



STEMI Care Committee Meeting
 Tuesday, November 19th, 10:00 AM –12:00 PM

Facilitator: Gregory Kann, M.D.; EMS Agency Medical Director

Meeting Minutes: Sydney Freer, EMS Coordinator

ITEM	Details (Key facts, Questions, Concerns)	Action Items/Decision
Welcome and Introductions	Meeting start time 10:00 am	None
Approval of Minutes – August 20, 2024	Motion: Jeremy Veldstra Second: Adam Blitz	None
Old Business	Discussion	Action Items/Decision
ImageTrend Patient Registry	Sydney Freer: This was our second quarter having STEMI data uploaded into Patient Registry and it’s going great on the hospital side. I’m still having problems with some of the data not coming in correctly, so I am working with AHA and ImageTrend to get some of these issues worked out. I will continue sending quarterly reminders to the hospitals. I have some comparative data we will look at today and I am hopeful it will be more usable soon.	
Data Review and Analysis	Discussion	Action Items/Decisions
EMS STEMI Data Hospital and EMS Comparison	<u>Slide Two:</u> Jeremy Veldstra: What is happening to that 4%? Because 100% of EMS is calling in and giving report.	



	<p>Julie Carrington: There could be discrepancies with documenting STEMI alert versus Cardiac Arrest Alert.</p> <p>Sydney Freer: I know for one of these cases the initial ECG and report were not STEMI, but then almost upon arrival they got a STEMI ECG.</p> <p>Dr. Kann: We still have a number of patients with no STEMI ECG, but a STEMI pre-arrival alert.</p> <p>Julie Carrington: I found a glitch with that. If the 12-lead was done prior to the transporting unit, it doesn't upload as a procedure.</p> <p>Sydney Freer: That would make sense because most of these 29 narratives we looked at say ECG of STEMI, so it must be a documentation issue in the procedures.</p> <p>Sydney Freer: One goal I have for next year is to standardize the EMS PCR number reported by the hospitals into ImageTrend Patient Registry to make comparing EMS and hospital data simpler.</p>	
Case Presentations	Discussion	Action Items/Decisions
<p>Case Presentations:</p> <ul style="list-style-type: none"> • Mercy General Hospital • Sutter Medical Center Sacramento • UC Davis Medical Center 	<p>April Yeargin – SMCS and Marlene Cook – ECMO Coordinator SMCS</p> <p>Adam Blitz – Metro Fire and Najwa Green – MGH</p>	
Round Table	Discussion	Action Items/Decisions
	<p>Sydney Freer: This is a committee that I want to be useable and useful for all of you. So, as we do our roundtable, please make suggestions for discussion</p>	



	<p>topics or projects you would like to see this group focus on in 2025.</p> <p>Marlene Cook: Out of hospital cardiac arrest with a primary shockable rhythm as a data point to see if there are candidates</p> <p>Julie Carrington: Can you provide the criteria to us?</p> <p>Marlene Cook: Absolutely.</p> <p>Julie Carrington: We have mapped the arrival times so that will give us a better idea of 12-lead times. That is mapped through dispatch now. The issue was prior to arrival is confused with transporting unit, when the 12-lead is done prior to arrival it is dropped completely off the ePCR. We might look at a dual-agency response. Also, patient information on the 12-leads is going well. The transmission issue was a control on Zols side.</p> <p>Taufa Lee: Discussion regarding patients coming from the jail.</p> <p>Adam Blitz: Protocolizing left AC IV starts and defib pads on STEMI patients.</p>	
<p>Adjournment</p>	<p>Adjourned at 11:15 am</p>	<p>Next meeting: February 18, 2025 10 am – 12 pm</p>



**Department of Health Services Emergency Medical Services Agency
STEMI Care Committee
2025 Case Presentation Rotation**

STEMI Liaisons							
Contacts	KHR	KHS	MGH	MSJ	SMCS	SRMC	UCD
Primary	Heather Beere, MSN, MBA	Jennifer Bowers	Maryam Gol	Scott Brunton, RN	April Yeargin, RN STEMI	Debbie Madding, RN, BS, MICN	Taufa Lee
Secondary		Wendin Gulbransen		Amelia Hart	Serina Felcher	George Fehrenbacher, Dr	Jeremy Veldstra RN-MICN

Date:	2/18/2025	5/20/2025	8/19/2025	11/18/2025
KHR		X		
KHS	X			
MGH				X
MSJ	X			
SMCS			X	
SRMC		X		
UCDMC				X

SCENE Calls (911-Response) - 2024 - 2Quarter	Incident Count	Percentages	Notes
Total ePCRs received	95,666	100%	All records
Responses (Emergent Response)	61,651	64.44%	of total responses
Treated and Transported (Emergent Response)	34,015	35.56%	of 911 responses transported to the ED
Primary Impressions of Scene calls treated and transported	Incident Count	Percentages	Notes
Chest Pain - STEMI	153	0.45%	of treated and transported
Chest Pain - Suspected Cardiac	1,216	3.57%	of treated and transported
Syncope/Near Syncope	940	2.76%	of treated and transported
IV Starts	Incident Count	Percentages	Notes
Right Side	230	9.96%	of treated and transported with Primary Impression STEMI / Suspected Cardiac/ Syncope
Left Side	951	41.19%	of treated and transported with Primary Impression STEMI / Suspected Cardiac /Syncope
Not Recorded/Not Applicable/Other Peripheral/Blank	1128	48.85%	of treated and transported with Primary Impression STEMI / Suspected Cardiac / Syncope

STEMI Dashboard - EMS Data

STEMI	System Total 2023 3Q	System Total 2023 4Q	System Total 2024 1Q	System Total 2024 2Q
Total transported patients with primary impression of STEMI	191	157	162	153
90 th Percentile Scene Time to Unit Depart Scene of Primary Impression STEMI and (+) ECG of STEMI (Transporting Unit)	00:19:00	0:23:31	0:18:45	0:20:25
Patient with eVitals.03 or eDevice.08 documenting ECG of STEMI (All Patients, Regardless of Primary Impression)	65	156	172	159
Percentage of STEMI primary impressions with a STEMI ECG	34.03%	35.67%	83.95%	82.35% <i>(126 patients)</i>
All patients with a pre-arrival notification (of STEMI ECG)	52	53	182	143
% Pre-arrival notification (of STEMI ECG)	80%	94.64%	85.38%	96.50%
Total of patients with No ECG of STEMI documentation, but with a STEMI pre-arrival notification	106	86	28	29
% Pre-arrival notification (No ECG STEMI / Total)	55.50%	54.78%	17.28%	19.60%

Narrative findings for STEMI NOT documented in vitals with (+) STEMI Alert	
1	PER eDEVICE.01 - Abnormal finding for 40+ male. Atrial fibrillation with aberrant conduction or ventricular premature complexes, Moderate right axis deviation [QRS axis > 90], RSR (QR) in V1/V2 consistent with right ventricular conduction delay, Minimal evidence of LVH [STT abn in V5, Nonspecific ST and T wave abnormality, probably digitalis effect increased QRS area]
2	Per eDEVICE.01 - Abnormal finding for 40+ male, Inferior infarct [abn Q in aVF with inferior ischemic T], age undetermined, Sinus rhythm with short PR interval
3	Per eDEVICE.01 - Abnormal finding for 40+ male, Sinus rhythm with first degree av block, Left bundle branch block [120+ ms QRS duration, 80+ ms Q/S in V1/V2, 85+ ms R in I/aVL/V5/V6]
4	Elevation in V3 documented
5	12 LEAD shows STEMI documented
6	Per narrative ARRIVED TO KHN ED FOR A 60 Y/O F IN BED 11 PER STAFF PT C/O STEMI ALERT AND IN NEED OF IFT TO KHR FOR CARDIAC TX. (Should have been IFT)
7	RAN 12 LEAD CAME BACK AS MEETS STEMI PROTOCOL
8	12 lead shows ST elevation and STEMI. 12 lead transmitted to SMC
9	12-Lead EKG captured showing positive for STEMI Criteria
10	12 lead is STEMI with a tachycardic rate.
11	Engine 76 performed a 12 lead that showed STEMI.
12	12 LEAD ANTEROLATERAL ELEVATION W/ CORRESPONDING INFERIOR DEPRESSION.
13	12 LEAD SHOWS NSR WITH DEPRESSION IN V1-3 AND TEXT THAT STATES "PROBABLE POSTERIOR INFARCT". NO ELEVATION NOTED BY THIS PARAMEDIC ON ANY OF THE 12 LEADS. 12 LEAD OBTAINED X 2. BOTH REMAINED SAME
14	12 LEAD READ "STEMI" EKG WAS TRANSMITTED BUT FAILED.
15	4-lead placed, rhythm: sinus tachycardia. 12-lead taken, noted: acute ST-segment elevation in lateral:
16	12LEAD REVEALED PT HAVING A STEMI WITH ELEVATION IN LEADS V3 AND V4.
17	CC CP X 30 MINUTES, MIDSTERNAL, RADIATING TOWARDS HIS BACK, AND SAYS IT FEELS THE EXACT SAME AS THE LAST TIME HE HAD A HEART ATTACK.
18	Patient has a STEMI reading from EKG.
19	12 lead ECG on scene shows ST Elevation in leads 1 and 2 with possible lateral infarct
20	12 lead EKG STEMI with inferior elevation and lateral depression noted.
21	12 lead EKG, EKG showing STEMI, ST elevation.
22	Patient found in ED Room ANO x4, GCS of 15 complaining of general chest pain. MD stated that patient is having a STEMI and requesting urgent transfer to UCD Cath Lab (IFT)
23	ELEVATION IN V1 AND V2. NEG CP/PAIN/JVD/PE/N/V/H/D/TRAUMA/LOC/ALOC.
24	12-Lead EKG on Engine 53s cardiac monitor showing positive for STEMI criteria
25	12-Lead found to have ST segment elevation in leads V1-V6.
26	12 lead did not display stemi but Ems crews saw potential elevation in the inferior leads
27	(ENTIRE NARRATIVE)AOS TO FIND 85 Y/O MALE SITTING ON THE SIDE OF HIS BED. DELAYED BUT WITH NO COMPLAINTS. WIFE STATING PT HAD A SYNCOPAL EPISODE WHILE ON HIS BED, -FALL. INITIALLY PT FOLLOWING COMMANDS BUT DETERIORATED DURING TRANSPORT. ALS TX AND ASSESSMENT PROVIDED T3 TO SMC.
28	12-LEAD WAS NOTED TO BE REMARKABLE FOR A STEMI
29	12 lead STEMI with elevation in lead 1 and AvL.

STEMI Primary Impression for Treated and Transported Patients

Hospital Name	2023-3Q	2023-4Q	2024-1Q	2024-2Q
KHR	18	9	11	12
KHN	0	0	1	0
KHS	36	53	39	44
MHF	0	1	0	0
MGH	37	22	25	20
MSJ	43	42	39	30
SMCS	30	15	22	30
MHS	1	1	0	0
SRMC	8	5	8	3
UCD	18	9	16	14
Totals	191	157	162	153

Unit Arrived Scene to First ECG for Primary Impression of STEMI or ECG of STEMI in Decimal Minutes*

Patients with ECG prior to arrival time excluded from report.

Transporting Agency	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total Average
Agency 1	7.58	4.38	10.86	13.4	8.63	15.42	5.36	5.63	5.58	9.61	8.45	7.75	8.55
Agency 2	8.43	9.88	4.88	11.67	5.77	8.87	8.71	6.81	7.29	7.93	9.22	8.5	8.16
Agency 3	10.8	15.74	10.58	18.23	15.41	15.53	14.59	9.93	10.72	10.41	11.27	4.00	12.27
Agency 4	4.46	4.86	4.3	8.31	6.53	4.21	5.08	4.72	5.81	7.00	6.90	7.38	5.80
Agency 5	8.69	8.34	6.66	3.07	8.22	9.95	4.4	5.89	5.25	8.75	5.39	2.24	6.40
Agency 6	7.38	6.8	10.79	5.38	0	0	0	0	0	0	0	9.25	3.30
System	7.89	8.33	8.01	10.01	7.43	9.00	6.36	5.5	5.78	7.28	6.87	6.52	7.42

Patient Count per Agency of STEMI Primary Impression or ECG of STEMI

Transporting Agency	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
Agency 1	4	6	4	11	6	13	6	7	4	7	7	6	81
Agency 2	22	22	19	19	19	22	10	16	25	15	21	10	220
Agency 3	2	4	4	4	7	3	3	6	3	6	10	1	53
Agency 4	19	20	19	16	16	21	24	15	21	16	22	16	225
Agency 5	6	3	7	4	4	5	3	3	4	3	3	2	47
Agency 6	8	12	10	6	10	6	1	4	2	2	3	3	67
Total	61	67	63	60	62	70	47	51	59	49	66	38	693

EMS Hospital Comparison: 2024 1Q and 2Q

Patient Registry Data Compared to EMS Data	Total	Notes
STEMIs brought from EMS (excluding Q2 from one facility)	150	-some missing because the ePCR number was left off
STEMI Alerted / STEMI Primary Impression – ECG sent	101 (= 67%)	
PCR Not Found	34 (= 23%)	
Cardiac Arrest	1 (= .7%)	
Not STEMI ECG	11 (7.3%)	One later revealed STEMI
No ECG Performed	3 (2%)	One seizure