disseminate appropriate information forwarded from the CQI committee to all EMS personnel within the agency.
5. Maintain records of CQI activities for review and action regarding exemplary practice, unanticipated events, and utilization management.
6. Review internal CQI efforts regularly for effectiveness in identifying and resolving provider related CQI issues, and revise as needed.

The provider agencies, through their internal CQI process and in conjunction with the CQI committee, are responsible for creating and monitoring programs for

ongoing medical training & issue resolution, including individual performance improvement plans. Each provider agency will submit reports of clinical indicators based on the care that their personnel render to the patient. Using an Excel spreadsheet as exemplified later in this document, each provider agency submits the required information for the clinical indicator currently in use to the CQI Committee on a regular basis. The CQI Committee will review and validate the data and look for trends. Trends derived from the clinical indicators will be discussed at the CQI Committee meetings and also passed on to the biannual Medical Directors meetings.

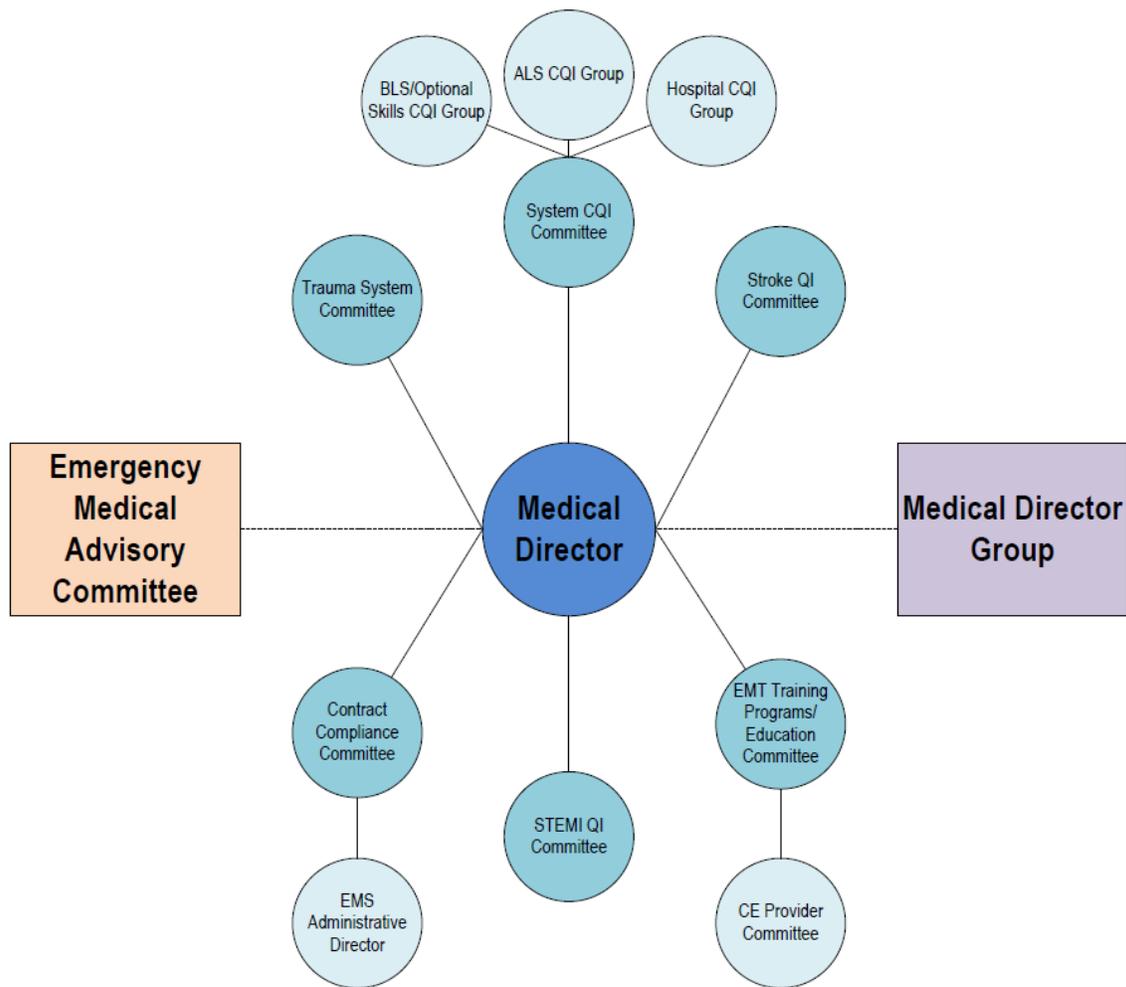
The CQI Committee provides leadership for the clinical oversight and quality management of pre-hospital patient care in the county. The purpose of the Committee is to advise and assist the Santa Barbara County EMS Medical Director to monitor and trend quality issues that are reported by the EMS system participants. The committee also is the venue to discuss current trends and research in EMS care that has an impact on pre-hospital care as well as to review information developed through the use of clinical indicators. Continuous quality improvement is achieved through assessment of clinical care, research, evidence-based implementation of initiatives, monitoring the outcomes of the changes implemented, and the ongoing study of EMS practice for continued progress. The committee strives to use a multidisciplinary approach for issue resolution and to promote county-wide standardization of the quality improvement process with an emphasis on education.

Members of all CQI Committees are required to sign a confidentiality agreement, stating a pledge to not divulge or discuss any information that would have been obtained solely through the CQI Committee membership. It is agreed that no information will be disclosed to parties outside of these committees except as agreed to by attendees for the purposes of follow-up or resolution of system design change.

Indicators which are likely to result in the review of high risk/ low frequency or otherwise significant events are used to measure outcomes. The clinical indicator information is presented at each CQI Committee meeting to generate discussion, evaluation, and responses to any trends that are recognized. The committee is expected to provide leadership on systemic issues and/or trends to develop a system-wide approach to quality improvement, and to develop information that will be disseminated to all personnel in the system based on identified issues.

Annual updates to the patient treatment protocols are constructed by the CQI Committee and reviewed for appropriateness by Medical Directors Committee before being sent to the EMS Medical Director for final approval. All updates and changes are formulated into a standardized teaching plan prior to implementation. All training materials are made available to each agency. In addition, a mandatory online education center is maintained for dispersal of educational materials, and testing of knowledge retention, which can be tracked at both the EMS Agency and individual agency level.

Specific specialties within the Santa Barbara County EMS System have their own focused QI Committees to address Quality Improvement activities that are unique to their functions. These committees include the STEMI QI Committee, the Trauma System Committee and the newly created Stroke System Committee. Each of these committees is comprised of stakeholders with responsibility for and expertise in the specialty area. In addition, prehospital members of the system-wide CQI Committee attend these specialty care committee meetings to provide continuity and consistency.



## ***Data Collection and Reporting***

The Santa Barbara County EMS System is currently evolving to a single Electronic Patient Care Record (EPCR) system that all providers, both BLS and ALS, will utilize to document their medical responses. This will provide consistency of the data which feeds the CQI process. Indicators and audits are built around the single EPCR system capabilities, and the EPCR system is designed to support data relevant for CQI purposes. In addition, data is collected through CAD reports and several registries including CARES and the National Trauma Data Base. The EMS Epidemiologist works with the different CQI groups to develop reports and present statistically relevant data from the various data collection tools.

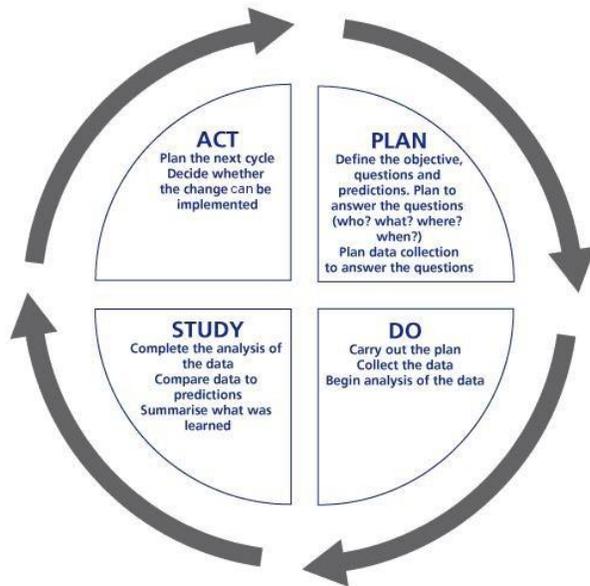
There are many methodologies that can be utilized in the implementation of CQI. The method most often utilized in the Santa Barbara County CQI process where data collection and reporting is highly relevant is the PDSA Cycle:

**Plan** – the change to be tested or implemented

**Do** – carry out the test or change

**Study** – data before and after the change and reflect on what was learned

**Act** – plan the next change cycle or full implementation



Each CQI Committee, BLS Agency, ALS Agency, and Hospital receives regular reports based upon indicators developed by the group. Data points relevant to the specific activity are included in the report and these reports are reviewed and modified as needed until the CQI Committee by consensus agrees that the report includes the correct data for the information being solicited. These reports are auto-generated to the respective QI participants on predetermined schedules, which can be daily, weekly, monthly, quarterly or annually. The CQI representative then utilizes an audit tool, developed by the group, to monitor for fall outs from the chosen indicators. Fall outs are internally reviewed by the provider agency, and then a summary is brought to the CQI committee. The group shares their reports and monitors for relevancy and trending. Audits are completed for a prescribed amount of time (usually a minimum of 6 months) at which point the committee revisits the relevancy of the report and audit. The decision is then made to maintain the schedule as is, increase the frequency of the audits, decrease the frequency of the audits, or remove the audit altogether.

Current reports are focused on several areas;

- 1) Cardiac care (including cardiac arrest management, STEMI recognition and care and acute coronary syndrome management and care, and appropriate destination utilization.)
- 2) Trauma care (including scene time, critical interventions, pain care, utilization of air transport and appropriate destination selection.)
- 3) Pediatric care (including utilization of Broslow tape, appropriate medication dosage, and identification and utilization of parent or adult caregiver.)
- 4) Medication administration
- 5) AMA process
- 6) Determination of death process
- 7) Skill utilization and competency
- 8) Base hospital interface (including radio report and turnover of care report.)

Examples of data collecting methods and tools utilized by the CQI groups are listed as follows:

**Core Measure Reporting 2014 Example**

The State of California Core Measures data is included in the CQI program. Indicators within these Core Measures are tracked and reported, quarterly to the local system and annually to the State System.

Measure ID	Denominator Value (Population)	Numerator Value (Count)	Reporting Value	NOTES
ACS-5 (Percentage) Advance hospital notification for suspected Acute Coronary Syndrome	96	96	100%	From full year of STEMI data
CAR-2 (Percentage) Number of patients experiencing cardiac origin cardiac arrest who have Return of Spontaneous Circulation (ROSC) at any time (Utstein) in a given period	221	39	18%	From full year of CARES data
CAR-3 (Percentage) Number of patients experiencing cardiac origin cardiac arrest after EMS arrival who survive to discharge from the ED divided by the total number of patients experiencing cardiac origin cardiac arrest in a given period	221	22	10%	From full year of CARES data
CAR-4 (Percentage) Number of patients experiencing cardiac origin cardiac arrest after EMS arrival who survive to discharge from the hospital divided by the total number of patients experiencing cardiac origin cardiac arrest	221	20	9%	From full year of CARES data
SKL-1 (Percentage) Successful intubation within two attempts.	69	51	74%	
SKL-2 (Percentage) End-tidal CO2 performed on any successful endotracheal intubation	51	50	98%	



**ALS Pain Treatment Audit Form Example**

Flagged as Fall Out	Incident Date	PCR #	Initial MS Dose 1mg/kg (Y or N)	Repeat Dose is 1/2 Initial Dose (Y or N)	Repeat Admin ≥ 5 mins Post Initial (Y or N)	Appropriate V/S (Q5 minutes)	Zofran Admin (Y or N)	Zofran Before or After MS (B or A)	Pain Level Documented Post MS Dose (Y or N)	CC or PI Support Pain Control (Y or N)	Comments	Paramedic Contacted (Y or N)	Date of Contact
Ex	1/1/15	15001234	y	y	y	y	y	y	y	y	good documentation	y	1/2/15

**ALS Trauma Care Audit Tool Example**

Flagged as Fall Out	Incident Date	PCR #	Initial MS Dose 10mg/kg (Y or N)	Repeat Dose is 1/2 Initial Dose (Y or N)	Repeat Admin ≥ 5 mins Post Initial (Y or N)	Appropriate V/S (Q5 minutes)	Zofran Admin (Y or N)	Zofran Before or After MS (B or A)	Pain Level Documented Post MS Dose (Y or N)	CC or PI Support Pain Control (Y or N)	Comments	Paramedic Contacted (Y or N)	Date of Contact
Ex	1/1/15	15001234	y	y	y	y	y	y	y	y	good documentation	y	1/2/15



**BLS Agency Determination of Death Audit Tool Example**

Flagged as Fall Out	Incident Date	PCR #	"Disposition" Indicates DOD	Narrative specifically states that patient meets one of the following criteria:	Decapitation	Decomposition	Incineration	OR Narrative specifically states that patient demonstrates one of the following criteria:	Lividity	Rigor Mortis	Evisceration of Heart/Brain	AND the following are documented:	No respiration x 1 minute	No carotid pulse OR asystole on monitor x 1 minute	No pupillary response to light	No response to painful stimuli	OR Narrative specifically states that	Patient is a traumatic cardiac arrest	Patient is ≥ 18 years old	Transport to nearest hospital is ≥ 20 minutes	Or patient remained in cardiac arrest for ≥ 20 minutes during extended extrication	OR DNR presented	Specific time of determination is documented	Comments	Crew Contacted?	Date of Contact
Ex	1/1/15	15001234	y	NA or Y	x	or	blank	NA or Y	x	or	blank	blank	y or n	y or n	y or n	y or n	NA or Y	y or n	y or n	y or n	y or n	y	y	yakity yak	y	1/1/15

**Hospital Against Medical Advice (AMA) Audit Tool Example**

Flagged as Fall Out	Incident Date	PCR #	Chief Complaint Documented	Primary Impression Documented	Vital Signs Documented	GCS Documented	BH Contact Noted	BH Contact Time Prior to Inservice	IMD Named in Narrative	Narrative Clear	Agency Contacted	Date of Contact	Agency Reports as Reviewed	Comments
Ex:	1/1/15	15001234	y	y	y		y	y	y	y	y	1/2/15		good documentation



Reports are also generated directly from the CAD systems to support the CQI process.

**CAD Report Response Zone Example**

			Interfacility Transports Call Summary by Facility 1/1/2015 to 1/1/2015									
Incident Number	Date	Unit ID	Code Level	In Queue Time	Time In Queue	Dispatch Time	Arrival/Staged	Resp Min	Total Time	Late	In Facility Time	Trans Loc
<b>Facility: GVCH</b>												
1	15000027	1/1/2015	M25	IFT2	4:17:50	00:00:14	4:17:50	4:21:16	3.43	3.43	3.43	Santa Bar
2	15000115	1/1/2015	M34	IFT3	22:40:48	00:05:06	22:45:37	22:46:00	0.38	5.20	0.38	PHF
		<b>Total</b>			<b>Late</b>			<b>Compliance</b>				
<b>Total IFT1 Calls:</b>		0	0.0%		0	0.0%		0	0.0%			
<b>Total IFT2 Calls:</b>		1	50.0%		0	0.0%		1	100.0%			
<b>Total IFT3 Calls:</b>		1	50.0%		0	0.0%		1	100.0%			
<b>Total IFT4 Calls:</b>		0	0.0%									
<b>Total Code Level Changes:</b>		0	0.0%									
<b>Total Calls</b>		2										

## ***Staffing***

Guidelines are set in EMS Policy #'s 211, 223 and 233 and 240 for certification and accreditation. All agencies are also required to submit quarterly reports for their EMS licensed personnel. This report includes licensure expiration date, staff contact information, and identification of current license status as well as employment status. Field Training Officers are recognized by the EMS Agency in accordance with Policy # 234.

## ***Equipment and Supplies***

Santa Barbara County EMS Agency has developed minimum inventory and supply requirements for each different EMS response type deployed throughout the County's EMS System. These inventory lists are available in our policy manual (EMS Policy #404.) Each provider organization is required to be prepared for inspection annually as well as randomly to ensure compliance with the policy requirements.

In addition, due to the frequency and ever changing medication shortage issues, a process is in place to prevent unexpected shortages within the local system. Each provider agency that carries medications is required to submit a monthly report that indicates their current stock levels for identified medications, as well as their back stock and any notifications they have received from their suppliers. This is then compared to the current FDA shortage list as well as updates received from other suppliers and reported on to the CQI groups and the Medical Directors group.

## ***Documentation***

In 2014 the Santa Barbara County EMS System began the change to a single Electronic Patient Care Record (EPCR) system that all providers, both BLS and ALS, will utilize to document their medical responses. Currently ImageTrend is the selected tool for this function. This single documentation tool allows for unified patient care records that are accessible by both the providers and the receiving facilities. Hospitals now have the ability to access information on incoming patients prior to their arrival with the new documentation tool, allowing for earlier preparation.

Standardized documentation training has been developed to support this system, which includes both initial training and ongoing education. Training sessions are continuously developed to meet the needs of the system and its users as the tool is integrated. At the provider level, each agency is responsible for ensuring that all medical responses have an EPCR associated, utilizing a daily system report. Each provider is then responsible for auditing their individual personnel for accuracy and completeness of documentation. This is done utilizing a standardized General EPCR Audit Tool as developed and maintained by the CQI

Committee. Additionally, documentation is audited for specific indicators throughout the CQI process.

An EPCR Systems Administrator Committee works in conjunction with the CQI Committee to utilize provider level input and suggestions to make improvements to the EPCR program and recommend educational needs. The SA Committee is responsible for decision making regarding the technical aspects of the documentation system, and for implementing changes requested by the CQI Committee or other partners. This Committee also guides the validation requirements associated with the EPCR to ensure that the system is accurately and thoroughly capturing the desired data.

## ***Clinical Care and Patient Outcomes***

The Santa Barbara County EMS Treatment Protocols (EMS Policy # 533) guide the clinical care of prehospital patients. These protocols are formally updated every two years, with an annual review for any changes or additions needed. The CQI Committees are responsible for providing recommendations and guidance to the updates, done in the form of a subcommittee work group. These recommendations are developed utilizing direct provider recommendations and data analysis, as well as current professional research and literature. The recommendations of the CQI Committee are then provided to the EMS Medical Directors Committee. The MD Committee reviews the recommendations, and provides any additional changes or updates deemed necessary. All suggested updates and comments are responded to formally by the EMS Agency. The recommended Treatment Protocols are then provided to the EMS Medical Director for final approval. Online educational tools are developed for system participants and launched prior to enactment of the updated protocols. The final version of the protocols is then reviewed directly with system participants at the annual mandatory EMS Update, and the updated version of the Treatment Protocols is enacted and published by the EMS Agency.

The reports and audit tools utilized in the CQI and Specialty Care Committees. The CQI Committees utilize the process previously discussed. In addition, the CQI Committee reviews feedback from the Specialty Care QI Committees for educational activity implementation. The CQI Committee also regularly tracks the Cardiac Arrest Registry to Enhance Survival (CARES) data that Santa Barbara has been collecting since 2010. This data is used to review our Cardiac Arrest Management (CAM) Program and help develop improvements and changes to this program. Since the implementation of CAM, Santa Barbara County has improved the survival from cardiac arrest when the arrest is of cardiac etiology from 8% (below the national average) to 18% (above the national average.) The survival from a cardiac arrest that is categorized as “witnessed and shockable” has improved from 25% (below the national average) to above the national average, at 62%.

The Trauma System Committee (TSC) is made up of Trauma Surgeons, Emergency physicians, Trauma Coordinators, prehospital provider representatives and EMS

Agency staff. TSC meets three times per year and reviews specific trauma data trends and specific cases. Peer review takes place, cases are adjudicated (as defined by current ACS standards), and meeting reports are formed with recommendations for best practices and lessons learned. The TSC Committee also meets 3 times a year with a regional Trauma Audit Committee (TAC) to provide these QI activities at a tri-county level (Ventura, Santa Barbara and San Luis Obispo.)

The STEMI QI Committee is made up of Cardiologists, Emergency physicians, STEMI Coordinators, prehospital provider representatives and EMS Agency staff. STEMI QI meets three times per year and reviews specific cardiac care data trends and specific cases. Peer review takes place, cases are adjudicated (as defined by current ACC/AHA standards,) and meeting reports are formed with recommendations for best practices and lessons learned. By utilizing this approach, the Santa Barbara County EMS Agency has received the American Heart Association's Mission: Lifeline® EMS Silver Award in 2014 and Gold Award in 2015.

The Stroke System QI Committee is made up of Neurologists, Emergency physicians, Stroke Program Coordinators, prehospital provider representatives and EMS Agency staff. The Stroke System Committee is currently in development and meets on a monthly basis. It is anticipated that the Stroke System will be implemented by early 2016, with 2-3 Primary Stroke Centers (utilizing the JHACO accreditation standards) and a single Neuro- Endovascular Center within the county. When the system is fully implemented a formal Stroke QI Committee will be created. This committee too will meet three times per year and reviews specific stroke care data trends and specific cases. Peer review will take place, cases adjudicated (as defined by current AHA standards) and meeting reports will be formed with recommendations for best practices and lessons learned.

## ***Skills Maintenance and Competency***

Skill Maintenance and Competency is handled at 2 levels in Santa Barbara County. Each prehospital agency is responsible for maintaining internal skill competency at licensure level. The plan to provide ensure this competency is included in their individual CQI Plan that is submitted to the EMS Agency. Agencies utilize a variety of methods to ensure this activity, including utilization of online education, quarterly hands-on classes, individual competency sessions with Field Training Officers (FTOs) and specialty training with their individual Medical Directors. In addition, a predetermined set of low-frequency high risk skills is monitored at the system level during the annual EMS Updates. The CQI and Medical Director Committees are responsible for determining which skills will be reviewed at these sessions, based on both current local data and national trends. Local EMS physicians are then responsible for auditing individual providers for competency utilizing a standardized skill competency checklist. This method provides for exceptional individualized feedback and education as well as physician level knowledge of the capabilities of the providers within the system. The skills most frequently included in this set include airway management, critical

medication calculation and administration, needle decompression, peripheral and IO access, emergency childbirth, and CAM (cardiac arrest management.) Additional skills may be included as the need is determined.

### ***Provider Education***

Education of local EMS providers is an essential component of the CQI process. There are several education methods built in to the system for those individuals who work for contracted EMS providers. These include quarterly online educational programs with completion assessments for all ALS providers. ALS providers are also required to attend a mandatory annual 8 hour EMS Update session that includes physician presented topics and case reviews as well as skills education and competency assessments. In addition, there are 15 EMS Agency approved CE providers that are able to provide EMS related education. This includes all 5 of the local hospitals and all 8 of the ALS and BLS level EMS response agencies. CE provider representatives meet regularly as a group and maintain all educational offerings on file with the EMS Agency. Santa Barbara County also has 3 EMS Agency approved EMT Training Programs that provide the full EMT training course. These 3 schools meet regularly as a group with the EMS Agency to share information and maintain currency to National, State and local guidelines and requirements.

### ***Public Education and Prevention***

Public education and outreach is an important component of any EMS System. Santa Barbara County has multiple venues for this. One of the largest outreach programs that was initiated in 2012 continues to be the Hands Only CPR Outreach. All prehospital provider agencies are actively involved in providing hands only CPR education, utilizing a standardized approach, at events throughout the county. The system goal is to meet or exceed 10% of the entire county population in being Hands Only CPR trained. We are currently half way to this goal, and anticipate that as our survivor success becomes more publicized we will have the opportunity to provide an increased amount of teaching sessions.

Injury Prevention is another major area of public education pursued in Santa Barbara County. Both designated trauma centers provide targeted outreach programs, including child passenger safety, distracted driver education, elderly fall prevention, and drug and alcohol prevention and intervention outreach. Local fire departments are active in car seat safety checks, with all agencies maintaining personnel who are certified car seat specialists. Local law and EMS agencies also coordinate the “Every 15 Minutes” program each year near high school graduation time to spread education about drunk driving for our local teens during this high risk time of year.

## ***Risk Management***

Risk management is addressed through the use of the Unusual Occurrence Report. These reports will be submitted by anyone with a concern regarding patient care, patient management, crew interaction, safety, public perception, or any other issue that is in question. The Unusual Occurrence Report form, with instructions for its completion, is available on the SBC EMS website. The completed form is submitted by the reporter to the agency for initial internal review. Typically, the form is supported by the Electronic Patient Care Record (EPCR), computer-aided dispatch (CAD) record, audio recordings from dispatch, and when available, patient outcomes at the hospital. The CQI Coordinator compiles a data base of reported issues and is able to broadly trend the types of issues reported, agencies involved, and resolution of the issues. All of the reported information is maintained in a confidential manner and reports are available to the CQI representative of the involved agency.

## ***Annual Update***

All individual agency CQI Plans are updated annually by January 31. These updates include changes in processes, personnel, equipment, or structure. Many of these updates are captured in the CQI process throughout the year, but are formally reviewed at this time.

Following review of the partner CQI Plans, any updates needed to the System CQI Plan are discussed at the EMS Agency level and then reviewed by the Medical Director prior to implementation