



POLICY NO:	FAC – 9
EFFECTIVE:	11/2019

STEMI SYSTEM RECEIVING CENTER STANDARDS AND DESIGNATION

I. Purpose

To define the criteria for designation as a STEMI Receiving Center in San Mateo County.

II. Authority

Health and Safety Code, Division 2.5, Sections 1791.102, 1797.100, 1797.102, 1797.103, 1797.104, 1797.107, 1797.114, 1797.174, 1797.176, 1797.200, 1797.202, 1797.204, 1797.206, 1797.214, 1797.220, 1797.222, 1797.250, 1797.254, 1797.540, 1798.150, 1798.167, 1798.170, 1798.172, and 1798.175.; California Code of Regulations, Title 22. Social Security, Division 9. Prehospital Emergency Medical Services, Chapter 7.1 ST-Elevation Myocardial Infarction Critical Care System.

III. Definitions

Cardiac Catheterization Laboratory (“Cath lab”): The setting within the hospital where diagnostic and therapeutic procedures are performed on patients with cardiovascular disease.

Cardiac Catheterization Team: The specially trained health care professionals that perform percutaneous coronary intervention. It may include, but is not limited to, an interventional cardiologist, mid-level practitioners, registered nurses, technicians, and other health care professionals.

CARES: Cardiac Arrest Registry to Enhance Survival.

Clinical Staff: Individuals that have specific training and experience in the treatment and management of ST-Elevation Myocardial Infarction (STEMI) patients. This includes, but is not limited to, physicians, registered nurses, advanced practice nurses, physician assistants, pharmacists, and technologists.

Emergency Medical Services Authority [or “EMS Authority” / “EMSA”]: The department in California responsible for the coordination and integration of all state activities concerning EMS.

Immediately Available:

- A. Unencumbered by conflicting duties or responsibilities.
- B. Responding without delay upon receiving notification.

APPROVED:

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- C. Being physically available to the specified area of the hospital when the patient is delivered in accordance with EMS Agency policies and procedures.

Implementation [or “implemented” / “has implemented”]: The development and activation of a STEMI Critical Care System Plan by the EMS Agency, including the prehospital and hospital care components in accordance with the plan.

Interfacility Transfer: The transfer of a STEMI patient from one acute general care facility to another acute general care facility.

Local Emergency Medical Services Agency [or “EMS Agency”]: the agency, department, or office having primary responsibility for administration of emergency medical services in a county or region and which is designated pursuant Health and Safety Code commencing with section 1797.200. The San Mateo County EMS Agency is the Local Emergency Medical Services Agency for San Mateo County.

PCR Viewer: A proprietary product furnished at no cost by American Medical Response which allows the receiving hospital to view and obtain a copy of the prehospital patient care record for the STEMI patient.

Percutaneous Coronary Intervention (PCI): A procedure used to open or widen a narrowed or blocked coronary artery to restore blood flow supplying the heart, usually done on an emergency basis for a STEMI patient.

Quality Improvement (QI): Methods of evaluation that are composed of structure, process, and outcome evaluations that focus on improvement efforts to identify root causes of problems, intervene to reduce or eliminate these causes, and take steps to correct the process, and recognize excellence in performance and delivery of care.

ST Segment Elevation Myocardial Infarction (STEMI): A clinical syndrome defined by symptoms of myocardial infarction in association with ST-segment elevation on Electrocardiogram (ECG).

STEMI Critical Care System [or STEMI Care System]: An integrated prehospital and hospital program that is intended to direct patients with field or Referral Hospital identified STEMI directly to hospitals with specialized capabilities to promptly treat these patients.

STEMI Care: Emergency cardiac care, for the purposes of these regulations.

STEMI Information System: The computer information system maintained by each SRC which captures the presentation, diagnostic, treatment and outcome data sets required by the EMS Agency and the SRC Standards.

STEMI Medical Director: A qualified board-certified physician by the American Board of Medical Specialties (ABMS) as defined by the EMS Agency and designated by the hospital that is responsible for the STEMI program, performance improvement, and patient safety programs related to a STEMI critical care system.

STEMI Patient: A patient with symptoms of myocardial infarction in association with ST-Segment Elevation in an ECG.

STEMI Program: An organizational component of the hospital specializing in the care of STEMI patients.

STEMI Program Manager: A registered nurse or qualified individual as defined by the EMS Agency, and designated by the hospital responsible for monitoring, coordinating and evaluating the STEMI program.

STEMI Quality Improvement Committee: The confidential multi-disciplinary peer-review committee, comprised of representatives from the STEMI Receiving Centers (SRC), STEMI Referral Hospitals (SRH) and other professionals designated by the EMS Agency, which audits the STEMI Critical Care System, makes recommendations for system improvements, and functions in an advisory capacity to the EMS Agency on other STEMI and cardiac care system issues. Committee members designated by the EMS Agency may include, but are not limited to, SRC medical directors and program managers, representatives from SRH, interventional and non-interventional cardiologists, emergency medicine sub-specialists, and representatives from ground and air emergency medical services providers.

STEMI Receiving Center (SRC): A licensed general acute care facility that meets the minimum hospital STEMI care requirements pursuant to Section 100270.124 and can perform PCI.

STEMI Receiving Center Services: The customary and appropriate hospital and physician services provided by a SRC to STEMI patients, which, at a minimum, meet SRC Standards.

STEMI Referral Hospital (SRH): A licensed general acute care facility that meets the minimum hospital STEMI care requirements pursuant to Section 100270.125.

STEMI Team: Clinical personnel, support personnel, and administrative staff that function together as part of the hospital's STEMI program.

IV. Policy

A STEMI Receiving Center (SRC), approved and designated by San Mateo County EMS Agency shall meet the following requirements:

A. STEMI Receiving Center Requirements

1. The hospital shall have established protocols for triage, diagnosis, and cath lab activation following field notification.
2. The hospital shall have a single call activation system to activate the cardiac catheterization team directly.
3. Written protocols shall be in place for the identification of STEMI patients.
4. At a minimum, these written protocols shall be applicable in the intensive care unit/coronary care unit, cath lab and the emergency department.

5. The hospital shall be available for treatment of STEMI patients twenty-four (24) hours per day, seven (7) days per week, three hundred and sixty-five (365) days per year.
 6. The hospital shall have a process in place for the treatment and triage of simultaneously arriving STEMI patients.
 7. The hospital shall maintain STEMI team and Cardiac Catheterization Team call rosters.
 8. The Cardiac Catheterization Team, including appropriate staff determined by the EMS Agency, shall be immediately available.
 9. The hospital shall agree to accept all STEMI patients according to the local policy.
 10. STEMI receiving centers shall comply with the requirement for a minimum volume of procedures for designation required by the EMS Agency.
 11. The hospital shall have a STEMI program manager and a STEMI medical director.
 12. The hospital shall have job descriptions and organizational structure clarifying the relationship between the STEMI medical director, STEMI program manager, and the STEMI team.
 13. The hospital shall participate in and comply with all aspects of the EMS Agency quality improvement processes related to a STEMI critical care system.
 14. A STEMI receiving center without cardiac surgery capability on-site shall have a written transfer plan and agreements for transfer to a facility with cardiovascular surgery capability.
 15. A STEMI receiving center shall have reviews by EMS Agency or other designated agency conducted at least every three years.
- B. STEMI Referring Hospital Requirements
1. The hospital shall be committed to supporting the STEMI Program.
 2. The hospital shall be available to provide care for STEMI patients twenty-four (24) hours per day, seven (7) days per week, three hundred and sixty-five (365) days per year.
 3. Written protocols shall be in place to identify STEMI patients and provide an optimal reperfusion strategy, using fibrinolytic therapy.
 4. The emergency department shall maintain a standardized procedure for the treatment of STEMI patients.
 5. The hospital shall have a transfer process through interfacility transfer agreements and have pre-arranged agreements with EMS ambulance providers for rapid transport of STEMI patients to a SRC.

6. The hospital shall have a program to track and improve treatment of STEMI patients.
7. The hospital must have a plan to work with a STEMI receiving center and the EMS Agency on quality improvement processes.
8. A STEMI referring hospital designated by the EMS Agency shall have a review conducted at least every three years.

C. Personnel

1. SRC Medical Director
 - a. The SRC shall designate a medical director for the STEMI program who shall be a physician certified by the American Board of Internal Medicine (ABIM) with current ABIM sub-specialty certification in Cardiovascular Disease and Interventional Cardiology who will ensure compliance with these SRC standards and perform ongoing Quality Improvement (QI) as part of the hospital QI Program.
 - b. The SRC Medical Director must be a credentialed member of the medical staff with PCI privileges.
2. SRC Program Manager

The SRC shall designate a program manager for the STEMI program who shall have experience in Emergency Medicine or Cardiovascular Care, who shall assist the SRC Medical Director to ensure compliance with these SRC standards and the QI program.
3. Cardiovascular Lab Coordinator

The SRC shall have a Cardiovascular Lab Coordinator who shall assist the SRC Medical Director and the SRC Program Manager to ensure compliance with these SRC Standards and the QI Program.
4. Physician Consultants

The SRC shall maintain a daily roster of on-call Interventional Cardiologists with privileges for PCI and credentialed by the hospital in accordance with the American College of Cardiology/American Heart Association national standards. This requirement may be waived by EMS Agency for physicians with SRC primary privileges if the following are met:

 - a. Board certified by the ABIM with subspecialty certification in cardiovascular disease;
 - b. Demonstrated lifetime minimum of 500 PCI procedures and 11 primary or 75 PCI Annually.
 - c. These physicians must respond immediately upon notification and be available within 30 minutes of when a STEMI patient presents to the hospital.
 - d. The SRC will submit a list of Cardiologists with active PCI privileges to the EMS Agency annually.

D. Clinical Process Performance Standard

1. The overall goal of the STEMI Care System in San Mateo County is to minimize the interval between first medical contact to coronary artery reperfusion.
2. SRCs will adopt evidence-based strategies to reduce time to reperfusion.
3. An on-going internal quality improvement process, including data measurements and feedback from STEMI patients and SRHs.

E. Additional Requirements

Internal policies and procedures shall be developed for the following:

1. STEMI Alert: Through a “one call” process, the interventional cardiologist and cardiac catheterization lab team will be immediately contacted upon notification by prehospital personnel that they are transporting a patient on whom a 12-lead ECG that has been interpreted as an “Acute MI Suspected” or “Meets ST Elevation MI Criteria.”
2. Interventional cardiologist and cardiac catheterization laboratory staff will be required to respond immediately upon notification and have a response time standard of 20-30 minutes.
3. Emergency medicine physicians will have the authority to activate the cardiac catheterization laboratory staff.
4. Allow the automatic acceptance of any STEMI patient from a San Mateo County hospital upon notification by the transferring physician.
5. That an interventional cardiologist assumes care of the patient from the time the patient arrives at the SRC.
6. To accept all patients meeting STEMI patient triage criteria or upon transfer notification from a STEMI Referral Hospital, except when on an internal disaster, and provide a plan for triage and treatment of simultaneously presenting STEMI patients, regardless of ICU/CCU or ED status.
7. Criteria for patients to receive emergent angiography or emergent fibrinolysis based on physician decisions for individual patients.
8. Data listed in Appendix B of this policy, also referred to as the STEMI data dictionary, shall be collected on an ongoing basis and provided to the EMS Agency.
9. Data will be entered into the EMS Agency approved collection systems and submitted monthly, by no later than the 15th calendar day of the following month. The EMS Agency specified data system at the present time is *Get with the Guidelines CAD*.
10. In consultation with the STEMI CQI Committee, EMS will update the data dictionary and/or identify another process to expedite data submission and reduce duplication.

F. Data Management

1. In accordance with Title 22, Division 9, Chapter 7.1 – ST-Elevation Myocardial Infarction Critical Care System regulations, data listed in this section shall be collected on an ongoing basis and provided to the EMS Agency.
2. Data will be entered into the EMS Agency approved collection system and submitted monthly, by no later than the 15th calendar day of the following month.
3. In consultation with the STEMI CQI Committee, EMS will update the data dictionary and/or identify another process to expedite data submission and reduce duplication.
 - a. The STEMI patient data elements:
 - i. EMS ePCR Number
 - ii. Facility
 - iii. Name: Last, First
 - iv. Date of Birth
 - v. Patient Age
 - vi. Patient Gender
 - vii. Patient Race
 - viii. Hospital Arrival Date
 - ix. Hospital Arrival Time
 - x. Dispatch Date
 - xi. Dispatch Time
 - xii. Field ECG Performed
 - xiii. 1st ECG Date
 - xiv. 1st ECG Time
 - xv. Did the patient suffer out-of-hospital cardiac arrest
 - xvi. Cath Lab Activated
 - xvii. Cath Lab Activation Date
 - xviii. Cath Lab Activation Time
 - xix. Did the patient go to the Cath Lab
 - xx. Cath Lab Arrival Date
 - xxi. Cath Lab Arrival Time
 - xxii. PCI Performed
 - xxiii. PCI Date.
 - xxiv. PCI Time
 - xxv. Fibrinolytic Infusion
 - xxvi. Fibrinolytic Infusion Date
 - xxvii. Fibrinolytic Infusion Time
 - xxviii. Transfer
 - xxix. SRH ED Arrival Date
 - xxx. SRH ED Arrival Time
 - xxxi. SRH ED Departure Date
 - xxxii. SRH ED Departure Time
 - xxxiii. Hospital Discharge Date
 - xxxiv. Patient Outcome
 - xxxv. Primary and Secondary Discharge Diagnosis

- b. The STEMI patient data elements:
 - i. Number of STEMIs treated.
 - ii. Number of STEMI patients transferred.
 - iii. Number and percent of emergency department STEMI patients arriving by private transport (non-EMS).
 - iv. The false positive rate of EMS diagnosis of STEMI, defined as the percentage of STEMI alerts by EMS which did not show STEMI on ECG reading by the emergency physician.

G. Quality Improvement and Evaluation Process

1. The Quality Improvement program will include a process to review all cases of STEMI patients taken to the catheterization laboratory at the end of the procedure and provide immediate feedback to the staff in the emergency department and the catheterization laboratory – prior to the end of that shift. Additionally, formal feedback utilizing the standardized format designated by the EMS Agency will be provided to any prehospital agency or SRH that participated in the care of a “STEMI Activation” patient, within 72 hours. Approved feedback back forms include the Mission: Lifeline Feedback Report in *Get with the Guidelines CAD* and the San Mateo County EMS Agency STEMI Feedback Form (see Appendix A).
2. A SRC QI program shall be established, maintained, and conducted to review performance and outcome data for STEMI patients.
3. The SRC will actively participate in the EMS Agency STEMI QI Program. This will require regular meeting attendance by the SRC Medical Director or designee, who will be a staff interventional cardiologist, and the SRC Program Manager.
4. A quality improvement process shall include, at a minimum:
 - a. Evaluation of program structure, process, and outcome;
 - b. Review of STEMI-related deaths, major complications, and transfers;
 - c. A multidisciplinary STEMI Quality Improvement Committee, including both prehospital and hospital members;
 - d. Participation in the QI process by all designated STEMI centers and prehospital providers involved in the STEMI critical care system;
 - e. Evaluation of regional integration of STEMI patient movement; and
 - f. Compliance with the California Evidence Code, Section 1157.7 to ensure confidentiality, and a disclosure-protected review of selected STEMI cases.

V. **Procedure**

A. Designation

A SRC may be designated following satisfactory review of written documentation and a site survey, when deemed necessary, by the SMC-EMSA.

1. Application: Eligible hospitals shall submit a written letter of intent and request for SRC approval to the SMC-EMSA, as well as complete a formal application documenting the compliance of the hospital with EMS Agency SRC Standards.
2. Approval: SRC approval or denial shall be made in writing by the EMS Agency to the requesting hospital within a reasonable time (30 days) after receipt of the request for approval, application completion and submission of all required documentation.

B. Re-designation

1. EMS Agency may suspend or revoke the approval of a SRC at any time for failure to comply with any applicable policies, procedures, or regulations.
2. An SRC may be re-designated following a satisfactory EMS Agency review in accordance to current standards and the term of the written agreements.
3. SRCs shall receive notification of evaluation from the EMS Agency.
4. SRCs shall respond in writing regarding program compliance.
5. On-site SRC visits for evaluative purposes may occur.
6. SRCs shall notify the EMS Agency by telephone, followed by a letter or email within 48 hours, of changes in program compliance or performance.

C. Discontinuation

The SRC shall submit a written 90 calendar day notice to EMS Agency prior to the discontinuation of SRC services.

Appendix A – San Mateo County EMS Agency STEMI Feedback Form

**San Mateo County EMS Agency
 STEMI Feedback Form (EMS Field Providers & SRCs)**

Case Summary:

Blank area for case summary.

Include pt. demographics, and any relevant case info in summary

Measure	Time
EMS dispatch	
EMS at scene	
EMS w patient	
EMS 12-lead EKG	
EMS departs scene	
Code STEMI alert activated PTA	
ED arrival	
ED EKG	
ISTAT Troponin I	
Stick time	
Revascularization	
D2B	
E2B	

Appendix B – San Mateo County EMS Agency STEMI Data Dictionary

Prehospital Data Element	Hospital Data Element	Element Type	Code Text	Variable Name	Code Value or Format
n/a	Patient ID	Alphanumeric text		patientid	9 characters
Sex	Gender	Single Select	Male Female Unknown	gender	1 2 3
DOB	Date of Birth	Date		dob	MM/DD/YYYY (no future dates)
n/a	Zip Code	Numeric		zip	5
n/a	Payment Source	Single Select	Medicare Medicaid Private/Other Self-Pay/No Insurance	psource	1 2 3 4
Ethnicity	Race	Multi-select	American Indian or Alaska Native Black or African American White Asian Native Hawaiian or Pacific Islander UTD	1 2 3 4 5 6	
n/a	Asian	Multi-select	Asian Indian Chinese Filipino Japanese Korean Vietnamese Other Asian	asian	1 2 3 4 5 6 7
n/a	Native Hawaiian or Pacific Islander	Multi-select	Native Hawaiian Guamanian or Chamorro Samoan Other Pacific Islander	hawaiian	1 2 3 4
n/a	Hispanic Ethnicity	Single Select	Yes No/UTD	hisethni	1 2
n/a	Hispanic Ethnicity Specify	Multi-select	Mexican, Mexican American, Chicano/a	ethnicys	1

Appendix B – San Mateo County EMS Agency STEMI Data Dictionary

			Cuban Puerto Rican Another Hispanic, Latino or Spanish Origin		2 3 4
n/a	Attending Physician/Provider NPI:	Site List Drop Down		npi	Valid NPI
n/a	Arrival Date/Time	Date		arrdt	MM/DD/YYYY HH:MM MM/DD/YYYY
n/a	Admission Date	Date		admdt	MM/DD/YYYY HH:MM MM/DD/YYYY
n/a	Not admitted, transferred out to another acute care facility	Boolean	True False	notadm	1 Blank
n/a	Patient first evaluated	Single select	ED Cath Lab Other	pateval	1 2 3
n/a	Date/Time if ED discharge/transfer out	Date		edtrans	MM/DD/YYYY HH:MM MM/DD/YYYY
n/a	ED Physician	Site List Drop Down		ednpi	Valid NPI
n/a	Cardiac Diagnosis	Single Select	Confirmed AMI – STEMI Confirmed AMI – STEMI/non- STEMI unspecified Unstable Angina Confirmed AMI – non-STEMI Coronary Artery Disease Other	Cardiag	1 2 3 4 5 6
n/a	Means of transport to first facility	Single Select	Air Ambulance Walk-in	meanstrans	1 2 3
Unit	EMS Agency name/number	Site List Drop Down		emsnum	Valid AHA EMS ID

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Case #	Run/Sequence Number	Alphanumeric text		runnum	25
Primary impression or Secondary impression	Cardiac arrest prior to arrival	Single Select	Yes No	capriorarr	1 2
Narrative	Was bystander CPR performed	Single Select	Yes No	bystndcpr	1 2
n/a	Was therapeutic hypothermia initiated during this episode of care	Single Select	Yes No	Hypothermia	1 2
At pt side time	EMS First Medical Contact	Date		emsfirst	MM/DD/YYYY HH:MM MM/DD/YYYY
n/a	Non-EMS First Medical Contact	Date		nonemsfirst	MM/DD/YYYY HH:MM MM/DD/YYYY
n/a	EMS Non-System Reason for Delay	Boolean	True False	emssystdel	1 Blank
Dispatched time	EMS Dispatch	Date		emsdisp	MM/DD/YYYY HH:MM MM/DD/YYYY
At scene time	EMS arrive on scene	Date		emsarr	MM/DD/YYYY HH:MM MM/DD/YYYY
Transport time	EMS depart scene	Date		emsdepart	MM/DD/YYYY HH:MM MM/DD/YYYY
Facility activation	Destination pre-arrival alert or notification	Date		destinpre	MM/DD/YYYY HH:MM MM/DD/YYYY
n/a	Method of 1 st notification	Single Select	ECG transmission Phone call Radio ND	methodnot	1 2 3 4
n/a	Transferred from other facility	Single Select	Yes No	transed	1 2

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n/a	Transferring facility	Site List Drop Down		transfac	Valid AHA ID
n/a	Arrival at first hospital	Date		outhosp	MM/DD/YYYY HH:MM MM/DD/YYYY
n/a	Transport requested	Date		transreq	MM/DD/YYYY HH:MM MM/DD/YYYY
n/a	Transport arrived Date/Time	Date		transarr	MM/DD/YYYY HH:MM MM/DD/YYYY
n/a	Transfer out	Date		transout	MM/DD/YYYY HH:MM MM/DD/YYYY
n/a	Facility the patient was transferred to	Site List Drop Down		faciltrans2	Valid AHA ID
n/a	Mode of transport from outside facility	Single Select	Air Ambulance	modetrans	1 2
n/a	Interfacility transport EMS agency name/number	Site List Drop Down		intertrans	Valid AHA EMS ID
EKG/ECG: 12-Lead	1 st ECG Date/Time	Date		firstecgdt	MM/DD/YYYY HH:MM MM/DD/YYYY
n/a	1 st ECG obtained	Single Select	Prior to hospital arrival After first hospital arrival	firstecgobt	1 2
n/a	1 st ECG non-system reason for delay	Boolean	True False	firstecgsystdel	1 Blank
n/a	STEMI or STEMI equivalent	Single Select	Yes No	stemi	1 2
n/a	If no, other ECG findings	Single select	New or presumed new ST depression Transient ST elevation <20 minutes	othecgfind	1 2
n/a	If yes, STEMI or STEMI equivalent first noted	Single select	First ECG Subsequent ECG	stemifirst	1 2

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n/a	If subsequent ECG, date/time of positive ECG	Date		posecgdt	MM/DD/YYYY HH:MM MM/DD/YYYY
n/a	Symptom onset date/time	Date		onsetdt	MM/DD/YYYY HH:MM MM/DD/YYYY
Vitals	Heart rate documented on first medical contact	Integer		hrfmc	0-300
n/a	Heart failure documented on first medical contact	Single select	Yes No	hffmc	1 2
n/a	Cardiogenic shock documented on first medical contact	Single select	Yes No	cardshockfmc	1 2
Medications	Patient current medications	Single select	Dabigatran Rivaroxaban Apixaban Warfarin None ND	ptcurmeds	1 2 3 4 5 6
n/a	Initial serum creatinine	Decimal		lnitscr	0.1 – 59.9
n/a	Aspirin within 24 hours of arrival?	Single select	Yes No Contraindicated	asp24h	1 2 3
n/a	Positive cardiac biomarkers in the first 24 hours?	Single select	Yes No	posbio24	1 2
n/a	History of smoking?	Single select	Yes No	smokinghist	1 2
n/a	History of peripheral artery disease	Single select	Yes No	hypad	1 2
n/a	Reperfusion candidate?	Single select	Yes No	repcand	1 2

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n/a	Primary reason not reperfusion candidate	Single select	No ST elevation/LBBB Chest pain resolved ST elevation resolved MI diagnosis unclear MI symptoms >12 hours No chest pain Other	noreprs	1 2 3 4 5 6 7
n/a	Thrombolytics?	Single select	Yes No	thromb	1 2
n/a	If yes, Thrombolytics dose start date/time	Date		dosest	MM/DD/YYYY HH:MM MM/DD/YYYY
n/a	Documented non-system reason for delay thrombolytics?	Single select	Yes No	nsysreas	1 2
n/a	If yes, reason (check all that apply)	Multi-select	Cardiac arrest Intubation Patient refusal	reasday	1 2 3
n/a	Reason for not performing thrombolytic	Single select	Known bleeding diathesis Recent surgery/trauma Severe uncontrolled hypertension Ischemic stroke w/in 3 months except acute ischemic stroke w/in 3 hours Significant closed head or facial trauma w/in previous 3 months DNR at time of treatment decision Recent bleeding w/in 4 weeks Active peptic ulcer Traumatic CPR that precludes thrombolytics Any prior intracranial hemorrhage Pregnancy	nadmlytc	1 2 3 4 5 6 7 8 9 10 11 12 13

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			Expected DTB <90 minutes Suspected aortic dissection Intracranial neoplasm, AV malformation, or aneurysm No reason documented Prior allergic reaction to thrombolytics Other Transferred for PCI		14 15 16 17 18
n/a	PCI?	Single select	Yes No	primarypci	1 2
n/a	Physician Interventionalist NPI	Site list – single select		intervnpi	Valid NPI
n/a	Reasons for not performing PCI	Single select	Non-compressible vascular puncture(s) Spontaneous reperfusion (documented by cath only) Other Active bleeding on arrival or w/in 24 hours Patient/family refusal Not performed Quality of life decision DNR at time of treatment decision No reason documented Anatomy not suitable to primary PCI Prior allergic reaction to IV contrast Thrombolytic administered	nperfpci	1 2 3 4 5 6 7 8 9 10 11 12
n/a	Cath Lab activation	Date		cathactv	MM/DD/YYYY HH:MM MM/DD/YYYY
n/a	Patient arrival to Cath Lab	Date		ptarvcth	MM/DD/YYYY HH:MM

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					MM/DD/YYYY
n/a	Attending arrival to Cath Lab	Date		atndarv	MM/DD/YYYY HH:MM MM/DD/YYYY
n/a	Team arrival to Cath Lab	Date		teamarrv	MM/DD/YYYY HH:MM MM/DD/YYYY
n/a	First PCI date/time	Date		fstpci	MM/DD/YYYY HH:MM MM/DD/YYYY
n/a	PCI indication	Single select	Primary PCI for STEMI PCI for STEMI (unstable, >12 hr from sx onset) PCI for STEMI (stable, > 12 hr from sx onset_ PCI for STEMI (stable after successful fill-dose lytic) Rescue PCI for STEMI (after failed full-dose lytic) PCI for non-STEMI Other	pciind	1 2 3 4 5 6 7
n/a	Non-system reason for delay	Single select	Difficult vascular access Patient delays in providing consent Other Cardiac arrest and/or need for intubation Difficulty crossing the culprit lesion None	nsysrsn	1 2 3 4 5 6
n/a	LVF assessment	Integer		lvfasmt	0 – 99
n/a	LVF assessment obtained	Single select	This admission W/in the last year > 1 year ago Planned after discharge	lvfobtain	1 2 3 4

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n/a	CABG during this admission	Single select	Yes No	cabg	1 2
n/a	LDL cholesterol value	Integer		ldl	0 – 999
n/a	LDL ND	Boolean	True False	ldlnd	1 Blank
n/a	Discharge date/time	Date		disdate	MM/DD/YYYY HH:MM MM/DD/YYYY
n/a	Discharge status	Single select	Home Hospice – home Hospice – healthcare facility Acute care facility Other healthcare facility Expired Left against medical advice/AMA Not documented or unable to determine (UTD)	dschstat	1 2 3 4 5 6 7 8
	Comfort measures only	Single select	Yes No	cmo	1 2
n/a	Patient referred to cardiac rehab?	Single select	Yes No referral documented No – medical reason No – patient reason/preference No – healthcare system reason	refehab	1 2 3 4 5
n/a	Smoking cessation counseling	Single select	Yes No	smkcnci	1 2
n/a	ACEI at discharge – prescribed	Single select	Yes No	presacei	1 2
n/a	ACEI at discharge – contraindicated	Single select	Yes No	contacei	1 2
n/a	ARB at discharge – prescribed	Single select	Yes No	presarb	1 2
n/a	ARB at discharge – contraindicated	Single select	Yes No	contarb	1 2

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n/a	ASA at discharge – prescribed	Single select	Yes No	presasa	1 2
n/a	Done (ASA)	Single select	75 – 100mg > 100 mg Other Unknown	doseasa	1 2 3 4
n/a	Frequency (ASA)	Single select	Every day 2 times a day 3 times a day 4 times a day Other Unknown	freqasa	1 2 3 4 5 6
n/a	ASA at discharge – contraindicated	Single select	Yes No	contasa	1 2
n/a	Clopidogrel at discharge – prescribed	Single select	Yes No	presclop	1 2
n/a	Dose (Clopidogrel)	Single select	75mg Other Unknown	doseclop	1 2 3
n/a	Frequency (Clopidogrel)	Single select	Every day Other Unknown	freqclop	1 2 3
n/a	Clopidogrel at discharge – contraindicated	Single select	Yes No	contclop	1 2
n/a	Prasugrel at discharge – prescribed	Single select	Yes No	prespras	1 2
n/a	Dose (Prasugrel)	Single select	5mg 10mg Other Unknown	dosepras	1 2 3 4
n/a	Frequency (Prasugrel)	Single select	Every day Other Unknown	freqpras	1 2 3

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n/a	Prasugrel at discharge – contraindicated	Single select	Yes No	contpras	1 2
n/a	Ticagrelor at discharge – prescribed	Single select	Yes No	prestica	1 2
n/a	Dose (Ticagrelor)	Single select	90mg Other Unknown	dosetica	1 2 3
n/a	Frequency (Ticagrelor)	Single select	2 times a day Other Unknown	freqtica	1 2 3
n/a	Ticagrelor at discharge – contraindicated	Single select	Yes No	conttica	1 2
n/a	Ticlopidine at discharge – prescribed	Single select	Yes No	presticlo	1 2
n/a	Dose (Ticlopidine)	Single select	250mg Other Unknown	doseticlo	1 2 3
n/a	Frequency (Ticlopidine)	Single select	2 times a day Other Unknown	freqticlo	1 2 3
n/a	Ticlopidine at discharge – contraindicated	Single select	Yes No	contticlo	1 2
n/a	Anticoagulation at discharge – prescribed	Single select	Yes No	presanticoag	1 2
n/a	Class (Anticoagulation)	Single select	Warfarin Direct thrombin inhibitor Factor Xa inhibitor	classanticoag	1 2 3
n/a	Medication (Anticoagulation)	Single select	Coumadin (warfarin) Argatroban Dabigatran	medanticoag	1 2 3

Appendix B – San Mateo County EMS Agency STEMI Data Dictionary

			Desirudin Lupirudin Other direct thrombin inhibitor Apixaban Edoxaban Fondaparinox Rovaroxaban Other Factor Xa inhibitor		4 5 6 7 8 9 10 11
n/a	Dose (Anticoagulation)	Single select	No dosage listed 2.5mg 5mg 7.5mg 10mg 15mg 60mg 75mg 150mg Other Unknown	doseanticoag	1 2 3 4 5 6 7 8 9 10 11
n/a	Frequency (Anticoagulation)	Single select	No frequency listed Every day 2 times a day 3 times a day 4 times a day Other Unknown	freqanticoag	1 2 3 4 5 6 7
n/a	Anticoagulation at discharge – contraindicated	Single select	Yes No	contanticoag	1 2
n/a	Beta blocker at discharge – prescribed	Single select	Yes No	presbeta	1 2
n/a	Beta blocker at discharge – contraindicated	Single select	Yes No	contbeta	1 2

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n/a	Statin at discharge – prescribed	Single select	Yes No	presstat	1 2
n/a	Statin at discharge – contraindicated	Single select	Yes No	contstat	1 2
n/a	Comments	Alphanumeric		comnt	500