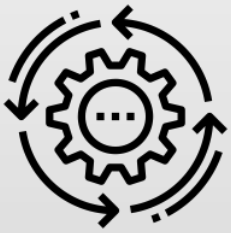


2024 - 2029 Emergency Medical Services Quality Improvement Plan (EMSQIP)

Sierra-Sacramento Valley EMS Agency

Updated: January 2024

Contents

"Continuous improvement is not just a goal; it's a commitment. In the world of EMS, our dedication to quality improvement ensures that every life we touch receives the highest standard of care, driving us to constantly evolve and elevate our practices." Unknown

Structure and Organizational Description

The Sierra – Sacramento Valley Emergency Medical Services Agency (S-SV EMS) was founded in 1975, and currently serves as the Local Emergency Medical Services Agency (LEMSA) for Butte, Colusa, Glenn, Nevada, Placer, Shasta, Siskiyou, Sutter, Tehama, and Yuba counties. The S-SV EMS jurisdictional region covers over 21,000 square miles (urban, suburban, rural, wilderness and frontier) and has a combined static resident population of approximately 1,300,000.

S-SV EMS is a Joint Powers Agency (JPA), created under the authority of California Government Code § 6500, et seq. The S-SV EMS JPA Governing Board of Directors consists of a publicly elected County Supervisor from each of the 10 member counties. The S-SV EMS system is comprised of the following emergency medical care provider resources:

- Two (2) strategically located S-SV EMS offices.
- Multiple primary/secondary public safety answering points (PSAPs) and ambulance dispatch centers (several who provide S-SV EMS approved EMD/MPDS services).
- Three (3) S-SV EMS designated EMS aircraft coordination centers.
- Multiple city, county, state and federal law enforcement agencies (several who provide S-SV EMS approved public safety first aid optional scope of practice EMS services).
- 95 BLS fire department first responder agencies (several who provide S-SV EMS approved public safety first aid/EMR/EMT optional scope of practice EMS services).
- Nine (9) ALS/LALS fire department first responder agencies.
- 20 primarily ALS public and private ground ambulance transport providers.
- One (1) ALS ski patrol.
- Five (5) private HEMS providers.
- One (1) public ALS rescue HEMS provider.
- 18 acute care hospitals:
    - Eight (8) S-SV EMS designated trauma receiving centers (Level I, II, III & IV).
    - 12 S-SV EMS designated stroke receiving centers.
    - Six (6) S-SV EMS designated STEMI receiving centers.
- Several thousand certified/licensed EMS personnel.

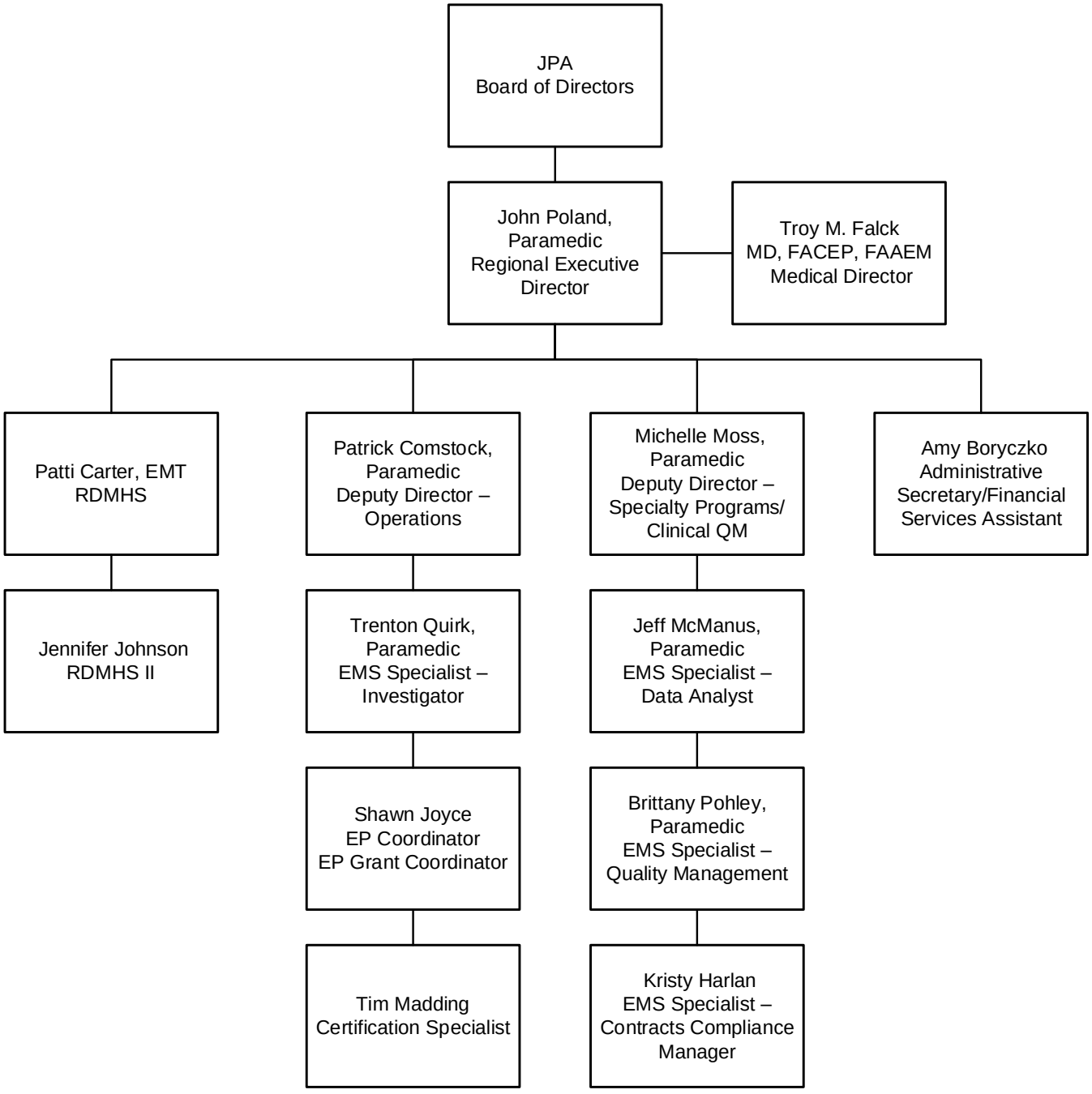
Under the direction of the Agency's Regional Executive Director, Medical Director, and quality management staff, S-SV EMS plans, implements and continually evaluates the EMS system for its ten (10) JPA member counties, which includes the specific responsibilities detailed on the following pages.

Mission and Method

By fostering synergistic partnerships and engaging in collaborative work processes, we aim to continuously monitor, assess, and evaluate the regional EMS system with a goal of improving the delivery of high-quality prehospital care.

- Applying the principles of servant leadership, we seek to discover opportunities to involve prehospital providers and hospital partners in the implementation, monitoring, and growth of a high-performance specialty system. Our objective is to foster a safe and supportive work environment for EMS personnel while ensuring a compassionate and clinically competent workforce for patients within the S-SV EMS region.
- Our goal is to foster the development of processes and methodologies focused on enhancing the delivery of high-quality EMS care by cultivating an open and supportive work environment and professional atmosphere where stakeholders are heard, encouraged, and supported.
- Leveraging data systems and active engagement of system participants, we coordinate, implement, and monitor system performance. Our objective is to identify opportunities for improvement and enhance overall effectiveness.
- Encourage active involvement of system participants in local, regional, and national EMS committees and conferences to explore a broad range of EMS trends and practice advancements targeted at improving clinical care and promoting EMS provider retention.
- Establish a system designed to address the specific educational needs of prehospital providers proactively, anticipating and addressing needs before they manifest in patient care issues.
- Promote provider agency leadership to create robust Quality Improvement (QI) programs that offers high-quality education and training resources, along with encouragement and support, to empower personnel in their professional development.

Organizational Chart



Quality Management Program Responsibilities

Regional Executive Director – John Poland, Paramedic

This position is responsible for overall administration of the Agency, including the discharge of all LEMSA responsibilities pursuant to California Health and Safety Code, California Code of Regulations, and other EMS laws, regulations, policies, and procedures.

Medical Director – Troy Falck, MD, FACEP, FAAEM

This position oversees all medical and clinical components of the Agency's EMS system to include policy and protocol development, equipment approvals and continuous quality improvement.

Deputy Director, Specialty Programs/Clinical Quality Management – Michelle Moss, FPC, CSTR

This position is responsible for continuous oversight and monitoring of the Agency's STEMI, Stroke, Trauma and HEMS specialty care systems and prehospital clinical performance including oversight of the Agency's QI committees. This position provides direct supervision of the EMS Specialist – Quality Management, EMS Specialist – Data Analyst, and EMS Specialist – Contract Compliance Manager positions.

EMS Specialist, Quality Management – Brittany Pohley, Paramedic

This position is responsible for the implementation of the Agency's QI plan and oversight of prehospital QI activities, data monitoring and regional provider training and education. This position is the primary clinical liaison with prehospital providers and non-specialty hospitals in clinically related matters.

EMS Specialist, Data Analyst – Jeff McManus, Paramedic

This position manages the Agency's EMS data systems/registries and assists other Agency staff in collecting, analyzing, and preparing data reports to support the Agency's QI activities. This position also provides EMS data related support to EMS system participants.

Quality Improvement Committees

S-SV EMS QI committee participants influence quality improvement and play a critical role in advising the Agency in protocol development and refinement of clinical practice within the regional EMS system. Data indicators are continuously reviewed by appropriate Agency staff and communicated to applicable QI committees on a regular and scheduled basis.

Regional Emergency Medical Advisor Committee (REMAC)

This multi-disciplinary committee convenes four (4) times per year with the purpose of promoting region-wide standardization of EMS system quality management, quality assurance, and quality improvement processes/activities. This committee reviews and makes recommendations regarding policies, procedures, protocols, positions, and philosophy of EMS care to S-SV EMS.

Prehospital Advisory Committee (PAC)

This multi-disciplinary peer review committee is comprised of field providers from public and private ALS ground and HEMS provider agencies. This committee meets four (4) times per year and is responsible for providing EMS system quality improvement and policy/ protocol recommendations to S-SV EMS from the field provider perspective. Additionally, this committee assists in monitoring and evaluating performance metrics and discusses current EMS trends and research to develop clinical best practices.

Trauma QI Committee

This multi-disciplinary committee includes representation from the regional trauma centers and prehospital provider agencies. The committee meets two (2) times annually and has the responsibility of reporting on and evaluating the quality of trauma care and establishing and monitoring trauma quality indicators. This committee also reviews and makes recommendations to S-SV EMS on trauma related policies and protocols.

STEMI QI Committee

This multi-disciplinary committee was established to promote region-wide standardization of STEMI patient care and transport, and to make recommendations to S-SV EMS on policies and protocols that involve the care of STEMI patients. This committee meets two (2) times annually with representatives from each of the region’s STEMI receiving centers and prehospital provider agencies.

Data Collection and Reporting

S-SV EMS utilizes multiple methodologies to collect and distribute data to EMS system participants, system stakeholders, and the public. The Agency currently utilizes the following data sources to monitor clinical care, patient outcomes and clinical documentation.

- ImageTrend NEMSIS 3.5 EMS Data System.
- ESO Trauma One Regional Trauma Registry.
- AHA GWTG-CAD STEMI Patient Registry.
- AHA-GWTG Stroke Patent Registry.

EMS Data Indicators

The types of EMS data indicators regularly collected, evaluated, and reported by S-SV EMS include:

- **Personnel:**
  - Number of EMR, EMT, AEMT certifications and re-certifications.
  - Number of paramedic accreditations and re-accreditations.
  - Number of MICN authorizations and re-authorizations.
  - Number and type of approved local optional skills programs and personnel.
  - Number and type of EMR, EMT, AEMT investigations and certification actions.
  - Number and type of paramedic investigations/licensure action referrals to EMSA.
  - Number and type of approved EMS training programs.
  - Number and results of EMS training program site visits and audits.
  - Number of S-SV EMS CE classes held, and CE certificates issued.
- **Equipment and Supplies:**
  - Number and results of prehospital provider agency unit inspections.
  - Number of providers stocking/utilizing optional equipment/supplies.
  - Number and type of equipment/supply shortages.
  - Management and usage statistics of controlled substances.
  - Medical equipment and supplies usage statistics.
  - Number and type of medical equipment failures.

- **Documentation:**
    - Number and type of bystander medical interventions (CPR, AED, aspirin administration, naloxone administration, tourniquet applications, etc.).
    - Number of EMS system participant AED applications and local optional sills utilizations.
    - EMS system participant compliance with documentation standards.
    - Number and type of EMS system participant incident reports and notifications.
    - Number and type of other EMS system documentation submissions/reviews (MCI feedback, training records, etc.).
    - Number of incidents that do not result in EMS patient transport (including reasons).
    - Number and type of standard medical incidents.
    - Number and type of unusual/infrequent medical incidents (including MCIs).
    - Compliance of specialty care center data submission (STEMI, stroke, trauma).
- **Clinical Care and Patient Outcome:**
    - Number and type of EMS system policies and protocols developed and revised.
    - Provider compliance with S-SV EMS policies and protocols (including number and type of 'QI Report Cards' issued to individual prehospital personnel).
    - EMS system participant local optional skills data (success rates, complications, etc.).
    - Local EMS system clinical care and patient outcome data reports (including public reporting as appropriate).
    - California EMS core measures data.
    - Number, type and outcome of EMS system participant clinical concerns and investigations.
    - Number of EMS system participant quality improvement plans submitted to, reviewed, and approved by S-SV EMS.
- **Skills Maintenance/Competency:**
    - EMR, EMT and AEMT personnel compliance with re-certification skills competency verification requirements.
    - Prehospital personnel compliance with local optional skills competency verification requirements.
    - AEMT and paramedic compliance with annual infrequently used skills competency verification and annual didactic regional training module requirements.

- **Transportation/Facilities:**
  - Ambulance transport provider response time compliance.
  - Inspections of provider agency vehicles and facilities.
  - Ground ambulance EOA contract mileage/age required replacement data.
  - Number, type, and cause of critical vehicle failures.
  - Prehospital provider compliance with specialty patient destination policies/protocols.
  - Ambulance Patient Offload Time (APOT).
- **Public Education and Prevention:**
  - Number and type of bystander medical interventions.
  - S-SV EMS and other EMS system stakeholders' participation in public education and prevention activities.
- **Risk Management:**
  - Number and type of EMS system policies and protocols developed and revised to ensure ongoing consistency with current medical literature, studies, guidelines, and standards of care. All S-SV EMS policies/protocols are reviewed a minimum of every three (3) years.
  - Number and type of EMS provider/personnel investigations and outcomes.
  - Prehospital personnel compliance with S-SV EMS policies/protocols.
  - Utilization appropriateness of specialized EMS resource (EMS aircraft, etc.).
  - Review and approval of EMD and/or MPDS programs.
  - Provider compliance with biomedical equipment and vehicle maintenance requirements.
- **Other**
  - Number and type of S-SV EMS issued recognition awards (Chain of Survival Award, Outstanding Service Award, etc.).

EMS system indicators are regularly selected and updated utilizing a collaborative teamwork approach with input from S-SV EMS staff and other EMS system participants. Indicators are based on anticipated or identified system needs/issues and statutory/regulatory requirements. S-SV EMS staff work collaboratively to identify, collect, review, and report data indicators based on job requirements and responsibilities. The collection and reporting frequency of individual data indicators is based on the type of data and EMS system needs.

Quality Assurance (QA)/Quality Improvement (QI) Process

S-SV EMS utilizes a standard 'Plan, Do, Study, Act' approach to QA/QI involving appropriate EMS system participants based on the nature and details of the individual incident or identified issue. S-SV EMS staff regularly communicate QA/QI related activities to EMS system participants, and the public as appropriate, utilizing the following methods:

- EMS system stakeholder meetings (S-SV EMS regional committee meetings, RDMHS meetings, EMSA meetings, California LEMSA QI Coordinator meetings, Northern California EMS Coordinator meetings, EMS training program advisory committee meetings, County Board of Supervisors meetings, County EMCC/EMAG meetings, County HPP meetings, County Fire Chiefs meetings, etc.).
- Routinely interacting with individual EMS system providers and personnel.
- Routinely producing/revising/distributing EMS policies/protocols, and system reports.
- Interactions and presentations to the public and media organizations.

S-SV EMS organizational and/or EMS system changes are implemented utilizing one or more of the following processes as necessary/appropriate:

- S-SV EMS staff regularly participate in internal staff meetings to discuss Agency activities and organizational changes.
- S-SV EMS staff regularly coordinate and attend multi-disciplinary meetings to inform EMS system participants of organizational and EMS system changes.
- S-SV EMS policy and protocol changes are routinely released on a bi-annual basis with June 1st and December 1st implementation dates. Updated policies and protocols are packaged together with a change summary document and distributed to EMS system participants through email distribution and a regional mobile application. EMS system provider agencies are responsible for providing appropriate education and training for all policy, protocol, and EMS system changes to their personnel.
- Current S-SV EMS policies and protocols are available 24/7/365 on the S-SV EMS website, mobile application, and printed field manuals.

S-SV EMS Incident Review/Investigation Process

Through continuous review and auditing of EMS data systems, S-SV EMS personnel may identify incidents/issues that require further review and/or investigation. Following is the S-SV EMS QI process when an incident/issue needing further review is identified:

- Utilizing the current EMS provider agency EMSQIP, the S-SV EMS Quality Management EMS Specialist identifies the appropriate QI personnel for the EMS provider agency(s).
- If the incident/issue does not meet any reportable Incident criteria, as described in S-SV EMS Agency 'EMS Incident Reporting & Investigation' Policy (Reference No. 927), the S-SV EMS Quality Management EMS Specialist will contact the appropriate QI personnel and provide, at a minimum, the following information:
    - Details regarding S-SV EMS concerns/questions.
    - Request for review of incident/issue with prehospital personnel as appropriate.
- If the incident/issue appears to meet reportable incident criteria, as described in S-SV EMS 'EMS Incident Reporting & Investigation' Policy (Reference No. 927), the S-SV EMS Quality Management EMS Specialist will request a 927-A form formally documenting the details and investigatory results of the specific incident/issue.
- Upon receipt of documentation from the EMS provider agency QI personnel, the S-SV EMS Quality Management EMS Specialist will determine the appropriate action/ resolution which may include one or more of the following:
    - No action necessary.
    - Remedial education.
    - Disciplinary action.
    - Referral of the issue/incident to S-SV EMS Deputy Director – Specialty Programs/ Clinical Quality Management and/or Medical Director for case review and/or policy/ protocol revision.
    - Referral of prehospital personnel to EMSA for further review and/or potential certification/license action.

If through the EMS provider agency's QI process an incident/issue is identified, the following QI process will take place:

- EMS provider QI personnel provides a written report of the incident and any other pertinent incident related materials to the S-SV EMS Quality Management EMS Specialist within three (3) working days of becoming aware of the incident.
- The S-SV EMS Quality Management EMS Specialist will review the incident and the EMS provider agency's documentation/resolution.

- The S-SV EMS Quality Management EMS Specialist may complete an internal review of prehospital personnel records or other pertinent sources of information.
- The S-SV EMS Quality Management EMS Specialist may request further action to include:
    - Additional documentation/actions from the EMS provider agency QI personnel.
    - In coordination with EMS provider agency, an interview with the prehospital personnel.
    - Additional documentation from receiving/sending facility.
- The S-SV EMS Quality Management EMS Specialist will determine the appropriate action/resolution which may include one or more of the following:
    - No action necessary.
    - Remedial education.
    - Disciplinary action.
    - Referral of the issue/incident to S-SV EMS Deputy Director – Specialty Programs/ Clinical Quality Management and/or Medical Director for case review and/or policy/ protocol revision.
    - Referral of prehospital personnel to EMSA for further review and/or potential certification/license action.

Upon notification of an incident/issue, the EMS provider agency is responsible for the following:

- Acknowledge receipt of the incident to the reporting entity within three (3) working days.
- Conduct an adequate investigation of the incident, which at a minimum shall include:
    - A review of all pertinent incident related documentation, including PCRs, incident reports and any other documentation relevant to the investigation.
    - A review of other materials relevant to the investigation (medical records, voice recordings, etc.).
    - Interview with complainants, witnesses, prehospital personnel and/or hospital personnel deemed relevant to the investigation.

Provider Agency QI Responsibilities

EMS system participants are responsible for conducting and reporting to S-SV EMS the following EMS QI activities:

- Prospective QI:
  - Participation in S-SV EMS and base/modified base hospital QI committees.
  - Initial and continuing employee education:
    - Orienting field personnel to the S-SV EMS system.
    - Developing educational programs based on problem identification and trend analysis.
    - Process for communicating system changes to field personnel.
    - Process for development of performance standards to evaluate the quality of care delivered by field personnel.
  - Methods for evaluating field personnel:
    - New/probationary employee clinical performance standards.
    - Clinical/operational deficiency identification methodology.
    - Problem-oriented evaluation and corrective action plans for identified deficiencies, including an example of a standardized performance improvement plan (PIP).
  - Personnel certification/accreditation tracking:
    - Initial and ongoing certification/accreditation tracking process.
    - Other S-SV EMS required training/education.
- Concurrent QI:
  - Direct observation (ride-along, field training officer, etc.) of field personnel evaluating patient care against performance standards.
  - Availability of field supervisors and/or QI personnel for field personnel support.
- Retrospective QI:
  - Process for retrospective analysis of field care to include but not be limited to:
    - High-acuity, low occurrence (HALO) call/event types.
    - Audit topics. o Problem oriented calls/events.
    - Calls/events requested to be reviewed by S-SV EMS.

- Documentation/PCR review to assure quality, accuracy, and adherence to provider/ S-SV EMS documentation standards/requirements.
- Compliance with reporting and other quality improvement requirements as specified by S-SV EMS.

- Reporting/Feedback:
  - Process for reporting trends/issues to S-SV EMS and/or base/modified base hospitals.
  - Process for communicating quality improvement/opportunities for improvement to field personnel.

Education and Training

- Several S-SV EMS staff members are trained, qualified, and experienced EMS educators who routinely provide education and training to EMS system participants.
- S-SV EMS accreditation classes are held on a monthly basis at both S-SV EMS office locations and are taught by qualified and experienced S-SV EMS clinical staff. All new paramedic, MICN, and HEMS RN personnel are required to successfully complete the accreditation class and any additional S-SV EMS requirements prior to providing prehospital care or direction to prehospital personnel in the S-SV EMS region.
- A regional MICN course curriculum, developed and regularly updated by S-SV EMS staff, is provided to base hospitals for conducting standardized instruction to all new MICN candidates. S-SV EMS staff also assist in the instruction of this curriculum on a regular basis.
- All EMS system education and training materials (including training for new medications/procedures and annual regional training modules) are developed by S-SV EMS quality management staff in a collaborative manner, with input/assistance from other EMS system participants and subject matter experts.
- All education and training materials are reviewed and approved by the S-SV EMS Medical Director and Regional Executive Director prior to distribution or utilization by EMS system participants.
- S-SV EMS staff conduct regular audits of EMS system participant personnel documentation to ensure that education and training requirements are maintained.
- All S-SV EMS accredited paramedic personnel are required to obtain and maintain the following additional certifications:
  - PALS, PEPP, APLS or Handtevy Prehospital Pediatric Provider Course
  - ACLS

- S-SV EMS staff conduct regular audits and site visits of approved EMS training programs to provide appropriate program oversight and ensure continued compliance with regulatory requirements.
- Agency staff instruct, attend, and participate in hospital and provider agency meetings, run reviews, and regional educational conferences.