

DATA ELEMENTS April 2007

Patient Eligibility Criteria

STE/ LBBB

Patients admitted with a diagnosis of ST elevation MI as determined by Dx code in chart.

Definitions

Symptom Onset

Onset time for patients reporting symptoms initially intermittent and subsequently constant, the onset time is defined as the time of change from intermittent to constant symptoms. Patients reporting symptoms that were initially mild and subsequently changed to severe, the onset time is defined as the time of change in symptom severity. For patients with both, the change in symptom severity is given preeminence in determining symptom onset time. *The REACT Trial definition. Am Heart J 138(6):1046-1057*

Patients with symptom onset >12hours are included in the general study but excluded from time measures.

Purpose

The following data dictionary defines variables associated with three primary evaluation areas: timeliness of care, treatment provided, and outcomes of care. The mandatory fields identified are critical to analyses for the following reasons: they allow linking across multiple databases, they allow for “real time” collection of data focused upon process improvement, and they allow for retrospective systemic analyses. The ultimate goal of collecting these data is to provide actionable information, to Maine’s hospitals and MeEMS, relative to the care processes and outcomes associated with their treatment of STEMI’s. Please refer to the “Data Circulation and Review Plan” earlier in this manual for a review of the guiding principles associated with data collection and analyses.

Critical Analysis Questions

The *In a Heartbeat* data analyses will seek to answer the following critical questions:

- How well is the medical system doing in reducing the time from onset of symptoms to treatment
- How well is the medical system doing in reducing the time from call to 911 to treatment
- How well are EMS services and hospitals doing at maximizing the efficiency of the process of care for STEMI
- How well are the outcomes of STEMI care improving within hospitals and across the state
- What do the data tell us regarding the use of thrombolytics and percutaneous coronary intervention relative to care outcomes
- What barriers to improved care can be addressed within hospitals and across the state

Variable Name	Variable Description	Variable Definition	Data Source	AMI Paper Tool	Core Metric	Issues
Demographics						
D1	Patient Last Name			Y	Y	
D2	Patient First Name			Y	Y	
D3	Patient Middle Name				Y	
D4	Patient Date of Birth	includes month, day, and four digit year		Y	Y	
D5	Patient Street	physical address of patient			Y	
D6	Patient Town				Y	
D7	Patient County				Y	
D8	Patient State				Y	
D9	Patient Zip	must include 5 digit zip minimum			Y	
D10	Patient Gender	male/female		Y	Y	
D12	Patient Social Security Number	nine digit SSN xxx-xx-xxxx		Y	Y	
D14	Date of Admission	date patient admitted to hospital mm/dd/yyyy		Y	Y	
D15	Date of Discharge	date patient discharged from hospital mm/dd/yyyy		Y	Y	
Dispatch						
DP1	ASA Instructions Dispatch (Place Holder Metric)	Y/N Dispatch instructed patient to chew aspirin				Not until card set implemented
DP2	Call Time 911	Time dispatch receives 911 call				
EMS Centric						
EMS1	Call Time	time responding service receives emergency call	Run sheet		Y	
D13	Date of Service	date patient was treated mm/dd/yyyy		Arrvdate	Y	
EMS3	Responding Service Run Sheet Number	run sheet number assigned to the call by the initial (first responder) responding service	Run sheet			
EMS4	Responding Service Name	name of the initial (first responder) service responding to 911 call	Run sheet			
EMS5	Service Number	number of the initial service responding to 911 call	Run sheet			
	Transport Service Run Sheet Number	run sheet number assigned to the call by the transporting service	Run sheet			
EMS6	Transport Service Name	name of the service transporting the patient	Run sheet			
EMS7	Transport Service Number	name of the service transporting the patient	Run sheet			
EMS8	EMS Training Level	Highest level of training of the EMS personnel providing direct care during	Run sheet			

Variable Name	Variable Description	Variable Definition	Data Source	AMI Paper Tool	Core Metric	Issues
		the run - EMT-Paramedic - EMT-Critical Care - EMT-Intermediate - EMT - Ambulance Attendant - First Responder				
EMS11	Time Arrival on Scene	time when the responding crew arrives on the scene	Run sheet		Y	
EMS12	Time Left Scene	time the ambulance leaves the scene with the patient	Run sheet		Y	
EMS13	Symptom Onset Time	See "symptom onset" definition above table	QI Tool		Y	
EMS14	12-Lead	Y/N	QI Tool			
EMS15	ST Elevation	Y/N	QI Tool			
EMS16	LBBB	Y/N	QI Tool			
EMS17	Defibrillation	Y/N	Run Sheet Check Box			
EMS18	CPR	Y/N	Run Sheet Check Box			
EMS19	Advanced Airway	Y/N				
EMS20	Hypotension	Y/N SBP < 100				
EMS27	ASA	Y/N and ?who?	Run Sheet Med #			
EMS28	Pre-Hospital Lytic (Place Holder Metric)	Y/N (place holder metric)			Y	
EMS29	Nitrates	Y/N	Run Sheet Med #			
EMS30	Catheter Lab Activation	Activation Time	???Added to QI Tool???		Y	
EMS31	Receiving Institution	name of the hospital to which the patient was transported	Run Sheet			
EMS32	Hospital Arrival Time	Time at Destination: must determine if = time to hosp drive or ED door	Run Sheet			Synchronization of clocks issue
ED Centric						
ED1	Patient Medical Record Number	number assigned to patient by hospital		PTHIC/CID	Y	
ED2	Date of Service	date patient was treated mm/dd/yyyy		Arrvldate	Y	
ED3	Emergency Department Arrival Time	Time of patient triage. Earliest documented date patient arrived at the hospital. Triage Time in the ED. Registration times on the hospital "facesheets" have not been accurate due to early or late registration time entered and not actual patient arrival time. Note: (encourage documented times to be taken from the computer		Y	Y	

Variable Name	Variable Description	Variable Definition	Data Source	AMI Paper Tool	Core Metric	Issues
		clocks to maintain synchronicity) Do not include times from external sources, e.g. ambulance records, physician office, lab reports or ECGs.				
ED4	Transport Method	Ambulance, Life-Flight, Self				
ED5	Symptom Onset Time	See "symptom onset" definition above table			Y	
ED6	First ED ECG Time if different from DXECG	The machine generated time documented on the diagnostic ECG. Note: QA machine times to synchronize with ED computers clocks. Time of ECG done within 1 hour before hospital arrival.				
ED7	Diagnostic ECG Time (DxECG)	The machine generated time documented on the diagnostic ECG. Note: QA machine times to synchronize with ED computers clocks. Time of ECG done within 1 hour before hospital arrival. (note this can be the same as first ECG time)			Y	
ED8	ST AMI or LBBB Dx	Y/N confirmed diagnosis of ST elevation AMI or Left Bundle Branch Block		Y	Y	
ED9	Treatment Decision Time	The time that the physician ordered the Lytic administration or called to activate Primary PCI, or chose not to treat. (encourage documented times to be taken from the computer clocks to maintain synchronicity)				This may be too difficult to collect accurately test in pilot phase
ED10	Treatment Option	Lytic, Primary PCI, not treated			Y	
ED11	Comfort Measures Only	Documentation by a physician / PA/ Nurse practitioner the patient was receiving CMO. CMO are not equivalent to the following; DNR, living will, no code, no heroics. Comfort measures only must be documented. V66.7 encounter for palliative care. Defined from AMI abstract guidelines for CMS These patients will be excluded from time measures		Y	Y	
ED12	Patient Refusal	Y/N Documented patient refusal of treatment	Need acceptable list		Y	
ED13	Lytic Ordered Time	The time the physician ordered the lytic. (encourage documented times to be				

Variable Name	Variable Description	Variable Definition	Data Source	AMI Paper Tool	Core Metric	Issues
		taken from the computer clocks to maintain synchronicity)				
ED14	Lytic Administration Time	The time the lytic was administered. (encourage documented times to be taken from the computer clocks to maintain synchronicity)		Y	Y	
ED15	Lytic Delay Reason	acceptable documentation of reasons for delay (to be inserted)		Y		
ED16	Lytic Contraindicated	Yes/No see chart for contraindications				
ED17	TIMI At Risk	"any TIMI risk" = 1, "none" = 0				Test in pilot
ED18	Cardiogenic Shock	Y/N SBP<90 w/o dopamine or SBP<100 w/ dopamine & presence of rales and pulmonary edema (Killup Class 4)				ICD Dx Code?
ED19	Advanced Airway	Y/N				
ED20	Transfer Decision Time	Time the decision to transfer was made. (encourage documented times to be taken from the computer clocks to maintain synchronicity)				Need to determine best way to collect test in pilot
ED21	ASA	Y/N		Y		
ED22	Beta Blocker	Y/N		Y		
ED23	Heparin	Y/N				
ED24	Plavix	Y/N				
ED25	Transfer Notification	Time the transporting EMS was called				Do away?
ED26	Transfer Arrival Time	Time ambulance arrived at initial ED				
ED27	Sending Hospital Name	name of the referring hospital				
ED28	Sending Hospital Number	referring hospital MHDO ID number				For linking with other data. Not available in hospital
ED29	PCI Center Contact Time	Time of the call to the PCI Center (encourage documented times to be taken from the computer clocks to maintain synchronicity)				
Transfer						
T1	Transport Service Run Sheet Number	run sheet number assigned to the call by the transporting service	Run Sheet			Paramedic Interfacility Transport Form not completed when RN on board
T2	Transport Date	Date of transport	Run Sheet/PIT			
T3	Transport Service Name	name of the service transporting the patient	Run Sheet			

Variable Name	Variable Description	Variable Definition	Data Source	AMI Paper Tool	Core Metric	Issues
T4	Transport Service Number	name of the service transporting the patient	Run Sheet/PIT			
T5	PCR Number	Patient Care Report number	PIT			
T6	EMS Training Level	Highest level of training of the EMS personnel providing direct care during the run <ul style="list-style-type: none"> - EMT-Paramedic - EMT-Critical Care - EMT-Intermediate - EMT - Ambulance Attendant - First Responder 	PIT Crew License #			
T7	Transfer Departure Time	Time transport(EMS) leaves sending facility	Run Sheet		Y	
T8	Hospital Personnel On-Board	RN, Physician, Respiratory Therapist	PIT Crew License # likely unstable otherwise			
T9	Heparin Rates/Dose	Rates/doses of Heparin	Free Text in PIT			
T10	Cardiac Arrest	Y/N	Likely unstable			
T11	Stroke/CNS Event	Y/N	Checkbox (CVA) likely unstable			
T12	Defibrillation or Cardioversion	Y/N if either is present = yest	Run Sheet/PIT Checkbox			
T13	CPR	Y/N	PIT Checkbox/Run Sheet			
T14	Advanced Airway	Y/N	PIT Intubation Checkbox/Run Sheet ET			
T15	Transport Service Arrival Time	Time transport service arrives at receiving hospital	Run Sheet		Y	
Catheter Lab						
CL1	Patient Medical Record Number	number assigned to patient by hospital		PTHIC/CID	Y	
CL2	Date of Service	date patient was treated mm/dd/yyyy		Arrvldate	Y	
CL3	Catheter Lab Activation Time	Time the call went out to activate the cath lab (encourage documented times to be taken from the computer clocks to maintain synchronicity)				
CL4	Catheter Lab Arrival Time	Time the patient entered the cath lab (encourage documented times to be taken from the computer clocks to maintain synchronicity)			Y	
CL5	Symptom Onset Time	See "symptom onset" definition above table	CM2		Y	

Variable Name	Variable Description	Variable Definition	Data Source	AMI Paper Tool	Core Metric	Issues
CL6	ST AMI or LBBB Dx	Y/N confirmed diagnosis of ST elevation AMI or Left Bundle Branch Block		Y	Y	
CL7	Infarct Artery	LAD, LCx, , RCA, LM, SVG				
CL8	Balloon Time	First documented balloon time or first documented TIMI Flow ≥ 2 (encourage documented times to be taken from the computer clocks to maintain synchronicity)	Recorded Time	Y	Y	Look to number 36 on ami paper tool to see if they are equivalent
CL9	PCI Delay	<p>If PCI delayed reasons for delay must be documented. Examples of acceptable documentation:</p> <ul style="list-style-type: none"> • Patient initially refused • TEE to rule out aortic dissection • Patient waiting for family to arrive to consult with re. PCI. • Patient in full cardiac arrest on arrival unable to take to cath lab until stable • Patient wants to speak to clergy first • No urgent need for PCI • Pt. taken to lab but determined to be too high risk to complete procedure at this time. • Documentation of a plan to do a PCI after the arrival date constitutes a clearly implied reason for a delay e.g. PCI tomorrow, per ED MD notation, Will schedule pt for PCI in a.m. per H&P 		Y		
CL10	Comfort Measures Only	<p>Documentation by a physician / PA/ Nurse practitioner the patient was receiving CMO. CMO are not equivalent to the following; DNR, living will, no code, no heroics. Comfort measures only must be documented. V66.7 encounter for palliative care. Defined from AMI abstract guidelines for CMS</p> <p>These patients will be excluded from time measures</p>		Y	Y	
CL11	Patient Refusal	Y/N Documented patient refusal of	List to be inserted		Y	

Variable Name	Variable Description	Variable Definition	Data Source	AMI Paper Tool	Core Metric	Issues
		treatment				
CL12	New In-Lab Cardiogenic Shock	Y/N BP<90 w/o dopamine or BP<100 w/ dopamine & presence of rales and pulmonary edema (Killup Class 4)				
CL13	PCI Success	Y/N operator assessment of success			Y	
CL14	CABG	Y/N did patient go to CABG surgery within 24 hours of cath lab arrival		Y?		ICD Procedure
Discharge						
DC1	Date of Service	date patient was treated mm/dd/yyyy		Arrvdate	Y	Can we use "earliest documented date patient arrived as = date of service
DC2	STEMI Primary Diagnosis Code	ICD-9 Codes (410.01, 410.11, 410.21, 410.31, 410.41, 410.51, 410.61, 410.81, 410.91)		Y	Y	
DC3	STEMI Secondary Diagnosis Code	ICD-9 Codes(410.01, 410.11, 410.21, 410.31, 410.41, 410.51, 410.61, 410.81, 410.91 secondary to cardiogenic shock (ICD-9 Codes 785.50 and/or 785.51))		Y	Y	
DC4	Primary Procedure Code	ICD-9 procedure codes for PCI (36.01-.07 or 36.09 and/or 88.55-.56)		Y	Y	
DC5	Discharge Date	Date patient is discharged		Y		
DC6	Length of Stay	number of days in hospital from admission date to discharge date		Y		Calculated via admission and discharge date
DC7	ASA	Y/N if not documentation on why		Y		
DC8	Beta Blocker	Y/N if not documentation on why		Y		
DC9	Statin	Y/N if not documentation on why		Y		
DC10	ACE	Y/N if not documentation on why		Y		
DC11	Cardiac Rehabilitation	Y/N if not documentation on why				
DC12	Smoking Cessation	Y/N if not documentation on why		Y		
DC13	Discharge Status	Home, expired, or another facility		Y		
DC14	In-hospital Stroke	ICD-9 Codes (430-435)		Y		
DC15	Post-Lab CABG	ICD-9 Procedure Codes (36.10-.19)		Y		
DC16	Symptom Onset < 12 hours	symptom onset (see definition) < 12 hours		Y		
DC17	1-Year Mortality	Patient died during this hospitalization. percent STEMI mortality	From outside source			May be unreliable test

Note:

[CMS extraction guideline](#)

Non-Primary PCI – A percutaneous coronary intervention (PCI) is considered

Non-primary when it is used for reasons that are not emergent in nature. Non-Primary PCIs include elective, rescue, and salvage PCIs. In contrast a Primary PCI is the use of percutaneous reperfusion procedure in the acute phase of ST –segment elevation MI (usually within 12 hours or less from the onset of ischemic symptoms) with the goal of restoring blood flow to the affected myocardium, thereby improving outcomes including reduced mortality rates.