

# LOS ANGELES COUNTY EMS SYSTEM REPORT

MARCH 1, 2022 ISSUE 10

#### Message from the Director and Medical Director

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We are dedicating this 10<sup>th</sup> year issue of the EMS System Report to Cathy Chidester, EMS Agency Director. Cathy's vision to publish annual system reports came to fruition in July 2012 with the following goals:

Goal 1 – Provide EMS data to our system participants, and in doing so encourage them to recognize the importance of their data in managing our system.

Goal 2 - Highlight data gaps and its impact on our ability when making data driven decisions and the limitations of evaluating the quality of care rendered to our patients.



Cathy Chidester Director

Goal 3 – Demonstrate how the EMS system design parallels the healthcare needs of the community and addresses the leading causes of death and disability (e.g., heart attack, stroke, and trauma).

These goals have guided the continued improvement and accuracy of our EMS and hospital data in the past 10 years and have supported policy and protocol changes, comprehensive quality improvement projects, publications, and system improvements.

Cathy has provided the vision, collaboration and leadership for the County that saved many lives

during the COVID-19 pandemic, and has been recognized over the past 31 years for her superior leadership, and advocacy for the care of the prehospital patients in Los Angeles County, and the State of California.

We extend our best wishes for a healthy and prosperous retirement.

There have been many projects and programs implemented that I am very proud of during my time as the Director of the EMS Agency. Our efforts in the development of new data systems, transitioning to electronic patient care records, ensuring data accuracy, and utilizing our data for quality improvement, system monitoring, responsiveness and research is one of the most important and my favorite endeavor.



Dr. Marianne Gausche-Hill Medical Director

The annual data reports have accomplished our goals and has allowed our constituents and leaders to understand our prehospital medical care and the importance of operating as a system. I am so proud of my part in the development of the EMS system and know that our EMS Agency leadership will continue the necessary work to ensure continued excellence.

- Cathy Chidester -

### 2021 System Demographics

#### 69 9-1-1 Receiving Hospitals

- **38** EDAP (Emergency Department Approved for Pediatrics)
- 9 Pediatric Medical Centers
- 7 Pediatric Trauma Centers
- 15 Trauma Centers
- 21 Paramedic Base Hospitals
- **36** STEMI Receiving Centers
- 23 Comprehensive Stroke Centers
- 30 Primary Stroke Centers
- 49 Perinatal Centers
- 44 Hospitals with Neonatal Intensive Care Unit
- 13 SART (Sexual Assault Response Team)
- 13 Disaster Resource Centers
- 1 Sobering Center
- 7 Psychiatric Urgent Care Center

#### EMS Provider Agencies

- 31 Public Safety EMS Provider Agencies
- **34** Licensed Basic Life Support Ambulance Operators
- 17 Licensed Advanced Life Support Ambulance Operators
- 20 Licensed Critical Care Transport Ambulance Operators
- 6 Licensed Ambulette Operators

#### **EMS Practitioners**

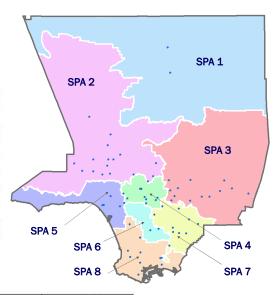
- 4,512 Accredited Paramedics
- 8,123 Certified EMTs by LA Co EMS Agency
  - 883 Certified Mobile Intensive Care Nurses

# SPECIAL POINTS OF INTEREST:

- ED Disposition and
   Patient Type (page 11)
- Injury Severity Scores (pages 14-15)
- Paramedic Base Hospital Contact Volume (page 20)

# **ADULT EMS PROVIDER IMPRESSION by Service Planning Area (SPA)**

COUNTYWIDE TOP 10 ADULT	2018		2019		2020	
EMS PROVIDER IMPRESSIONS	No.	%	No.	%	No.	%
Traumatic Injury	118,549	15%	120,909	15%	102,560	13%
Behavioral/Psychiatric	56,752	7%	59,420	7%	58,136	8%
Weakness - General	54,964	7%	54,199	7%	53,409	7%
No Medical Complaint	49,953	6%	48,555	6%	41,110	5%
Body Pain-Non Traumatic	40,645	5%	43,771	5%	36,832	5%
Abdominal Pain	38,206	5%	39,256	5%	35,688	5%
Altered Level of Consciousness	35,373	4%	29,465	4%	24,820	3%
Respiratory Distress	32,120	4%	32,702	4%	34,205	5%
Cold / Flu	16,305	2%	15,766	2%	20,899	3%
Chest Pain - Suspected Cardiac	21,125	3%	21,812	3%	19,320	3%
Total Adult EMS Responses	791,900		801,661		759,972	

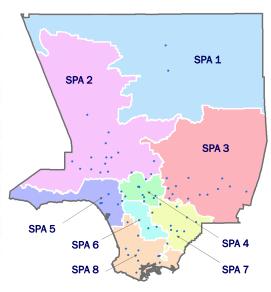


Top 10 Adult	2018	2019	2020
<b>EMS Provider Impressions</b>	No. %	No. %	No. %
SPA 1 Traumatic Injury	7,151 14%	9,788 17%	5,932 11%
<b>Body Pain-Non Traumatic</b>	4,085 8%	4,464 8%	3,492 6%
Behavioral/Psychiatric	4,062 8%	4,007 7%	3,443 6%
No Medical Complaint	2,788 5%	2,730 5%	1,940 4%
Abdominal Pain	3,235 6%	3,201 6%	2,952 5%
Weakness - General	2,784 5%	2,575 5%	2,688 5%
Respiratory Distress	1,860 4%	2,179 4%	2,019 4%
Chest Pain - Suspected Cardiac	1,554 3%	1,767 3%	1,428 3%
<b>Altered Level of Consciousness</b>	1,857 4%	1,669 3%	1,395 3%
Seizure	1,485 3%	1,586 3%	1,287 2%
Total SPA 1 Adult EMS Responses	51,368	56,824	54,767
	40.004.4407		40.040.4404
SPA 2 Traumatic Injury	18,981 14%	18,247 13%	18,243 14%
Weakness - General	11,077 8%	11,030 8%	11,012 8%
Behavioral/Psychiatric	9,163 7%	9,707 7%	10,249 8%
No Medical Complaint	9,131 7%	9,087 7%	8,109 6%
Altered Level of Consciousness	6,493 5%	6,683 5%	4,921 4%
Respiratory Distress	6,389 5%	6,620 5%	7,040 5%
Abdominal Pain	5,584 4%	5,685 4%	6,350 5%
Body Pain - Non-Traumatic	5,429 4%	5,395 4%	5,154 4%
Syncope/Near Syncope	4,786 4%	5,054 4%	3,867 3%
Chest Pain - Suspected Cardiac	3,939 3%	4,043 3%	3,911 3%
Total SPA 2 Adult EMS Responses	135,030	136,833	132,977
SPA 3 Traumatic Injury	22,151 17%	24,900 19%	18,207 15%
Behavioral/Psychiatric	9,108 7%	8,975 7%	8,412 7%
Body Pain - Non-Traumatic	7,932 6%	8,008 6%	6,139 5%
Weakness - General	8,328 6%	7,594 6%	7,531 6%
No Medical Complaint	7,398 6%	6,999 5%	5,601 5%
Abdominal Pain	6,411 5%	6,124 5%	5,382 4%
Respiratory Distress	5,110 4%	5,461 4%	5,508 4%
Altered Level of Consciousness	5,515 4%	4,571 3%	3,960 3%
Syncope/Near Syncope	4,348 3%	4,465 3%	3,322 3%
Chest Pain - Suspected Cardiac	3,102 2%	3,614 3%	3,198 3%
Total SPA 3 Adult EMS Responses	129,597	131,879	123,464

Top 10 Adult	2018		2019		2020	
EMS Provider Impressions	No.	%	No.	%	No.	%
SPA 4 Traumatic Injury	11,649	12%	10,331	11%	10,951	12%
Behavioral/Psychiatric	7,098	7%	7,767	8%	7,800	9%
Weakness - General	7,059	7%	7,373	8%	7,239	8%
No Medical Complaint	6.343	7%	6,604	7%	6,169	7%
Abdominal Pain	3,895	4%	4,515	5%	3,915	4%
Body Pain - Non-Traumatic	3,444	4%	4,073	4%	3,954	4%
Altered Level of Consciousness	4,653	5%	3,688	4%	3,275	4%
Respiratory Distress	3,401	4%	3,423	4%	4,399	5%
Seizure	2,835	3%	2,989	3%	2,478	3%
Overdose/Poisoning	2,308	2%	2,920	3%	3,315	4%
Total SPA 4 Adult EMS Responses	95,524	270	95,477	370	91,353	T/0
	30,021		33,177	2	31,555	
SPA 5 Traumatic Injury	10,797	18%	9,190	16%	8,179	17%
No Medical Complaint	4,977	8%	4,074	7%	3,413	7%
Weakness - General	4,185	7%	3,995	7%	3,352	7%
Behavioral/Psychiatric	3,933	7%	3,981	7%	4,014	8%
Syncope/Near Syncope	2,582	4%	2,498	4%	1,537	3%
Abdominal Pain	2,011	3%	2,252	4%	1,858	4%
Body Pain - Non-Traumatic	1,698	3%	2,119	4%	1,772	4%
Altered Level of Consciousness	2,493	4%	1,949	3%	1,769	4%
Respiratory Distress	1,945	3%	1,944	3%	1,858	4%
Nausea/Vomiting	1,666	3%	1,684	3%	1,230	3%
Total SPA 5 Adult EMS Responses	59,682		56,379		48,224	
SPA 6 Traumatic Injury	14,742	13%	13,758	12%	13,788	12%
Behavioral/Psychiatric	8,089	7%	8,892	8%	9,225	8%
Weakness - General	7,638	7%	8,160	7%	9,046	8%
Abdominal Pain	6,591	6%	7,143	6%	6,378	6%
Body Pain - Non-Traumatic	6,585	6%	6,967	6%	6,462	6%
No Medical Complaint	6,929	6%	6,954	6%	6,803	6%
Respiratory Distress	5,016	4%	5,158	5%	5,550	5%
Cold/Flu	3,609	3%	3,707	3%	4,339	4%
Seizure	3,695	3%	3,950	4%	3,529	3%
Altered Level of Consciousness	4,395	4%	3,346	3%	2,955	3%
Total SPA 6 Adult EMS Responses	111,500		111,695		112,044	
	40.504	450/	44.500	4.50/		400/
SPA 7 Traumatic Injury	13,581	15%	14,608	A CONTRACTOR OF THE	10,740	
Behavioral/Psychiatric	6,458	7%	7,193	8%	6,397	
Body Pain - Non-Traumatic Weakness - General	5,773	7%	6,136		4,519 5,030	6%
	5,853	7%	5,386	100000000000000000000000000000000000000		
No Medical Complaint Abdominal Pain	5,231	6%	5,110		3,340	4%
	4,387		4,194		3,566	
Respiratory Distress	3,276	4%	3,067	3%	3,071	4%
Altered Level of Consciousness	3,654	4%	2,712	3%	2,343	3%
Syncope/Near Syncope Chest Pain - Suspected Cardiac	2,664	3%	2,554	3%	2,060	3%
Total SPA 7 Adult EMS Responses	2,463 88,437	3%	2,526 89,297	3%	2,083 80,058	3%
Total of 77 7 (wall 21) of Responses	00,437				00,030	
SPA 8 Traumatic Injury	19,497	16%	20,087	16%	16,919	14%
Behavioral/Psychiatric	8,841	7%	8,898	7%	8,839	7%
Weakness - General	8,040	7%	8,086	7%	7,696	6%
No Medical Complaint	7,156	6%	6,997	6%	5,871	5%
Body Pain - Non-Traumatic	5,699	5%	6,609	5%	5,532	5%
Abdominal Pain	6,092	5%	6,142	5%	5,433	5%
Altered Level of Consciousness	6,313	5%	4,847	4%	4,275	4%
Respiratory Distress	5,123	4%	4,850	4%	4,903	4%
Syncope/Near Syncope	4,070	3%	3,821	3%	3,010	3%
Chest Pain - Suspected Cardiac	3,385	3%	3,289	3%	2,930	2%
Total SPA 8 Adult EMS Responses	120,762		123,277		120,090	

# PEDIATRIC EMS PROVIDER IMPRESSION by Service Planning Area (SPA)

COUNTYWIDE TOP 10 PEDIATRIC	2018	à	2019		2020	
EMS PROVIDER IMPRESSIONS	No.	%	No.	%	No.	%
Traumatic Injury	8,440	23%	8,641	23%	5,736	22%
No Medical Complaint	5,150	14%	4,746	13%	3,155	12%
Seizure	4,904	14%	5,609	15%	3,502	14%
Respiratory Distress	1,987	6%	2,140	6%	1,015	4%
Behavioral/Psychiatric	1,894	5%	1,709	5%	1,351	5%
Cold/Flu	1,625	4%	1,789	5%	1,000	4%
Fever	1,399	4%	1,456	4%	1,083	4%
Choking	636	2%	798	2%	824	3%
Allergic Reaction	775	2%	845	2%	661	3%
Weakness - General	679	2%	886	2%	614	2%
Total Pediatric Responses	36,117		36,945		25,675	



	Top 10 Pediatric	2018		2019		2020	
	EMS Provider Impressions	No.	%	No.	%	No.	%
SPA 1	Traumatic Injury	699	21%	830	24%	534	22%
	No Medical Complaint	531	16%	504	15%	284	12%
	Seizure	420	13%	475	14%	270	11%
	Behavioral/Psychiatric	286	9%	245	7%	155	6%
	Cold/Flu	169	5%	141	4%	119	5%
	Fever	109	3%	119	3%	84	3%
	Respiratory Distress	197	6%	229	7%	106	4%
	Body Pain - Non-Traumatic	132	4%	69	2%	48	2%
	Syncope/Near Syncope	64	2%	83	2%	46	2%
6	Choking	42	1%	78	2%	97	4%
Total 9	PA 1 Pediatric EMS Responses	3,298		3,457		2,425	
SPA 2	Traumatic Injury	926	23%	1,019	19%	844	21%
	Seizure	566	14%	898	17%	620	15%
	No Medical Complaint	469	12%	688	13%	496	12%
	Respiratory Distress	210	5%	348	6%	201	5%
	Cold/Flu	158	4%	307	6%	170	4%
	Fever	167	4%	282	5%	245	6%
	Behavioral/Psychiatric	252	6%	241	4%	210	5%
	Weakness - General	110	3%	181	3%	106	3%
	Allergic Reaction	110	3%	183	3%	139	3%
2	Nausea/Vomiting	84	2%	170	3%	101	2%
Total S	PA 2 Pediatric EMS Responses	3,967		5,385		4,069	
SPA 3	Traumatic Injury	1,611		1,792		- TANKSTON	24%
	Seizure		13%		14%		15%
	No Medical Complaint	200000000000000000000000000000000000000	14%	737	12%		10%
	Respiratory Distress	322	5%	343	5%	122	3%
	Behavioral/Psychiatric	341	5%	179	3%	206	5%
	Fever	209	3%	225	4%	180	4%
	Syncope/Near Syncope	201	3%	203	3%	108	3%
	Cold/Flu	184	3%	179	3%	112	3%
	Choking	130	2%	171	3%	159	4%
	Body Pain - Non-Traumatic	194	3%	131	2%	65	2%
Total S	PA 3 Pediatric EMS Responses	6,516		6,333		4,077	

						2022	
	Top 10 Pediatric	2018	0.0	2019		2020	
CDA A	EMS Provider Impressions	No.	%	No.	%	No.	%
SPA 4	Traumatic Injury	The state of the s	19%	476	-	ORDERS AND ASSESSMENT ASSESSMENT AND ASSESSMENT ASSESSME	19%
	Seizure	-03/43/43/45	15%		17%	11/2007/01/09/	15%
	No Medical Complaint		15%	360		238	
	Cold/Flu	162	6%	148	5%	81	4%
	Behavioral/Psychiatric	111	4%	141	5%	100	5%
	Fever	152	6%	102	4%	87	5%
	Respiratory Distress	147	5%	142	5%	57	3%
	Syncope/Near Syncope	71	3%	84	3%	36	2%
	Allergic Reaction	60	2%	78	3%	66	4%
T-+-16	Weakness - General PA 4 Pediatric EMS Responses	71	3%	77	3%	79	4%
lotal S	PA 4 Pediatric Livis Responses	2,701		2,705		1,860	
SPA 5	Traumatic Injury	643	30%	473	24%	356	27%
JIAJ	No Medical Complaint		12%		11%		10%
	Seizure		10%	192	10%	STORY OF	10%
	Sting/Venomus Bites	55	3%	173	9%		13%
	Nausea/Vomiting	75	3%	84	4%	32	2%
	Respiratory Distress	139	6%	93	5%	45	3%
	Cold/Flu	84	4%	79	4%	31	2%
	Allergic Reaction	102	5%	76	4%	68	5%
	Syncope/Near Syncope	66	3%	74	4%	27	2%
	Behavioral/Psychiatric	72	3%	61	3%	67	5%
Total 9	PA 5 Pediatric EMS Responses	2,175	3/0	1,941	370	1,338	3/0
1 Otal 3	A 3 I culatile Elvio Responses	2,173		1,341		1,338	
SPA 6	Traumatic Injury	1,350	20%	1,308	20%	1,014	21%
	Seizure	884	13%	1,032	16%	622	13%
	No Medical Complaint	1,001	15%	970	15%	734	15%
	Cold/Flu	497	7%	510	8%	260	5%
	Fever	330	5%	328	5%	210	4%
	Respiratory Distress	422	6%	400	6%	225	5%
	Behavior/Psychiatric	296	4%	310	5%	248	5%
	Weakness -General	151	2%	192	3%	172	4%
	Nausea/Vomiting	198	3%	172	3%	122	3%
	Body Pain - Non-Traumatic	174	3%	148	2%	114	2%
Total S	PA 6 Pediatric EMS Responses	6,647		6,649		4,865	
CD A T	The second section of the functions	4.453	220/	4 256	240/	700	220/
SPA 7	Traumatic Injury Seizure	1,153		1,256		722	
		10 mm	15%		16%	2002000	15%
	No Medical Complaint	1000000	16%		13%	100000000000000000000000000000000000000	11%
	Respiratory Distress	226	4%	291	6%	105	3%
	Behavioral/Psychiatric	256	5%	284	6%	186	6%
	Cold/Flu	174	3%	195	4%	105	3%
	Fever Syncope/Near Syncope	171	3%	185 160	4%	112	3%
		178	3%	70.70	3%	88	3%
	Body Pain - Non-Traumatic	169	3%	154	3%	62	2%
Tatal C	Choking PA 7 Pediatric EMS Responses	91	2%	143	3%	136	4%
TOTAL 3	PA / Pediatric Elvi3 Responses	5,150		5,152		3,339	
SPA 8	Traumatic Injury	1,555	27%	1,487	28%	976	25%
01710	Seizure		14%		16%		13%
	No Medical Complaint	739	13%	608		488	
	Respiratory Distress	324	6%	294	6%	166	4%
	Behavioral/Psychiatric	280	5%	248	5%	190	5%
	Cold/Flu	197	3%	230	4%	131	3%
	Fever	183	3%	168	3%	128	3%
	Syncope/Near Syncope	152	3%	138	3%	96	2%
	Allergic Reaction	122	2%	134	3%	86	2%
	Choking	134	2%	124	2%	161	4%
Total S	PA 8 Pediatric EMS Responses	5,663		5,323		3,883	
. otal 3	o i culutile Elvio Responses	3,003		3,323		3,003	

**2017** 

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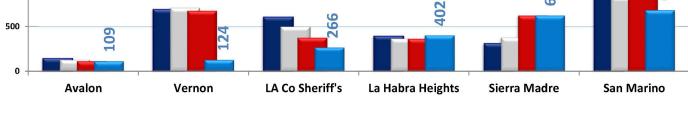
## EMS Responses by 9-1-1 Jurisdictional Provider Agency

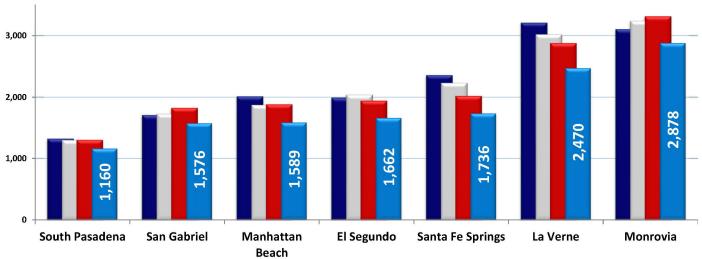
**2018** 

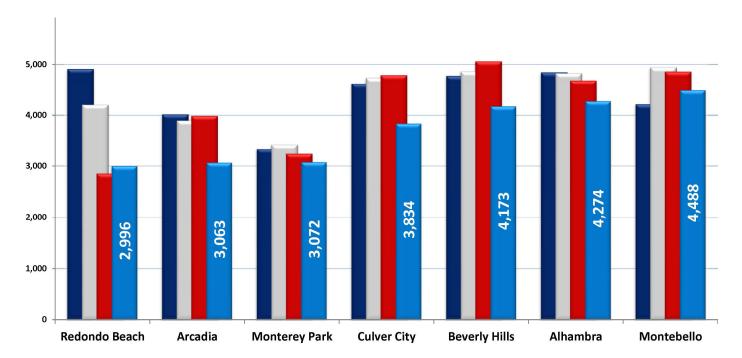


**2019** 

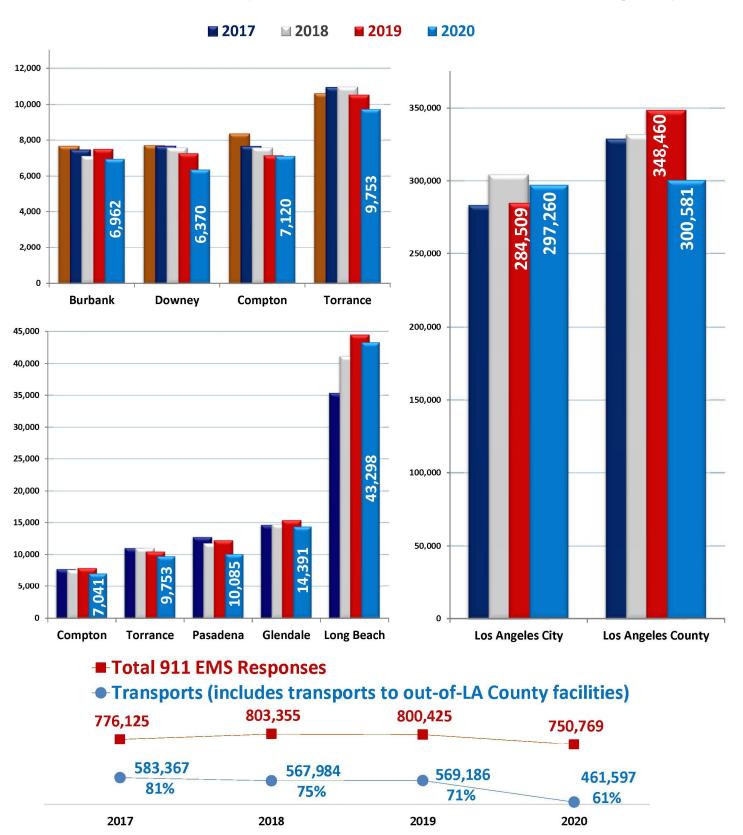
**2020** 







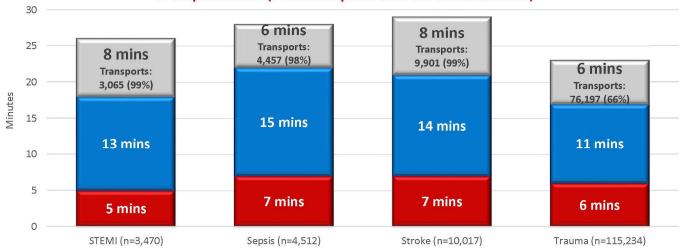
### EMS Responses by 9-1-1 Jurisdictional Provider Agency



### 2020 EMS Times: Adult (Median)

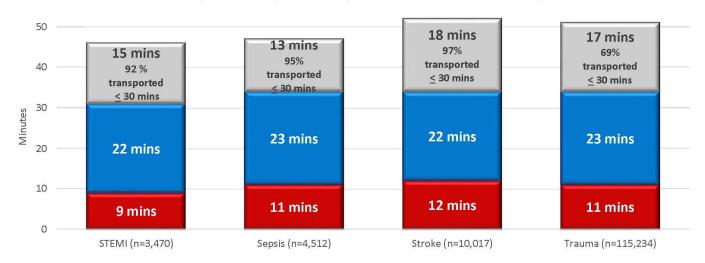
LA County EMS Transport Time of <u>ADULT</u> Patients with Provider Impressions STEMI, Stroke, Sepsis and Traumatic Injuries

- ☐ Transport Time (Time Left Scene to Time Arrived at Hospital)
- Scene Time (Time Arrived at Scene to Time Left Scene)
- Response Time (Time of Dispatch to Time Arrived at Scene)



### 2020 EMS Times (90th Percentile)

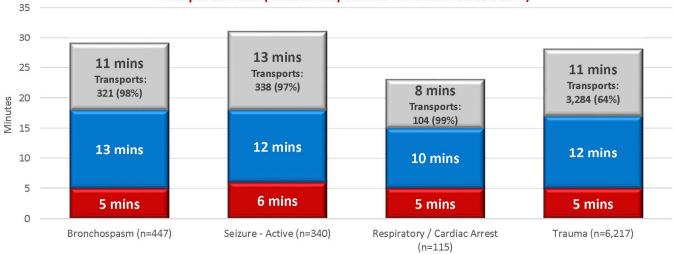
- Transport Time (Time Left Scene to Time Arrived at Hospital)
- Scene Time (Time Arrived at Scene to Time Left Scene)
- Response Time (Time of Dispatch to Time Arrived at Scene)



### 2020 EMS Times: Pediatric (Median)

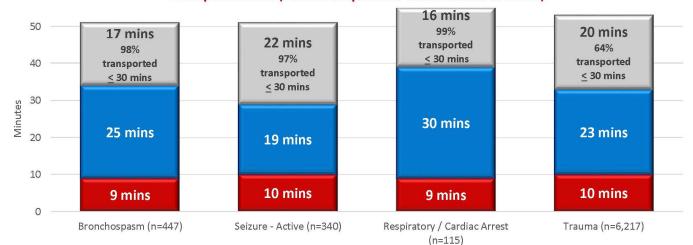
LA County EMS Transport Time <u>PEDIATRIC</u> Patients with Provider Impressions Bronchospasm, Seizure, Respiratory/Cardiac Arrest and Traumatic Injuries

- Transport Time (Time Left Scene to Time Arrived at Hospital)
- Scene Time (Time Arrived at Scene to Time Left Scene)
- Response Time (Time of Dispatch to Time Arrived at Scene)

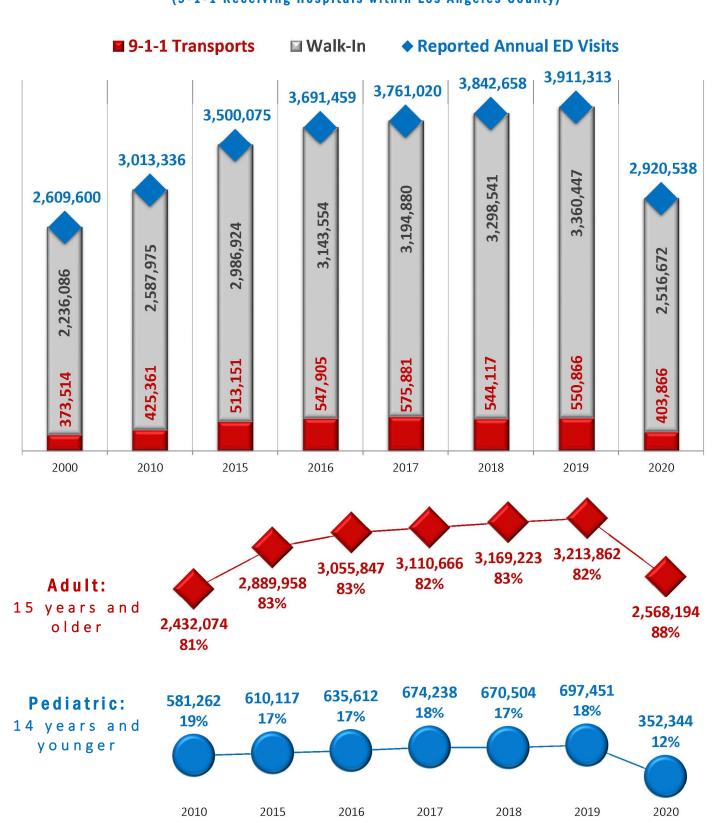


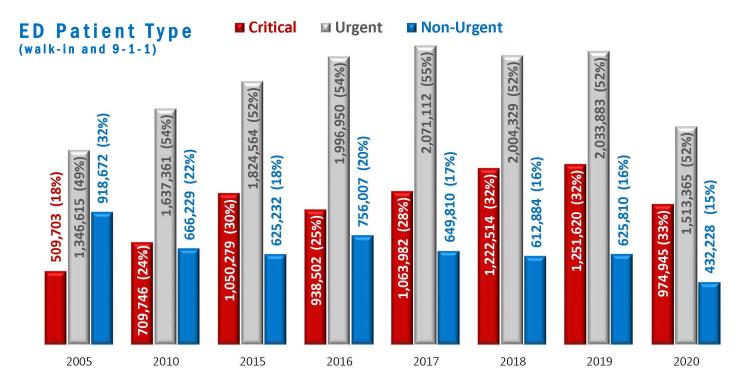
### 2020 EMS Times: Pediatric (90th Percentile)

- Transport Time (Time Left Scene to Time Arrived at Hospital)
- Scene Time (Time Arrived at Scene to Time Left Scene)
- Response Time (Time of Dispatch to Time Arrived at Scene)



# Emergency Department Volume (9-1-1 Receiving Hospitals within Los Angeles County)

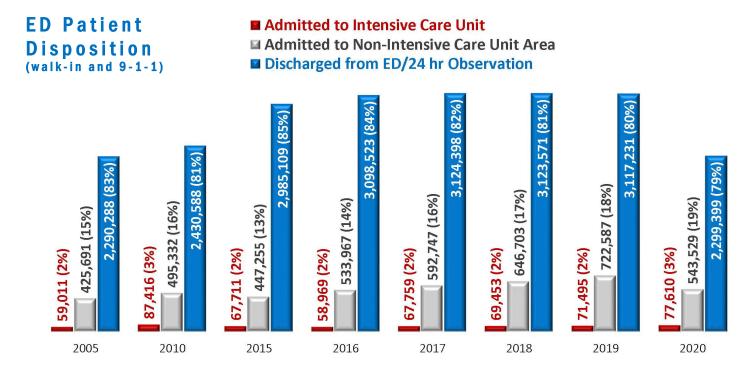




<u>Critical</u>—a patient presents an acute injury or illness that could result in permanent damage, injury or death (head injury, vehicular accident, shooting). Applicable Current Procedural Terminology (CPT) codes for this level of service would be 99284 (detailed history, detailed physical, and medical decision making of moderate complexity) or 99285 (medical decision making of high complexity) or 99291 (critical care, evaluation and management).

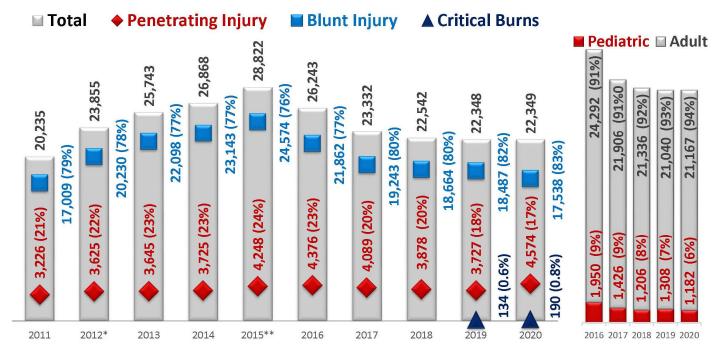
<u>Urgent</u>—a patient with an acute injury or illness, loss of life or limb is not an immediate threat to their well-being, or a patient who needs timely evaluation (fracture or laceration). Applicable CPT codes for this level of service would be 99282 (medical decision making of low complexity) or 99283 (medical decision making of moderate complexity)

Non-Urgent—a patient with a non-emergent injury, illness or condition; sometimes chronic; that can be treated in a non-emergency setting and not necessarily on the same day they are seen in the ED (pregnancy tests, toothache, minor cold, ingrown toenail). An applicable CPT code for this level of service would be 99281 (straight forward medical decision making).



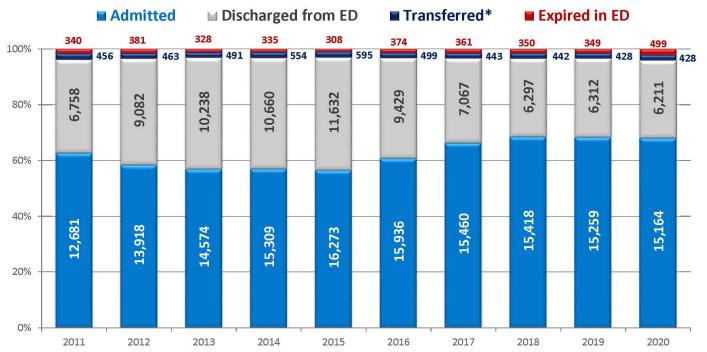


### Trauma Center Volume



<sup>\*2012:</sup> LA County adopted the Centers for Disease Control and Prevention Guidelines for Field Triage of Injured Patients

### Patient Disposition of Trauma Center Patients



<sup>\*</sup> Transferred to another health facility

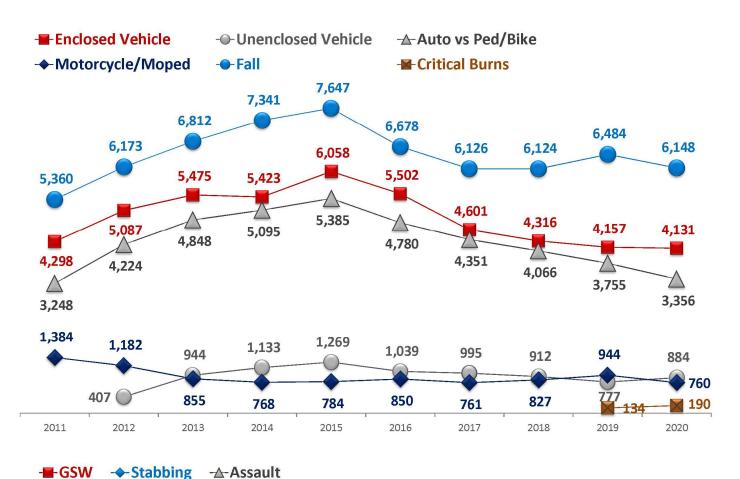
<sup>\*\*2015 :</sup> Trauma Center Registry inclusion criteria was reduced.

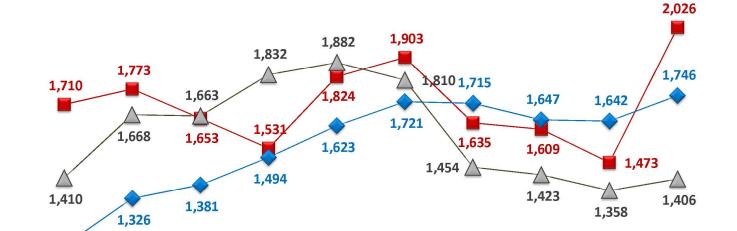
<sup>\*\*\*2019:</sup> Critical Burns added as a Trauma Center Criteria

**1,132** 2011



### Mechanism of Injury: Patients Transported to Trauma Centers





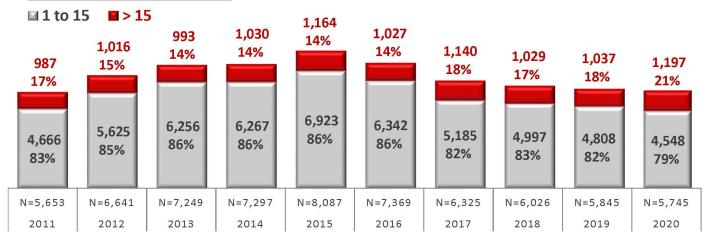


### Injury Severity Score by Mechanism of Injury

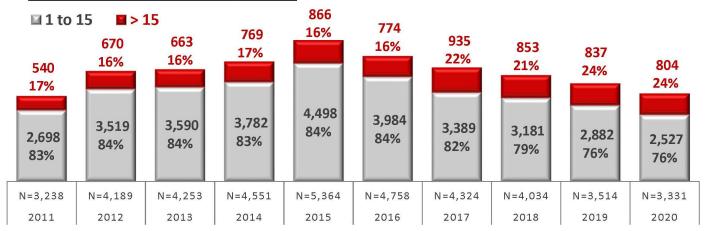
Injury Severity Score (ISS): Is an established medical score to assess trauma severity. It correlates with mortality, morbidity and hospitalization time after trauma. It is used to define the term major trauma.

A major trauma (or polytrauma) is defined as the ISS being greater than 15.

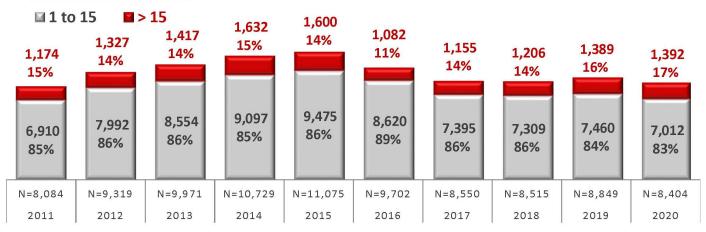
#### **Motor Vehicular Accident**



#### Automobile vs Pedestrian/Bicycle



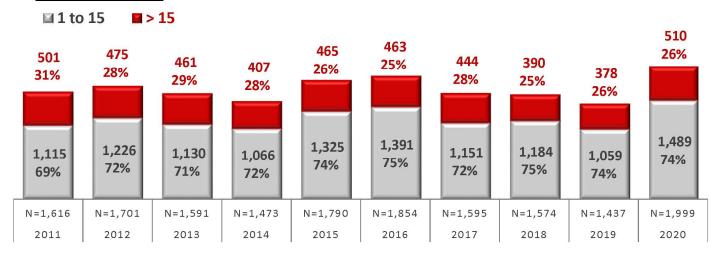
#### Other Blunt Injuries



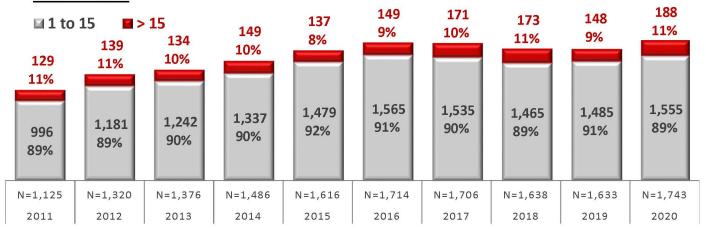


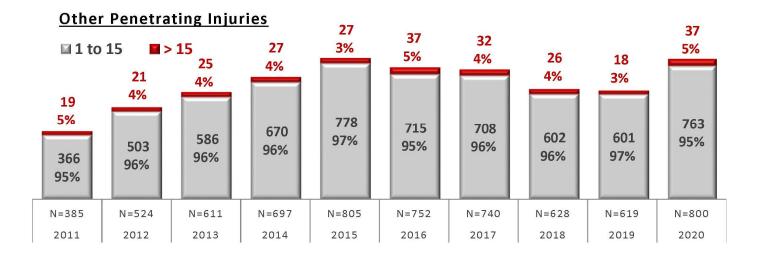
## Injury Severity Score by Mechanism of Injury

#### **Gunshot Wound**



#### Stab Wound





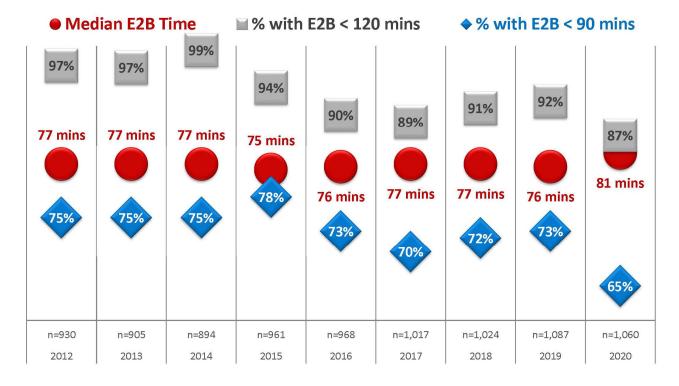


# ST-Elevation Myocardial Infarction (STEMI)

STEMI Receiving Center: Door-to-Device (D2B) Time
LA County Target: within 90 minutes 90% of the time and within 60 minutes 75% of the time

<ul><li>Median D2B Time</li></ul>			lime .	■ % with	D2B < 90	mins	♦ % with	D2B < 60	) mins	
	92%	92%	92%	93%	90%	88%	90%	90%	86%	
	58 mins	59 mins	59 mins	57 mins	59 mins	58 mins	58 mins	57 mins	61 mins	
	53%	51%	52%	57%	53%	54%	56%	57%	48%	
	n=930	n=905	n=894	n=961	n=968	n=1,017	n=1,024	n=1,087	n=1,060	
	2012	2013	2014	2015	2016	2017	2018	2019	2020	

STEMI Receiving Center: EMS Medical Contact-to-Device (E2B) Time
LA County Target: within 120 minutes 90% of the time and within 90 minutes 75% of the time



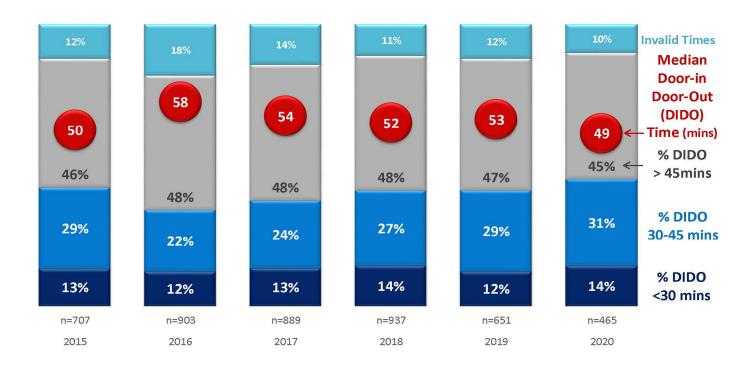


# STEMI Referral Facility (SRF): Door-to-Device (D2B) Time LA County Target: within 150 minutes 90% of the time and within 120 minutes 75% of the time

#### ■ Median SRF D2B Time With SRF D2B < 150 mins </p> With SRF D2B < 120 mins</p>

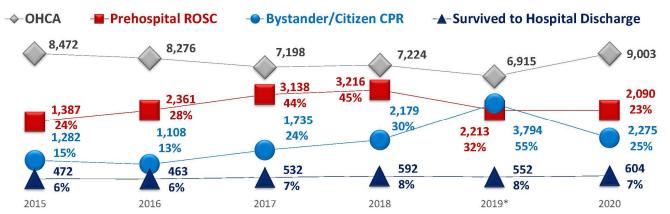
107 mins	111 mins	108 mins	110 mins	112 mins	114 mins
78%	72%	75%	77%	72%	73%
62%	55%	59%	61%	59%	56%
n=930	n=905	n=894	n=961	n=968	n=1,017
2012	2013	2014	2015	2016	2017

# STEMI Referral Facility (SRF): Door-in Door-out (DIDO) Time LA County Target: < 30 minutes





### Out of Hospital Cardiac Arrest (OHCA)

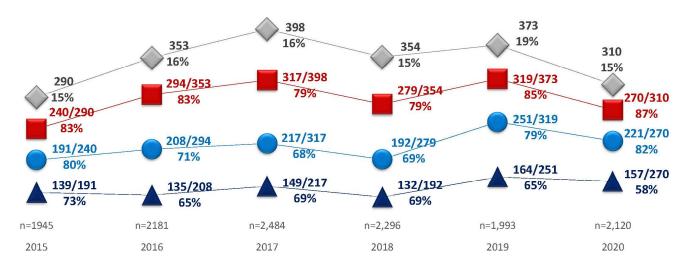


\*2019 OHCA population is based on Provider Impression Cardiac Arrest Non-Traumatic, which was fully implemented April 1, 2019. DOAs were excluded. 2015-2018 OHCA population was based on Chief Complaint of Cardiac Arrest.

#### ROSC with STEMI

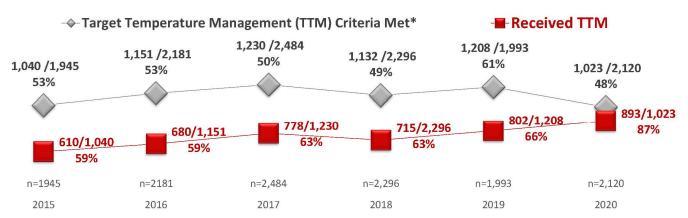
#### - ROSC with STEMI + Met ACC Guidelines\*

- ROSC with STEMI + Met ACC Guidelines + Cath Lab - ROSC with STEMI + Met ACC Guidelines + PCI\*\*



<sup>\*</sup>ACC Guidelines for coronary angiography include: Age ≥18, pt did not expire, no DNR, no medical condition, treatment not refused and CL available.

<sup>\*\*</sup>PCI - Percutaneous Coronary Intervention is a procedure used to open or widen a narrowed or blocked coronary artery to restore blood flow supplying the heart.



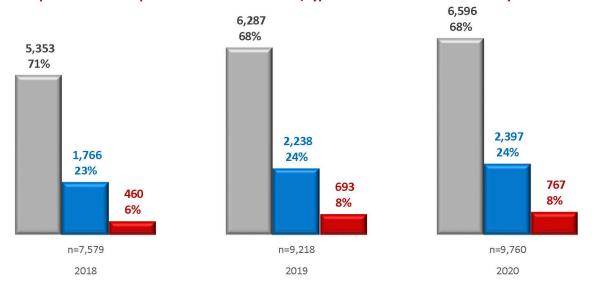
<sup>\*</sup>TTM criteria excludes: died in ED, age <18, awake/responsive, end stage terminal illness, core temp <35 and pre-exiting DNR



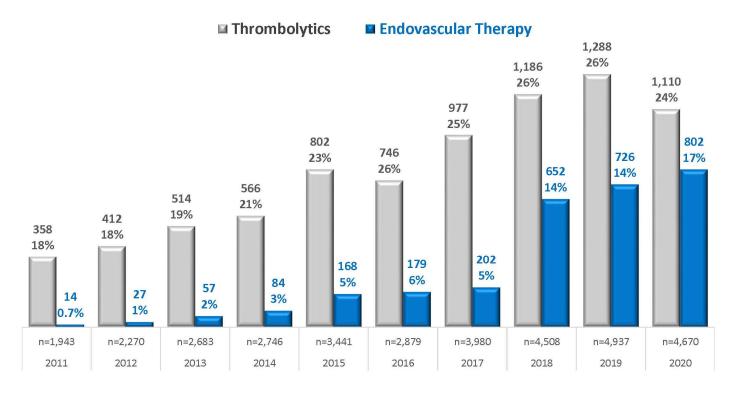
### Suspected Stroke Patient Destination

The routing of suspected stroke patients with large vessel occlusions based on a Los Angeles Motor Scale (LAMS) score of 4 or 5 to designated Comprehensive Stroke Centers began on January 8, 2018.

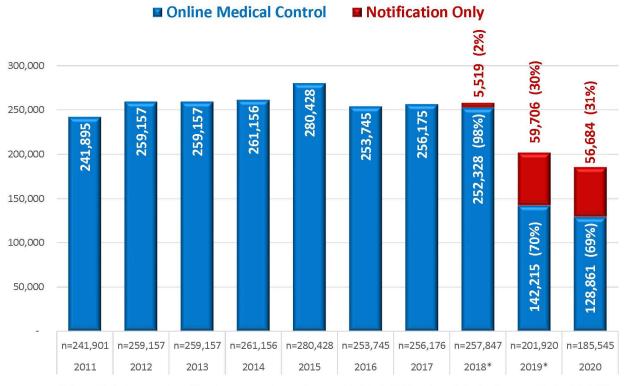
- Transported to a Primary Stroke Center
- Transported to a Comprehensive Stroke Center (also the most accessible stroke center)
- Transported to a Comprehensive Stroke Center (bypassed most accessible Primary Stroke Center)



### Treatment-All Ischemic Stroke



### Paramedic Base Hospital Contact Volume



\* Phased-in imlementation of New Treatment Protocols started in July 1, 2018 and was fully implemented in April 1, 2019.

The New Treatment Protocols reduced the number of EMS responses requiring online medical control.

