EMERGENCY MEDICAL SERVICES AUTHORITY
11120 INTERNATIONAL DR., SUITE 200
RANCHO CORDOVA, CA 95670
(916) 322-4336 FAX (916) 324-2875

August 16, 2024

Vince Pierucci, Interim EMS Director
Santa Barbara County Emergency Medical Services Agency
300 North San Antonio Rd.
Santa Barabra, CA 93110-1316

Dear Vince Pierucci,

This letter is in response to Santa Barabra Emergency Medical Service (EMS) Agency's 2023 EMS, Trauma, St-Elevation Myocardial Infarction (STEMI), Stroke, and Quality Improvement (QI) plans submissions to EMSA on June 28, 2024.

EMSA has reviewed the EMS plan based on compliance with statutes, regulations, and case law. It has been determined that the plan meets all EMS system components identified in Health and Safety Code (HSC) § 1797.103 and is approved for implementation pursuant to HSC § 1797.105(b). Based on the transportation documentation provided, please find the enclosed EMS area/subarea status, compiled by EMSA.

EMSA has also reviewed the Trauma, STEMI, Stroke, and QI plans based on compliance with Chapters 7, 7.1, 7.2, and 12 of the California Code of Regulations, Title 22, Division 9, and has been approved for implementation.

Per HSC § 1797.254, local EMS agencies must annually submit EMS plans to EMSA. Santa Barbara EMS Agency will only be considered current if an EMS plan is submitted each year.

Your 2024 EMS plan will be due on or before August 16, 2025. Concurrently with the EMS plan, please submit an annual Trauma, STEMI, Stroke, and QI plan.

If you have any questions regarding the EMS plan review, please contact Roxanna Delao, EMS Plans Coordinator, at (916) 903-3260 or roxanna.delao@emsa.ca.gov.

Sincerely,

Tom McGinnis

Tom McGinnis, MHA, EMT-P
Chief, EMS Systems Division

Enclosure:
AW: rd

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Santa Barbara County EMS Agency 2023 EMS Areas and Subareas	Non-Exclusive	Exclusive	Method to Achieve Exclusivity	Emergency Ambulance	ALS	LALS	All Emergency Ambulance Services	9-1-1 Emergency Response	7-digit Emergency Response	ALS Ambulance	All ALS and CCT Ambulance Services	BLS non-emergency	Standby Service with Transport Authorization
Area/Subarea Name	**EXCLUSIVITY**			**TYPE**			**LEVEL**						
Zone 1		X	Non-Competitive	X				X					
Zone 2	X												
Zone 3		X	Non-Competitive	X				X					

Santa Barbara County
PUBLIC Health
DEPARTMENT

Mouhanad Hammami, MD *Director*
Gustavo Mejia, CPA *Chief Financial Officer*
Melissa Beebe, *Deputy Director*
Dana Gamble, LCSW *Deputy Director*
Henning Ansorg, M.D. *Health Officer*

Emergency Medical Services Agency
300 North San Antonio Road ◆ Santa Barbara, CA 93110-1316
Main Office (805) 681-5274 ◆ FAX (805) 681-5142

Nick Clay *EMS Agency Director*
Daniel Shepherd, MD *EMS Agency Medical Director*

June 28, 2024

Director Basnett
Emergency Medical Services Authority
10901 Gold Center Drive, Suite 400
Rancho Cordova, CA 95670

Director Basnett,

Please find the attached annual updated Santa Barbara County ***Emergency Medical Services (EMS) Plan*** for 2023; as well as the annual update to the Santa Barbara County ***Trauma Plan*** for 2023; as well as the annual update to the Santa Barbara County ***ST-Elevation Myocardial Infarction (STEMI) Plan*** for 2023; as well as the annual update to the Santa Barbara County ***Stroke Plan*** for 2023; as well as update to the annual Santa Barbara ***CQI Plan*** for 2023. These plans are submitted in accordance with *Health and Safety Code Sections 1797.103 and 1797.250 – 1797.258* and *Title 22, Division 9, Chapter 7, Trauma Care Systems, Chapter 7.1, STEMI Critical Care System, Chapter 7.2, Stroke Critical Care System* and *Chapter 12, EMS System Quality Improvement.*

EMS PLAN ANNUAL UPDATE
No significant changes were made to the EMS Plan for 2023.
Key items are noted by year in each of the below sections.

System Organization and Management
No key items.

Ambulance Zone Summary
The Santa Barbara County EMS Agency (SBCEMSA) conducted a competitive process (RFP) for a new exclusive operating area (EOA), encompassing most of the County. The competitive process was cancelled and the transport plan remains unchanged.

Assessment of Hospitals and Critical Care Centers
Since last updated in 2016, the hospital infrastructure has remained unchanged. There have been minor updates to the Specialty Care Centers, which are outlined in their respective summaries below.

EMS System Providers, Personnel, and Training
No key items.

Public Information, Education and Awareness
No key items.

Communications

The Santa Barbara County EMS system utilizes as a single point of dispatch for ambulance resources, the Santa Barbara County Public Safety Dispatch Center, operated by the Santa Barbara County Sheriff's Office. This center provides EMD services for 9-1-1 calls where they are the primary public service answering point (PSAP). Santa Barbara City Police Department provides EMD services for 9-1-1 calls where they are the primary PSAP. EMD is not performed at any other PSAP in the county. The Santa Barbara County Public Safety Dispatch Center and the Santa Barbara City Police Department are public safety agencies and provide EMD services through utilization of the Medical Priority Dispatch System, approved by Santa Barbara County EMS Agency, in compliance with Health and Safety Codes 1797.223 and 1798.8 and California Code of Regulations (CCR) 100170.

Additionally, the Santa Barbara County Public Safety Dispatch Center dispatches county-based EMS aircraft, who utilize countywide frequencies and standard hospital communication capabilities, in compliance with local EMS policies and procedures and CCR 100306.

The Santa Barbara County Fire Department applied to be designated as an Emergency Medical Dispatch (EMD) center as outlined in Health and Safety Code 1797.223. The EMS Agency approved the Fire Department's request to become an EMD center. At the time of this letter, the center is still under construction.

Disaster Medical Response

The annual "DelTopia" event in 2024 exceeded the capacity of pre-planned EMS resources. A MHOAC request for additional resources was fulfilled within the Region.

In compliance with Health & Safety Code 1797.153, the EMS Agency Director serves alongside the Public Health Department Health Officer as the County's Medical Health Operational Area Coordinator (MHOAC). The County's MHOAC serves to cover the County's four (4) key services of Public Health, EMS, Environmental Health, and Behavioral/Mental Health, addressing all 17 key functions. As required in Health & Safety Code 1797.153 the MHOAC has cooperated with the county office of emergency services, the local public health department, the local office of environmental health, the local department of mental health, the local fire departments, the regional disaster and medical health coordinator (RDMHC), and the regional office of the Office of Emergency Services, to develop a medical and health disaster plan for the operational area. The medical and disaster plans follows the Standard Emergency Management System and National Incident Management System.

TRAUMA PLAN ANNUAL UPDATE

Key items and changes are noted by year.

In 2023 an assessment of the County's trauma system was concluded. One of the primary focuses of this study was to evaluate the catchment areas for both trauma centers. At the time of this letter, no determination has been made on any adjustments to the catchment areas.

STEMI PLAN ANNUAL UPDATE *No key items this year.*

STROKE PLAN ANNUAL UPDATE *No key items this year.*

CQI PLAN ANNUAL UPDATE *No key items this year.*

Please feel free to contact us at (805) 681-5274 should you require any additional information or should you have any questions.

Respectfully,

Nick Clay
Director
Santa Barbara County EMS Agency

Daniel Shepherd, MD
Medical Director
Santa Barbara County EMS Agency

SYSTEM ORGANIZATION AND MANAGEMENT

EMS System: *Santa Barbara County EMS Agency*

1. Percentage of population served by each level of care by county:
(Identify for the maximum level of service offered; the total of a, b, and c should equal 100%.)

a) Basic Life Support (BLS)	0%
b) Limited Advanced Life Support (LALS)	0%
c) Advanced Life Support (ALS)	100%

2. Type of agency

a) Public Health Department	*Yes*
b) County Health Services Agency	
c) Other (non-health) County Department	
d) Joint Powers Agency	
e) Private Non-Profit Entity	
f) Other:	

3. The person responsible for day-to-day activities of the EMS agency reports to *D*
   a) Public Health Officer
   b) Health Services Agency Director/Administrator
   c) Board of Directors
   d) Other: *Public Health Deputy Director*

4. Indicate the non-required functions which are performed by the agency:

Implementation of exclusive operating areas (ambulance franchising)	*Yes*
Designation of Trauma centers/trauma care system planning	*Yes*
Designation of STEMI centers/STEMI care system planning	*Yes*
Designation of Stroke centers/Stroke care system planning	*Yes*
Designation/approval of pediatric facilities	*No*
Development of transfer agreements	*Yes*
Enforcement of ambulance service contracts	*Yes*
Operation of ambulance service	*Yes*
Continuing education	*Yes*
Personnel training	*Yes*
Operation of oversight of EMS dispatch center (EMD Only)	*Yes*
Non-medical disaster planning	*No*
Administration of critical incident stress debriefing team (CISD)	*No*
Administration of disaster medical assistance team (DMAT)	*Yes*

5. Expenses (*Reporting Year:* July 2022 – June 2023)

Personnel Costs (excludes contract personnel)	*$953,918*
Services & Supplies	*$425,854*
Total Expenses	***$1,379,772***

6. Sources of Revenue

Adult Vehicle Code Fines	$3,629
Health/Safety Violations	*$71,754*
Administrative Services and/Collection Fee	*$599,152*
Ambulance Services	*$128,879*
EMS Certification Fees	*$29,529*
Other Services (Hospital Contracts)	*$496,184*
County General Fund	*$48,308*
Total Revenue	***$1,377,435***

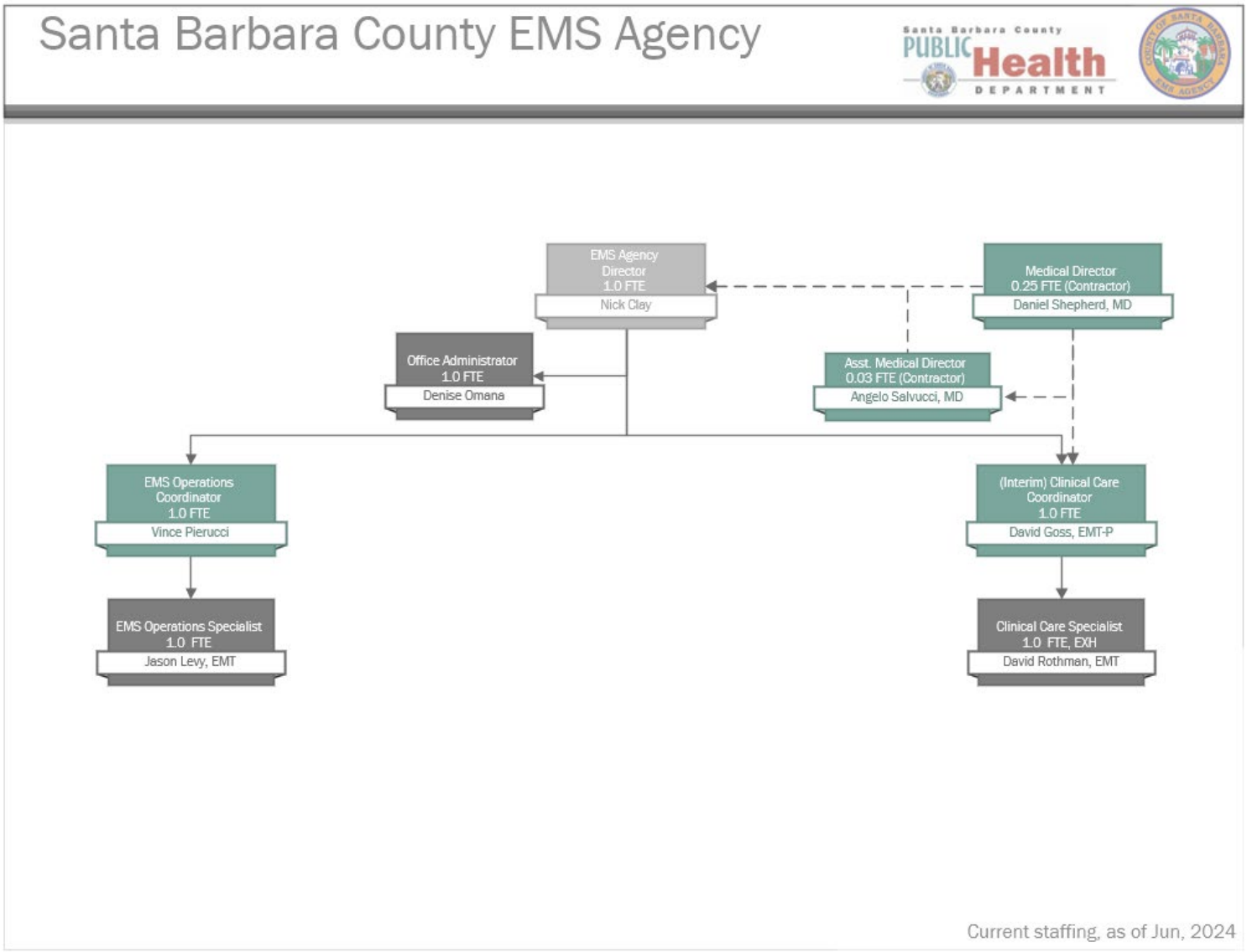
**Due to position vacancies the year's expenses were less than the revenue.*

7. Fee structure

EMT-I certification (excludes State fee)	*$191*
EMT-I recertification	*$96*
EMT-P accreditation	*$245*
Mobile Intensive Care Nurse/Authorized Registered Nurse certification	*$0*
EMT-I training program approval	*$0*
EMT-P training program approval	*$0*
Base hospital application	*$0*
Base hospital designation	*$0*
Trauma center application	*$0*
Trauma center designation (annual)	
Level I	*$186,561*
Level III	*$64,193*
STEMI center application	*$0*
STEMI center designation (annual)	*$63,737*
Stroke center application	*$0*
Stroke center designation	*$0*

Paramedic Accreditations	
	2023
Total Accredited	14
Total re-verified	91

EMS AGENCY STRUCTURE



Santa Barbara County PUBLIC Health DEPARTMENT

2023

Job Title	Job Classification	FTE POSITIONS (EMS ONLY)	TOP SALARY BY HOURLY EQUIVALENT	BENEFITS (%of Salary)	COMMENTS
EMS Agency Director	Business Unit Leader	1	$65.68	51	
EMS Operations Coordinator	Performance Improvement Coordinator	1	$59.53	51	
Clinical Systems Coordinator	Performance Improvement Coordinator	1	$54.20	51	
Medical Director	Contractor	0.25	Contract Position	N/A	
Assistant Medical Director	Contractor	0.03	Contract Position	N/A	
EMS Operations Specialist	Development Business Specialist	1	$40.10	51	
Clinical Systems Specialist	Public Health Program Coordinator	1	$41.04	51	Extra help position
Office Administrator	Administrative Office Professional II	1	$28.93	51	

AMBULANCE SUMMARY

The following tables describe the ambulance operating zones in Santa Barbara County for the calendar years 2017 through 2022.

Local EMS Agency or County Name
Santa Barbara County EMS Agency
Area or subarea (zone) Name or Title
Zone 1
Area or subarea (Zone) Geographic Description
Zone 1 is the largest ambulance zone in Santa Barbara County covering approximately 93% of the county population. Zone 1 is described as the exclusive area designated by the County of Santa Barbara, as that portion of Santa Barbara County, California exclusive of that portion Eastward of Highway 166, 25 miles East of the junction of Highway 101 and 166, and all of Highway 33; and exclusive of the Lompoc Valley as defined in Service Area 2. Service Area 1 is a “grandfathered” exclusive operating area (EOA) that conforms to 1797.224 of the Health and Safety Code continuing the use of the existing provider in the same manner and scope, without interruption, since January 1, 1981. Service Area 1 is an EOA that was approved by the Santa Barbara County Board of Supervisors in 1980.
Current Provider Name
American Medical Response of Santa Barbara County, serving Service Area 1 since 1980.
☒Exclusive ☐Non-Exclusive

Local EMS Agency or County Name
Santa Barbara County EMS Agency
Area or subarea (zone) Name or Title
Zone 2
Area or subarea (Zone) Geographic Description
Zone 2 is the area designated by the County of Santa Barbara, as that portion of the Lompoc Valley beginning with the intersection of Northern boundary of Vandenberg Air Force Base and the coast proceeding to the junction of San Antonio Road and Vandenberg Road, East of San Antonio Road to Highway 135 to Harris Grade Road, South on Drum Canyon Road to Highway 246, a line due South to Highway 1, and a line West to a point on the coast two miles South of Jalama Beach Park. Zone 2 is a non-exclusive operating area. ALS transport services are furnished by provider agencies that have historically operated in those areas. There have been no changes in the configuration of these Service Areas and no change in the providers for this zone since our last plan update. The Santa Barbara County Fire Department provides back up ambulance service to this area when requested. Both agencies are under contract with the Santa Barbara County EMS Agency.
Current Provider Name
American Medical Response and the Santa Barbara County Fire Department are the primary ambulance services in Zone 2. Both agencies are under contract with the Santa Barbara County EMS Agency.
☐Exclusive ☒Non-Exclusive

Local EMS Agency or County Name
Santa Barbara County EMS Agency
Area or subarea (zone) Name or Title
Zone 3 (Service Area 3)
Area or subarea (Zone) Geographic Description
“Service Area 3” means that area 25 miles East of the intersection of Highway 101 along Highway 166 (Sierra Madre Rd) to Highway 33 and 166 south to 20 miles past Ventucopa. Service Area 3 qualifies as an exclusive operating area applicable under 1797.224. BLS transport services were furnished by the Santa Barbara County Fire Department since 1974 until 1992 when they upgraded to ALS transport services.
Current Provider Name
Santa Barbara County Fire Department has provided BLS ambulance service in Service Area 3 since 1974 increasing to ALS ambulance service in 1992.
☒Exclusive ☐Non-Exclusive

ASSESSMENT OF HOSPITALS AND CRITICAL CARE

EMS System Facility Statistics

Emergency Departments

Total number of emergency departments: 5

Hospitals with Written Agreements

Total number of receiving hospitals: 5
Total number of base hospitals: 5

Alternative Receiving Facilities

Do you have designated alternative receiving facilities? ☐ Yes ☒ No
Number of alternate receiving facilities: 0
Psychiatric Receiving Facilities: 0
Sobering Centers: 0

Specialty Care Systems

Trauma System

Do you have a trauma system? ☒ Yes ☐ No
Adult Trauma Centers:
Level I 1 *Level II* 1 *Level III* 0 *Level IV* 0
Pediatric Trauma Centers:
Level I 0 *Level II* 1 *Level III* 0 *Level IV* 0
Number of EMS patients meeting trauma triage criteria
a) Transported to a trauma center by ambulance: 1522
b) Not transported to a trauma center by ambulance: 244
Number of trauma patients transferred to a trauma center for a higher level of care:
a) From a non-trauma facility: 22
b) From a lower level trauma center: 5

STEMI System

Do you have a ST-Elevation Myocardial Infarction (STEMI) system? ☒ Yes ☐ No
Number of STEMI centers/hospitals designated by EMS Agency: 5
a) STEMI Receiving: 2
b) STEMI Referring: 3

Stroke System

Do you have a stroke system? ☒ Yes ☐ No
Number of stroke centers/hospitals (third party accreditation only): 4
a) Comprehensive Stroke Center (CSC): 1
b) Primary Stroke Center (PSC): 1
c) Acute Stroke Ready Hospital (ASRH): 2

EMS for Children

Do you have an EMS for children system? ☒ Yes ☐ No

Number of pediatric receiving centers: 1

a) Comprehensive: 1

EMS SYSTEM PROVIDERS, PERSONNEL, AND TRAINING

Local EMS Agency or County Name		
Santa Barbara County EMS Agency		
Provider Name:	**Provider Number**	
American Medical Response West	S42-50088	
Ownership	**Level of Service**	
☒Private ☐Public	☒BLS ☐BLS-OS ☒ALS ☒CCT	☐First Response ☒Ground Transport ☐Rescue Air Transport ☐Air Ambulance Transport
Provider Address	**Phone Number**	
240 E. Highway 246, Ste. 300 Buellton, California 93427	(805) 688-6550	
Point of Contact		
Dave Schierman		

CY	Incident Count		Medical Director Retained	Contract with the LEMSA	Number of Stations
	All Incidents	Transports			
2023	39,675	32,599	Yes	Yes	7

Training Program	Training Provider Number	Program Level
☒Continuing Education ☐Initial Training ☐Renewal Training	42-0750	☐First Aid ☒EMT ☐EMT- OS ☒EMT – P
Student Eligibility		**Expiration Date**
☒Employment only ☐Public		January 31, 2027

Local EMS Agency or County Name		
Santa Barbara County EMS Agency		
Provider Name	**Provider Number**	
Santa Barbara County Fire Department	S42-50841	
Ownership	**Level of Service**	
☐Private ☒Public	☒BLS ☐BLS-OS ☒ALS ☐CCT	☒First Response ☒Ground Transport ☒Rescue Air Transport ☐ Air Ambulance Transport
Provider Address	**Phone Number**	
4410 Cathedral Oaks Rd, Santa Barbara, CA 93110	(805) 681-5500	
Point of Contact		
Garrett Huff		

CY	Incident Count			Medical Director Retained	Contract with the LEMSA	Number of stations
	All Incidents	Ground Transports	Air Transports			
2023	12,731	1,006	38	Yes	Yes	16

Training Program	Training Provider Number	Program Level
☒Continuing Education ☐Initial Training ☐Renewal Training	42-0300 (ALS) 42-1100 (BLS)	☐First Aid ☒EMT ☐EMT- OS ☒EMT – P
Student Eligibility		**Expiration Date**
☒Employment only ☐Public		February 29, 2028

Local EMS Agency or County Name		
Santa Barbara County EMS Agency		
Provider Name	**Provider Number**	
Santa Barbara City Fire Department	S42-50840	
Ownership	**Level of Service**	
☐Private ☒Public	☒BLS ☐BLS-OS ☐ALS ☐CCT	☒First Response ☐Ground Transport ☐Rescue Air Transport ☐Air Ambulance Transport
Provider Address	**Phone Number**	
121 W. Carrillo St. Santa Barbara, CA 93101	(805) 963-1015	
Point of Contact		
John Turner		

CY	Incident Count	Medical Director Retained	Contract with the LEMSA	Number of stations
2023	9,037	Yes	Yes	8

Training Program	Training Provider Number	Program Level
☒Continuing Education ☐Initial Training ☐Renewal Training	42-0960	☐First Aid ☒EMT ☐EMT- OS ☐EMT – P
Student Eligibility		**Expiration Date**
☒Employment only ☐Public		February 29, 2028

Local EMS Agency or County Name		
Santa Barbara County EMS Agency		
Provider Name	**Provider Number**	
Santa Maria City Fire Department	S42-50840	
Ownership	**Level of Service**	
☐Private ☒Public	☒BLS ☐BLS-OS ☐ALS ☐CCT	☒First Response ☐Ground Transport ☐Rescue Air Transport ☐Air Ambulance Transport
Provider Address	**Phone Number**	
314 West Cook Street Santa Maria, California 93458	(805) 925-0951	
Point of Contact		
Evan Scott		

CY	Incident Count	Medical Director Retained	Contract with the LEMSA	Number of stations
2023	8,573	Yes	Yes	6

Training Program	Training Provider Number	Program Level
☒Continuing Education ☐Initial Training ☐Renewal Training	42-1200	☐First Aid ☒EMT ☐EMT- OS ☐EMT – P
Student Eligibility		**Expiration Date**
☒Employment only ☐Public		February 29, 2028

Local EMS Agency or County Name		
Santa Barbara County EMS Agency		
Provider Name	**Provider Number**	
Guadalupe Fire Department Department of Public Safety	S42-51325	
Ownership	**Level of Service**	
☐Private ☒Public	☐BLS ☒BLS-OS ☐ALS ☐CCT	☒First Response ☐Ground Transport ☐Rescue Air Transport ☐Air Ambulance Transport
Provider Address	**Phone Number**	
918 Obispo Street Guadalupe, California 93434	(805) 343-1340	
Point of Contact		
Fernando Garcia		

CY	Incident Count	Medical Director Retained	Contract with the LEMSA	Number of stations
2023	442	Yes	Yes	1

Training Program	Training Provider Number	Program Level
☒Continuing Education ☐Initial Training ☐Renewal Training	42-0970	☐First Aid ☒EMT ☒EMT- OS ☐EMT – P
Student Eligibility		**Expiration Date**
☒Employment only ☐Public		January 31, 2027

Local EMS Agency or County Name		
Santa Barbara County EMS Agency		
Provider Name	**Provider Number**	
Lompoc City Fire Department	S42-51326	
Ownership	**Level of Service**	
☐Private ☒Public	☐BLS ☒BLS-OS ☐ALS ☐CCT	☒First Response ☐Ground Transport ☐Rescue Air Transport ☐Air Ambulance Transport
Provider Address	**Phone Number**	
115 South G Street Lompoc, California, 93436	(805) 736-4513	
Point of Contact		
Cody Lee		

CY	Incident Count	Medical Director Retained	Contract with the LEMSA	Number of stations
2023	3,661	Yes	Yes	2

Training Program	Training Provider Number	Program Level
☒Continuing Education ☒Initial Training ☒Renewal Training	42-0850	☐First Aid ☒EMT (CE) ☒EMT- OS (Training) ☐EMT – P
Student Eligibility		**Expiration Date**
☒Employment only ☐Public		January 31, 2027

Local EMS Agency or County Name		
Santa Barbara County EMS Agency		
Provider Name	**Provider Number**	
CALSTAR	S42-50193	
Ownership	**Level of Service**	
☒Private ☐Public	☐BLS ☐BLS-OS ☐ALS ☒CCT	☐First Response ☐Ground Transport ☐Rescue Air Transport ☒Air Ambulance Transport
Provider Address	**Phone Number**	
3996 Mitchell Road Santa Maria, CA 93455	(805) 938-9001	
Point of Contact		
Dennis Rowley		

CY	Incident Count		Medical Director Retained	Contract with the LEMSA	Number of Stations
	All Incidents	Transports			
2023	88	48	Yes	Yes	1

Local EMS Agency or County Name		
Santa Barbara County EMS Agency		
Provider Name	**Provider Number**	
Montecito Fire Protection District	S42-50639	
Ownership	**Level of Service**	
☐Private ☒Public	☐BLS ☐BLS-OS ☒ALS ☐CCT	☒First Response ☐Ground Transport ☐Rescue Air Transport ☐Air Ambulance Transport
Provider Address	**Phone Number**	
595 San Ysidro Road, Montecito, California 93108	(805) 969-7762	
Point of Contact		
Ben Hauser		

CY	Incident Count	Medical Director Retained	Contract with the LEMSA	Number of Stations
2023	1,008	Yes	Yes	2

Training Program	Training Provider Number	Program Level
☒Continuing Education ☐Initial Training ☐Renewal Training	42-0900	☐First Aid ☒EMT ☐EMT- OS ☒EMT – P
Student Eligibility		**Expiration Date**
☒Employment only ☐Public		February 29, 2028

Local EMS Agency or County Name		
Santa Barbara County EMS Agency		
Provider Name	**Provider Number**	
Carpinteria-Summerland Fire Protection District	S42-51268	
Ownership	**Level of Service**	
☐Private ☒Public	☐BLS ☐BLS-OS ☒ALS ☐CCT	☒First Response ☐Ground Transport ☐Rescue Air Transport ☐Air Ambulance Transport
Provider Address	**Phone Number**	
1140 Eugenia Place, Ste. A Carpinteria, CA 93013	(805) 684-4591	
Point of Contact		
Michael Hayek		

CY	Incident Count	Medical Director Retained	Contract with the LEMSA	Number of stations
2023	1,777	Yes	Yes	2

Training Program	Training Program Number	Program Level
☒Continuing Education ☐Initial Training ☐Renewal Training	42-9200	☐First Aid ☒EMT ☐EMT- OS ☒EMT – P
Student Eligibility		**Expiration Date**
☒Employment only ☐Public		January 31, 2027

Local EMS Agency or County Name		
Santa Barbara County EMS Agency		
Provider Name	**Provider Number**	
Santa Barbara County Sheriff Search and Rescue	42-0430	
Ownership	**Level of Service**	
☐Private ☒Public	☐BLS ☐BLS-OS ☐ALS ☐CCT	☒First Response ☐Ground Transport ☐Rescue Air Transport ☐Air Ambulance Transport
Training Provider Address	**Phone Number**	
66 South San Antonio Rd Santa Barbara, CA 93110	(805) 684-4591	
Point of Contact		
Susie Theilmann, RN		
Training Program	**Program Level**	
☒Continuing Education ☐Initial Training ☐Renewal Training	☐First Aid ☒EMT ☐EMT- OS ☐EMT – P	
Student Eligibility	**Expiration Date**	
☒Employment only ☐Public	January 31, 2027	

Local EMS Agency or County Name	
Santa Barbara County EMS Agency	
Provider Name:	**Provider Number**
Santa Barbara City College	42-0400
Ownership	
☐Private ☒Public	
Training Provider Address	**Phone Number**
721 Cliff Drive Santa Barbara, CA 93109	
Point of Contact	
Mary Gauthier	
Training Program	**Program Level**
☒Continuing Education ☒Initial Training ☒Renewal Training	☐ First Aid ☒EMT ☐EMT- OS ☐EMT – P
Student Eligibility	**Expiration Date**
☐Employment only ☒Public	January 31, 2027

Local EMS Agency or County Name	
Santa Barbara County EMS Agency	
Provider Name:	**Provider Number**
University of California, Santa Barbara School of Extended Learning	
Ownership	
☐Private ☒Public	
Training Provider Address	**Phone Number**
UC Santa Barbara School of Extended Learning Santa Barbara, California 93106	(805) 893-8000
Point of Contact	
Chris Connolly	
Training Program	**Program Level**
☐Continuing Education ☒Initial Training ☒Renewal Training	☐ First Aid ☒EMT ☐EMT- OS ☐EMT – P
Student Eligibility	**Expiration Date**
☐Employment only ☒Public	September 30, 2027

Local EMS Agency or County Name	
Santa Barbara County EMS Agency	
Provider Name:	**Provider Number**
Allan Hancock Community College	42-0100
Ownership	
☐Private ☒Public	
Training Provider Address	**Phone Number**
Allan Hancock College 800 S. College Dr. Santa Maria, CA 93454	(805) 922-6966
Point of Contact	
Sue Roehl	
Training Program	**Program Level**
☒Continuing Education ☒Initial Training ☒Renewal Training	☐First Aid ☒EMT ☐EMT- OS ☒ EMT – P
Student Eligibility	**Expiration Date**
☐Employment only ☒Public	January 31, 2027

Local EMS Agency or County Name	
Santa Barbara County EMS Agency	
Provider Name	**Provider Number**
Cottage Health Systems	42-7000
Ownership	
☒Private ☐Public	
Training Provider Address	**Phone Number**
400 W Pueblo St, Santa Barbara, CA 93105	(805) 258-1287
Point of Contact	
Kelly Kam	
Training Program	**Program Level**
☒Continuing Education ☐Initial Training ☐Renewal Training	☐First Aid ☒EMT ☐EMT- OS ☒EMT – P
Student Eligibility	**Expiration Date**
☐Employment only ☒Public	January 31, 2027

Local EMS Agency or County Name	
Santa Barbara County EMS Agency	
Provider Name	**Provider Number**
NCTI - Santa Barbara	42-9000
Ownership	
☒Private ☐Public	
Training Provider Address	**Phone Number**
240 East HWY 246, Suite 110, Buellton CA 93427	(951) 683 - 2498
Point of Contact	
Dave Schierman	
Training Program	**Program Level**
☒Continuing Education ☒Initial Training ☒Renewal Training	☐First Aid ☒EMT ☐EMT- OS ☒EMT – P
Student Eligibility	**Expiration Date**
☐Employment only ☒Public	November 30, 2024

Local EMS Agency or County Name	
Santa Barbara County EMS Agency	
Provider Name	**Provider Number**
Santa Barbara County EMS Agency	42-0001
Ownership	
☐Private ☒Public	
Training Provider Address	**Phone Number**
300 N. San Antonio Santa Barbara, CA 93110	(805) 258-1287
Point of Contact	
Nick Clay, Director	
Training Program	**Program Level**
☒Continuing Education ☐Initial Training ☐Renewal Training	☒First Aid ☒EMT ☒EMT- OS ☒EMT – P
Student Eligibility	**Expiration Date**
☐Employment only ☒Public	December 31, 2099

PUBLIC INFORMATION, EDUCATION & AWARENESS

Number of programs EMS Agency provided to the public:

1 EMS Awareness	0 Bleeding Control
1 First Aid	1 CPR
0 Prevention Activities	1 Disaster Preparedness

COMMUNICATIONS

Number of primary Public Answering Points (PSAP): 5
Number of secondary PSAPs: 1
Number of dispatch centers directly dispatching ambulances: 1
Number of EMS dispatch agencies utilizing EMD guidelines: 2
Number of designated dispatch centers for EMS aircraft: 1
Who is your primary dispatch agency for day-to day emergencies? Santa Barbara County Sheriff's Office
Do you have an operational area disaster communication system? ☒ Yes ☐ No
Identify other methods: Reddinet, ARES, Satellite Phone
Can all medical response units communicate on the same disaster communication system? ☒ Yes ☐ No
Do you participate in the Operational Area Satellite Information System? ☒ Yes ☐ No
Do you have a plan to utilize the Radio Amateur Civil Emergency Services as a back-up communication system? ☒ Yes ☐ No

DISASTER MEDICAL RESPONSE

EMS Agency Structure

Are you part of a multicounty EMS system for disaster response?	☐Yes ☒No
Are you a separate department or agency? a) To whom do you report? Public Health Department	☒Yes ☐No
What healthcare coalitions are you participating in? Santa Barbara County Health Care Coalition a) How often do you meet with the healthcare coalition? Monthly	
Do you have connection with your Disaster Healthcare Volunteer Administrators in your jurisdiction?	☒Yes ☐No
List all neighboring counties which you have written cooperative agreements and/or medical aid/assistance agreements with: Region I (San Luis Obispo County, Ventura County, Los Angeles County, Orange County) Region 6 (Imperial County, Inyo County, Mono County, Riverside County, San Bernardino County, San Diego County)	

EMS Agency Plans, Policies, Programs, and Teams

Do you have the following:

a) Disaster Plan?	☒Yes ☐No	Multi Casualty Incident Response
b) Active Shooter Policy?	☐Yes ☒No	
c) Hazardous Material (Hazmat) Plan?	☒Yes ☐No	Hazardous Material Incident/Decontamination of Patients
d) Disaster Medical Cache?	☒Yes ☐No	
e) Disaster Medical Support Group?	☒Yes ☐No	Medical Reserve Corp
f) Medical Assets	☒Yes ☐No	
g) Incident Command Organization Chart	☒Yes ☐No	
h) Communications Plan	☒Yes ☐No	ReddiNet Communication Policy
i) Ambulance Strike Team Leader Program	☐Yes ☒No	
j) EMS Authority Affiliated Strike Team (includes a Disaster Medical Support Unit)	☒Yes ☐No	n/a

EMS Agency System Operations and Resources

Do you have designated field treatment sites? a) Identify the locations: N/A b) How are they staffed: N/A c) Is there a supply system for supporting them for 72 hours?	☐Yes ☒No ☒Yes ☐No
Is there a mental/behavioral health program available for responders within the jurisdiction? a) Identify the program: Provided by each provider agency	☒Yes ☐No
Is there a team medical response capability? a) For each team, are they incorporated into the local response plan? b) Are they available for statewide response? c) Are they part of a formal out-of-state response system?	☒Yes ☐No ☒Yes ☐No ☒Yes ☐No ☐Yes ☒No
Are there HazMat trained medical response teams? a) At what HazMat level are they trained? FRA/FRO b) Is there capability to do decontamination in an emergency room? c) Is there capability to do decontamination in the field?	☒Yes ☐No ☒Yes ☐No ☒Yes ☐No ☒Yes ☐No
Identify who the Medical Health Operational Area Coordinator is: ☐ Health Officer ☒ EMS Agency ☐Jointly Appointed	
Do you have specific training for mass casualty incident policies?	☒Yes ☐No
Are you using the Standard Emergency Management System (SEMS)? a) Does it incorporate a form of Incident Command System (ICS) structure b) Are you integrated in the Medical/Health branch of the Operation Section in each operational area Emergency Operations Center within the jurisdiction?	☒Yes ☐No ☒Yes ☐No ☒Yes ☐No
Have you tested a multicausality incident plan this year?	☒Yes ☐No

	Real Event	Exercise
2017	Isla Vista Halloween; DelTopia	

Do you have formal agreements with the following in your operational area to participate in disaster planning and response? a) Hospitals b) Community clinics	☒Yes ☐No ☒Yes ☐No

SANTA BARBARA COUNTY EMS AGENCY

TRAUMA SYSTEM OF CARE

UPDATE 2023

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SANTA BARBARA COUNTY EMS AGENCY

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Santa Barbara County PUBLIC Health DEPARTMENT

TRAUMA SYSTEM SUMMARY

Santa Barbara County continues to follow the trauma system plan that was developed and approved in 1999. Gabriela Modglin, BS, EMT-P, serves as the Santa Barbara County Trauma System Manager, focusing on support of the local trauma system. Five hospitals currently exist in Santa Barbara County, two of whom are LEMSA-designated trauma centers: Santa Barbara Cottage Hospital (SBCH), a Level I Adult & Level II Pediatric Trauma Center, and Marian Regional Medical Center (MRMC), formerly a Level III Trauma Center and now a newly designated Level II Trauma Center.

The southern region of Santa Barbara County is supported by three hospitals, all of which are affiliated with the Cottage Health System: Santa Barbara Cottage Hospital (SBCH), the Level I trauma center; and two non-trauma facilities, Santa Ynez Valley Cottage Hospital (SYVCH) and Goleta Valley Cottage Hospital (GVCH).

The northern region of Santa Barbara County is supported by two hospitals: Marian Regional Medical Center (MRMC), the newly designated Level II trauma center, and one additional non-trauma facility, Lompoc Valley Medical Center (LVMC).

Santa Barbara County has seen the trauma centers evolve from their original verification status, continuing to develop increased staffing and services for the injured trauma patient and injury prevention community.

- Santa Barbara Cottage Hospital (SBCH)
    - Originally designated as a Level II Trauma Center by the LEMSA in June of 2001;
    - First verified by the American College of Surgeons (ACS) as a Level II Trauma Center in 2005;
    - Verified as a Level I Trauma Center in August 2017, and have continued maintaining Level I status with the ACS;
    - Designated by the LEMSA as a Level I Adult, Level II Pediatric, Trauma Center
- Marian Regional Medical Center (MRMC)
    - Originally designated as a Level III Adult Trauma Center in April 2013;
    - MRMC completed their ACS verification review in August 2015, at which time they received a preliminary one-year verification;
    - In August 2016, MRMC completed the requested ACS requirements, and had continued maintaining Level III status with the ACS until Fall of 2022;
    - Designated by the LEMSA as a Level III Adult Trauma Center;
    - In June 2022, MRMC was evaluated by the ACS as a Level II Trauma Center, and obtained an official letter from the ACS verifying them as a Level II in the Fall of 2022. MRMC achieved LEMSA-designation as a Level II Trauma Center in late 2023.

SBCEMSA continues to work with local hospitals to achieve a standardized approach to identifying and guiding the transfer of critical trauma patients from non-trauma hospitals to a trauma center. All trauma patient data is inputted into the TraumaOne registry, a platform accessible to the trauma centers and SBCEMSA alike. Data is then extracted by the registry, and uploaded into the State's Patient Registry data repository for quarterly reporting.

Trauma patients in the prehospital environment continue to be identified utilizing Santa Barbara County EMS Policy 510 – Trauma Triage Criteria and Patient Destination and Policy 511 – EMS Transport Zones. Although these policies are scheduled for review, we are pending the trauma system assessment to make any recommended changes to policy (see *Changes in Trauma System*).

CHANGES IN TRAUMA SYSTEM

The overall structure of the Santa Barbara County Trauma System has remained unchanged from previous years; however, SBCEMSA achieved significant change in our county's trauma system, trauma triage, and destination decision algorithm in 2023. In the fall of 2022, MRMC obtained a letter from the American College of Surgeons verifying them as a Level II trauma center. This garnered significant discussion within our Trauma System Committee, system participants and stakeholders, on how this increased level of care would impact current policies and procedures, particularly on prehospital trauma triage and selection of appropriate destination. SBCEMSA, with the support of the trauma centers, has enlisted a third-party consultant to assess the Santa Barbara County Trauma System and trauma triage criteria using data-driven recommendations to support local changes. Following conclusion of the Trauma System Assessment, Marian Regional Medical Center was formally recognized and given LEMSA designation as a Level II Trauma Center.

TRAUMA CENTERS: DESIGNATION AND VERIFICATION DATES

Name/Address	Trauma Level	Date of Designation	Date of Verification
Marian Regional Medical Center 1400 E. Church St. Santa Maria, CA 93454	3	June 1, 2017	July 1, 2018
Santa Barbara Cottage Hospital Pueblo at Bath Street Santa Barbara, CA 93105	1	June 1, 2017	August 1, 2017
SB Cottage Children's Medical Center Pueblo at Bath Street Santa Barbara, CA 93105	2 (Pediatric)	June 1, 2017	August 1, 2017

TRAUMA SYSTEM GOALS AND OBJECTIVES

1. **Identification and Access:** The EMS Agency continues to improve injury identification and access to the EMS system. Patients are tracked through a workstation-based trauma registry system, Lancet Trauma One. Patients are entered into the system by the Trauma Centers. This data is then transferred to the central registry at the County EMS Agency for system reporting and review purposes. Information in the registry system is used as part of the performance improvement process and to ensure trauma patients have access to the most appropriate level of trauma care based on injury severity. The local trauma data dictionary is reviewed and updated by the Trauma System Committee (TSC) annually in conjunction with the NTDB annual updates. Standardized information is now being collected for all three counties: Ventura, Santa Barbara and San Luis Obispo at the tri-county Trauma Audit Committee (TAC) meetings.

2. **Pre-hospital Care/Transportation:** The EMS Agency assures high quality pre-hospital treatment and transportation systems. The EMS field trauma triage and destination policy was updated in August 2018, see attachment. American Medical Response (AMR) is the advance life support ambulance service contracted in Santa Barbara County. In addition, Santa Barbara County Fire Protection District also provides limited ambulance transportation in three areas of the County. Santa Barbara County has a designated air ambulance provider, REACH, based in Santa Maria. In addition, the County Air Operations, jointly run by the County Fire and Sheriff's Department, have several designated air rescue helicopters available. All pre-hospital personnel are required to meet educational requirements that include trauma treatment and trauma system issues. Both Trauma Centers actively participate in this education, including case reviews and trauma triage skill competency sessions. In addition, the trauma triage guidelines have been incorporated into the local Multi Casualty Incident Plan, and all field providers, both BLS and ALS, have been trained to these guidelines. The EMS Agency works closely with all pre-hospital providers to identify any transportation issues related to the rapid care and transport of trauma patients.

3. **Hospital Care:** The EMS Agency continues to work successfully with each non-trauma hospital to develop plans for the rapid assessment, stabilization and transfer of any critically injured trauma patients that may present in their facility. There are very few of these cases that occur in our county, and for those that do, the EMS Agency provides a forum for open discussion and peer review of medical care amongst the trauma medical directors, emergency department medical directors and trauma program managers.

4. **Evaluation:** The EMS Agency's goal is to provide continuous monitoring of the trauma system to ensure appropriate access, triage and treatment of the trauma patient and to assist with identifying needed refinements of our current trauma system. The prehospital Continuous Quality Improvement Committee is tasked with weekly audits of all patient care records indicating an injury and meets quarterly to discuss any issues identified related to trauma triage. The Trauma System Advisory Committee (TSC) meets three times a year to review and receive input on proposed changes to field triage, transport destination and transfer policies, and to make recommendations to the EMS Agency. In addition, TSC discusses best practices and reviews trauma cases specifically for Santa Barbara County. Trauma programs from Santa Barbara County, Ventura County and San Luis Obispo County also meet two times a year to participate in a regional Trauma Audit Committee (TAC) to review and discuss trauma issues that potentially affect the region. At this meeting, each trauma center also presents preselected cases that they have identified as showing potential opportunities for trauma care and system wide improvements.

5. **Prevention:** The EMS Agency's goal to integrate injury prevention program standards into the trauma system is ongoing. Trauma prevention education and activities are vested primarily with the trauma centers. The two main programs continue: Santa Barbara Cottage Hospital's sports head injury education and outreach program and Marian Regional Medical Center's outreach education program through the local court system on the potential medical outcomes of driving under the influence. In addition, the two Trauma Centers implemented Stop the Bleed programs, training public safety and the general public in the use of tourniquets and bleeding control and also provide fall prevention outreach efforts, and have recently joined together to collaborate with local fire departments on a county-wide Fall Prevention Program. This program is being designed to target the vulnerable senior populations that have a history of high utilization of the 911 system for fall type incidents. The Santa Barbara Cottage Hospital Injury Prevention Program continues to be a Safe Kids California Coalition Coordinator for our area, which will help to improve education and outreach efforts for pediatric injury prevention in our communities. The EMS Agency's Trauma System Manager continues to be a member of the County's Child Death Review Team, providing input on all traumatic child deaths. The EMS Agency continues to assist with injury data collection utilizing both the Trauma System Manager and Epidemiologist to assist and make available this information to any agencies interested in developing prevention programs.

6. **Administration:** The EMS Agency has established a program of leadership and oversight to facilitate the implementation of the trauma plan. This is an ongoing process as updates or improvements are deemed necessary.

7. **Disaster:** The EMS Agency has integrated disaster/emergency preparedness with the trauma system. Mass Casualty Incidents (MCI) can be monitored with the ReddiNet system. The MCI plan has been updated to incorporate the changes with trauma center designations. All hospitals and American Medical Response are able to enter/review data for disaster/MCI situations. All hospitals are "base hospitals" and can provide guidance for pre-hospital personnel. Disaster /MCI Communication drills are performed bi-monthly utilizing ReddiNet and reviewed quarterly and all hospitals participate in the statewide health and medical disaster exercise.

8. **Finance:** The EMS Agency monitors, evaluates and modifies the trauma system components as appropriate, based on the financial assessment of the trauma system. The EMS Agency has negotiated trauma center agreements with SBCH and MRMC for service charges associated with the direct cost of the trauma system to support the ongoing oversight and system performance improvements.

CHANGES TO IMPLEMENTATION SCHEDULE — No changes are anticipated at this time.

SYSTEM PERFORMANCE IMPROVEMENT — The EMS Agency participates in Continuous Quality Improvement programs which include trauma care and EMS performance. Within the county, the Trauma System Committee (TSC) meets triannually to review local data reports and discuss local system issues. Local policies and education efforts are reviewed and

developed by TSC, utilizing the input and data of participants from both hospital and prehospital entities. We anticipate this group will be involved in the development of a new Trauma System Plan for Santa Barbara County in the near future.

The tri-county regional Trauma Audit Committee (TAC) that includes Santa Barbara, Ventura and San Luis Obispo Counties, continues to meet two times a year, rotating locations amongst the counties. This meeting, where best practices are discussed and problem-solving ideas are shared, has excellent participation and has become a strong component of system and region performance improvement. Most recently, the TAC committee has collaborated on new Scope of Practice additions to be implemented in the region. Santa Barbara, Ventura and San Luis Obispo EMS Agencies share QI data for any patients that cross county lines as agreed to by a MOU that facilitates the provision of optimal care for patients with traumatic injuries through regional recognition of the designated hospitals in both counties.

The surrounding counties all work well together and have been strengthening access to trauma services in the region. Santa Barbara EMS Agency continues to participate in the Southwest Regional Trauma Care Committee and all three of the tri-counties LEMSA trauma staff participate at the SWRTCC and are active on the committees to support regional trauma system improvement activities. The Santa Barbara County EMS Trauma System Manager is an active member of the Trauma Managers Association of California (TMAC.)

DATA COLLECTION AND EVALUATION — The EMS Agency collects and reviews prehospital trauma care data elements through electronic Patient Care Record (ePCR) extraction. The Agency is accountable for regular, ongoing analysis and interpretation of the prehospital trauma case reviews. Data aids in understanding how well the system works, identifying potential areas and trends for improvement and education, setting measurable goals, and monitoring the effectiveness of change. The EMS Agency provides ongoing feedback through regular reporting and presents benchmarking goals on data elements and trends at the tri-annual Trauma System Committee Meetings.

The periodic performance evaluation of the Trauma care system includes, but is not limited to, a review of the following:

- System Design, including monitoring of trauma patient destination, appropriate and timely care, prompt transfer to appropriate trauma level hospital (if indicated), and monitoring to related metrics.
- Evaluate the appropriateness of prehospital & hospital care from data in compliance with the most current version of CEMIS and NEMSIS.
- The graph below, referencing the data currently available in the trauma registry, demonstrates the total number of trauma patients within that timeframe and their corresponding destination and/or need for transfer. Criteria for this Graph: (Transports) Patients with traumatic injury transported by ambulance, and prehospital providers documented trauma triage (step) criteria; (Transfers) Patients with traumatic injuries that were transferred to a non-trauma hospital, that had an ISS>15, that ultimately required transfer to a trauma center for higher level of care. The graph shown below includes all patients that met trauma triage criteria for the calendar year of 2023.

OBJ

- The graph below shows the frequency of when a prehospital provider steps a patient in accordance with SBCEMSA Policy 510 – Trauma Triage Criteria and Patient Destination. The graph shown below includes all patients that met trauma triage criteria for the calendar year of 2023.

OBJ

- The graph below shows the mode of arrival for all documented trauma criteria step patients in the prehospital field. The graph shown below includes all patients that met trauma triage criteria for the calendar year of 2023.

OBJ

Progress on addressing EMS Authority Trauma System Plan Comments —

No issues identified in prior plan approval.

OTHER ISSUES —

None at this time.

SANTA BARBARA COUNTY EMS AGENCY

CONTINUOUS QUALITY IMPROVEMENT PLAN

UPDATE 2023

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Santa Barbara County PUBLIC Health DEPARTMENT

CQI PLAN SUMMARY

The Santa Barbara County Emergency Medical Services Agency (SBCEMSA), a part of the Public Health Department, has the mission to improve the health of our communities by preventing disease, promoting wellness, and ensuring access to needed healthcare. Within this Mission, the Emergency Medical Services Agency strives to ensure *Community Access & Education, Provider Safety & Support,* as well as *Clinical Excellence* within Santa Barbara County. This is done through the provision of high-quality emergency medical services, through reasonable costs, community involvement, continuous evaluation, prevention programs and anticipatory planning.

Continuous Quality Improvement (CQI) is a process derived from a philosophy that focuses on processes rather than on individuals, and which contends that improvements can be made in most areas. The scientific method is at the core of CQI, requiring objective data to analyze and improve processes to meet the needs of those we serve and to improve the services we offer. Through the use of CQI we can offer our patients evidence-based best practices which are continually evolving to provide the highest quality, standardized care throughout Santa Barbara County.

Quality Improvement requires commitment, dedication and purpose. CQI can only function well in an environment that fosters input from all levels of personnel in the system, and that provides consistent standardized feedback to the system participants. To be successful, a program must work from an integrated and collaborative approach, with the intent to motivate its' participants to perform at their best, both clinically and professionally. We utilize education by means of case presentations, data review, and patient outcome feedback to support our patient-centered approach. Trust is imperative amongst the participants for the process to succeed.

With these guidelines in focus, SBCEMSA continues to develop a Quality Improvement program that will truly be of benefit to the individuals within our communities that access our emergency medical services. The EMS Medical Director provides medical oversight to the system, which includes quality improvement and educational activities. The Clinical Performance Improvement Coordinator facilitates the Continuous Quality Improvement activities of the agency under the guidance of the Medical Director with the involvement of other agency personnel as appropriate.

PURPOSE OF CQI COMMITTEE

The purpose of the Committee is to advise and assist the Santa Barbara County EMS Medical Director to monitor and trend quality issues that are reported by the EMS system participants. The committee also is the venue to discuss current trends and research in EMS care that has an impact on prehospital care as well as to review information developed using clinical indicators. Continuous quality improvement is achieved

through assessment of clinical care, research, evidence–based implementation of initiatives, monitoring the outcomes of the changes implemented, and the ongoing study of EMS practice for continued progress. The committee strives to use a multidisciplinary approach for issue resolution and to promote countywide standardization of the quality improvement process with an emphasis on education and improvement.

SANTA BARBARA COUNTY'S RESPONSE STRUCTURE

The county's emergency medical response is provided by multiple response agencies. These agencies include two Basic Life Support (BLS) Fire Departments: Santa Barbara City Fire in the South County and Santa Maria City Fire in the north county. There are also two BLS-Optional Skill provider agencies: Lompoc City Fire Department in the West, and Guadalupe Fire Department in the Northwest. Advanced Life Support (ALS) coverage includes four agencies: Carpinteria-Summerland Fire Department in the far South, Montecito Fire Department southeast of Santa Barbara, Santa Barbara County Fire Department who respond to all unincorporated areas of our County as well as the contract cities of Goleta, Solvang, and Buellton, and American Medical Response, the contracted ALS private ambulance provider serving the majority of Santa Barbara County. The County Fire Department also provides ALS ambulance services New Cuyama, Vandenberg Village and the University of California Santa Barbara campus. Santa Barbara County has a designated air ambulance provider, CALSTAR (based in Santa Maria) that responds to on scene 9-1-1 emergencies and transports critical care patients. Additional air rescue services are provided by the jointly run County Fire and Sheriff's Departments providing an ALS air rescue unit.

As is required by the California Code of Regulations, all EMS partners (both first-responder BLS and ALS providers, as well as Base Hospital providers) must institute CQI programs within their organizations. Each ALS and BLS Provider and Hospital provides qualified personnel to coordinate their internal CQI program. This person is responsible for developing and maintaining their agencies internal CQI Program including CQI processes related to personnel, equipment and supplies, safety, skills maintenance, and competency. This individual is responsible for representing their agency at the County CQI functions, specifically the CQI Committee groups, and is to report trends, outliers and improvement activities within their organization.

SANTA BARBARA COUNTY'S HOSPITAL STRUCTURE

Santa Barbara County contains five hospitals spread out over the geography. There are additions to hospital designations. At the North-end of the county is Marian Regional Medical Center. This facility is a newly designated Level II Trauma Center with a helipad, a designated STEMI/ROSC Receiving Center, and JCAHO Certified Primary Stroke Center. At the South-end of the County lies Santa Barbara Cottage Hospital, a designated Level I Adult and Level II Pediatric Trauma Center with a helipad, a designated STEMI/ROSC Receiving Center, and a JCAHO Certified Comprehensive Stroke Center. Additionally, the South-end also encompasses Goleta Valley Cottage Hospital. On the West-side of the county is Lompoc Valley Medical Center, a designated Acute Stroke Ready Hospital. In the center of the county, Santa Ynez Valley Cottage Hospital is a designated Critical Access and Rural Hospital and an Acute Stroke Ready Hospital. Each of these hospitals has an Emergency Department that receives patients from the EMS system, and all are involved in the quality improvement activities of the system.

UPDATE OF CQI PLAN

Although there have been no modifications to the current CQI Plan, there were significant EMS System changes that impacted the CQI activities within the Santa Barbara County EMS System. First, we implemented the Clinical Dashboard, an online data repository, review, and loop-closure system intended to streamline the communication from EMS to the provider agency for quality improvement purposes. This system is utilized to monitor, track, and correspond with respective EMS provider's regarding any fallouts (deviations in protocol) that arise from primary impressions such as calls that meet specialty care criteria, pain management medications, and medications currently under LOSOP approval. Second, SBCEMSA implemented FirstWatch & FirstPass, a clinical quality measurement and protocol monitoring tools designed to alert SBCEMSA to deviations in expected treatments to medical protocols. This tool will not only perform quality improvement practices more effectively within our system, but to improve the quality of patient care. We are currently in the secondary phase of utilizing FirstWatch and FirstPass, of which its sole focus is to implement a unique, comprehensive, and cutting-edge approach to evaluating prehospital patient care using the patient-centric approach. Third, our EMS System underwent a revamping of ImageTrend Elite, its electronic documentation platform, which resulted in increased documentation deviations for two quarters. The more significant systematic issues related to the documentation system have been resolved, however, the quality improvement of ImageTrend involves continuous, dedicated, and ongoing efforts from all stakeholders. Additionally, our County was able to transition all of our providers to NEMSIS v3.5 during the last quarter of the year, meeting NEMSIS/CEMSIS requirements. Fourth, alongside our continuous quality improvement activities, we created a new policy, *Policy 116- Focused Incident Review.* Incidents that deviate from routine prehospital care, jeopardize patient safety and or the potential to cause harm to patients and/or providers will consist of a detailed analysis. SBCEMSA will coordinate the analysis, tracking and resolution to all incidents submitted for review. SBCEMSA will review and classify each incident using a "Just Culture" framework, focusing on evaluating the context of the error, all the factors that contributed to it and a resolution that is comprehensive and fair. The intent for these detailed reviews is not to assign blame, but to learn from them in order to improve clinical care and patient safety.

Lastly, patient treatment protocols were updated in 2023 by the Protocol Review Committee and CQI Committee, in addition to extensive review within the Medical Director's Committee, prior to SBCEMSA Medical Director final approval. All updates and changes are formulated into a standardized teaching plan and distributed at a regular cadence prior to implementation. Prehospital Field Treatment Protocols (Policy 533) undergo significant changes thanks to the input of these various committees. Changes are then finalized by December of each year, and training is developed using a multi-media platform designed to integrate information using various learning techniques and approaches. The "533's" are then assigned during the first quarter of the year (January), with substantial time for thorough evaluation, opportunities for clarification, and further dedicated time in March prior to the implementation timeline of April 1st. Part of these clinical additions include the addition of iGel Supraglottic Airways for utilization by ALS and via optional scope. The additions for ALS use were implemented in Q2 of 2023 and Optional Scope use was implemented in Q4 of 2023. In addition, SBCEMSA solicited participation for a sub-committee to revise the current policy*, Policy 115- Continuous Quality Improvement Process*. SBCEMSA created an initial draft, and it is currently under review with the sub-committee, with more planned meetings in 2024.

DATA COLLECTION AND EVALUATION

The Santa Barbara County CQI plan is an inclusive, multidisciplinary process that focuses on identification of system-wide opportunities for improvement. CQI refers to methods of data evaluation that consider factors such as structure, process, and outcome. Improvement efforts focus on identification of the root causes of problems, interventions to reduce or eliminate these causes, and the development of steps to correct inadequate or faulty processes. The focus of the CQI Program is not disciplinary in nature, but rather to use the analysis of high-quality data for ongoing educational and improvement efforts.

In 2023, there were 34,193 transports within the Santa Barbara County. Transports that met criteria for critical care, such as Stroke, STEMI, Cardiac Arrest or Trauma, were audited and comprehensively reviewed. Of the prehospital calls that met specialty care criteria, 146 calls were identified as potential "fallouts," or calls that deviated from protocol, as compared to 288 calls in 2022. As mentioned previously, there were significant systemic changes to the electronic patient care record in 2022, which resulted in an increased deviation in protocol. Once those issues were rectified, the number of deviations in protocol decreased significantly from the previous year. We will continue monitoring trends and monitor system changes moving forward.

PROGRESS ON ADDRESSING EMS AUTHORITY CQI PLAN COMMENTS

No issues identified in prior plan approval.

ATTACHMENTS

Policy 533 – Prehospital Field Treatment Protocols

SANTA BARBARA COUNTY EMS AGENCY

STEMI CRITICAL SYSTEM OF CARE

UPDATE 2023

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A. INTRODUCTION

Patients suffering from an ST-Elevation Myocardial Infarction (STEMI) have the best chance of survival when they receive rapid assessment and transport to a specialty care hospital with specialized equipment and personnel to treat these deadly heart attacks. The Santa Barbara County STEMI System began in 2010 and currently has two STEMI Receiving Centers (SRC). STEMI system performance is based on standards developed by the American College of Cardiology, the American Heart Association and the California Department of Public Health. The STEMI Critical Care System is part of our broader Cardiac System of Care, which encompasses all aspects of cardiac care, including STEMI, non-STEMI and cardiac arrest. One example is the investment in our Cardiac Arrest Management (CAM) program. Streamlined coordination of care has improved the likelihood of surviving cardiac events through 911 Emergency Medical Dispatch for pre-arrival instructions for management of chest pain and cardiac arrest, prehospital response of cardiac arrest with Pit Crew style CPR and CAM protocols, specific triage and destination policies, and access to specialty care hospitals.

B. PURPOSE

The STEMI Critical Care System Plan for Santa Barbara County is, first and foremost, a patient advocacy document. Its purpose is to provide a framework for the establishment of a comprehensive STEMI program for the county that addresses the needs of the patient suffering from an acute STEMI. The plan acknowledges the inherent challenges of the urban, semi-rural, and rural healthcare environment and provides an organized process to ensure quality STEMI services while remaining sensitive to the intrinsic resource and financial constraints of the system participants. This plan recognizes that a partnership of organizations, institutions and individuals is required for a quality STEMI system. It is only through this partnership and adherence to quality STEMI care standards that the goals of this plan will be achieved.

This STEMI Plan outlines a countywide STEMI system in order to:

1. Rapidly identify STEMI patients through assessment and ECG interpretation
2. Assure timely transport to the closest, most appropriate, SRC for definitive care
3. Identify, monitor and measure preventable death and disability from a STEMI
4. Monitor and assure timely STEMI services, and ensure optimal care is available in a cost-efficient manner through close coordination of prehospital and hospital services
5. Monitor patient outcomes and participate in continuous quality improvement efforts

C. OVERVIEW

An organized, systematic approach to STEMI patients results in a reduction in patient morbidity and mortality. For the past eight years, Santa Barbara County EMS Agency (SBCEMSA) along with its eight prehospital partnering agencies, have received the American Heart Association Mission Lifeline Gold Award for our STEMI Systems of Care. The Mission Lifeline Award uses national benchmarks and performance measures to determine if an EMS system is providing the accepted standard of patient care. SBCEMSA has consistently superseded the Mission Lifeline Gold Award standards, and in 2023, SBCEMSA and partners received Gold awards.

The intent of this plan is to formalize Santa Barbara County's STEMI care system by defining the roles and responsibilities of the SRCs in accordance with the California State Regulations. The system is based on an inclusive model, encouraging all hospitals to participate at some level, dependent upon their resources. Using this approach makes the best use of available resources, matches patient needs to level of care, and engages all acute care facilities in the management of STEMI patients.

The facility standards contained in this document are based upon the California Code of Regulations, Division 9, Chapter 7.1 ST-Elevation Myocardial Infarction Critical Care System. Interfacility transfer agreements have been established to facilitate the rapid and appropriate transfer of patients within, and outside of, Santa Barbara County as their medical care needs dictate.

The Santa Barbara County EMS Agency (SBCEMSA) rigorously monitors the system established by this plan through review of Cardiac Care Registry data, outcome studies and site visits. The planning of care for these patients is coordinated with all other components of the EMS system. A Continuous Quality Improvement (CQI) model has been instituted for system review and a comprehensive management information system has been implemented to ensure the seamless integration of dispatch, prehospital, hospital and registry information.

This plan defines:

- Operation of a countywide, inclusive STEMI Critical Care System
- Prehospital STEMI treatment and transportation protocols, which recognize the urban, semi-rural and rural nature of the county
- Aeromedical response and transportation requirements
- Operational requirements for STEMI Receiving Centers (SRC)
- Designation and contract with SRCs to provide STEMI care services
- A clear line of authority for the countywide STEMI system administration
- Continuous Quality Improvement program, including a STEMI registry

This STEMI Critical Care System Plan includes two SRCs and three STEMI Referral Hospitals (SRH). The five Base Hospitals provide on-line communications and medical control to the field personnel. All prehospital care personnel are trained on appropriate STEMI treatment, triage and destination protocols.

D. PHILOSOPHY/GOALS

The goal for the SBCEMSA STEMI Plan is to assure high quality STEMI care to all residents of, and visitors to, Santa Barbara County. To this end, SRCs are designated to optimize both care and access. A priority consideration in this plan is to provide high quality STEMI services to the population served while remaining cognizant of the available resources.

The hospitals will be integrated into a total system of care that includes prevention programs as well as comprehensive treatment, prehospital through rehabilitation and follow-up. Air medical dispatch procedures will be evaluated and revised as needed.

The STEMI system of care is monitored by SBCEMSA and the STEMI Committee.

The philosophy of the SBCEMSA STEMI Plan calls for the following elements:

- **STEMI Receiving Centers**

  Two hospitals, one in North County and one in South County, have SRC designations.

- **Inclusive**

  Participation of all hospitals are encouraged countywide, with a demonstrated and documented commitment to quality care.

- **Continuous Quality Improvement**

  Orientation towards a continuous quality improvement process and an emphasis on patient outcomes is the primary focus of program evaluation.

- **Prevention/Education**

  Prevention and education classes are offered by the SRCs and the SBCEMSA agency as community outreach.

- **Continuum of Services**

  The STEMI Critical Care System program is an integrated system comprised of prehospital agencies and hospitals.

E. LEGAL BASIS

SBCEMSA, under the authority of the California Code of Regulations (CCR), Title 22, Division 9, Chapter 7.1, develops this STEMI Plan. Responsibility for the plan's development, implementation and oversight rests with SBCEMSA.

F. PLAN METHOD

Designation of SRCs in Santa Barbara County are based on standards developed by the American College of Cardiology, the American Heart Association, the California Department of Public Health, and the California Code of Regulations, Division 9, Chapter 7.1.

Our neighboring counties, Ventura and San Luis Obispo, also have designated SRCs. SBCEMSA has coordinated with EMS agencies located within close proximity to ensure the integration of adjacent STEMI systems for efficient care of STEMI patients.

SECTION II: OVERVIEW OF SANTA BARBARA COUNTY

A. GEOGRAPHY

The County of Santa Barbara is located in Southern California and encompasses an area of 2,735 square land miles. The boundary of the county extends from the Sierra Madre and San Rafael Mountain ranges and a small portion of Kern County on the Northeast, from San Luis

Obispo County on the Northwest, Ventura County on the Southeast and the Pacific Ocean on the Southwest. Mountainous terrain, expanses of agricultural lands, and widely dispersed rural communities limit accessibility to health care.

Water plays a vital role in the growth and development of this area. Acquisition, quality, and conservation of water are paramount to the area's development. Local water supplies come from runoff stored in reservoirs or from ground water, and a new desalination plant was constructed in 1992. This plant is not in operation at this time but is available in the event it becomes necessary. Water is the main recreational feature in Santa Barbara County attracting tourists and the fishing industry.

The mountains, which border the eastern section of the county together with humid conditions create dense fog during the summer months at the higher elevations. This dense fog can produce

zero visibility which greatly contributes to high-crash rates in rural areas of Santa Barbara County. Additionally, these dense fog conditions may limit access to healthcare services and render resident's incapable of utilizing air ambulance transport due to poor visibility and unsafe flying conditions.

B. TRANSPORTATION

The automobile is the predominate form of transportation in Santa Barbara County. One major roadway, Highway-101, transects the area from south to north along the edge of the Pacific Ocean until the community of Gaviota is reached where the freeway heads inland. Three other smaller roadways, Highway 166, Highway 154, and Highway 1, also transect Santa Barbara County. There is a network of county and city roads which provide access between the incorporated cities and the agricultural lands and rural communities of the county.

Residents in rural areas of the county often times require the transport/transfer of critical patients by means of air ambulance. Santa Barbara Cottage Hospital on the South Coast has a helipad and Marian Regional Medical Center in North County also has a helipad.

Scheduled commercial and private air travel is provided at the Santa Barbara and Santa Maria Airports. There are also scheduled charter services from Lompoc Airport and private services

available at the Santa Ynez Airport. Passenger rail service is also available via Amtrak, which has a scheduled stop at Santa Barbara.

C. DEMOGRAPHICS

In 2023 per the United States Census Bureau, the population was an estimated 441,257. The average household income is $92,332 with a poverty rate of 14.1%. The demographics of the County indicate that there are many concentrated low-income areas (compared with 19% of the State population). The population over 65 years of age in Santa Barbara County was 16.7%. As the population of Santa Barbara County continues to age, there is an increased demand for EMS in the greater than 65 age group.

D. EPIDEMIOLOGY

Data from the Vital Records Department of Public Health show that the major causes of death in Santa Barbara County are from cancer and coronary heart disease, which is consistent with the trend throughout California and the United States.

The following is a summary from the Automatic Vital Statistics System for Santa Barbara County of the top five causes of death for 2018-2020*:

1. All cancers
2. Coronary Heart Disease
3. Alzheimer's Disease
4. Accidents
5. Cerebrovascular Disease (Stroke)

E. EMS DISPATCH

EMS dispatching for Santa Barbara County is provided for and coordinated through the Santa Barbara Sheriff's Department.

F. EMERGENCY MEDICAL CARE RESOURCES

1. PREHOSPITAL

The County is covered by private and public ALS ambulance response supported by simultaneous dispatch of ALS and/or BLS first responder fire department personnel. Because the STEMI care

system is an integrated system, the prehospital portion will not differ significantly in terms of training, equipment or response patterns. Prehospital providers are currently trained in the principles of field resuscitation of STEMI patients and meet all of the State requirements for education.

All ALS vehicles used to transport patients within the County are required to have two-way radios. All acute care facilities within the County are Base Hospitals and have the capability of communicating with the prehospital providers in their area.

The EMS Agency has implemented a prehospital data collection system. All prehospital ALS providers utilize a standardized patient care report platform. This platform contains all the information that is entered into the County data collection system. Currently the EMS Agency is collecting data electronically with all ALS and BLS providers.

2. SANTA BARBARA COUNTY HOSPITALS

Each of the acute care facilities in the county acts as a Base Hospital (BH) for the prehospital providers. Base Station services are provided via a contract between the facility and SBCEMSA. Each Base Hospital (BH) is required to have a Medical Director and a Prehospital Care Coordinator (PCC).

Hospital Name & Address	Number of Beds	Number of ICU Beds	Number of Pediatric Beds	Base Hospital (Y/N)
Goleta Valley Cottage Hospital 351 Patterson Avenue Santa Barbara, CA 93160	122	10	2	Y
Lompoc Valley Medical Center 1515 E. Ocean Avenue Lompoc, CA 93436	60	4	0	Y
Marian Regional Medical Center 1400 E. Church Street Santa Maria, CA 93454	130	20	8	Y
Santa Barbara Cottage Hospital Pueblo at Bath Street Santa Barbara, CA 93105	436	22	17	Y
Santa Ynez Valley Cottage Hospital 700 Alamo Pintado Road Solvang, CA 93463	30	4	0	Y

SECTION III: SYSTEM ADMINISTRATION

A. LEAD AGENCY

California statute assigns the responsibility to adopt and implement STEMI regulations, designate STEMI Receiving Centers, establish data collection systems and monitor STEMI care performance to the local EMS Agency. The lead agency for EMS and the STEMI care system in Santa Barbara County is the Santa Barbara County EMS Agency. SBCEMSA staff and the EMS Medical Director will be responsible for administering the plan and coordinating activities of the STEMI care system and integrating this system with all components of the EMS system.

These responsibilities include, but are not limited to:

- Ongoing performance evaluation and quality improvement of the STEMI System
- Assessing needs and resource requirements of the county
- Assigning roles to system participants
- Monitoring the STEMI registry data system
- Monitoring the system to determine compliance with appropriate laws, regulations, policies, procedures and contracts
- Evaluating the impact of the system and revising its design as needed

B. STEMI CENTER FEES

SBCEMSA has developed a fee structure that covers a portion of the direct cost of the designation process and to effectively monitor and evaluate the STEMI care system.

C. MULTIDISCIPLINARY STEMI QUALITY IMPROVEMENT COMMITTEE

The Multidisciplinary STEMI Quality Improvement Committee was created as a function of the planning process and continues as a part of this plan. The Committee meets three times a year to discuss and resolve STEMI system issues. It is comprised of countywide Stakeholders from local hospital and prehospital agencies involved in the overall care of STEMI patients. The Committee fosters communication between SBCEMSA and various groups with an interest in the county's STEMI system.

The functions of the STEMI Committee are:

- Conduct assessment of the STEMI system needs and resources in the county
- Provide overall direction and coordination for policymaking and program oversite
- Analyze the results of data collection and the monitoring system
- Present case studies for review and quality improvement

- Maintain compliance with the California Evidence Code, Section 1157.7 to ensure confidentiality and a disclosure-protected review of selected STEMI cases

D. MEDICAL CONTROL

Medical control and direction of the STEMI system is an essential component of the Santa Barbara County STEMI Plan and is the overall responsibility of the local EMS Medical Director. Medical control includes medical supervision of prehospital care services and the provision of medical supervision of the overall STEMI System Plan and ongoing monitoring.

SECTION IV: SYSTEM OPERATIONAL COMPONENTS

A set of policies have been developed which direct the STEMI system to provide a clear understanding of the structure of the system and manner in which the system utilizes the resources available to it.

A. PREHOSPITAL PROVIDERS

Prehospital personnel in Santa Barbara County are trained in criteria for activation of a pre-hospital STEMI Alert. The STEMI system policies will include the following:

- Criteria for activation of a field STEMI
- Early notification of impending STEMI arrival to the SRC via Base Hospital radio report via 10 Channel UHF mobile radio as noted in SBCEMSA Policy 539.
- STEMI protocols readily available for prehospital treatment
- Triage and Destination to the closest, most appropriate SRC

B. HOSPITAL PROVIDERS

There are two designated STEMI Receiving Centers (SRC). The SRC responsibilities include, but are not limited to:

- Act as a Santa Barbara County SRC according to the STEMI Receiving Center Standards Policy 600
- Provide base station medical control for field prehospital providers
- Automatically accept any STEMI patients from EMS and SRH

C. PREHOSPITAL TRANSPORTATION

For patients who meet STEMI triage criteria, the prehospital care team will determine appropriate destination and whether ground or air transport is used. This will require consideration of ground transport time, air transport time (including response time if the helicopter is not on-scene), weather, traffic and other factors.

Ground transport times for the majority of the County is less than 20 minutes. In areas with prolonged transport times, such as the far northern County and portions of the Santa Clara River Valley, air resources are utilized as appropriate.

CalStar is the air ambulance provider for the county. CalStar 7 is located in Santa Maria and is staffed 24/7/365. If CalStar is unavailable, Mercy Air (located in San Luis Obispo) and Santa Barbara County Fire Department ALS Air Rescue can be utilized for Stroke scene transports.

D. INTERFACILITY TRANSFERS

STEMI Receiving Centers (SRC) and STEMI Referral Hospitals (SRH) have developed transfer procedure criteria agreements based on their capabilities and resources. Patients, who require treatment not available at the receiving hospital, will be transferred expeditiously to the appropriate facility. This may include out-of-county facilities.

STEMI Referral Hospitals (SRH) have written policies in place for rapid transports of STEMI patients to an SRC. The SRH emergency department maintains a standardized procedure for the treatment of STEMI patients and will track and monitor the treatment of STEMI patients for potential improvement initiatives.

E. DIVERSION

If the situation arises where the catheterization lab is unavailable, or no Cardiologists are available, the SRC may go on SRC diversion via ReddiNet. ROSC patients, however, are not subject to diversion.

SECTION V: QUALITY IMPROVEMENT

A. DATA COLLECTION

Currently SBCEMSA is using *Get With The Guidelines-Coronary Artery Disease (GWTG-CAD) Registry*. Data elements from the STEMI registry are reviewed and maintained by SBCEMSA for overall monitoring of the system. Specific patient and physician identifiers are stripped from the data to assure confidentiality. CAD contains the recommended minimum data as set forth by the American Heart Association and The Joint Commission and incorporates details from arrival through discharge. SBCEMSA collects data electronically

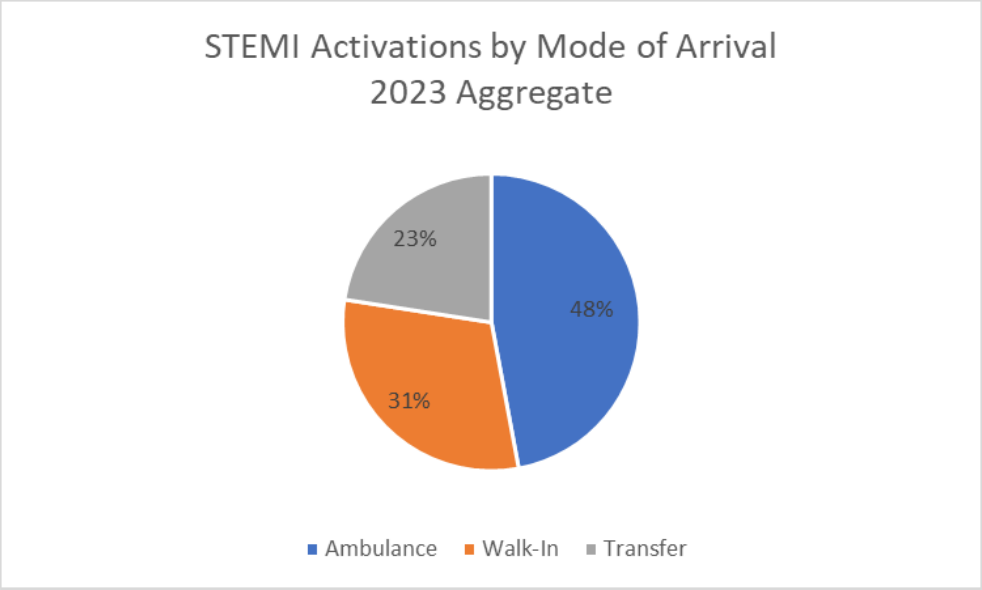
from all ALS and BLS service providers through *ImageTrend* and reports State Core Measures related to STEMI care using CEMSIS.

SBCEMSA is accountable for regular ongoing analysis and interpretation of the STEMI data. The Agency provides ongoing feedback through regular reporting and presents benchmarking goals on data elements at the STEMI Committee meetings. SBCEMSA and the STEMI Committee have the responsibility to review STEMI cases with patient outcomes and to revise STEMI Policies and procedures as necessary for progressive improvement of STEMI care.

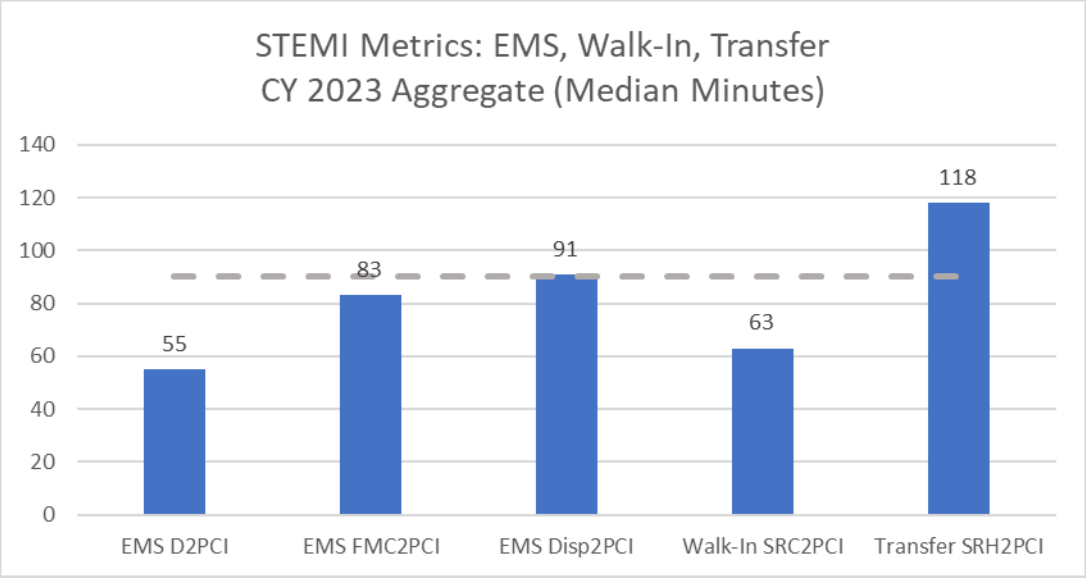
B. DATA EVALUATION

The periodic performance evaluation of the STEMI care system includes, but is not limited to, a review of the following:

- System Design, including monitoring of STEMI patient destination, appropriate and timely care, prompt transfer to SRC (if indicated), and monitoring of related metrics.
- Evaluate the appropriateness of prehospital & hospital care from data in compliance with the most current version of CEMSIS and NEMSIS, may include:
  - STEMI Activations per STEMI Receiving Hospital (SRC)
  - First Medical Contact (FMC) Time to Percutaneous Coronary Intervention (PCI)
  - Dispatch Time to Percutaneous Coronary Intervention (PCI) Time
  - EMS ECG Performed within 10 minutes
  - Prehospital Notification (to Base Hospital) of positive (POS) STEMI interpretation of ECG within 10 minutes of capture
  - Appropriateness of receiving hospital destination
  - ROSC patients with POS STEMI ECG
  - Internal STEMI activations and notification of specialists
  - ECG within 10 minutes of arrival to Receiving Hospital
  - Percutaneous Coronary Intervention (PCI) Intervals for EMS, Walk-In, & Transfers
    - SRH Door-In/Door-Out Time for patient's requiring transfer to an SRC
    - Quality Improvement Review of STEMI-related Deaths & Complications
- The graph below demonstrates the STEMI Activations by Mode of Arrival, aggregated data for 2023. This includes patients that were activated as a "STEMI" delineated by their mode of arrival to the STEMI Receiving Hospital (SRC).



- The graph below demonstrates several key metrics evaluated within our STEMI program. This chart includes evaluation of the following metrics:
  a. EMS Door-to-PCI (percutaneous coronary intervention) time;
  b. EMS First Medical Contact (FMC)-to-PCI;
  c. EMS Dispatch-to-PCI;
  d. SRC-to-PCI (Walk-In);
  e. SRC-to-PCI (Transfers from SRH to SRC, measures SRC D2PCI)



- The American Heart Association (AHA) & local benchmarks for metrics “a-e” is ≤ 90 minutes, whereas the benchmarks for patient’s originating from a STEMI Referring Hospital (SRH) requiring transfer to an SRC is benchmark of ≤ 120 minutes.

SECTION VI: COMMUNITY EDUCATION

A. COMMUNITY OUTREACH AND TRAINING

- Hands-Only CPR
  - Postponed, plan is to resume in 2024.

B. SURVIVOR RECOGNITION

- Annual Cardiac Arrest Survivor Celebration
  - Due to the COVID-19 pandemic, the annual Cardiac Arrest Survivor Celebration has been postponed until further notice.

SECTION VII: APPENDICES

Appendix A – Policy 600: Receiving Hospital Standards

Appendix B – Policy 641: STEMI Center Standards

Appendix C – Policy 642: STEMI Transfer Guidelines

Appendix D – Policy 539: 12-Lead ECG Process

APPENDIX E – POLICY 533: CHEST PAIN – ACUTE CORONARY SYNDROME

Appendix A

SBCEMSA POLICY 600: RECEIVING HOSPITAL STANDARDS

RECEIVING HOSPITAL STANDARDS

I. Purpose: To define the criteria which shall be met by an acute care hospital for Receiving Hospital designation in Santa Barbara County.

II. Authority: Health and Safety Code, Division 2.5, Sections 1798, 1798.101,1798.105 and 1798.2. California Code of Regulations, Title 22, Section 100175.

III. Definitions:

A. *Receiving Hospital:* A licensed acute care hospital, or a hospital otherwise recognized and approved by SBCEMSA, that provides basic or comprehensive emergency patient care and is actively utilized within the EMS system.

IV. Policy:

A. A hospital wishing to become an Advanced Life Support Receiving Hospital in Santa Barbara County must be compliant with the criteria stated in this policy.

V. Procedure:

A. There shall be a written agreement between the Receiving Hospital and the Santa Barbara County EMS Agency indicating the commitment of hospital administration, medical staff, and emergency department staff to meet requirements for program participation as specified by State regulations and Santa Barbara County EMS Agency policies and procedures.
   1. The Santa Barbara County EMS Agency shall review its contract with each Receiving Hospital at least every five (5) years.
   2. The Santa Barbara County EMS Agency may deny, suspend, or revoke the approval of a Receiving Hospital for failure to comply with any applicable policies, procedures, or regulations.

B. The Receiving Hospital shall agree to maintain all prehospital data in a manner consistent with hospital data requirements and provide that the data be integrated with the patient's chart. Prehospital data shall include the prehospital field report, Base Hospital communication form (from the Base Hospital), and documentation of a Base Hospital telephone communication with the Receiving Hospital.

C. The Receiving Hospital shall actively participate in various EMS Committees related to prehospital care, as deemed necessary by the EMS Medical Director or designee.

D. The Receiving Hospital shall assist the EMS Medical Director or designee, in the collection of statistics and review of necessary records for program evaluation and compliance.

E. An Advanced Life Support (ALS) Receiving Hospital (RH), approved and designated by the Santa Barbara County EMS Agency, will:
   1. Be licensed by the State Department of Health Services as a general acute care hospital
   2. Have a special permit for Basic or Comprehensive Emergency Medical Service issued by the State of California Department of Health Services, or provide a stand-by emergency medical service that meets the requirements of California Code of Regulations, Title 22, Sections 70649, 70651, 70653, 70655, and 70657

APPROVAL:

SIGNATURE ON FILE
Nicholas Clay, EMS Agency Director

SIGNATURE ON FILE
Daniel Shepherd, MD, EMS Agency Medical Director

3. Be accredited by the Joint Commission on Accreditation of Hospitals or comparable accrediting agency
4. Operate an Intensive Care Unit
5. Have operating room services available within 30 minutes
6. Have the following specialty services available at the Receiving Hospital or appropriate referral hospital service within 30 minutes:
   a. Cardiology
   b. Orthopedic Surgery
   c. Thoracic Surgery
   d. Anesthesiology
   e. General Surgery
   f. Pediatrics
   g. Neurosurgery
   h. General Medicine
   i. Obstetrics
7. Have the following services available within 20 minutes:
   a. X-Ray
   b. Laboratory
   c. Respiratory Therapy
8. Evaluate all patients promptly, by qualified medical personnel designated by hospital policy
9. Have the capability at all times to communicate with the ambulances and the Base Hospital
10. Designate a Receiving Hospital Emergency Department Medical Director who shall be a physician on the hospital staff, and have experience in emergency medical care
11. The RH Medical Director shall:
    a. Be regularly assigned to the Emergency Department
    b. Have knowledge of local EMS Agency Advanced Life Support policies and procedures
    c. Coordinate Receiving Hospital activities with the Base Hospital
    d. Attend the Emergency Medical Advisory Committee (EMAC)
    e. Provide Emergency Department staff education
12. Agree to provide at a minimum, in-house and immediately available, on a 24-hour basis, a physician specializing in Emergency Medicine and a Registered Nurse.
    a. Criteria for RH ED Physicians
       i. Must be certified by the American Board of Emergency Medicine; OR
       ii. Fulfill the following criteria to be considered a specialist in Emergency Medicine:
           i. Be in-house and immediately available to the Receiving Hospital Emergency Department at all times
           ii. If not Board certified in Emergency Medicine, then have and maintain current Advanced Cardiac Life Support and Advanced Trauma Life Support certification
           iii. Complete at least 25 Category 1 CME hours per year with content applicable to Emergency Medicine
    b. Criteria for RH ED Registered Nurses
       i. Be regular hospital staff assigned solely to the Emergency Department for that shift
       ii. Maintain current Advanced Cardiac Life Support certification
    c. Other Emergency Department Personnel
       i. All other nursing and clerical personnel for the Emergency Department shall maintain current Basic Life Support certification

F. Other SBCEMSA-Approved Receiving Hospitals

SANTA BARBARA COUNTY EMERGENCY MEDICAL SERVICES AGENCY

RECEIVING HOSPITAL STANDARDS

1. A hospital that does not meet all of the criteria as an acute care hospital, but is utilized within the EMS system as a receiving hospital to provide basic or advanced emergency care, may be approved and designated as a "Receiving Hospital" by SBCEMSA.
2. The SBCEMSA-Approved Receiving Hospital Must:
   a. Evaluate all patients promptly, by qualified medical personnel designated by hospital policy
   b. Have the capability at all times to communicate with the ambulances and the Base Hospital
   c. Designate a Receiving Hospital Emergency Department Medical Director who shall be a physician on the hospital staff, and have experience in emergency medical care
   d. The RH Medical Director shall:
      i. Be regularly assigned to the Emergency Department
      ii. Have knowledge of local EMS Agency Advanced Life Support policies and procedures
      iii. Coordinate Receiving Hospital activities with the Base Hospital
      iv. Attend the Emergency Medical Advisory Committee (EMAC)
      v. Provide Emergency Department staff education
3. Agree to provide at a minimum, in-house and immediately available, on a 24-hour basis, a physician specializing in Emergency Medicine and a Registered Nurse
   a. Criteria for RH ED Physicians
      i. Must be certified by the American Board of Emergency Medicine; OR
      ii. Fulfill the following criteria to be considered a specialist in Emergency Medicine:
         i. Be in-house and immediately available to the Receiving Hospital Emergency Department at all times
         ii. If not Board certified in Emergency Medicine, then have and maintain current Advanced Cardiac Life Support and Advanced Trauma Life Support certification
         iii. Complete at least 25 Category 1 CME hours per year with content applicable to Emergency Medicine
   b. Criteria for RH ED Registered Nurses
      i. Be regular hospital staff assigned solely to the Emergency Department for that shift
      ii. Maintain current Advanced Cardiac Life Support certification
   c. Other Emergency Department Personnel
      i. All other nursing and clerical personnel for the Emergency Department shall maintain current Basic Life Support certification

V. References: None

VI. Attachments: None

Appendix B
SBCEMSA POLICY 641: STEMI CENTER STANDARDS

Policy Number:	*641*
Original Issue Date:	*March, 2010*
Last Reviewed/Revised:	*November 12, 2019*
Effective Date:	*January 01, 2020*
Next Review:	*November, 2021*

EMERGENCY MEDICAL SERVICES POLICIES and PROCEDURES

STEMI CENTER STANDARDS

I. Purpose: To define the criteria for designation as a STEMI Receiving Center (SRC) and STEMI Referring Hospital (SRH) in Santa Barbara County.

II. Authority: Health and Safety Code, Sections 1797.220 and 1798. California Code of Regulations, Title 22, Sections 100270.117, 100270.118, 100270.124 and 100270.125.

III. Definitions:

A. *"STEMI Receiving Center" or "SRC"* : a licensed general acute care facility that meets the minimum hospital STEMI care requirements and is available 24/7/365 and able to perform PCI.

B. *"STEMI referring hospital" or "SRH":* a licensed general acute care facility that meets the minimum hospital STEMI care requirements and has a process for immediate transport of suspected STEMI patients to a SRC.

IV. Policy:

A. There shall be a written agreement between all designated STEMI Receiving Centers, STEMI Referral Hospitals and the Santa Barbara County EMS Agency (SBCEMSA) indicating the commitment of hospital administration, medical staff, and emergency department staff to meet requirements for Cardiac and STEMI Care System participation as specified by State regulations and SBCEMSA policies and procedures.

B. A STEMI Receiving Center (SRC), approved and designated by Santa Barbara County EMS Agency (SBCEMSA) shall meet the following requirements:

1. Hospital Requirements for a SRC
   a. Currently recognized as a Receiving Hospital according to SBCEMSA Policy 600 Receiving Hospital Standards.
   b. Holds a Special permit for a Cardiac Catheterization Laboratory from the California State Department of Health Services (DHS).
   c. Holds a special permit issued by DHS for Cardiovascular Surgery Service or has established current transfer agreements with a hospital or hospitals holding such a special permit.
2. SRC Hospital Capabilities
   a. Cardiac Catheterization Laboratory available 24 hours per day / 7 days per week.
   b. A mechanical ventricular assist device, such as Intra Aortic Balloon Pump or Impella shall be available on site 24 hours per day / 7 days per week with a person capable of operating this equipment.
3. Personnel
   a. SRC Medical Director:
      i. 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.

APPROVAL:

SIGNATURE ON FILE
Nicholas Clay, EMS Agency Director

SIGNATURE ON FILE
Angelo Salvucci, MD, EMS Agency Medical Director

ii. The SRC Medical Director must be a credentialed member of the medical staff with PCI privileges.

b. SRC STEMI Coordinator:
   i. The SRC shall designate a STEMI Coordinator for the STEMI program who shall be a registered nurse with 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.

c. Physician Consultants:
   i. 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. These physicians must respond immediately upon notification and be promptly available when a STEMI patient presents to the hospital.

4. Clinical Process Performance Standard
   i. The overall goal of the Cardica and STEMI Care System in Santa Barbara County is to minimize the interval between first medical contact to coronary artery reperfusion.
   ii. SRCs will adopt evidence-based strategies to reduce time to reperfusion.
5. Develop internal policies and procedures for the following:
   a. Code STEMI: 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."
      i. Interventional cardiologist and cardiac catheterization laboratory staff will be required to respond immediately upon notification and have a response time standard of under 30 minutes.
      ii. Emergency medicine physicians will have the authority to activate the cardiac catheterization laboratory staff.
      iii. Allow the automatic acceptance of any STEMI patient from a Santa Barbara County Hospital.
      iv. An interventional cardiologist assumes care of the patient from the time the patient arrives at the SRC.
      v. 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.
      vi. Identify criteria for patients to receive emergent angiography or emergent fibrinolysis based on physician decisions for individual patients.
      vii. Any STEMI Receiving Center that has been activated from the field is to ensure that the transporting paramedic is placed in radio contact with the Base Station physician prior to ED arrival.
6. Quality Improvement
   a. The Quality Improvement program will include a process for the SRC 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.
      i. Formal feedback utilizing the standardized format designated by SBCEMSA, will be provided to any prehospital agency or SRH that participated in the care of a "STEMI Activation" patient, within 72 hours.

b. An SRC QI program shall be established to review performance and outcome data for STEMI patients.
c. The SRC will actively participate in the Santa Barbara County EMS STEMI QI Program.
i. This will require regular meeting attendance by the SRC Medical Director or designee, who will be a staff interventional cardiologist, and the SRC STEMI Coordinator.

C. A STEMI Referrall Hospital (SRH), approved and designated by (SBCEMSA) shall meet the following requirements:
1. 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.
2. Develop written protocols to identify STEMI patients and provide an optimal reperfusion strategy, using fibrinolytic therapy.
3. The emergency department shall maintain a standardized procedure for the treatment of STEMI patients.
4. The hospital shall have a transfer process through interfacility transfer agreements, and have pre-arranged agreements with SBCEMSA for rapid transport of STEMI patients to a SRC.
5. Develop a program to track and improve treatment of STEMI patients.
6. The hospital must have a plan to work with a STEMI receiving center and participate in the quality improvement process as required by the SBCEMSA.
7. A SRH designated by SBCEMSA shall have a review conducted every three years.
8. Additional requirements may be stipulated by the SBCEMSA medical director.

D. Data Collection:
1. The SBCEMSA shall implement a standardized data collection and reporting process for the Cardiac and STEMI Care System. The system shall include the collection of both prehospital and hospital patient care data, as determined by SBCEMSA.
2. All designated SRCs and SRHs within the Santa Barbara County Cardiac and STEMI Care System shall participate in the data collection process in accordance with SBCEMSA policies and procedures.
a. Data will be entered into an SBCEMSA-approved registry and submitted monthly, by no later than the 15th of the following month.
b. In consultation with the STEMI CQI Committee, SBCEMSA may require additional data be submitted.

V. Procedure:

A. Designation
1. An SRC may be designated following satisfactory review of written documentation and a site survey when deemed necessary, by the Santa Barbara County EMS Agency.
a. Application:
i. Eligible hospitals shall submit a written letter of intent and request for SRC approval to the SBCEMSA documenting the compliance of the hospital with Santa Barbara County SRC Standards.
b. Approval:
i. SRC approval or denial shall be made in writing by the SBCEMSA to the requesting hospital within 30 days after receipt of the request for approval, application completion and submission of all required documentation.
(a) SRC designation approval shall be dependent on the creation of a written agreement between the newly designated STEMI Receiving Center and the Santa Barbara County EMS Agency indicating the commitment of hospital

administration, medical staff, and emergency department staff to meet requirements for Cardiac and STEMI Care System participation as specified by State regulations and SBCEMSA policies and procedures.

2. Revocation
   a. SRC designation may be denied, suspended or revoked by the SBCEMSA Medical Director for failure to comply with state and SBCEMSA policies, procedures or regulations. This includes but is not limited to:
      i. Failure to provide required data
      ii. Failure to participate in STEMI System QI activities
      iii. Other criteria as defined and reviewed by the STEMI QI Committee
3. Redesignation
      i. SRCs shall be reviewed on a biannual basis.
      ii. SBCEMSA may suspend or revoke the approval of a SRC at any time for failure to comply with any applicable policies, procedures, or regulations.
      iii. An SRC may be re-designated following a satisfactory Santa Barbara County EMS Agency review every year.
      iv. SRCs shall receive notification of evaluation from the SBCEMSA.
      v. SRCs shall respond in writing regarding program compliance.
      vi. On-site SRC visits for evaluative purposes may occur.
      vii. SRCs shall notify SBCEMSA by telephone, followed by a letter or email within 48 hours, of changes in program compliance or performance.
4. Discontinuation
   a. The SRC shall submit a written 180 calendar day notice to the SBCEMSA prior to the discontinuation of SRC services.

VI. References:

A. Policy 600 Receiving Hospital Standards
B. Policy 640 Cardiac and STEMI System General Guidelines
C. Policy 642 STEMI Transfer Guidelines

VII. Attachments: None

Appendix C

SBCEMSA POLICY 642: STEMI TRANSFER GUIDELINES

Policy Number:	*642*
Original Issue Date:	*March, 2010*
Last Reviewed/Revised:	*November 12, 2019*
Effective Date:	*January 01, 2020*
Next Review:	*November, 2021*

EMERGENCY MEDICAL SERVICES POLICIES and PROCEDURES

STEMI TRANSFER GUIDELINES

I. Purpose: To define the "Code STEMI" process by which patients with a STEMI are transferred from a STEMI Referral Hospital (SRH) to a STEMI Receiving Center (SRC) for emergency percutaneous coronary intervention (PCI).

II. Authority: Health and Safety Code, Sections 1797.220 and 1798. California Code of Regulations, Title 22, Sections 100147 and 100169.

III. Definitions:

A. *STEMI:* ST Segment Elevation Myocardial Infarction
B. *STEMI Receiving Center (SRC):* An acute care hospital with percutaneous coronary intervention (PCI) services that has been designated according to SBCEMSA Policy 640.
C. *STEMI Referral Hospital (SRH):* An acute care hospital in Santa Barbara County that meets the requirements for a receiving hospital in SBCEMSA Policy 600 and is not designated as a STEMI Receiving Center according to SBCEMSA Policy 640.
D. *PCI:* Percutaneous Coronary Intervention

IV. Policy:

A. All hospitals within the Santa Barbara County Cardiac and STEMI Care System shall have written transfer agreements with the higher level designated STEMI Receiving Centers within the System. These shall indicate the commitment of hospital administration, medical staff, and emergency department staff to meet requirements for Cardiac and STEMI Care System participation as specified by State regulations and SBCEMSA policies and procedures.
B. STEMI Referral Hospital (SRH) will:
   1. Assemble and maintain a "STEMI Pack" in the emergency department to contain all of the following:
      a. Checklist with phone numbers of Santa Barbara County STEMI Receiving Centers (SRC).
      b. Preprinted template order sheet with recommended prior-to-transfer treatments.
         i. Treatment guidelines will be developed with input from the SRH and SRC cardiologists.
      c. Patient Consent/Transfer Forms.
      d. Treatment summary sheet.
      e. Santa Barbara County EMSA Code STEMI transfer form.
   2. Have policies, procedures and a quality improvement system in place to minimize door-to-ECG, ECG-to-interpretation, STEMI-Dx-to-transfer times, and Door In/Door out times.
   3. Establish policies that will include patient criteria for requiring an RN to accompany patient.
   4. Establish policies and procedures to make personnel available to accompany the patient during the transfer to the SRC as appropriate.
C. Dispatch will:
   1. Respond to a "Code STEMI" transfer request by immediately dispatching the closest available ALS ambulance or air or ground CCT unit to the requesting SRH.
   2. Ambulance or helicopter transporting agencies will:

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Angelo Salvucci, MD, EMS Agency Medical Director

a. Respond immediately upon request for "Code STEMI" transfer.

D. STEMI Receiving Centers will:
1. Maintain accurate status information on ReddiNet regarding the availability of a cardiac catheterization lab.
2. Publish a single phone number, that is answered 24/7, to receive notification of a STEMI transfer.
3. Immediately, upon initial notification by a transferring physician at an SRH, automatically accept in all transfer patients who have been diagnosed with a STEMI and who, in the judgment of the transferring physician, require urgent PCI.
4. Authorize the emergency physician to automatically accept transfer of any patient with a STEMI.
5. Establish an internal communications plan that assures the immediate notification of all necessary individuals, including the cardiac catheterization services staff and on-call interventional cardiologist, of the transfer.
6. Adopt procedures to make an ICU/CCU bed available or to make alternate arrangements for post-PCI care.

V. Procedure:

A. Upon diagnosis of STEMI, and after discussion with the patient, the SRH will:
1. Determine availability of the SRC by checking ReddiNet.
2. Immediately call the County Dispatch Center to request an air or ground ambulance (ALS or CCT).
   a. Advise that they have a Code STEMI transfer to [SRC].
   b. After calling for ambulance, the SRH transferring physician will notify the SRC emergency physician of the transfer.
3. Perform, as time allows, indicated diagnostic tests and treatments.
4. Unless contraindicated, the following medications are recommended for administration by the STEMI Referral Hospital prior to transfer:
   a. Aspirin 324mg PO
   b. Heparin 50units/kg of actual body weight (maximum 5,000 units) IV.
   c. Clopidogrel (Plavix®) is NOT to be administered.
5. Complete transfer consent, and, as time allows, a treatment summary, and Code STEMI transfer data forms.
   a. If this cannot be done prior to transfer, fax immediately to the accepting SRC and SBCEMSA Specialty Care System Coordinator.
   b. Include copies of the ED face sheet and demographic information.
6. Healthcare staff may, as determined by the clinical status of the patient, accompany the patient to the SRC.
7. Contact SRC for nurse report at the time, or immediately after, the ambulance departs.

B. Upon request for "Code STEMI" transfer, the dispatch center will dispatch the closest available ambulance or CCT unit per hospital direction, and notify responder of a "Code STEMI" request.
1. Upon notification, the ambulance will respond Code 3 (lights and siren).
2. The patient shall be urgently transferred without delay.
   a. Every effort will be made to minimize on-scene time.
3. All forms should be completed prior to ambulance arrival.
4. Any diagnostic test results may be relayed to the SRC after patient departure.
5. Intravenous drips may be discontinued or remain on the ED pump.
6. Ambulance personnel will place defibrillation pads on the patient.

C. Upon notification, the SRC will notify the interventional cardiologist and cardiac catheterization staff, who will respond immediately and prepare for the PCI procedure.
   1. The SRH and SRC shall review all STEMI transfers within 24 hours for appropriate and timely care and to identify opportunities for improvement.
      a. The SRH STEMI Transfer Form will be utilized and sent to the SBCEMSA Specialty Care System Coordinator within 72 hours.
      b. SRC will submit feedback utilizing the standardized format designated by the SBCEMSA within 72 hours.
      c. Results may be reviewed and discussed at the SBCEMSA STEMI System committee meeting.

VI. References:

A. Policy 600 Receiving Hospital Standards
B. Policy 641 STEMI Center Standards
C. Policy 511 – Transport Zones

VII. Attachments: None

Appendix D

SBCEMSA POLICY 539: 12-LEAD ECG PROCESS

Policy Number:	539
Original Issue Date:	March 2010
Last Reviewed/Revised:	February 2023
Effective Date:	May 1, 2023
Next Review:	February 2025

12-LEAD ECG PROCESS

I. Purpose: To define the indications, procedure and documentation for obtaining 12-lead Electrocardiograms (ECGs) and management ofpatients with a suspected ST-segment Elevation Myocardial Infarction (STEMI).

II. Authority: California Health and Safety Code, Sections 1797.204, 1797.220 and 1798. California Code of Regulations, Title 22, Division 9, Sections 100148, 100169 and 100170.

III. Definitions:

A. *STEMI:* ST-segment Elevation Myocardial Infarction

B. *STEMI Receiving Center (SRC):* an acute care hospital with percutaneous coronary intervention (PCI) services that has been designated according to Santa Barbara County EMS Policy 640 – Cardiac and STEMI Care System Guidelines.

IV. Policy:

A. Paramedics will obtain 12-lead ECGs in patients suspected of having an acute coronary syndrome and provide treatment in accordance with this policy.

V. Procedure:

A. Indications for 12-lead ECG: Medical history and/or presenting complaints consistent with an acute coronary syndrome. Patients will have acute onset (within the previous 12-hours) or acute exacerbation of *one or more* of the following symptoms that have no other identifiable cause:
   1. Chest, upper back, or upper abdominal discomfort;
   2. Generalized weakness;
   3. Dyspnea;
   4. After successful treatment and conversion of cardiac dysrhythmias;
   5. Post-ROSC (Return of Spontaneous Circulation);
   6. Syncope
   7. Symptomatic bradycardia
   8. Paramedic Discretion

B. Contraindications: **DO NOT** perform ECG on these patients:
   1. Trauma: There must be no delay in transport;
   2. Cardiac Arrest (unless return of spontaneous circulation);

C. ECG Procedure:
   1. Attempt to obtain ECG during initial patient evaluation.
   2. Immediate life threats should be addressed per policy prior to ECG (e.g. hypoxemia, hypotension)
   3. When possible, the ECG should be obtained prior to initiating transport
   4. Assure proper skin preparation prior to attaching electrodes. Check for loose electrodes or those with dry gel.
   5. If the ECG is of poor quality (artifact or wandering baseline), or the patient's condition worsens, ECG may be repeated to a total of three (3) times.

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Daniel Shepherd, MD, EMS Agency Medical Director

6. Once an acceptable quality ECG is obtained, switch the monitor to the standard 4-Lead function.
7. If the interpretation on cardiac monitor meets your manufacturer guidelines for a POS STEMI ECG, note underlying rhythm, and verify by history and physical exam if the patient has a pacemaker or implantable cardioverter defribillator (ICD).
   a. Communicate any information related to pacemaker or ICD devices to the SRC, especially if 12-Lead returns as POS STEMI ECG.

D. SRC Base Hospital Communication
1. If the interpretation on the monitor meets your manufacturer guidelines for a POS STEMI ECG, notify SRC Base Hospital within 10-minutes of interpretation.
   a. Report POS STEMI ECG to BH along with the heart rate on ECG.
   b. If the ECG is of poor quality, or the underlyign rhythm is paced, or atrial flutter, include that information in the intial report.
   c. All other information, except for that which is listed in items 2, 4, and 5 below are optional and can be given at the paramedic's discretion (or at SRC Base Hospital's request).
2. Paramedics are to ask the patient if they have a cardiologist and report that information to the SRC Base Hospital.
3. If the interpretation on the monitor meets your manufacturer guidelines for a POS STEMI ECG, patients should be transported to the closest and most appropriate SRC.
   a. Any patient requests to be transported to another facility outside of this policy should be immediately communicated to the SRC Base Hospital.
4. If the interpretation on the monitor meets your manufacture guidelines for a POS STEMI ECG, and the underlying rhythm is Atrial Flutter or the rate is above 140, the SRB BH shall be notified at the beginning of the report.
   a. Cath Lab activation will occur at the discretion of the SRC Base Hospital.
5. If the interpretation on the monitor meets your manufacture guidelines for a POS STEMI ECG, and the patient has a pacemaker, ICD, or ECG is of poor quality with a wandering baseline and/or artifact (and all 3 attempts to repeat 12-Lead have been exhausted), then report findings to the SRC Base Hospital.
6. If a first responder paramedic obtains an ECG with a good quality reading, then transporting paramedic will not perform subsequent 12-Lead ECG's unless the patient's condition changes, worsens, or develops any new symptoms as outlined by this policy.
   a. If first responder 12-Lead ECG meets your manufacture guidelines for a POS STEMI ECG, then every attempt to provide a copy of that 12-Lead to the transporting unit (if different then first responder and/or first responder is not riding in to the hospital) must be made.

E. Transportation
1. As referenced in Policy 533-11 Chest Pain, all patients activated as a "STEMI Alert" from the field should consider the following:
   a. Consider Code-2 transport to SRC if patient's condition and/or vital signs are *stable*.
   b. Consider Code-3 transport to SRC if patient's condition and/or vital signs are *unstable*.

F. Patient Treatment
1. Patient Communication
   a. If the interpretation on monitor meets your manufacturer guidelines for a POS STEMI ECG, the patient should be told that "according to the ECG you may be having a heart attack".
   b. If the ECG reads anything other than POS STEMI ECG, then the paramedic must not tell the patient that their ECG is normal or state, "you are not having a heart attack."

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i. If patient asks what the ECG shows, tell the patient that it will be read by the emergency physician upon arrival to the Emergency Department.

G. Other ECGs
1. If an ECG is obtained by a physician (or other clinician) and the interpretation on the ECG indicates positive for a STEMI, then the patient will be treated as a positive STEMI.
   a. Any subsequent 12-Lead ECG's are not indicated under these circumstances.
2. If the ECG obtained by a physician (or other clinician) does not indicate a STEMI by interpretation, and the physician is stating that it **IS** a STEMI, perform repeat ECG once the patient is in the ambulance.
   a. If repeat ECG obtained by EMS is positive for a STEMI:
      i. Transport to SRC as a "Code STEMI"
   b. If repeat ECG obtained by EMS is negative for a STEMI:
      i. Transport to SRC, but do not indicate "Code STEMI"
3. If an ECG is obtained by a physician (or other clinician) does not indicate STEMI (via interpretation on ECG or through verbal statement) **AND** EMS ECG is also negative for STEMI, the patient may be transported to the nearest facility.
4. Retain original ECG's obtained by physician/clinician and transport with patient to Emergency Department.

H. Documentation
1. It is the responsibility of all responding agencies to complete the electronic Patient Care Report (ePCR) per Policy 700 – Prehospital Documentation. Any and all 12-Lead ECGs (positive or negative interpretatations) obtained in the field (either by paramedic first responders, paramedic transport personnel, and physician/clinicians) must be attached to the patient care record as a tracing or photographed as an attachment.
2. All notifications, alerts and comments (such as "poor ECG quality," "Atrial Flutter," etc.) made to the Base Hospital should be documented in the ePCR narrative.
3. All original copies of 12-Lead ECG(s) will be turned in to the receiving hospital by handing it directly to the receiving medical practitioner assuming care of the patient.
4. 12-Lead ECG findings must be documented in the appropriate Specialty Care Tab (*Acute Coronary Syndrome (ACS)* or *Cardiac Arrest (ROSC)* as appropriate) within the ePCR.

VI. References:
A. Policy 533-11 Chest Pain
B. Policy 640 – Cardiac and STEMI Care System Guidelines
C. Policy 700 - Documentation of Prehospital Care

VII. Attachments:
A. None

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Appendix E

SBCEMSA POLICY 533.11: CHEST PAIN - ACUTE CORONARY SYNDROME

SANTA BARBARA COUNTY EMS AGENCY

STROKE CRITICAL SYSTEM OF CARE

UPDATE 2023

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Santa Barbara County PUBLIC Health DEPARTMENT

EXECUTIVE SUMMARY

California statute mandates the Emergency Medical Services Authority (EMSA) to adopt necessary regulations to carry out the coordination and integration of all state activities concerning Emergency Medical Services (EMS) (Health and Safety Code §1797.107). In addition, State statute allows the EMS Authority to establish guidelines for hospital facilities, in cooperation with affected medical organizations, according to critical care capabilities (Health and Safety Code §1798.150). As a result of these statutes, the EMS Authority established a multidisciplinary stroke taskforce for the development of Stroke System of Care Regulations for California.[1]

California's Statewide Stroke Critical Care System is described in the California Code of Regulations; Title 22, Division 9, Chapter 7.2. These regulations outline the requirements of all components of the Stroke Critical Care System including the Local Emergency Medical Services Agency (LEMSA), prehospital providers, and hospitals.

The regulations emphasize the significance of data management, ongoing quality improvement and importance of establishing a consistent evaluation process to further promote high-quality care to the stroke patient. The overall goal of the regulations is to reduce morbidity and mortality from acute stroke disease by improving the delivery of emergency medical care within the communities of California.

Santa Barbara County Emergency Medical Services Agency (SBCEMSA) already has many of the regulations in place, including prehospital care policies to identify stroke patients, identify designated stroke receiving hospitals, and stroke destination policies. As a requirement of the California Regulations, this document is to serve as a formal written plan for the SBCEMSA Stroke Critical Care System. SBCEMSA's Stroke Critical Care System Plan has been written in accordance with Title 22, Division 9, Chapter 7.2 of the California Code of Regulations.

STROKE CRITICAL CARE SYSTEM

Approximately 795,000 Americans suffer a stroke every year, with a significant mortality of one stroke-related death every four minutes. Stroke is the most common cause of adult long-term disability in the United States. It is a life-changing event that places a heavy burden on patients, families, and caregivers. When a patient is suffering an ischemic stroke, timely intervention is critical, not only to improve survivor quality of life, but to also reverse the damage and reduce mortality, morbidity, and disability.

Hospitals have traditionally been designated as a stroke receiving hospital by their Local EMS Agency because of differing standards from one geographic area to the next. Public safety is best served when patients receive a regulated form of care based on national standards and best practices. This implementation of standardized statewide requirements for stroke care will provide consistent treatment across the state. Santa Barbara County's Stroke Critical Care System is a subspecialty care component of the EMS system that was developed by the SBCEMSA. This critical care system links prehospital and in-hospital care to deliver treatment to stroke patients who potentially require immediate medical, or surgical, intervention.

[1] https://emsa.ca.gov/about-stroke/

VISION, MISSION STATEMENT AND VALUES

SBCEMSA's specialty care programs are further refined by the agency's commitment to excellence as defined in the Vision, Mission, Values, and Principles:

- **VISION**
  - To provide leadership and planning that is proactive, continuously seeking ways to improve and optimize emergency medical services.
- **MISSION STATEMENT**
  - To protect and improve health and safety of the people in Santa Barbara County through the provision of high-quality emergency and disaster medical services, through reasonable costs, community involvement, continuous evaluation, prevention programs and anticipatory planning.
- **VALUES**
  - We value the patient as the focus of all we do.
  - We value our system participants.
  - We value honesty and integrity.
  - We value respect, fairness and trust.
  - We value teamwork, cooperation and creative problem solving.

STROKE CONTINUUM OF CARE

The Stroke Critical Care System Plan for Santa Barbara County is, first and foremost, a patient advocacy document. Its purpose is to provide a framework for the establishment of a coordinated, comprehensive stroke program for the county that addresses the needs of the patient suffering from an acute stroke. The plan acknowledges the inherent challenges of the urban, semi-rural, and rural healthcare environment and provides an organized process to ensure quality stroke services while remaining sensitive to the intrinsic resource and financial constraints of the system participants. This plan recognizes that a partnership of organizations, institutions and individuals form the quality stroke system. It is only through this partnership and adherence to quality stroke care standards that the goals of this plan will be achieved.

This Stroke Critical Care System Plan designs a countywide stroke system in order to:

- Rapidly identify stroke patients through assessment.
- Assure timely transport to the closest, most appropriate Acute Stroke Center destination for definitive care.
- Identify, monitor and measure preventable death and disability from stroke and other cardiovascular events.
- Monitor and assure timely, optimal stroke services in a cost-efficient manner through close coordination of prehospital and hospital services; and
- Monitor outcomes and participate in continuous quality improvement efforts.

Stroke systems of care improve care and support for stroke patients throughout their health care journey. We know that what matters to a patient's outcome is reducing the time between the initial onset of stroke symptoms and the transition from EMS to hospital intervention. Together, EMS agencies, hospitals, and health care facilities collect and analyze data about stroke patients and care. When best practices and data are shared, the different disciplines can work together to improve patient care.

The continuum of care is important to caregivers and patients alike. It leads to an improvement of patient satisfaction levels, reduces costs, and improves health. Keeping up the continuum of care is especially

significant for specific patient populations such as those who are more dependent on the health services, the elderly, those suffering from complex medical conditions, the mentally vulnerable and those with chronic diseases. Due to the aforementioned examples, the continuum of care is particularly beneficial to the stroke patient population. Stroke systems of care depend on robust collaboration to ensure that the continuum of care is optimally exercised.

THREE AREAS OF COLLABORATION: A TEAM APPROACH

Recognizing that patient outcomes are greatly dependent on the rapidity and quality of treatment within each level of care on the continuum, it is critical for Santa Barbara County providers to work in collaboration with a team approach wherever possible. Common themes span across the Prehospital, In-Hospital and Post-Hospital levels that identify opportunities to maximize SBCEMSA's team approach to reach the optimum level of care for stroke patients.

Community education, EMS and other healthcare professionals all promote and support an integrated system of care. Inter-professional and interdisciplinary education systems prepare care providers to work collaboratively together as a team. When combined with community education and outreach efforts, the patients and their families have an active role in their personal health and well-being.

Performance Improvement invariably involves work across multiple systems and disciplines within a practice. Within the healthcare practice continuum, this is particularly applicable as patients have various formal and informal care providers throughout their course of illness and into their discharge disposition. Good data can help identify, verify and proactively address issues, measure progress and capitalize on opportunities. When data is gathered, tracked, and analyzed in a credible way over time, it becomes possible to measure progress and success. Policies, procedures, services, and interventions can then be evaluated and transformed as necessary.

A team approach from a truly integrated healthcare system will go beyond education, outreach, performance improvement and data management/sharing. SBCEMSA's aim is to create a seamless system, which requires EMS professionals and community partners to commit to the same-shared objectives and find ways to achieve them together. This team approach from a patient-centered EMS system takes advantages of the strengths and resources brought by each organization and provider to protect the health and wellness of individuals and communities.

STAKEHOLDERS

SANTA BARBARA COUNTY

The County of Santa Barbara is located in Southern California and encompasses an area of 2,735 square land miles. The boundary of the county extends from the Sierra Madre and San Rafael Mountain ranges and a small portion of Kern County on the Northeast, from San Luis Obispo County on the Northwest, Ventura County on the Southeast and the Pacific Ocean on the Southwest. Mountainous terrain, expanses of agricultural lands, and widely dispersed rural communities limit accessibility to health care.

Water plays a vital role in the growth and development of this area. Acquisition, quality, and conservation of water are paramount to the area's development. Local water supplies come from runoff stored in reservoirs or from ground water, and a new desalination plant was constructed in 1992. This plant is not in operation at this time but can be made available in the event it becomes necessary. Water is the main recreational feature in Santa Barbara County attracting tourists and the fishing industry.

The mountains, which border the eastern section of the county, together with humid conditions, create dense fog during the summer months at the higher elevations. This dense fog can produce zero visibility which greatly contributes to high-crash rates in rural areas of Santa Barbara County. Residents in rural areas of the county often times require the transport/transfer of critical patients by means of air ambulance. Dense fog hinders accessibility to healthcare services for these patients as air ambulance transport may not be an option during times of poor visibility.

Santa Barbara County can be divided by two geographic planes: North County and South County. Both North and South County regions are equipped with two major hospitals capable of caring for specialty care patients. In the North County, residents have access to Marian Regional Medical Center (MRMC), and in the South County, residents have access to Santa Barbara Cottage Hospital (SBCH). Both hospitals have a helipad for transport/transfer of critical patients by means of air ambulance.

Scheduled commercial and private air travel is provided at the Santa Barbara and Santa Maria Airports. There are also scheduled charter services from Lompoc Airport and private services available at the Santa Ynez Airport. Passenger rail service is available via Amtrak, which has a scheduled stop in the City of Santa Barbara.

Santa Barbara is known as a highly desirable place to live for its exceptional climate and small-town ambiance and beauty. In 2023 per the United States Census Bureau, the population was an estimated 441,257, with 16.7% of the population over 65 years of age. It has an average household income of $92,332 with a poverty rate of 14.1%. The demographics of the County indicate that there are many concentrated low-income areas (compared with 19% of the State population). As the population of Santa Barbara County continues to age, so does the demand for EMS services in the over 65 age group.

SANTA BARBARA COUNTY STROKE CENTERS

Santa Barbara County has five acute care facilities, each of which are prehospital receiving centers and act as Base Hospitals (BH). Base Station services are provided via a contract between the facility and SBCEMSA and reviewed within a 5-year period (Policy 610). Each Base Hospital (BH) is required to have a Medical Director and a Prehospital Care Coordinator (PCC). There are two Base Hospitals certified as Acute Stroke Ready Hospitals (ASRH); one is a Primary Stroke Center (PSC) and the other is a Comprehensive Stroke Center (CSC). Conversely, one hospital remains a Base Hospital with no stroke certification or designation.

The California State Regulations define these three types of Stroke Centers by the following criteria:

- *Comprehensive Stroke Center* – A hospital that "…diagnose and treat all stroke cases and provide the highest level of care for stroke patients."
- *Primary Stroke Center* – A hospital that "…stabilizes and treats acute stroke patients, providing initial acute care, and may transfer to one or more higher level of care centers when clinically warranted."
- *Acute Stroke Ready Hospital* – A hospital that is "…able to provide the minimum level of critical care services for stroke patients in the emergency department and are paired with one or more hospitals with a higher level of stroke services."

Santa Barbara County Emergency Medical Services Agency has written agreements with hospitals that are designated stroke receiving hospitals. To be considered for stroke receiving center designation, hospitals must hold current certification with The Joint Commission, American Heart Association or the Center for Improvement in Healthcare Quality. Stroke Centers must also maintain compliance with SBCEMSA's designation criteria outlined in *Policy 651 – Acute Stroke Center (ACS) Standards.*

SANTA BARBARA COUNTY PREHOSPITAL PROVIDERS

The County of Santa Barbara is comprised of a mix of public and private EMS Advanced Life Support (ALS) providers as well as a number of Basic Life Support (BLS) First Responders. A combination of ground, air and specialty critical care transport (CCT) are all offered within the county. The community can access emergency transport services via public ambulance providers through the 9-1-1 system. All ALS vehicles used to transport patients within the County are required to have two-way radios. All Base Hospitals have the capability of communicating with the prehospital providers in their area by means of radios and/or phones.

Once on scene, the first responder and ambulance transport crews coordinate their efforts to rapidly identify, treat, and transport stroke patients to the most appropriate Stroke Receiving Center. When needed, prehospital providers can contact base hospital personnel for medical direction. Field crews notify the Stroke Receiving Center of the incoming patient with a *"Stroke Alert"* radio report in order to allow hospital staff to prepare for expeditious triage and treatment upon patient arrival.

Prehospital providers work closely with the hospital staff to ensure that all pertinent information is relayed for a seamless transition within the continuum of care. To facilitate this continuum of care, SBCEMSA has implemented a prehospital data collection system where all prehospital ALS providers utilize a standardized patient care report platform. This platform contains all the information that is entered into the County data collection system. Currently, the EMS Agency is collecting data electronically with all ALS and BLS providers.

NEIGHBORING EMS AGENCIES

Due to the complex nature of an EMS System that has multiple agencies that provide local operational oversight, it is imperative to have processes in place in which patients' care is uninterrupted despite crossing county line. SBCEMSA has established Stroke Critical Care System agreements with each of the Local EMS Agencies who have a bordering county to Santa Barbara County.

THE STROKE PATIENT

SBCEMSA believes that early identification of stroke symptoms by emergency medical personnel is a valuable part of optimal care for the victims of stroke. EMS professionals should attempt to determine the time the patient was last known to be neurological symptom free. It is imperative that both field and hospital clinicians are well trained and educated on stroke assessments, including the utilization of the Cincinnati Stroke Scale. For over a year, SBCEMSA worked closely with the various stroke center representatives, prehospital providers, and vascular interventionalists to develop a stroke triage algorithm that includes assessment and destination guidelines for prehospital strokes that meet criteria for Large Vessel Occlusions (LVO). This was a significant transition from the former (and only) stroke screening utilized in the prehospital setting, the Cincinnati Stroke Scale (CSS). After much deliberation, the Stroke Committee agreed on implementing VAN as the LVO screening tool in the field setting. The aforementioned stroke triage guidelines resulted in significant modifications to the corresponding stroke policies (*Policy 533-21 – Stroke* and *Policy 550 – Stroke Triage and Destination).* Both policies were finalized in December of 2022, and respective training was distributed January 1, 2023, as part of the Quarter 1 2023 training. This policy became effective on May 1st, 2023 which has been effective in the recognition and treatment of CVAs in Santa Barbara County.

Destination

In stroke systems of care, stroke patients should be transported to the most appropriate staffed and equipped facility to manage an acute stroke patient. This determination will include assessments of local resources and transport times. [2] For patients who meet "*Stroke Alert*" criteria, the prehospital care team will determine appropriate destination and whether ground or air transport is used. This will require consideration of ground transport time, air transport time (including response time if the helicopter is not on-scene), weather, traffic and other factors. Ground transport times for the majority of the county are less than 20 minutes. In areas with prolonged transport times, such as most northern parts of the County and portions of the Santa Clara River Valley, air resources are utilized as appropriate.

CalStar is the air ambulance provider for the county. CalStar 7 is located in Santa Maria and is staffed 24/7/365. If CalStar is unavailable, Mercy Air (located in San Luis Obispo) and Santa Barbara County Fire Department ALS Air Rescue can be utilized for Stroke scene transports.

Communication

If a suspected stroke patient is en route to the Base Hospital, the Emergency Medical Service personnel should provide pre-hospital notification to the stroke-receiving center via Base Hospital radio report on 10 Channel UHF mobile radio. Doing so will ensure that the appropriate hospital resources are mobilized before patient arrival.

[2] Recommendations for The Establishment of an Optimal System of Acute Stroke Care for Adults pp 26

SBCEMSA has a policy in place to give direction on administering a notification report to receiving hospitals. *Policy 303 – Mandatory Base Hospital Contact and Communication* addresses the minimum acceptable information to be communicated and provides a standardized and consistent approach to prehospital notifications.

Interfacility Transfers (IFTs)

Four out of five of Santa Barbara County's receiving hospitals are currently certified as one of three levels of stroke centers. Patients who require treatment not available at the receiving hospital are transferred expeditiously to the appropriate facility (which may also include out-of-county facilities). Each stroke receiving hospital has:

- Prearranged agreements with stroke receiving hospitals (primary or comprehensive) for transfer of patients
- Prearranged agreements with EMS providers for rapid transport of patients who are eligible for time-sensitive treatments

Emergency departments maintain a standardized procedure for the treatment of stroke patients. Additionally, Emergency departments will continuously monitor and track the ongoing care of stroke patients and determine if there are any potential improvement initiatives.

Interfacility transfers (IFTs) may apply to patients who would benefit from being transferred emergently from a non-stroke receiving hospital to a stroke receiving hospital, or those that might benefit from being transferred from a stroke receiving hospital with primary stroke center capabilities to a comprehensive stroke center or equivalent.[3] In either case, emergency transfer protocols are pre-arranged, and it is understood that transport should be provided with the urgency of a 9-1-1 response.

SBCEMSA has a policy in place to provide guidelines for ambulance transport of patients between acute care hospitals. *Policy 405—Interfacility Transfer* outlines transfer procedures, automatic acceptance and medical control to ensure that patient needs are being met while providing quality rapid transport to definitive treatment.

STROKE QUALITY IMPROVEMENT

Reaching for excellence in any system requires a functional decision-making process among the team of workers and users within that system. Inherent to this process is the need to know how the system is functioning, identifying any known or potential problems, and determining the best method of approaching and implementing change within the system to improve patient care.

The concept of continuous quality improvement (CQI), particularly in the field of health care, relies mainly upon the following fundamental components:

- The availability of reliable and trusted information.
- The ability to effectively communicate that information in comprehensible ways.
- A standardized approach to reaching decisions and acting on those decisions; and
- The ability to measure performance using reliable statistical methods and using that information to build quality into the process.

[3] https://emsa.ca.gov/wp-content/uploads/sites/47/2017/12/CDPH-Stroke-Document-2010-Published.pdf

In addition to establishing CQI, it is equally as important to establish a mechanism for evaluating the changes/outcomes to benefit the stroke system of care. The goal of performance evaluation is to review the system design, determine the appropriateness of prehospital care, and whether or not the system is meeting and/or exceeding national standard goals and guidelines.

STROKE CARE COMMITTEE

As the delivery of stroke care evolves to become more interconnected, coordinating care between prehospital providers, nurses, physicians, and other disciplines has become increasingly important. In its simplest form, interprofessional collaboration is the practice of approaching patient care from a team-based perspective.

When implementing interprofessional collaboration, learning to work together, and respecting one another's perspectives in healthcare, multiple disciplines can work more effectively as a team to help improve patient outcomes. In addition, it improves the coordination and communication between healthcare professionals and in turn, improves the quality and safety of patient care.

SBCEMSA has a Stroke Care Committee that has representation from each of the Stroke Centers as well as members that represent the prehospital providers in our area. The Stroke Care Committee elected to adjust its meeting cadence to review data twice a year (every March and August) and administrative and policy-related topics also twice a year (every June and December) respectively. As a result of this cadence, data is available in the GWTG-Stroke registry in 6-month interval periods. The decision to transition to this reporting cadence was a direct result of stability within the Stroke System of Care, including meeting and/or exceeding prehospital and hospital benchmarks, good patient outcomes, and diminished documentation errors with the prehospital patient care reports.

We continue to review performance data, identifying areas that need of improvement, developing education and training, and monitoring and tracking improvement efforts. For these activities, the committee uses a variety of QI approaches and tools, including Plan, Do, Study, Act (PDSA) cycles, assessments, audits and feedback, benchmarking, case review and best practices research.

The Stroke Care Committee provides expertise to address potential quality improvement initiatives within the stroke system, which contributes to the development or revision of stroke related policies, procedures and treatment protocols.

DATA COLLECTION

The primary aim of Santa Barbara County's Stroke Critical Care System is to develop a comprehensive system that provides timely access to proven treatments necessary to reduce morbidity and mortality. It is through continuous quality improvement efforts that stroke patients receive care based on best practices. Implementation of quality improvement programs and clinical best practices reduces morbidity and mortality, hence improves patient outcomes.

EPIDEMIOLOGY

Data from the Vital Records Department of Public Health show that the 5th cause of death in Santa Barbara County are Cerebrovascular Disease (Stroke), which is consistent with the trend throughout California and the United States.

The following is a summary from the Automatic Vital Statistics System for Santa Barbara County of the top five causes of death for 2018-2020:

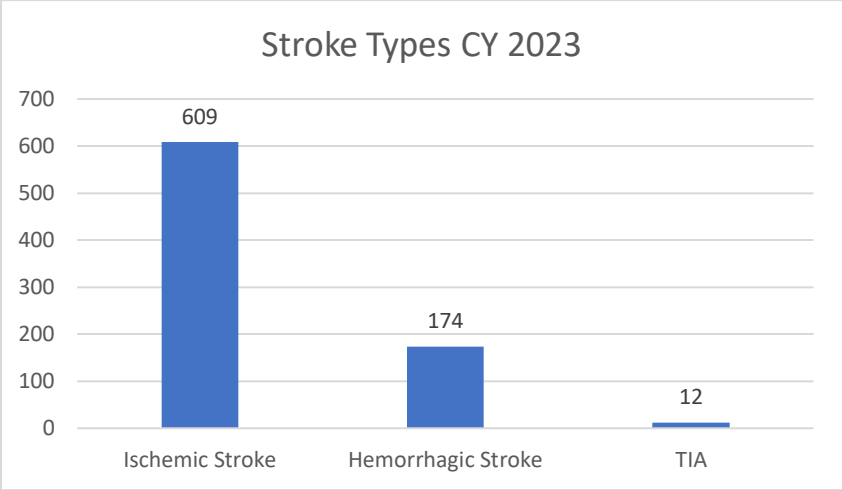
1. All cancers
2. Coronary Heart Disease
3. Alzheimer's Disease
4. Accidents
5. Cerebrovascular Disease (Stroke)

SBCEMSA STROKE PERFORMANCE MONITORING

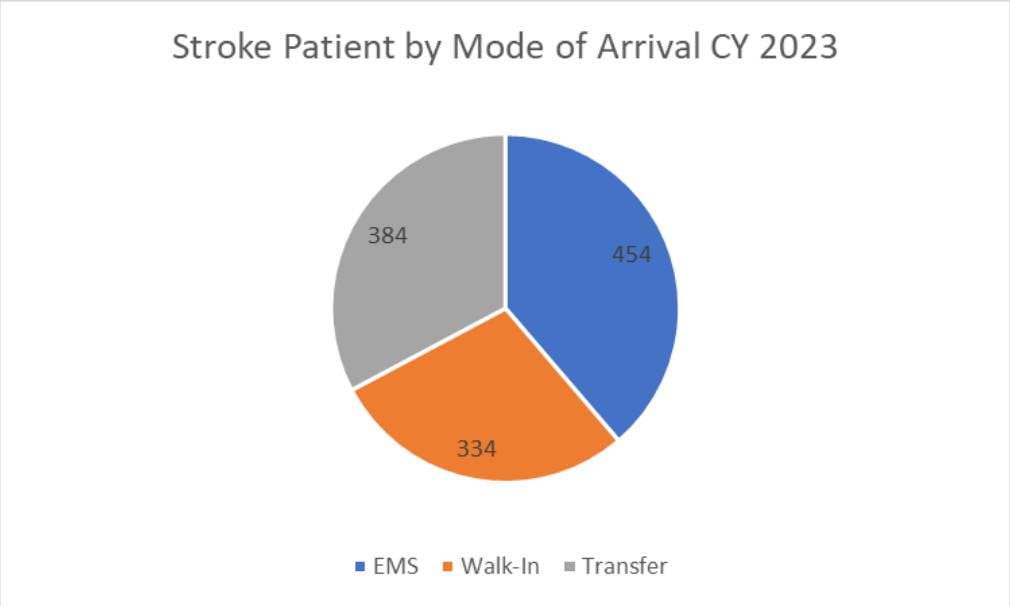
SBCEMSA is accountable for regular ongoing analysis and interpretation of the prehospital stroke case reviews and the submitted hospital stroke data. Retrospective data collection and analysis lie at the heart of quality improvement. Data aids in understanding how well the systems work, identifying potential areas and trends for improvement and education, setting measurable goals, and monitoring the effectiveness of change. The goal is to connect data from across the continuum of care from prehospital to in-hospital to post-hospital disposition in order to optimally evaluate patient outcomes.

Currently, SBCEMSA collects stroke prehospital care data elements through electronic Patient Care Record (ePCR) extraction. Data elements that are specific to Stroke centers are extracted through a common software registry platform shared with the hospitals called *Get With The Guidelines-Stroke (GWTG-Stroke).*

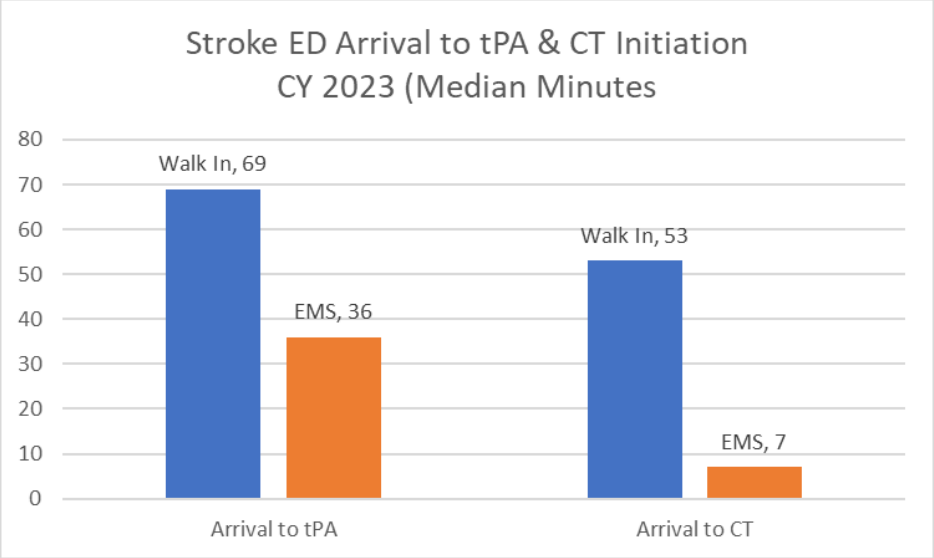
- The graph below demonstrates the GWTG-Stroke registry data available for the timeframe of Calendar Year 2023. We continue to see an increased number of Ischemic Strokes evaluated in our centers through the various modes of arrival.



- The following pie chart delineates the stroke patients by their mode of arrival. Either they arrived via EMS (ambulance), walk-in (or private auto), or were transferred from another hospital (most commonly from an Acute Stroke Ready Hospital). *Source: GWTG-Stroke Data Set.*



- The following chart outlines performance metrics for stroke patients who arrived at a stroke center by walk-in and EMS modes of arrival, and their corresponding time intervals for thrombolytic administration and CT initiation. *Source: GWTG-Stroke Data Set.*



EDUCATION AND OUTREACH

Enhancing interdisciplinary collaboration and coordination in healthcare is imperative. Collaboration between professions starts with interdisciplinary education. To break down those walls, health professionals must begin

working together. Interdisciplinary education will lead to more effective communication across disciplines and, ultimately, safer, more affordable, and higher quality care. [4]

There is also a vital component of public education and outreach that contributes to the health and wellness of a community. One of the goals identified in Healthy People 2020 is to increase the quality, availability, and effectiveness of educational and community-based programs designed to prevent disease and injury, improve health, and enhance quality of life. Educational and community-based programs play a key role in:

- Preventing disease and injury
- Improving health
- Enhancing quality of life

Public education and outreach will continue to contribute to the improvement of health outcomes in the United States and is a major component of the Santa Barbara County Stroke Critical Care System. Understanding the critical role that cerebrovascular disease prevention education and outreach has in healthcare, SBCEMSA encourages collaboration of providers to identify and coordinate education and outreach efforts within the community.

Emergency Medical Services Education is education that is designed specifically for the EMS providers. This may include live lecture and online PowerPoint lectures with pre- and post-quizzes to evaluate learning. In addition, it may include prehospital call reviews or protocol updates.

Public Education and Outreach is specific to bringing stroke education to the community members. This area of education provides the greatest opportunity for the EMS Agency to partner with both prehospital providers and the stroke centers to deliver a comprehensive message of heart and vascular health to the members of the community.

APPENDICES:

Appendix A

SBCEMSA Policy 550: Stroke System Triage and Destination

Appendix B

SBCEMSA Policy 600: Receiving Hospital Standards

Appendix C

SBCEMSA Policy 650: Stroke General Guidelines

Appendix D

SBCEMSA Policy 651: Stroke Center Standards

Appendix E

SBCEMSA Policy 652: Stroke Transfer Guidelines

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[4] https://www.rwjf.org/en/library/articles-and-news/2010/11/interdisciplinary-collaboration-improves-safety-quality-of-care-.html

Appendix F

SBCEMSA Policy 653: Stroke Performance Improvement Process

APPENDIX A

SBCEMSA POLICY 550: STROKE SYSTEM TRIAGE AND DESTINATION

Policy Number:	550
Original Issue Date:	January, 2016
Last Reviewed/Revised:	October 27, 2022
Effective Date:	April 1, 2023
Next Review:	October, 2025

EMERGENCY MEDICAL SERVICES POLICIES and PROCEDURES

STROKE SYSTEM TRIAGE AND DESTINATION

I. Purpose: To outline the process of pre-hospital triage and transport of suspected acute stroke patients to facilities designated as an Acute Stroke Center (ASC).

II. Authority: California Health and Safety Code, Sections 1797.220 & 1798. California Code of Regulations, Title 22, Sections 100147, 100148, 100270.220 and 100270.222.

III. Definitions:

A. *Acute Stroke Center (ASC):* Hospitals are designated as an Acute Stroke Center (ASC), as defined in Policy 650 – Stroke Care System General Guidelines.
B. *Stroke Alert:* An early notification by EMS Personnel to the ASC that a patient is suffering a possible acute stroke.
C. *Large Vessel Occlusion (LVO):* The obstruction of a large cerebral artery that typically produces severe stroke symptoms.
D. *Large Vessel Occlusion (LVO) Alert:* An early notification by EMS Personnel to the ASC that a patient is possibly suffering from a severe form of a stroke.
E. *Stroke System Criteria:* A patient that meets "Stroke Alert" or "LVO Alert" criteria per SBCEMSA Policy 533-21 – Stroke.
F. *Subacute Stroke:* A patient with **new** stroke symptoms, but with a TLKW > 24 hours.
G. *Time Last Known Well (TLKW):* The date/time at which the patient was last known to be without signs and symptoms of the current suspected stroke.

IV. Policy:

A. *STROKE SYSTEM TRIAGE:*
1. A patient meeting criteria in each of the following sections (a and b) shall be triaged into the Santa Barbara County Stroke System and transported to the appropriate facility per the procedure outlined below.
   a. Blood glucose level (BGL) is greater than sixty (60) OR patient continues to exhibit signs and symptoms of an acute stroke after prehospital treatment of abnormal blood glucose levels.
   b. Identification of *any* abnormal finding of the Cincinnati Stroke Scale (CSS):
      i. Facial Droop
         1) Normal: Both sides of face move equally
         2) Abnormal: One side of face does not move normally
      ii. Arm Drift
         1) Normal: Both arms move equally or not at all
         2) Abnormal: One arm drifts down compared to the other
      iii. Speech
         1) Normal: Patient uses correct words with no slurring
         2) Abnormal: Slurred or inappropriate words or mute
2. First Responders will adhere to Policy 508 – Do Not Resuscitate/POLST Form Orders to establish information regarding Advanced Directives.

APPROVAL:

SIGNATURE ON FILE
Nicholas Clay, EMS Agency Director

SIGNATURE ON FILE
Daniel Shepherd, MD, EMS Agency Medical Director

V. Procedure:

A. *Assessment:*
1. In patients with suspected stroke:
   a. Perform Cincinnati Stroke Scale (CSS);
   b. If patient has arm drift on CSS, immediately perform VAN assessment

B. *Stroke Alert*
1. If Cincinnati Scale is positive, but VAN is negative, and TLKW is < 24 hours, then patient is a STROKE ALERT

C. *LVO Alert*
1. If the patient has a positive VAN assessment (arm drift on CSS and a positive VAN screen), and TLKW is < 24 hours, then patient is a LVO alert

D. *Cincinnati Positive and TLKW >24*
1. Subacute stroke, not an Alert, but shall be transported to the closest ASC.

E. *Transportation Considerations*
1. All stroke alerts and LVO alerts in the north zone will be transported to the closest ASC
2. All stroke alerts in the south zone will be transported to the closest ASC, unless patient takes an anticoagulant and TLKW is < 4.5 hours (see below & flow chart on Attachment A).
3. Anticoagulant Use
   a. North Zone: All Stroke and LVO Alerts will be transported to the closest ASC regardless of anticoagulant use.
   b. South Zone:
      i. TLKW < 4.5 Hours:
         1) Transport to SBCH if patient takes an anticoagulant
      ii. TLKW 4.5 - 24 Hours:
         1) Transport Stroke Alert to closest ASC, LVO Alert to SBCH
      iii. TLKW > 24 Hours:
         1) Not an Alert, but transport to closest ASC

F. *Identification of a STROKE or LVO ALERT:*
1. Upon identification of a patient meeting Stroke System Criteria, Base Hospital Contact will be established with the appropriate ASC and the appropriate alert will be activated.
   a. Patients may be taken directly to the CT scanner or the IR suite.
      i. Paramedic will give report to the nurse, transfer patient directly from gurney to the CT scanner platform or IR table and return to service.
      ii. If there is any delay, such as CT scanner not being readily available, the paramedic will not be expected to wait. The patient will be taken to a monitored bed and report given to a receiving nurse or physician as is customary.

G. *Destination Decision:*
1. Patients meeting Stroke System Criteria shall be transported to the appropriate ASC as outlined in Section E of this policy, and in Stroke Triage algorithm referenced below.

H. *Destination Exceptions:*
1. Patients meeting Stroke System Criteria shall be transported to the appropriate ASC, as outlined above, except in the following cases:
   a. Stroke patients that become a cardiac arrest with ROSC shall be treated and transported to the nearest STEMI Receiving Center per SBCEMSA policy;
   b. The nearest ASC is incapable of accepting a Stroke Alert patient due to CT or Internal Disaster diversion, transport to the next closest ASC.
   c. The patient requests transport to an alternate ASC, not extending the transport by more than twenty (20) minutes.

i. The receiving ASC hospital will be notified of location AND patient request. Update original ASC to change in destination, *only* if prior contact was made.

I. *Documentation:*

1. Care and findings related to an acute stroke patient shall be documented in the electronic patient care reporting (ePCR) system in accordance with SBCEMSA policy, including the 3 specific Stroke Criteria met, and Destination Decision for Stroke Triage.
2. Name and contact phone number of the person confirming TLKW (Time Last Known Well) will be noted in the ePCR and will be communicated in report to hospital personnel at transfer of care (if not available, will be documented as "Not Available").

VI. References:

A. Policy 508 Do Not Resuscitate - DNR
B. Policy 533 (applicable section(s)) BLS, EMT-OS, and ALS Treatment Protocols
C. Policy 540 Physician Orders for Life Sustaining Treatment (POLST) Form
D. Policy 622 Hospital Service Area
E. Policy 640 Cardiac and STEMI Care System General Guidelines
F. Policy 641 Stemi Center Standards
G. Policy 650 Stroke Care System General Guidelines
H. Policy 700 Electronic Patient Care Report Documentation - EPCR

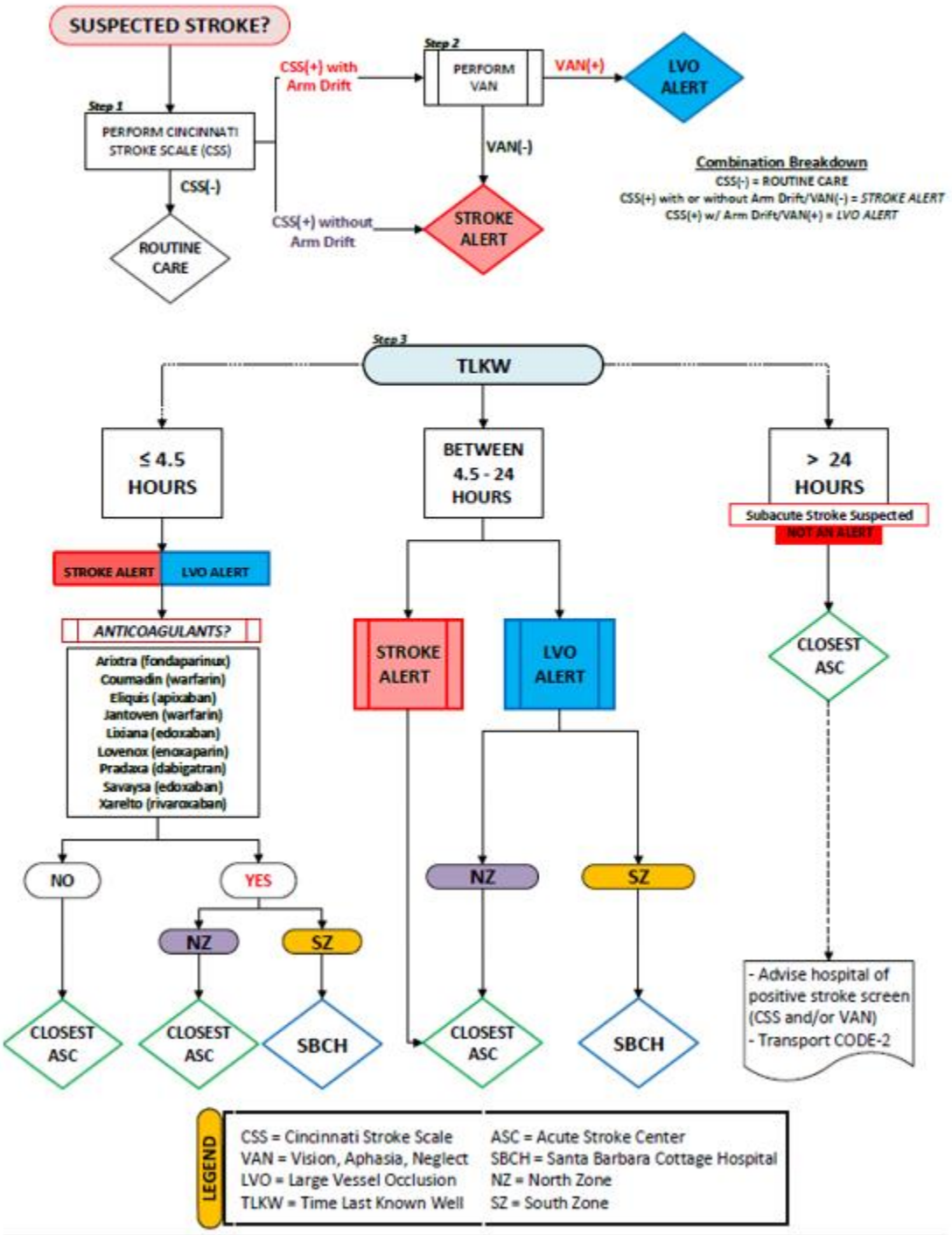
VII. Attachments:

A. Attachment A – Stroke Triage Algorithm

SANTA BARBARA COUNTY EMERGENCY MEDICAL SERVICES AGENCY

STROKE SYSTEM TRIAGE AND DESTINATION

Attachment A



APPENDIX B

SBCEMSA POLICY 600: RECEIVING HOSPITAL STANDARDS

Policy Number:	600
Original Issue Date:	June 2002
Last Reviewed/Revised:	October 1, 2022
Effective Date:	December 1, 2022
Next Review:	October 2024

EMERGENCY MEDICAL SERVICES POLICIES and PROCEDURES

RECEIVING HOSPITAL STANDARDS

I. Purpose: To define the criteria which shall be met by an acute care hospital for Receiving Hospital designation in Santa Barbara County.

II. Authority: Health and Safety Code, Division 2.5, Sections 1798, 1798.101,1798.105 and 1798.2. California Code of Regulations, Title 22, Section 100175.

III. Definitions:

A. *Receiving Hospital:* A licensed acute care hospital, or a hospital otherwise recognized and approved by SBCEMSA, that provides basic or comprehensive emergency patient care and is actively utilized within the EMS system.

IV. Policy:

A. A hospital wishing to become an Advanced Life Support Receiving Hospital in Santa Barbara County must be compliant with the criteria stated in this policy.

V. Procedure:

A. There shall be a written agreement between the Receiving Hospital and the Santa Barbara County EMS Agency indicating the commitment of hospital administration, medical staff, and emergency department staff to meet requirements for program participation as specified by State regulations and Santa Barbara County EMS Agency policies and procedures.
   1. The Santa Barbara County EMS Agency shall review its contract with each Receiving Hospital at least every five (5) years.
   2. The Santa Barbara County EMS Agency may deny, suspend, or revoke the approval of a Receiving Hospital for failure to comply with any applicable policies, procedures, or regulations.

B. The Receiving Hospital shall agree to maintain all prehospital data in a manner consistent with hospital data requirements and provide that the data be integrated with the patient's chart. Prehospital data shall include the prehospital field report, Base Hospital communication form (from the Base Hospital), and documentation of a Base Hospital telephone communication with the Receiving Hospital.

C. The Receiving Hospital shall actively participate in various EMS Committees related to prehospital care, as deemed necessary by the EMS Medical Director or designee.

D. The Receiving Hospital shall assist the EMS Medical Director or designee, in the collection of statistics and review of necessary records for program evaluation and compliance.

E. An Advanced Life Support (ALS) Receiving Hospital (RH), approved and designated by the Santa Barbara County EMS Agency, will:
   1. Be licensed by the State Department of Health Services as a general acute care hospital
   2. Have a special permit for Basic or Comprehensive Emergency Medical Service issued by the State of California Department of Health Services, or provide a stand-by emergency medical service that meets the requirements of California Code of Regulations, Title 22, Sections 70649, 70651, 70653, 70655, and 70657

APPROVAL:

SIGNATURE ON FILE
Nicholas Clay, EMS Agency Director

SIGNATURE ON FILE
Daniel Shepherd, MD, EMS Agency Medical Director

3. Be accredited by the Joint Commission on Accreditation of Hospitals or comparable accrediting agency
4. Operate an Intensive Care Unit
5. Have operating room services available within 30 minutes
6. Have the following specialty services available at the Receiving Hospital or appropriate referral hospital service within 30 minutes:
   a. Cardiology
   b. Orthopedic Surgery
   c. Thoracic Surgery
   d. Anesthesiology
   e. General Surgery
   f. Pediatrics
   g. Neurosurgery
   h. General Medicine
   i. Obstetrics
7. Have the following services available within 20 minutes:
   a. X-Ray
   b. Laboratory
   c. Respiratory Therapy
8. Evaluate all patients promptly, by qualified medical personnel designated by hospital policy
9. Have the capability at all times to communicate with the ambulances and the Base Hospital
10. Designate a Receiving Hospital Emergency Department Medical Director who shall be a physician on the hospital staff, and have experience in emergency medical care
11. The RH Medical Director shall:
    a. Be regularly assigned to the Emergency Department
    b. Have knowledge of local EMS Agency Advanced Life Support policies and procedures
    c. Coordinate Receiving Hospital activities with the Base Hospital
    d. Attend the Emergency Medical Advisory Committee (EMAC)
    e. Provide Emergency Department staff education
12. Agree to provide at a minimum, in-house and immediately available, on a 24-hour basis, a physician specializing in Emergency Medicine and a Registered Nurse.
    a. Criteria for RH ED Physicians
       i. Must be certified by the American Board of Emergency Medicine; OR
       ii. Fulfill the following criteria to be considered a specialist in Emergency Medicine:
           i. Be in-house and immediately available to the Receiving Hospital Emergency Department at all times
           ii. If not Board certified in Emergency Medicine, then have and maintain current Advanced Cardiac Life Support and Advanced Trauma Life Support certification
           iii. Complete at least 25 Category 1 CME hours per year with content applicable to Emergency Medicine
    b. Criteria for RH ED Registered Nurses
       i. Be regular hospital staff assigned solely to the Emergency Department for that shift
       ii. Maintain current Advanced Cardiac Life Support certification
    c. Other Emergency Department Personnel
       i. All other nursing and clerical personnel for the Emergency Department shall maintain current Basic Life Support certification

F. Other SBCEMSA-Approved Receiving Hospitals

SANTA BARBARA COUNTY EMERGENCY MEDICAL SERVICES AGENCY

RECEIVING HOSPITAL STANDARDS

1. A hospital that does not meet all of the criteria as an acute care hospital, but is utilized within the EMS system as a receiving hospital to provide basic or advanced emergency care, may be approved and designated as a "Receiving Hospital" by SBCEMSA.
2. The SBCEMSA-Approved Receiving Hospital Must:
   a. Evaluate all patients promptly, by qualified medical personnel designated by hospital policy
   b. Have the capability at all times to communicate with the ambulances and the Base Hospital
   c. Designate a Receiving Hospital Emergency Department Medical Director who shall be a physician on the hospital staff, and have experience in emergency medical care
   d. The RH Medical Director shall:
      i. Be regularly assigned to the Emergency Department
      ii. Have knowledge of local EMS Agency Advanced Life Support policies and procedures
      iii. Coordinate Receiving Hospital activities with the Base Hospital
      iv. Attend the Emergency Medical Advisory Committee (EMAC)
      v. Provide Emergency Department staff education
3. Agree to provide at a minimum, in-house and immediately available, on a 24-hour basis, a physician specializing in Emergency Medicine and a Registered Nurse
   a. Criteria for RH ED Physicians
      i. Must be certified by the American Board of Emergency Medicine; OR
      ii. Fulfill the following criteria to be considered a specialist in Emergency Medicine:
         i. Be in-house and immediately available to the Receiving Hospital Emergency Department at all times
         ii. If not Board certified in Emergency Medicine, then have and maintain current Advanced Cardiac Life Support and Advanced Trauma Life Support certification
         iii. Complete at least 25 Category 1 CME hours per year with content applicable to Emergency Medicine
   b. Criteria for RH ED Registered Nurses
      i. Be regular hospital staff assigned solely to the Emergency Department for that shift
      ii. Maintain current Advanced Cardiac Life Support certification
   c. Other Emergency Department Personnel
      i. All other nursing and clerical personnel for the Emergency Department shall maintain current Basic Life Support certification

V. References: None

VI. Attachments: None

APPENDIX C

SBCEMSA POLICY 650: STROKE GENERAL GUIDELINES

Policy Number:	*650*
Original Issue Date:	*January, 2002*
Last Reviewed/Revised:	*November 12, 2019*
Effective Date:	*December 01, 2019*
Next Review:	*November, 2021*

EMERGENCY MEDICAL SERVICES POLICIES and PROCEDURES

STROKE CARE SYSTEM GENERAL GUIDELINES

I. Purpose: To provide standards and guidelines for the Stroke Care System which serves the County of Santa Barbara. To provide all presumed Acute Stroke patients the accessibility to an organized, multidisciplinary and inclusive system of Stroke Care. To ensure that all presumed Acute Stroke patients are taken to the closest most appropriate medical facility that meets the needs of the patient and applies the standards established for this Stroke Care System.

II. Authority: Health and Safety Code, Division 2.5, Sections 1797.114, 1797.220,1798, & 1798.2. California Code of Regulations, Title 22, Section 100270.220 and 100270.221.

III. Definitions: None

IV. Policy:

A. There shall be a written agreement between all hospitals within Santa Barbara County and the Santa Barbara County EMS Agency (SBCEMSA) indicating the commitment of hospital administration, medical staff, and emergency department staff to meet requirements for Stroke Care System participation as specified by State regulations and SBCEMSA policies and procedures.

B. The Santa Barbara County EMS Agency (SBCEMSA) and all system participants will be involved in an organized Stroke Care System, the guidelines of which are outlined here:

1. Multidisciplinary nature of the Stroke Care System
   a. SBCEMSA recognizes the multidisciplinary nature of a systemized approach to stroke care.
   b. SBCEMSA has adopted policies, guidelines and triage criteria that provide for the coordination of all resources and ensure the accessibility to the closest, most appropriate medical facility for all stroke patients, regardless of their ability to pay for such services.
   c. SBCEMSA has established a Stroke Care System Performance Improvement Process, and the Stroke Care System Quality Improvement Committee. These processes and committees represent all involved disciplines to ensure a broad-based quality review of all Stroke Care System activities.
2. Public Information and Education about the Stroke Care System
   a. SBCEMSA is committed to the establishment of Stroke Care System support and the promotion of awareness and prevention education.
   b. SBCEMSA facilitates speakers to address public groups, and serves as a resource for stroke information, education, and prevention.
   c. SBCEMSA assists community and professional groups in the development and dissemination of education to the public.

V. Procedure:

A. Stroke Care System – GENERAL GUIDELINES
   1. Marketing and Advertising

APPROVAL:

SIGNATURE ON FILE
Nicholas Clay, EMS Agency Director

SIGNATURE ON FILE
Angelo Salvucci, MD, EMS Agency Medical Director

a. All marketing and promotional plans (and/or materials), with respect to Stroke Center designation should be submitted to SBCEMSA for review and approval, prior to implementation. Marketing plans (and/or materials):
   i. Shall provide accurate information;
   ii. Shall not provide false claims;
   iii. Shall not be critical of other providers; and
   iv. Shall not use financial rewards to any provider to increase its census.

2. EMS Dispatching
   a. The SBCEMSA has approved dispatching policies and procedures for the County. The dispatch of prehospital care providers will continue, as per the operational procedure for the County.
3. Training of Prehospital EMS Personnel
   a. SBCEMSA will facilitate training for all prehospital providers on any policy and/or operational change associated with Stroke Care System implementation.
   b. All level of designated stroke facilities will provide training to hospital staff on Stroke Care System policies and procedures.
4. Medical Control and Accountability, including triage and treatment protocols
   a. Each designated Acute Stroke Center shall:
      i. Provide base hospital medical control for field prehospital care providers.
      ii. Participate in the SBCEMSA data collection system.
      iii. Participate in the SBCEMSA continuous quality improvement program.

VI. References: None

VII. Attachments: None

APPENDIX D

SBCEMSA POLICY 651: STROKE CENTER STANDARDS

Policy Number:	*651*
Original Issue Date:	*January 01, 2016*
Last Reviewed/Revised:	*November 12, 2019*
Effective Date:	*December 01, 2019*
Next Review:	*November, 2021*

EMERGENCY MEDICAL SERVICES POLICIES and PROCEDURES

ACUTE STROKE CENTER (ASC) STANDARDS

I. Purpose: To define the criteria for designation as an Acute Stroke Center (ASC) in Santa Barbara County.

II. Authority: California Health and Safety Code, Sections 1797.114, 1797.220, 1798, 1798.2, and California Code of Regulations, Title 22, Sections 100270.223, 100270.224, 100270.225 and 100270.226.

III. Definitions:

A. *Primary Stroke Center (PSC):* A hospital certified by an accrediting healthcare organization.
B. *Acute Stroke Ready Hospital (ASRH):* Certified hospitals that provide diagnostic and pharmacological stroke care in anticipation of transferring to a Primary Stroke Center.
C. *Acute Stroke Center (ASC):* Thrombectomy-capable, Comprehensive, Primary or Acute Stroke Ready Hospitals that meet the requirements of, and are designated by, the Santa Barbara County EMS Agency.
D. *Thrombectomy-Capable Stroke Center (TCSC)*: Provides endovascular procedures and post-procedural care.
E. *Comprehensive Stroke Center (CSC)*: Highest level of stroke certification available. Provides advanced neuro interventional procedures for the most complex stroke cases.

IV. Policy:

A. There shall be a written agreement between all Acute Stroke Centers in Santa Barbara County and the Santa Barbara County EMS Agency (SBCEMSA) indicating the commitment of hospital administration, medical staff, and emergency department staff to meet requirements for Trauma System participation as specified by State regulations and SBCEMSA policies and procedures.
B. An Acute Stroke Center (ASC), approved and designated by SBCEMSA shall meet the following requirements:
   1. All the requirements of a Receiving Hospital as listed in SBCEMSA Policy 600.
   2. Certification as a Comprehensive Stroke Center (CSC), Thrombectomy-Capable Stroke Center (TSC), Primary Stroke Center (PSC) or an Acute Stroke Ready Hospital (ASRH) by either The Joint Commission (TJC), the Center for Improvement in Healthcare Quality (CIHQ) or the American Heart Association (AHA).
   3. Actively participate in SBCEMSA's Stroke Quality Improvement Program including:
      a. Participate in the creation of a standardized data registry under the direction of SBCEMSA.
      b. Submit data into the registry sixty (60) days after the end of the month in which the patient's hospital admission took place.
   4. Acute Stroke Centers (ASC) must have policies and procedures that allow the automatic acceptance of any acute stroke patient requiring immediate intervention (fibrinolytic or endovascular procedure) from a hospital within Santa Barbara County that is not designated as an ASC, upon notification by the transferring physician.
C. Data Entry

APPROVAL:

SIGNATURE ON FILE
Nicholas Clay, EMS Agency Director

SIGNATURE ON FILE
Angelo Salvucci, MD, EMS Agency Medical Director

1. The SBCEMSA shall implement a standardized data collection and reporting process for the Stroke Care System.The system shall include the collection of both prehospital and hospital patient care data, as determined by SBCEMSA.
2. All designated Stroke centers are required to submit Stroke Care Data into the SBCEMSA's designated Stroke registry.
   a. The Stroke Nurse Coordinator from each designated facility will submit Stroke data to SBCEMSA on a monthly basis through registry entry.
      i. Data will be entered into an SBCEMSA approved registry and submitted monthly, no later than sixty (60) days after the Stroke admit date.
      ii. Data registry costs shall be incurred by the designated Stroke Centers.

V. Procedure:

A. Designation Process

1. Application:
   a. An ASC may be designated following satisfactory review of written documentation and a site survey when deemed necessary, by the Santa Barbara County EMS Agency.
      i. Eligible hospitals will submit a written request for ASC designation to the SBCEMS Agency no later than sixty (60) days prior to the desired date of designation, documenting the compliance of the hospital with Santa Barbara County ASC standards.
2. Approval:
   a. Upon receiving a written request for ASC designation, the SBCEMSA will arrange an on-site survey of the requesting hospital to assure compliance with state requirements.
   b. ASC approval or denial shall be made in writing by the SBCEMSA to the requesting hospital within thirty (30) days after the receipt of the request for approval and all required documentation and completion of the SBCEMSA site survey.
      i. ASC designation approval shall be dependent on the creation of a written agreement between the newly designated Acute Stroke Center and the Santa Barbara County EMS Agency indicating the commitment of hospital administration, medical staff, and emergency department staff to meet requirements for Stroke Care System participation as specified by State regulations and SBCEMSA policies and procedures.
3. The SBCEMSA may deny, suspend, or revoke the designation of an ASC for failure to comply with any applicable policies, procedures or regulations.
   a. The SBCEMSA Medical Director may grant an exception to a portion of this policy upon substantiation of need by the ASC that compliance with the regulation would not be in the best interest of the persons served within the affected area.
4. ASCs shall be reviewed on a biannual basis.
   a. ASCs shall receive notification of evaluation from the SBCEMS Agency.
   b. ASCs shall respond in writing regarding program compliance.
   c. On-site ASC visits for evaluative purposes may occur.
   d. ASCs shall notify the SBCEMSA by telephone, followed by a letter or email within forty-eight (48) hours of changes in program compliance performance.
5. Revocation.
   a. ASC designation may be denied, suspended or revoked by the SBCEMSA Medical Director for failure to comply with state and SBCEMSA policies, procedures or regulations. This includes but is not limited to:
      i. Failure to provide required data
      ii. Failure to participate in Stroke system QI activities

iii. Other criteria as defined and reviewed by the Stroke QI Committee

B. Provisional Designation Process

1. The SBCEMSA may grant provisional designation as an ASC to a requesting hospital that has satisfied the requirements of an ASC as outlined in Section B of this policy, but has yet to receive certification as a CSC, TSC, PSC or ASRH. Only when the following requirements are satisfied, will the SBCEMSA grant a provisional designation.
   a. Application:
      i. Eligible hospitals shall submit a written request for provisional ASC designation to the SBCEMSA no later than sixty (60) days prior to the desired date of the provisional designation, documenting the compliance of the hospital with Santa Barbara County ASC Standards.
   b. Provisional approval:
      i. Upon receiving a written request for provisional ASC designation, the SBCEMSA will arrange an on-site survey of the requesting hospital to assure compliance with stated requirements.
      ii. Provisional ASC approval or denial shall be made in writing by the SBCEMSA to the requesting hospital within two weeks after receipt of the request for approval and all required documentation, as well as the completion of the SBCEMSA on-site survey.
         (a) ASC provisional approval shall be dependent on the creation of a written agreement between the newly designated Acute Stroke Center and the Santa Barbara County EMS Agency indicating the commitment of hospital administration, medical staff, and emergency department staff to meet requirements for Stroke Care System participation as specified by State regulations and SBCEMSA policies and procedures.
      iii. To receive Provisional Designation, the facility must have satisfied all requirements of The Joint Commission (TJC) or Center for Improvement of HealthCare Quality (CIHQ) for CSC, TSC, PSC or ASRH, and have only a pending site survey and certification from TJC or CIHQ.
      iv. Certification as aCSC, TSC, PSC, or ASRH shall occur no later than six (6) months following provisional designation as an ASC by the SBCEMS Agency.
   c. The SBCEMSA may deny, suspend, or revoke the provisional designation of an ASC for failure to comply with any applicable policies, procedures or regulations.
      i. The SBCEMSA Medical Director may grant an exception to a portion of this policy upon substantiation of need by the provisional ASC that compliance with the regulation would not be in the best interest of the persons served within the affected area.

VI. References:

A. Policy 600 Receiving Hospital Standards

VII. Attachments: None

APPENDIX E

SBCEMSA POLICY 652: STROKE TRANSFER GUIDELINES

Policy Number:	*652*
Original Issue Date:	*March, 2010*
Last Reviewed/Revised:	*November 12, 2019*
Effective Date:	*December 01, 2019*
Next Review:	*November, 2021*

EMERGENCY MEDICAL SERVICES POLICIES and PROCEDURES

STROKE TRANSFER GUIDELINES

I. Purpose: To define the "Code Stroke" process by which patients with an acute stroke are transferred from a Acute Stroke Center or non-stroke hospital to a higher level of Stroke Center such as Primary Stroke Center (PSC), Thrombectomy Capable Stroke Center (TCSC) or Comprehensive Stroke Center (CSC) for emergency intervention.

II. Authority: Health and Safety Code, Sections 1797.220 and 1798. California Code of Regulations, Title 22, Sections 100270.220 and 100270.222.

III. Definitions:

A. *Acute Stroke Center (ASC):* Primary Stroke Centers or Acute Stroke Ready Hospitals who have met the requirements of, and are designated by, the Santa Barbara County EMS Agency.
B. *Acute Stroke Ready Hospital (ASRH):* Certified hospitals that provide diagnostic and pharmacological stroke care in anticipation of transferring to a Primary Stroke Center.
C. *Primary Stroke Center (PSC):* A hospital that is certified by an accrediting healthcare organization diagnostic, pharmacological and acute stroke care, not requiring endovascular intervention.
D. *Thrombectomy-Capable Stroke Center (TCSC)*: Provides endovascular procedures and post-procedural care.
E. *Comprehensive Stroke Center (CSC):* Highest level of stroke certification available. Provides advanced neuroendovascular interventional procedures for the most complex stroke cases.

IV. Policy:

A. All Hospitals within the Santa Barbara County Stroke Care System shall have written transfer agreements with the higher level designated Stroke Center Facilities within the System. These shall indicate the commitment of hospital administration, medical staff, and emergency department staff to meet requirements for Stroke Care System participation as specified by State regulations and SBCEMSA policies and procedures.
B. Patient transfer from: Acute Stroke Centers (ASC) to a higher level of care Stroke Center (ASRH to PSC; ASRH to TCSC/CSC; PSC to TCSC/CSC):
   1. After Stroke evaluation, arrange immediate transport for patients requiring a higher level of care than can be given at the current ASC.
   2. Have policies, procedures, and a quality improvement system in place to minimize Door to CT performance and interpretation times, door to tPA times, Door In/Door out time and other time intervals set forth by the Stroke Care Quality Improvement System Committee.
   3. Establish policies that will include patient criteria for requiring an RN to accompany patient during transfer.
   4. Establish policies and procedures to make personnel available to accompany the patient during the transfer to the ASC, as appropriate.
   5. Upon identification of the patient needing transport, have procedures in place to call dispatch for a Level One transport for Stroke Alert.
   6. Maintain transfer agreements with surrounding ASCs.

APPROVAL:

SIGNATURE ON FILE
Nicholas Clay, EMS Agency Director

SIGNATURE ON FILE
Angelo Salvucci, MD, EMS Agency Medical Director

7. Establish policies and procedures for notifying the receiving ASC of the impending arrival of Acute Stroke patient.
8. Pt records or test results shall not delay transport to an ASC.

C. Non-Stroke Hospital
1. Immediate transfer of patients with suspected Acute Stroke system to the nearest ASC.
2. Have policies, procedures, and a quality improvement system in place to minimize "Door In/Door out time".
3. Establish policies that will include patient criteria for requiring an RN to accompany patient during transfer.
4. Establish policies and procedures to make personnel available to accompany the patient during the transfer to the Acute Stroke Center as appropriate.

D. Ambulance or helicopter transporting agencies will:
1. Respond immediately upon request for Level One Stroke Alert transfer.

E. Acute Stroke Centers will:
1. Maintain accurate status information on ReddiNet regarding the availability of a CT Scanner, per SBCEMSA Policy 307 ReddiNet Communications.
2. Immediately, upon initial notification by a transferring physician, automatically accept in all transfer patients who have been diagnosed with an Acute Stroke and who, in the judgment of the transferring physician, require urgent higher level of care.
3. Authorize the emergency physician to automatically accept transfer of any patient with an Acute Stroke.
4. Establish an internal communications plan that assures the immediate notification of all necessary individuals of the transfer.

V. Procedure:

A. Upon diagnosis of Acute Stroke and the need for transfer to a higher level of care, and after discussion with the patient, the ASC will:
1. Determine availability of the receiving ASC by checking ReddiNet.
2. Immediately call the County Dispatch Center to request an air or ground ambulance (ALS or CCT).
3. Advise that they have a Code Stroke Transfer.
4. After calling for ambulance, the transferring physician will notify the receiving ASC emergency physician of the transfer.
5. Perform, as time allows, indicated diagnostic tests and treatments.
6. Complete transfer consent, Stroke Transfer data forms and, as time allows, a treatment summary.
   a. If this cannot be done prior to transfer, fax immediately to the accepting ASC and SBCEMSA Specialty Care Systems Coordinator.
7. Include copies of the ED face sheet and demographic information.
8. Healthcare staff may, as determined by the clinical status of the patient, accompany the patient to the receiving ASC.
9. Contact ASC for nurse report at the time, or immediately after, the ambulance departs with the patient.

B. Upon request for Level One Code Stroke Transfer, the dispatch center will dispatch the closest available ambulance or CCT unit, per hospital direction.

C. The patient shall be urgently transferred without delay. Every effort will be made to minimize on-scene time.
1. All forms should be completed prior to ambulance arrival.
2. Any diagnostic test results may be relayed to the receiving ASC after patient departure.

3. Intravenous drips may be discontinued or remain on the ED pump if appropriate for level of service.

D. Upon notification, the receiving ASC will notify the Stroke team staff, who will respond immediately

E. All ASCs shall review all Stroke Transfers within seventy-two (72) hours for appropriate and timely care and to identify opportunities for improvement. The Stroke Transfer Form will be utilized and sent to the SBCEMSA Specialty Care Systems Coordinator within seventy-two (72) hours. Results may be reviewed and discussed at the SBCEMSA Stroke System Committee meeting.

VI. References:

A. Policy 600 Receiving Hospital Standards
B. Policy 640 Cardiac and STEMI Care System General Guidelines
C. Policy 511 EMS Transport Zones
D. Policy 307 Reddinet Communications

VII. Attachments

A. Stroke Transfer Form

STROKE TRANSFER FORM

Door In/Door Out Goal – 60 min

Sending Hospital Name: _____

DATE	PT ID#	TIME OF PATIENT ARRIVAL AT ED	MODE OF ARRIVAL (EMS OR POV)	CHIEF COMPLAINT	TLKW (TIME LAST KNOWN WELL)	FIRST CONTACT BY ED PHYSICIAN	TIME OF CT	TIME OF CT RESULT	TIME OF CTA	TIME OF CTA RESULT	TIME OF CALL TO AMBULANCE FOR TRANSPORT	TIME OF CALL TO STROKE CENTER	TIME OF AMBULANCE ARRIVAL	TIME OF AMBULANCE DEPARTURE	ADDITIONAL NOTES DI/DO TIME

Stroke patient transferred to _____(Receiving Hospital Name) via_____ (Type of transport).

y what type of transport your physician has requested: closest available paramedic unit, critical care ground team or critical care air team. Note the time of your call.

- **Santa Barbara County Dispatch: 805 – 683 - 2724**
- **Santa Barbara Cottage Hospital Transfer Center Phone Number: 1 – 877 – 247 – 2707**
- **Marian Regional Medical Center Transfer Center: 1-855-294-2337**
- **Marian Regional Medical Center ED: 805-332-8100**

Complete all data fields on this form and **fax to SBCEMS Agency 805-681-5142**

**Reference your institutional HIPAA/CMIA policies for electronic transmission of PHI.*

THIS IS NOT A PART OF THE PERMANENT MEDICAL RECORD

F:\Group\Comhealth\EMS\EMS Group\STEMI\2014\SRH-Specific\SRH Data Form v62014.doc revised 02/12/14

APPENDIX F

SBCEMSA POLICY 653: STROKE PERFORMANCE IMPROVEMENT PROCESS

Policy Number:	653
Original Issue Date:	*January, 2002*
Last Reviewed/Revised:	*November 12, 2019*
Effective Date:	*December 01, 2019*
Next Review:	*November, 2021*

EMERGENCY MEDICAL SERVICES POLICIES and PROCEDURES

STROKE PERFORMANCE IMPROVEMENT PROCESS

I. Purpose: Santa Barbara County Emergency Medical Services Agency (SBCEMSA) will ensure quality within the Stroke Care System through a Performance Improvement Process. This includes monitoring of structural, process and outcome standards.

II. Authority: Health and Safety Code, Division 2.5, Sections 1797.114, 1797.220.1798, & 1798.2. California Code of Regulations, Title 22, Sections 100270.228 and 100270.229.

III. Definitions: None

IV. Policy:

A. The SBCEMSA Medical Director shall establish a Stroke Care System Quality Improvement (QI) Committee.

B. The Stroke Care System QI Committee is an advisory committee to the SBCEMSA on issues related to Stroke patient care and the Stroke System.

1. The Stroke care administered to patients of the Santa Barbara County Stroke Care System will be reviewed for appropriateness of care and patient outcome.

C. Committee membership is assigned by the SBCEMSA and includes:

1. SBCEMSA Specialty Care Systems Coordinator (Co-Chair)
2. SBCEMSA Medical Director (Chair)
3. Stroke Center Medical Directors & Stroke Nurse Coordinators
4. ALS transport provider representative(s), as needed

D. Stroke Care System QI Committee meetings will be held on a regular basis and limited to committee members and invited guests, approved by Committee Chair.

V. Procedure:

A. Scope of Process and Outcome Standards Review:

1. Preliminary Review:
   a. Occurs at the Stroke Center, Medical Director and Stroke Nurse Coordinator level. This internal review takes place monthly.
      i. All deaths, questionable cases and negative outcomes may be referred to the Stroke
         (a) Each facility's Stroke Nurse Coordinator will bring these charts to the Stroke Care System QI Committee.
         (a) Any Stroke Program Medical Director has the right to bring up any case he/she feels requires review, even if it does not meet the physician Stroke audit criteria.
2. This committee will meet three (3) times per year, unless additional meetings are necessary.
3. The SBCEMSA Specialty Care Systems Coordinator will review all cases entered into the Stroke Registry database on a monthly basis for compliance with the following:
   a. Policies, procedures and protocols.

APPROVAL:

SIGNATURE ON FILE
Nicholas Clay, SBCEMSA Director

SIGNATURE ON FILE
Angelo Salvucci, MD, SBCEMSA Medical Director

b. Prehospital personnel treatment, appropriateness of response, evaluation and transport of Stroke patients.
c. Appropriate use of prehospital Stroke Alert and Hospital Code Stroke Triage Criteria.
d. Complications will be referred to SBCEMSA Medical Director for review.
e. All helicopter transports of Stroke patients.

4. The Stroke Nurse Coordinator from each designated facility will work with the SBCEMSA Specialty Care Systems Coordinator to obtain the necessary chart materials for the medical review process and the Committee meetings.
5. Physician Stroke Audit Criteria (any of the below, but not limited to):
   a. All Stroke Deaths
   b. Door to reperfusion times
   c. Major complications
   d. Stroke transfers from another hospital

B. Stroke Care System QI Attendance:
1. Attendance for all committee members is mandatory.
   a. The Stroke Medical Directors and Stroke Nurse Coordinators must attend 75% of the scheduled meetings annually.
   b. Committee members shall notify the Committee Chair (or designee) at least three (3) business days in advance of the meeting if they are unable to attend.
      i. Alternate committee members must be approved at least three (3) business days in advance by the Committee Chair (or designee).
2. The Committee Chair (or designee) shall approve all requests for guests to attend the meeting.
   a. Requests for guests must be made at least three (3) business days in advance.
   b. The Committee Chair reserves the right to approve or deny requests.

C. Meeting Documentation:
1. The agenda, minutes, monthly SBCEMS reports and chart materials will be distributed to members in advance of the meeting.
2. Members are expected to review meeting materials prior to attendance.

D. Confidentiality:

All proceedings, documents, and discussions of the Stroke Care System QI Committee are confidential and are covered under Sections 1040 and 1157.7 of the Evidence Code: "The prohibition relating to discovery of testimony provided to the Committee will be applicable to all proceedings and records of this Committee, which is one established by a local government agency as qualified to render specialty health care services".

1. All members will sign a confidentiality agreement not to divulge or discuss information that would have been obtained solely through medical review committee membership. These are updated on an annual basis.
   a. Prior to the guest(s) participating in the meeting, the Committee Chair (or designee) is responsible for explaining, and obtaining, a signed confidentiality agreement from invited guests.
   b. Guests may or may not be invited to the entire meeting at the discretion of the Committee Chair.
2. No copies of records are to leave the room in which Stroke Care System QI Committee meetings are held; all copies will be shredded at the SBCEMSA Office.

VI. References: None

VII. Attachments: None