



Reference 813: System Performance Data Dictionary

Revision 5/22/18
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- I. Purpose:
 - A. Total quality management of our EMS is essential to ensure that patient outcomes are optimized, and resources are used as efficiently as possible. This System Performance Data Dictionary establishes reliable, uniform and reproducible criteria for measuring performance.
- II. Santa Cruz County System Report Cards
 - A. First responder (Table 1) and transport (Table 2) report cards have been initially established during the 2017 RFP process by the Medical Director under advisement from a diverse set of system stakeholders.
 - B. Each of the report cards outlines key performance targets for select clinical conditions where critical EMS interventions are believed to have the most beneficial impact on patient outcomes with additional focus on other service delivery imperatives such as a complete clinical documentation and patient satisfaction.
 - C. Each of the clinical measures are designed to meet 3 criteria: 1) they must be measurable in our data system, 2) they must be improvable through standard quality improvement processes and 3) they must reflect value in term of clinical benefit or satisfaction to the patient.
 - D. The report cards measures have substantial overlap with the California EMSA Core Measures and the Cardiac Arrest Registry to Enhance Survival (CARES) programs, however the report cards are designed to provide more detailed performance information specific to Santa Cruz County. Nevertheless, high performance on local measures are designed to achieve high performance on the Core Measures and CARES as well.
 - E. Add data fields specified in this reference refer to current NEMSIS data fields
 - F. System performance and quality assurance processes are dynamic and report cards may be modified as deemed necessary.
- III. First Responder Report Card
 - A. Cardiac Arrest
 1. End tidal CO₂ monitored
 - a) Rationale: End tidal CO₂ monitoring during cardiac arrest provides is an essential information about the quality of resuscitation efforts, the status of any advanced airways and the achievement of ROSC during the resuscitation. Includes all cardiac arrests initiated by first arriving ALS first responder (Fire) units with a recorded ETCO₂
 - b) Numerator:



- (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) = "Cardiac Arrest"
 - (b) Any numeric value recorded (eVitals.16 – End Tidal Carbon Dioxide)
 - (2) Exclusion Criteria
 - (a) Resuscitation attempted by EMS (eArrest.03) contains "not attempted"
 - (b) Cardiac Arrest etiology (eArrest.02) = "Trauma"
 - c) Denominator: All cardiac arrests initiated by first arriving ALS Fire first responder
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) = "Cardiac Arrest"
 - (2) Exclusion Criteria
 - (a) Resuscitation attempted by EMS (eArrest.03) contains "not attempted"
 - (b) Cardiac Arrest etiology (eArrest.02) = "Trauma"
 - d) Goal: 90% (N/D *100)
2. Complete Documentation (see Policy 101: *Quality Improvement Program and System Evaluation*)
- a) Rationale: Documentation of critical data elements is essential to measuring performance and identifying opportunities for improvement.
 - b) Numerator: All cardiac arrests initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) = "Cardiac Arrest"
 - (b) Resuscitation attempted (eArrest.03) is not empty
 - (c) Bystander CPR (eArrest.05) is not empty
 - (d) AED prior to arrival (eArrest.07) is not empty
 - (e) Date/Time of Initial CPR (eArrest.19) is not empty
 - (f) Initial rhythm (eArrest.11) is not empty



- (g) Defibrillation (eDevice.11) is not empty
 - (h) ROSC (eArrest.12) is not empty
 - (i) EtCO2 readings (eVitals.16) is not empty
 - (2) Exclusion Criteria
 - (a) Cardiac Arrest etiology (eArrest.02) = "Trauma"
 - c) Denominator: All cardiac arrests initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) = "Cardiac Arrest"
 - (2) Exclusion Criteria
 - (a) Resuscitation attempted by EMS (eArrest.03) contains "not attempted"
 - (b) Cardiac Arrest etiology (eArrest.02) = "Trauma"
 - d) Goal: 90% (N/D *100)
- B. Respiratory Distress
 - 1. Mental Status assessed/documentated
 - a) Rationale: Mental status is a sensitive clinical sign for hypoxia and/or hypercapnia.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Respiratory Distress"
 - (b) Mental Status Assessment (eExam.19) is not empty
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Respiratory Distress"
 - (b) Goal: 90% (N/D *100)



2. Bronchodilator for Wheezing
 - a) Rationale: Wheezing is an early physical finding that can precede respiratory arrest and early bronchodilator therapy is very beneficial.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Chest/Lungs Assessment (eExam.08) contains “Wheezing”
 - (b) Medication given (eMedications.03) contains “**Albuterol**”
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Chest/Lungs Assessment (eExam.08) contains “Wheezing”
 - d) Goal: 85% (N/D *100)
- C. Airway Management
 1. ETCO₂ performed on any successful intubation
 - a) Rationale: ETCO₂ is an essential indicator of intubation procedural success and an early indicator of dislodgement.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains “intubation”
 - (b) Procedure successful (eProcedures.06) = “Yes”
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains “intubation”
 - (2) Exclusion Criteria
 - (a) none
 - d) Goal: 90% (N/D *100)
 2. Other Intubation Confirmation Techniques



- a) Rationale: Confirmation of intubation success often relies on more than one technique.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains “intubation”
 - (b) Procedure successful (eProcedures.06) = “Yes”
 - (c) Airway Device Placement (eAirway.04) is not empty
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains “intubation”
 - (2) Exclusion Criteria
 - (a) none
 - d) Goal: 90% (N/D *100)
3. Complete Documentation (see Policy 101: Quality Improvement Program and System Evaluation)
- a) Rationale: Documentation of critical data elements is essential to measuring performance and identifying opportunities for improvement.
 - b) Numerator: All cardiac arrests initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains “intubation”
 - (b) Procedure successful (eProcedures.06) = “Yes”
 - (c) Indications for invasive airway
 - (d) Date/Time Airway Device Placement Confirmation
 - (e) Airway Device Being Confirmed
 - (f) Airway Device Placement Confirmed Method
 - (g) Tube Depth
 - (h) Type of Individual Confirming Airway Device Placement
 - (i) Crew Member ID



- (j) Airway Complications Encountered
 - (k) Suspected Reasons for Failed Airway Management
 - (l) Waveform capnography readings through duration of care
 - (m) EtCO₂ initial (SKL-2)
 - (n) EtCO₂ continuous (SKL-2)
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator: All cardiac arrests initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains “intubation”
 - (2) Exclusion Criteria
 - (a) none
 - d) Goal: 90% (N/D *100)
- D. STEMI
 - 1. ASA Administration
 - a) Rationale: Early ASA administration is beneficial to prevent or minimized platelet aggregation and worsening thrombus.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains “STEMI”
 - (b) Medication Given (eMedications.03) contains “Aspirin”
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains “STEMI”
 - (2) Exclusion Criteria
 - (a) none



- d) Goal: 90% (N/D *100)
2. SpPO2 Recorded
 - a) Rationale: Hypoxia can lead to additional poor perfusion of myocardial tissue.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (b) Pulse Oximetry (eVitals 12) is not blank
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (2) Exclusion Criteria
 - (a) none
 - d) Goal: 90% (N/D *100)
3. 12 Lead EKG acquired within 5 12 minutes of first ALS arrival
 - a) Rationale: Early STEMI identification leads to earlier door to balloon times saving myocardial tissue.
 - b) Data Elements:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (2) Exclusion Criteria
 - (a) Transport Unit Arrived at Patient Date/Time (eTimes.07) < First Responder Unit Arrived at Patient Date/Time (eTimes.07)
 - (b) Level of Service (dAgency.11) does not contain "Paramedic"
 - (3) Calculation
 - (a) Date/Time (eProcedure.01) - First Responder Unit Arrived at Patient Date/Time (eTimes.07)
 - (b) Goal: 80% of all Arrival to EKG times are < 12 minutes



4. Complete Documentation (see Policy 101: Quality Improvement Program and System Evaluation)
 - a) Rationale: Documentation of critical data elements is essential to measuring performance and identifying opportunities for improvement.
 - b) Numerator: All STEMIs initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (b) Arrival to EKG Documented
 - (c) ASA Documented
 - (d) Scene time documented
 - (e) STEMI alert documented
 - (f) Appropriate destination documented
 - (2) Exclusion Criteria
 - (a) Level of Service (dAgency.11) does not contain "Paramedic"
 - c) Denominator: All STEMIs initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (2) Exclusion Criteria
 - (a) Level of Service (dAgency.11) does not contain "Paramedic"
 - d) Goal: 90% (N/D *100)
- E. Stroke
 1. Time Last Seen Normal Documented
 - a) Rationale: Last Seen Normal is a critical time element necessary for appropriate triage and hospital treatment decisions. Often EMS is in the best position to interview witnesses to determine this time.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - (b) Last Known Well (eSituation.18) is not blank



- (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - (2) Exclusion Criteria
 - (a) none
 - d) Goal: 90% (N/D *100)
- 2. Use of Prehospital Stroke Scale
 - a) Numerator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - (b) Stroke Scale Score (eVitals.29) is not blank
 - (2) Exclusion Criteria
 - (a) none
 - b) Denominator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - (2) Exclusion Criteria
 - (a) none
 - c) Goal: 90% (N/D *100)
- 3. Complete Documentation (see Policy 101: *Quality Improvement Program and System Evaluation*)
 - a) Rationale: Documentation of critical data elements is essential to measuring performance and identifying opportunities for improvement.



- b) Numerator: All Strokes initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - (b) Last Known Well (eSituation.18) is not blank
 - (c) Stroke Scale Score (eVitals.29) is not blank
 - (d) Blood Glucose (eVitals.18) recorded
 - (e) Scene time recorded
 - (f) Stroke alert (eDisposition.24) is not blank
 - c) Denominator: All Strokes initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - d) Goal: 90% (N/D *100)

F. Trauma

1. PAM Scale Recorded

- a) Rationale: Consistent use of field trauma triage criteria leads to appropriate destination which in turns directly affects morbidity and mortality for trauma patients
- b) Numerator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Traumatic" or "Burn"
 - (b) Trauma Center Criteria (eInjury.03) is not blank OR
 - (c) Vehicular, Pedestrian, or Other (eInjury.04) is not blank
 - (2) Exclusion Criteria
 - (a) Mechanism of Injury (eInjury.02) is blank, or contains "Not Applicable" or "Not Recorded", or "Not Reporting"
- c) Denominator:
 - (1) Inclusion criteria



- (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains “Traumatic” or “Burn”
 - (2) Exclusion Criteria
 - (a) Mechanism of Injury (eInjury.02) is blank, or contains “Not Applicable” or “Not Recorded”, or "Not Reporting”
 - d) Goal: 90% (N/D *100)
 - 2. Complete Documentation (see Policy 101: *Quality Improvement Program and System Evaluation*)
 - a) Rationale: Documentation of critical data elements is essential to measuring performance and identifying opportunities for improvement.
 - b) Numerator: All Strokes initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains “Traumatic” or “Burn”
 - (b) Scene Times are recorded
 - (c) Trauma Center Criteria (eInjury.03) is recoded
 - (d) Vehicular, Pedestrian, or Other (eInjury.04) is recorded
 - (e) Hospital Capability (eDisposition.23) contains “Trauma Center
 - (2) Exclusion Criteria
 - (a) Mechanism of Injury (eInjury.02) is blank, or contains “Not Applicable” or “Not Recorded”, or "Not Reporting”
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains “Traumatic” or “Burn”
 - (2) Exclusion Criteria
 - (a) Mechanism of Injury (eInjury.02) is blank, or contains “Not Applicable” or “Not Recorded”, or "Not Reporting”
 - d) Goal: 90% (N/D *100)
- G. Safety



1. Protocol Compliance per Chart Review
 - a) Rationale: Chart review of high risk cases and random selection can reveal deficiencies in protocol compliance. Identifying deficiencies can provide an opportunity to improve protocols, training and documentation prompts.
 - b) Protocol compliance shall be measured on a 5-point scale that considers the following
 - (1) Appropriate BLS interventions
 - (2) Appropriate ALS procedures, medications and dosages
 - (3) Appropriate response to abnormal vital signs
 - (4) Descriptive narrative that accurately represents the case, including thought processes and treatment plan.
 - (5) Appropriate Destination
 - c) Data:
 - (1) Inclusion criteria
 - (a) Protocol compliance with high acuity (Status 1 and 2) patients (see Policy 621 *Patient Acuity Guidelines*)
 - (b) Protocol compliance with AMA and RAS patients
 - (c) Protocol compliance with random selection of other cases
 - (2) Exclusion Criteria
 - (a) none
 - (3) Analysis: Each element on the 5-point scale is worth 20%
 - d) Goal: Overall average score of 90%
- H. Patient Satisfaction
 1. Data derived from a third party administered patient satisfaction survey
 2. Data elements
 - a) Degree to which the firefighters took your problem seriously
 - b) How well the firefighters explained things in a way you could understand
 - c) Skill of the firefighters
 - d) Extent to which the firefighters cared for you as a person
 - e) Professionalism of the firefighters
- I. ePCR Submission Compliance
 1. Transfer of Care (TOC) critical ePCR elements completed within 10 minutes of patient



departure from the scene

a) Goal = 90%

2. Full ePCR completed within 24 hours of dispatch time

a) Goal = 100%

IV. Transport Report Card

A. Cardiac Arrest

1. End tidal CO₂ monitored

a) Rationale: End tidal CO₂ monitoring during cardiac arrest is essential information about the quality of resuscitation efforts, the status of any advanced airways and the achievement of ROSC during the resuscitation. Includes all cardiac arrests initiated by ALS units with a recorded ETCO₂

b) Numerator:

(1) Inclusion criteria

(a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) = "Cardiac Arrest"

(b) Any numeric value recorded (eVitals.16 – End Tidal Carbon Dioxide)

(2) Exclusion Criteria

(a) Resuscitation attempted by EMS (eArrest.03) contains "not attempted"

(b) Cardiac Arrest etiology (eArrest.02) = "Trauma"

c) Denominator: All cardiac arrests initiated by first arriving ALS Fire first responder

(1) Inclusion criteria

(a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) = "Cardiac Arrest"

(2) Exclusion Criteria

(a) Resuscitation attempted by EMS (eArrest.03) contains "not attempted"

(b) Cardiac Arrest etiology (eArrest.02) = "Trauma"

d) Goal: 90% (N/D *100)

2. Complete Documentation (see Policy 101: *Quality Improvement Program and System*)



Evaluation)

- a) Rationale: Documentation of critical data elements is essential to measuring performance and identifying opportunities for improvement.
 - b) Numerator: All cardiac arrests
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) = “Cardiac Arrest”
 - (b) Resuscitation attempted (eArrest.03) is not empty
 - (c) Bystander CPR (eArrest.05) is not empty
 - (d) AED prior to arrival (eArrest.07) is not empty
 - (e) Date/Time of Initial CPR (eArrest.19) is not empty
 - (f) Initial rhythm (eArrest.11) is not empty
 - (g) Defibrillation (eDevice.11) is not empty
 - (h) ROSC (eArrest.12) is not empty
 - (i) EtCO₂ readings (eVitals.16) is not empty
 - (2) Exclusion Criteria
 - (a) Cardiac Arrest etiology (eArrest.02) = “Trauma”
 - c) Denominator: All cardiac arrests initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) = “Cardiac Arrest”
 - (2) Exclusion Criteria
 - (a) Resuscitation attempted by EMS (eArrest.03) contains “not attempted”
 - (b) Cardiac Arrest etiology (eArrest.02) = “Trauma”
 - d) Goal: 90% (N/D *100)
- B. Respiratory Distress
- 1. Mental Status assessed/documentated
 - a) Rationale: Mental status is a sensitive clinical sign for hypoxia and/or hypercapnia.



- b) Numerator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains “Respiratory Distress”
 - (b) Mental Status Assessment (eExam.19) is not empty
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains “Respiratory Distress”
 - d) Goal: 90% (N/D *100)
2. Bronchodilator for Wheezing
- a) Rationale: Wheezing is an early physical finding that can precede respiratory arrest and early bronchodilator therapy is very beneficial.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Chest/Lungs Assessment (eExam.08) contains “Wheezing”
 - (b) Medication given (eMedications.03) contains “**Albuterol**”
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Chest/Lungs Assessment (eExam.08) contains “Wheezing”
 - d) Goal: 85% (N/D *100)
- C. Airway Management
- 1. ETCO₂ performed on any successful intubation
 - a) Rationale: ETCO₂ is an essential indicator of intubation procedural success and an early indicator of dislodgement.



- b) Numerator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains “intubation”
 - (b) Procedure successful (eProcedures.06) = “Yes”
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains “intubation”
 - (2) Exclusion Criteria
 - (a) none
 - d) Goal: 90% (N/D *100)
2. Other Intubation Confirmation Techniques
- a) Rationale: Confirmation of intubation success often relies on more than one technique.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains “intubation”
 - (b) Procedure successful (eProcedures.06) = “Yes”
 - (c) Airway Device Placement (eAirway.04) is not empty
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains “intubation”
 - (2) Exclusion Criteria
 - (a) none



- d) Goal: 90% (N/D *100)
- 3. Complete Documentation (see Policy 101: *Quality Improvement Program and System Evaluation*)
 - a) Rationale: Documentation of critical data elements is essential to measuring performance and identifying opportunities for improvement.
 - b) Numerator: All cardiac arrests initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "intubation"
 - (b) Procedure successful (eProcedures.06) = "Yes"
 - (c) Indications for invasive airway
 - (d) Date/Time Airway Device Placement Confirmation
 - (e) Airway Device Being Confirmed
 - (f) Airway Device Placement Confirmed Method
 - (g) Tube Depth
 - (h) Type of Individual Confirming Airway Device Placement
 - (i) Crew Member ID
 - (j) Airway Complications Encountered
 - (k) Suspected Reasons for Failed Airway Management
 - (l) Waveform capnography readings through duration of care
 - (m) EtCO₂ initial (SKL-2)
 - (n) EtCO₂ continuous (SKL-2) Exclusion Criteria
 - (o) Cardiac Arrest etiology (eArrest.02) = "Trauma"
 - c) Denominator: All cardiac arrests initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "intubation"
 - (2) Exclusion Criteria
 - (a) none
 - d) Goal: 90% (N/D *100)
 - D. STEMI
 - 1. ASA Administration within 5 minutes



- a) Rationale: Early ASA administration is beneficial to prevent or minimized platelet aggregation and worsening thrombus.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (b) Medication Given (eMedications.03) contains "**Aspirin**"
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (2) Exclusion Criteria
 - (a) none
 - d) Goal: 90% (N/D *100)
2. SpPO2 Recorded
- a) Rationale: Hypoxia can lead to additional poor perfusion of myocardial tissue.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (b) Pulse Oximetry (eVitals 12) is not blank
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (2) Exclusion Criteria
 - (a) none
 - d) Goal: 90% (N/D *100)



3. 12 Lead EKG acquired within 5 minutes of first ALS arrival
 - a) Rationale: Early STEMI identification leads to earlier door to balloon times saving myocardial tissue.
 - b) Data Elements:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (2) Exclusion Criteria
 - (a) none
 - (3) Calculation
 - (a) Date/Time (eProcedure.01) - Transport Unit Arrived at Patient
Date/Time (eTimes.07)
 - (b) Goal: 80% of all Arrival to EKG times are < 5 minutes
4. Complete Documentation (see Policy 101: *Quality Improvement Program and System Evaluation*)
 - a) Rationale: Documentation of critical data elements is essential to measuring performance and identifying opportunities for improvement.
 - b) Numerator: All STEMIs initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (b) Arrival to EKG Documented
 - (c) ASA Documented
 - (d) Scene time documented
 - (e) STEMI alert documented
 - (f) Appropriate destination documented
 - (2) Exclusion Criteria
 - (a) Level of Service (dAgency.11) does not contain "Paramedic"
 - c) Denominator: All STEMIs initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (2) Exclusion Criteria



- (a) none
 - d) Goal: 90% (N/D *100)
- E. Stroke
- 1. Time Last Seen Normal Documented
 - a) Rationale: Last Seen Normal is a critical time element necessary for appropriate triage and hospital treatment decisions. Often EMS is in the best position to interview witnesses to determine this time.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - (b) Last Known Well (eSituation.18) is not blank
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - (2) Exclusion Criteria
 - (a) none
 - d) Goal: 90% (N/D *100)
 - 2. Use of Prehospital Stroke Scale
 - a) Numerator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - (b) Stroke Scale Score (eVitals.29) is not blank
 - (2) Exclusion Criteria
 - (a) none



- b) Denominator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - (2) Exclusion Criteria
 - (a) none
- c) Goal: 90% (N/D *100)
- 3. Complete Documentation (see Policy 101: *Quality Improvement Program and System Evaluation*)
 - a) Rationale: Documentation of critical data elements is essential to measuring performance and identifying opportunities for improvement.
 - b) Numerator: All Strokes initiated by transport units
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - (b) Last Known Well (eSituation.18) is not blank
 - (c) Stroke Scale Score (eVitals.29) is not blank
 - (d) Blood Glucose (eVitals.18) recorded
 - (e) Scene time recorded
 - (f) Stroke alert (eDisposition.24) is not blank
 - c) Denominator: All Strokes initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - d) Goal: 90% (N/D *100)
- F. Trauma
 - 1. PAM Scale Recorded
 - a) Rationale: Consistent use of field trauma triage criteria leads to appropriate destination which in turns directly affects morbidity and mortality for trauma patients
 - b) Numerator:



- (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Traumatic" or "Burn"
 - (b) Trauma Center Criteria (eInjury.03) is not blank OR
 - (c) Vehicular, Pedestrian, or Other (eInjury.04) is not blank
- (2) Exclusion Criteria
 - (a) Mechanism of Injury (eInjury.02) is blank, or contains "Not Applicable" or "Not Recorded", or "Not Reporting"
- c) Denominator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Traumatic" or "Burn"
 - (2) Exclusion Criteria
 - (a) Mechanism of Injury (eInjury.02) is blank, or contains "Not Applicable" or "Not Recorded", or "Not Reporting"
- d) Goal: 90% (N/D *100)
2. Complete Documentation (see Policy 101: *Quality Improvement Program and System Evaluation*)
 - a) Rationale: Documentation of critical data elements is essential to measuring performance and identifying opportunities for improvement.
 - b) Numerator: All Strokes initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Traumatic" or "Burn"
 - (b) Scene Times are recorded
 - (c) Trauma Center Criteria (eInjury.03) is recorded
 - (d) Vehicular, Pedestrian, or Other (eInjury.04) is recorded
 - (e) Hospital Capability (eDisposition.23) contains "Trauma Center"
 - (2) Exclusion Criteria
 - (a) Mechanism of Injury (eInjury.02) is blank, or contains "Not



Applicable” or “Not Recorded”, or "Not Reporting”

- c) Denominator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains “Traumatic” or “Burn”
 - (2) Exclusion Criteria
 - (a) Mechanism of Injury (eInjury.02) is blank, or contains “Not Applicable” or “Not Recorded”, or "Not Reporting”
- d) Goal: 90% (N/D *100)

G. Safety

1. Protocol Compliance per Chart Review

- a) Rationale: Chart review of high risk cases and random selection can reveal deficiencies in protocol compliance. Identifying deficiencies can provide an opportunity to improve protocols, training and documentation prompts.
- b) Protocol compliance shall be measured on a 5-point scale that considers the following
 - (1) Appropriate BLS interventions
 - (2) Appropriate ALS procedures, medications and dosages
 - (3) Appropriate response to abnormal vital signs
 - (4) Descriptive narrative that accurately represents the case, including thought processes and treatment plan.
 - (5) Appropriate Destination
- c) Data:
 - (1) Inclusion criteria
 - (a) Protocol compliance with high acuity (Status 1 and 2) patients (see Policy 621 Patient Acuity Guidelines)
 - (b) Protocol compliance with AMA and RAS patients
 - (c) Protocol compliance with random selection of other cases
 - (2) Exclusion Criteria
 - (a) none



(3) Analysis: Each element on the 5-point scale is worth 20%

d) Goal: Overall average score of 90%

H. Patient Satisfaction

1. Data derived from a third party administered patient satisfaction survey

2. Data elements

a) Communication by medics (patient and family)

b) Care shown by the ambulance crew

c) Skill and professionalism of our ambulance crew

d) Cleanliness of the ambulance

e) Ride of the Ambulance

I. ePCR Submission Compliance

1. Transfer of Care (TOC) critical ePCR elements completed within 10 minutes of patient arrival at the hospital

a) Goal = 90%

2. Full ePCR completed within 24 hours of dispatch time

a) Goal = 100%



Santa Cruz County EMS Agency
Reference Materials

Section 800

Santa Cruz County First Responder Report Card			
Criterion	Goal	Weighted Value	Score
Cardiac Arrest			
End-tidal CO2 monitored	90.0%	4.0%	
Complete documentation (see System QI P&P)	90.0%	4.0%	
Respiratory Distress			
Mental Status assessed/documented	90.0%	4.0%	
bronchodilator administration for wheezing within 10 minutes	85.0%	4.0%	
Airway Management			
End-tidal CO2 performed on any successful ET intubation	90.0%	4.0%	
Other confirmation techniques (e.g., visualize chords, chest rise, auscultation)	90.0%	4.0%	
Complete documentation (see System QI P&P)	90.0%	4.0%	
STEMI			
ASA administration within 5 minutes	90.0%	4.0%	
SpO2 recorded	95.0%	4.0%	
12 LEAD EKG acquired within 5 minutes	80.0%	4.0%	
Complete documentation (see System QI P&P)	90.0%	4.0%	
Stroke			
Time last seen normal	90.0%	4.0%	
Use of a prehospital BEFAST stroke scale	90.0%	4.0%	
Complete documentation (see System QI P&P)	90.0%	4.0%	
Trauma			
PAM scale recorded	90.0%	4.0%	
Complete documentation (see System QI P&P)	90.0%	4.0%	
Safety			
Protocol compliance rate per chart review (high acuity, AMA/RAS, & random)	90.0%	10.0%	
Patient Satisfaction (use standardized questions to allow inter-agency comparison)			
Degree to which the firefighters took your problem seriously	94.0%	4.0%	
How well the firefighters explained things in a way you could understand	95.4%	4.0%	
Skill of the firefighters	94.1%	4.0%	
Extent to which the firefighters cared for you as a person	94.1%	4.0%	
Professionalism of the firefighters	94.1%	4.0%	
ePCR Submission Compliance			
Transfer of Care (TOC) critical ePCR elements completed within 10 minutes of patient departure from scene	90.0%	3.0%	
Full ePCR completed within 24 hours	100.0%	3.0%	
Total Standards		100.0%	

Green: Meet/Exceed Goal
Orange: 0-20% Below Goal
Red: >20% Below Goal

- Criteria**
- 1) Measurable
 - 2) Must be improvable
 - 3) Reflect value to the patient



Santa Cruz County EMS Agency Reference Materials

Santa Cruz County Transport Report Card			
Criterion	Goal	Weighted Value	Score
Cardiac Arrest			
End-tidal CO2 monitored	90.0%	3.0%	
Complete documentation (see System QJ P&P)	90.0%	3.0%	
Respiratory Distress			
Mental Status assessed/documented	90.0%	3.0%	
bronchodilator administration for wheezing	85.0%	3.0%	
Airway Management			
End-tidal CO2 performed on any successful ET intubation	90.0%	3.0%	
Other confirmation techniques (e.g., visualize chords, chest rise, auscultation)	90.0%	3.0%	
Complete documentation (see System QJ P&P)	90.0%	3.0%	
STEMI			
ASA administration	90.0%	3.0%	
SpO2 recorded	95.0%	3.0%	
12 LEAD EKG acquired within 5 minutes	80.0%	3.0%	
Scene time less than 15 minutes	80.0%	3.0%	
Transport to STEMI center rate (with notification)	95.0%	3.0%	
Complete documentation (see System QJ P&P)	90.0%	3.0%	
Stroke			
Time last seen normal	90.0%	3.0%	
Use of a prehospital BEFAST stroke scale	90.0%	3.0%	
Scene time less than 15 minutes	80.0%	3.0%	
Complete documentation (see System QJ P&P)	90.0%	3.0%	
Trauma			
PAM scale recorded	90.0%	3.0%	
Scene time less than 15 minutes	50.0%	3.0%	
Trauma center destination	90.0%	3.0%	
Complete documentation (see System QJ P&P)	90.0%	3.0%	
Safety			
Employee injuries per 10,000 hours worked	1.00	2.0%	
Employee turnover rate	25.0%	8.0%	
Protocol compliance rate per chart review (high acuity, AMA/RAS, & random)	90.0%	10.0%	
Patient Satisfaction (use standardized questions to allow inter-agency comparison)			
Communication by medics (patient and family)	97.2%	3.0%	
Care shown by the ambulance crew	94.4%	2.0%	
Skill and professionalism of our ambulance crew	93.8%	2.0%	
Cleanliness of ambulance	94.1%	2.0%	
Ride of the ambulance	92.3%	2.0%	
ePCR Submission Compliance			
At time of patient drop off (over 90 days)	90.0%	2.0%	
High acuity (ROSC, STEMI, Stroke, Trauma) cases at time of drop off	95.0%	2.0%	
Completed within 24 hours	100.0%	2.0%	
Total Standards		100.0%	

Green: Meet/Exceed Goal	Criteria
Orange: 0-20% Below Goal	1) Measurable
Red: >20% Below Goal	2) Must be improvable
	3) Reflect value to the patient