

POLICY #400: STEMI RECEIVING CENTER DESIGNATION

I. PURPOSE

- A. To define requirements for designation as a STEMI Receiving Center in the County of San Luis Obispo (SLO).

II. SCOPE

- A. This policy applies to all hospitals in the County of SLO seeking designation as a STEMI Receiving Center.

III. DEFINITIONS/GLOSSARY

- Percutaneous Coronary Intervention (PCI): A broad group of percutaneous techniques utilized for the diagnosis and treatment of patients with STEMI.
- STEMI: An acute myocardial infarction that generates a specific type of ST-segment elevation on a 12-lead ECG.
- “STEMI Alert”: A report from prehospital personnel that notifies a STEMI Receiving Center as early as possible that a patient has a specific computer-interpreted prehospital 12-lead ECG indicating a STEMI, allowing the SRC to initiate the internal procedures to provide appropriate and rapid treatment interventions.
- STEMI Receiving Center (SRC): A facility licensed for cardiac catheterization laboratory and approved to operate as an SRC by the County of SLO Emergency Medical Services Agency (EMS Agency).
- STEMI Referral Hospital (SRH): An acute care hospital in the County of SLO that is not designated as a STEMI Receiving Center.

IV. POLICY

- A. To be designated as a SRC in the County of SLO, a hospital must meet the following requirements:
 - 1. Possess current California licensure as an acute care facility providing Basic Emergency Medical Services.
 - 2. Hold current status as a Base Hospital in the County of SLO.
 - 3. Have the ability to enter into a written agreement with the County of SLO identifying SRC and County roles and responsibilities.
 - 4. Agree to accept all EMS patients meeting STEMI patient triage criteria and all “STEMI Alert” patients transferred from other County of SLO hospitals (except when on diversion due to a declared hospital in-house internal disaster), and provide a plan for the triage and treatment of simultaneously presenting STEMI patients regardless of ICU/CCU or ED saturation status.

5. Meet SRC designation requirements as defined in the County of SLO EMS Agency SRC Designation Criteria Application and Evaluation matrix (Attachment A) which includes:
 - a. Hospital Services including:
 - (1) Special permit for cardiac catheterization laboratory pursuant to the provisions of Title 22, Division 5, of the California Code of Regulations.
 - (2) Intra-aortic balloon pump capability with necessary staff available 24 hours a day 7 days a week 365 days a year.
 - (3) California permit for cardiovascular surgery or a written plan for emergency transport to a facility with cardiovascular surgery available with timely (within 1 hour) transfer steps and agreements.
 - (4) Continuous availability of PCI resources 24 hours a day 7 days a week 365 days a year.
 - (5) Dedicated priority "Specialty Care" phone line available 24 hours a day 7 days a week 365 days a year to be used for pre-hospital communication regarding "STEMI Alert" patients and for notifications of "STEMI Alert" transfers from other hospitals.
 - b. Hospital Personnel including:
 - (1) SRC Medical Director who must be board-certified in Internal Medicine with a sub-specialty in cardiovascular disease.
 - (2) SRC Program Manager who must be an RN.
 - (3) Cardiac Catheterization Lab Manager/Coordinator who must be an RN if not directly reporting to the SRC Program Manager.
 - (4) A daily roster of interventional cardiologists who must:
 - (a) Be available and present in the SRC within 30 minutes of the activation of the SRC's internal STEMI/PCI system.
 - (b) Have privileges in PCI.
 - (5) A daily roster of cardiovascular surgeons who must be available and present in the SRC within 30 minutes of documented request, or SRCs without cardiovascular surgery capability must have written transfer guidelines and a plan for emergency transfer within 1 hour if medically necessary.
 - (6) Other personnel who must be promptly available and present in the SRC within 30 minutes of the activation of the SRC's internal STEMI/PCI system including:
 - (a) Appropriate cardiac catheterization nursing and support personnel.
 - (b) RN or CV Perfusionist trained in intra-aortic balloon pump management.
 - c. Clinical Requirements including:

- (1) ACC/AHA guidelines for activity levels of facilities and practitioners for both primary PCI and total PCI events are adopted herein and may require period updating:
 - (a) Interventionalist must perform a minimum of 11 primary PCI procedures and 75 PCI procedures per year.
 - (b) SRC must perform a minimum of 36 primary PCI procedures and 200 total PCI procedures annually.
 - (2) Performance (timeliness) and outcome measures will be assessed initially in the survey process, and will be monitored closely on an ongoing basis by the SRC and the EMS Agency through a Performance Improvement Program for EMS Patients (Item 5.e below).
- d. Policies and Procedures including:
- (1) Cardiac interventionalist activation
 - (2) Cardiac catheterization lab team activation
 - (3) STEMI contingency plans for personnel and equipment
 - (4) Coronary angiography
 - (5) PCI and use of fibrinolytics
 - (6) Inter-facility transfer policies/protocols for STEMI
 - (7) Transfer agreements for cardiac surgery, as appropriate
 - (8) STEMI patient triage
- e. Performance Improvement Program for EMS Patients including:
- (1) An SRC must provide two representatives to participate in the EMS Agency STEMI Quality Improvement (QI) Committee:
 - (a) A QI representative
 - (b) A cardiologist
 - (2) An SRC will hold routine multidisciplinary meetings that must include representatives from SRHs, County of SLO prehospital providers and the EMS Agency.
 - (3) An SRC must implement a written internal SRC QI plan/program with an internal review process that includes:
 - (a) Door-to Balloon times
 - (b) Death rate (within 30 days, related to procedure regardless of mechanism)
 - (c) Compliance
 - (d) Emergency CABG rate (result of procedure failure or complication)
 - (e) Vascular complications (access site, transfusion, coronary perforation or operative intervention required)
 - (f) Cerebrovascular accident rate (peri-procedure)
 - (g) Post-procedure nephrotoxicity (increase in serum

- creatinine of >0.5)
 - (h) Sentinel event, system and organization issue review and resolution processes
 - (4) A SRC must participate in prehospital STEMI-related educational activities as may be required by the EMS Agency
 - f. Data Collection, Submission and Analysis including:
 - (1) A SRC must participate in the National Cardiac Data Registry (NCDR).
 - (2) A SRC must participate in EMS Agency data collection as defined in Attachment B: Data Requirements for STEMI Receiving Centers.
 - B. A hospital may lose its designation as an SRC for one or more of the following reasons:
 - 1. Inability to meet and maintain SRC Designation Criteria
 - 2. Failure to provide required data
 - 3. Failure to participate in STEMI System QI activities
 - 4. Other criteria as defined and reviewed by the EMS Agency STEMI QI Committee
- V. PROCEDURE
- A. To apply for designation as a SRC in the County of SLO, a Base Hospital must pay the initial application fee and submit an application for designation to the EMS Agency.
 - B. SRC designation may be awarded to a hospital following a satisfactory review of written documentation, an initial site survey by EMS Agency staff and a cardiologist from out of the area, and designation approval by the EMS Agency.
 - C. The SRC designation period will coincide with the period covered in a written agreement between the SRC and the County of San Luis Obispo.
- VI. AUTHORITY
- Health and Safety Code, Division 2.5, Sections 1798, 1798.101, 1798.105, 1798.2
 - California Code of Regulations, Title 22, Section 100175
- VII. ATTACHMENTS
- A. Application and Evaluation Matrix
 - B. Data Requirements for STEMI Receiving Center

STEMI Application and Evaluation Matrix

STEMI Receiving Center Designation Requirements	Objective Measurements	Meets Requirements	Comments	Send w/ application	On file with EMSA	Review at site visit
Hospital Services						
A. Current License to provide Basic Emergency Services in San Luis Obispo County	Copy of License	YES NO	Required for designation			X
B. A Base Hospital in San Luis Obispo County	Have entered into a signed Base Hospital Agreement with County of San Luis Obispo	YES NO	Required for designation		X	
C. Participate in a written agreement with San Luis Obispo County identifying the SRC and County roles and responsibilities	Willingness to enter into a signed agreement with designation (in LOI)	YES NO	Required for designation	X		
D. Agree to accept all EMS patients meeting STEMI patient triage criteria except when on internal disaster and a plan for the triage and treatment of simultaneously presenting STEMI patients, regardless of ICU/CCU or ED status	Willingness to accept EMS STEMI patients per policy (in LOI)	YES NO	Required for designation	X		
E.1.a. Cardiac Catheterization Laboratory Services	Copy of License, Number of Cath labs _____ on license	YES NO	Required for designation			X
E.1.b. Intra-aortic balloon capability with staffing to operate 24/7/365	Intra-aortic balloon pump capability: # of patients _____; Staffing policies/procedures to support operations	YES NO	Required for designation	X		
E.1.c. Cardiovascular Surgery (desired)	Calif. Permit number with effective and expiration dates. Number of suites on license _____	YES NO	Desired for designation			X
E.1.c. If no cardiac surgery capability must have: a. Plan for emergency transfer b. Plan to transfer within 1 hour c. Written transfer guidelines and agreements for services (E.4.g.)	Plan, policies/procedures with estimated travel times Supporting policies/procedures Transfer facilities identified	YES NO YES NO YES NO	Required for hospital without CV services; Written guidelines, policies and procedures for rapid transfer of patients requiring additional care - including elective are emergency cardiac surgery or PCI Required if no CV surgery Required if no CV surgery	X		
E.1.d. Cardiac catheterizations laboratory available 24/7/365	On-call schedule for 3 mo. On-call Policy/procedure	YES NO	Required for designation			X
E.1.e. Priority "Specialty Care" phone line	Dedicated, reliable telephone/radio line; Policies /Procedures supporting priority intake information and prompt response	YES NO	Required for designation	X		X

STEMI Receiving Center Designation Requirements	Objective Measurements	Meets Requirements	Comments	Send w/ application	On file with EMSA	Review at site visit
Hospital Personnel						
E.2.a. SRC Program Medical Director	Name and contact information	YES NO	Required for designation	X		
Qualifications						
1. Board Certified Internal Medicine with subspecialty in Cardiovascular Disease	Copy of current Board Certification	YES NO	Required for designation			X
2. Credentialed member of medical staff with privileges for Primary PCI	Medical Staff Office Confirmation	YES NO	Required for designation			X
Responsibilities						
1. Oversight STEMI Program patient care	Job/Program Description	YES NO	Required for designation	X		
2. Coordinating staff and services						
3. Authority and accountability for CQI						
4. Participates in protocol development						
5. Establishes and monitors quality control, including morbidity and mortality						
6. Participates in SLO EMSA STEMI QI Committee						
E.2.b. SRC RN Program Manager	Name and contact information	YES NO	Required for designation	X		
Qualifications	Job/Program Manager description					
1. Licensed RN with STEMI Experience						
Responsibilities						
1. Support SRC Medical Director	RN License and CV	YES NO	Required for designation	X		
2. Act as EMSA-STEMI program liaison	Evidence of time allotted to position					
3. Assure EMSA- Facility STEMI data sharing	Policy/Procedures					
4. Manage EMSA-Facility STEMI QI activities						
5. Establishes and monitors quality control including morbidity/mortality						
6. Facilitates timely feedback to field providers						
E.2.c. Cardiac Catheterization Lab Manager	Job Description: this position should be an RN if not directly reporting to the SRC program manager	YES NO	Required for designation	X		

STEMI Receiving Center Designation Requirements	Objective Measurements	Meets Requirements	Comments	Send w/ application	On file with EMSA	Review at site visit
E.2.d. & e. Physician Consultants:						
1. Cardiology Interventionalist	On-call schedules X 3 months Medical Staff Confirmation of Current Board Cert in Cardiovascular Disease	YES NO	Required for designation			X
2. Cardiovascular Surgeon OR 2. CV Surgery Agreements with another facility	On-call schedules X 3 months Written transfer guidelines and plan for emergency transfer to CV Surgery within one hour	YES NO	Required for designation			X
E.2.f Other appropriate personnel	On-call schedule for 3 mo. On-call Policy /procedure	YES NO	Required for designation	X		
i. Cardiac catheterization nursing and support staff				X		
ii. RN or CV Perfusionist trained in intra-aortic balloon management	Job Description	YES NO	Required for designation	X		
Clinical Requirements						
E.3., Clinical Volume Capabilities						
1. Average volume of past 3 years - evaluated	Roster of On-call "STEMI" interventionalist with annual case total volume for all PCIs and PCIs for STEMI volume for 2006-2008	YES NO	Required for designation	X		
2. Annual case total volume for all PCI cases and primary PCI cases for 2006-2008 by all Interventionalist	Primary and Total PCI volume by physician on call list (ED)Door-to-balloon times for last 100 cases Acute MI (AMI) report	YES NO	Required for designation - may be met at through more than one facility Required for designation AHA/ACC recommendation -Door-to Balloon Times <90 min (75% compliance) If Fibrinolysis administered - # given within 30 min	X		
E.3.a. Physician Volume		YES NO		X		
E.3.b., Process Performance		YES NO		X		
		YES NO		X		
	Primary Intervention Report	YES NO		X		

STEMI Receiving Center Designation Requirements	Objective Measurements	Meets Requirements	Comments	Send w/ application	On file with EMSA	Review at site visit
Policies and Procedures						
E.4.a. Cardiac Interventionalist Activation	Policy/procedures Internal policies that support STEMI Alert - activation of personnel and resources	YES NO	Required for designation Required internal policies defining which patients receive emergency angiography and those that receive emergent fibrinolysis - based on physician decision for individual patients	X		
E.4.b. Cardiac catheterization laboratory team activation	Policy and Procedures	YES NO	Required	X		
E.4.c. STEMI contingency plan for simultaneously presenting STEMI patients or when on internal disaster diversion	Policies/procedures	YES NO	Required for designation Expectation of No Diversion	X		
E.4.d. Coronary Angiography	Policies/procedures and/or guidelines	YES NO	Required for designation	X		
E.4.e. PCI and use of Fibrinolytics	Policies/procedures and/or guidelines	YES NO	Required for designation - process by which PCI and/or fibrinolytic therapy can be delivered rapidly to meet the following protocols: Door-to balloon time with in 90 min of ED arrival and Fibrinolysis within 30 min of ED arrival for appropriate patients	X		
E.4.f. Inter-facility transfer agreements, policies/procedures	Copy of cooperative transfer agreements and policies/procedures listing all collaborating hospitals and for what type of services	YES NO	Required for designation List of facilities and description of cooperative agreements (SCR and SRH) for cardiovascular surgery and PCI within STEMI time frame standards	X		
E.4.g. Transfer plan and agreements for cardiovascular surgery, as appropriate	Policies/procedures to transfer if program not available	YES NO	Required for designation - for facilities without CV surgery	X		
E.4.h. STEMI patient triage	Policies/procedures and/or guidelines	YES NO	Required for designation	X		

STEMI Receiving Center Designation Requirements	Objective Measurements	Meets Requirements	Comments	Send w/ application	On file with EMSA	Review at site visit
Performance Improvement Program for EMS Patients						
E.5.a. Designate QI representative and Cardiologist to participate on EMSA SRC QI committee	Identify QI representative and cardiologist	YES NO	Ongoing expectation	X		
E.5.b Regular Multidisciplinary Review Meetings	Provide a program including representation of STEMI Referral Hospitals and prehospital EMS personnel	YES NO	Required for Designation Ongoing expectation	X		
E.5.c. Internal QI Plan/Program	M&M peer review protocol/program description to deal with: Door-to-Balloon times Death Compliance Emergency CABG rate Vascular complications Cerebrovascular Accident rate Post-procedure nephrotoxicity Sentinel Events System/Organizational Issues	YES NO	Required for Designation Ongoing expectation	X		
E.5. d. Pre-hospital Review Program	Provide a program description of support to EMS personnel to Include: Timely pre-hospital feedback Pre-hospital education Cooperative STEMI QI data management	YES NO	QI Plan or policy required for initial designation Ongoing expectation Data collection and management based on STEMI EMSA data elements (See addendum A)	X		

STEMI Receiving Center Designation Requirements	Objective Measurements	Meets Requirements	Comments	Send w/ application	On file with EMSA	Review at site visit
Data Collection, Submission and Analysis						
E.6.a. Participate and provide data for National Cardiac Data registry (NCDR)	Member of NCRD Registry: cath lab, STEMI PCI module (In LOI) See Appendix A - EMSA Data Element	YES NO	Required for designation	X		
E.6.b. Participate with SLO EMSA, Inc. data collection	Procedure in place to collect EMSA Data elements See Appendix A	YES NO	Required for designation - Name and contact information of responsible personnel	X		
E.6. Quarterly STEMI QI Committee data report	Willingness to provide EMSA data reports (In LOI) Data due 3 mos. from end of previous quarter See EMSA data elements - Appendix A	YES NO	Ongoing expectation - not required pre-designation	X		
E.6. Annual SRC Report completed and submitted	Willingness to provide EMSA data report elements (In LOI) Report due 3 mos. from year end See EMSA data elements - Appendix A	YES NO	Ongoing expectation - not required pre-designation	X		
E.6. Implement future data elements for STEMI system performance improvement	Commit to ongoing development and implementation of future STEMI system evaluation data elements (In LOI)	YES NO	Ongoing expectation - not required pre-designation	X		

STEMI Data Requirements

Appendix A Data Requirements for STEMI Receiving Centers		
Participate in NCDR Data Registry	<p>NCDR aggregate data to be reported:</p> <p>Quarterly (raw) with adjusted data from NCDR when available to include all primary PCI interventions (EMS and non-EMS)</p> <ul style="list-style-type: none"> > Number of patients with primary PCI interventions > Median door-to intervention interval <p>Percentage and numerator/denominator of patient counts for the following:</p> <ul style="list-style-type: none"> > STEMI Mortality > PCI Mortality > Procedural success > Vascular complications > ASA upon arrival within 24 hours > Beta-blockers upon arrival within 24 hours > ASA on discharge > Beta-blockers on discharge > ACE inhibitors or ARM in patients with Ejection Fraction < 40% on discharge 	<p>Data shall be submitted within 3 months of the completion of the calendar quarter</p> <p>Data elements may evolve over time</p>
Participation in SLO County EMSA Data Collection	<p>EMS data Elements</p> <ul style="list-style-type: none"> > STEMI Alert Called by EMS (yes/no/unknown) > ED ECG STEMI (yes/no/unknown) > ED arrival time and date > Intervention done (PCI, thrombolysis or none) > Intervention time and date 	<p>Data submitted monthly by the 15th of the following month</p> <p>Data elements may evolve over time</p>
Quarterly STEMI Committee Data Reports	<p>EMS Data Report Elements</p> <ul style="list-style-type: none"> > Number of EMS Stem Alerts > Number of interfacility STEMI Alert patients > Number of confirmed STEMI (if those with alert) > Number of interventions and Type (PCI to thrombolysis) > EMS Contact-to-intervention interval (median) by type in minutes (PCR - "patient contact" to "10-7") > Door -to-intervention interval (median) by type in minutes > Percentile of door-to-intervention 90 minutes or less - include numerator and denominator > Percentile of thrombolysis 30 min or less - include numerator and denominator 	<p>Data shall be submitted within 3 months of calendar quarter</p> <p>Reports may evolve based on QI findings and data element changes</p>
Annual STEMI QI Report	<ul style="list-style-type: none"> > EMS Data report summary > NCDR data elements - summary > Cardiologist Primary and Total PCI volume/year for those treating EMS-transported patients > Total time and number of episodes catheterization lab unable to function 	<p>Data shall be submitted within 3 months of completion of calendar year</p>