

**Sacramento County Emergency Medical Services Agency (SCEMSA)
 Joint Medical Advisory (MAC)/Operational Advisory (OAC) Committees
 9616 Micron Ave. Suite 960
 Sacramento, CA. 95827**



Dr. Garzon	SCEMSA	Mark Mendenhall	AMR
Dave Magnino	SCEMSA	Richard Meidinger	Kaiser-North
Ben Merrin	SCEMSA	Julie Carrington	Cosumnes FD
Brian Aiello	SCEMSA	Matt Burruel	AlphaOne
Kristin Bianco	SCEMSA	Debbie Madding	Sutter Roseville
Kathy Ivy	SCEMSA	Cristy Jorgensen	El Dorado County EMS
Dorthy Rodriguez	SCEMSA	Brian Gonsalves	Sac Metro FD
Nic Scher	NorCal Ambulance	David Buettner	UCDMC
Jen Denno	Sutter Medical Sacramento	Sheri Burns	Sutter Medical Sacramento
Nathan Beckerman	MSJ/AlphaOne	Dan Gilbert	Sacramento Valley Ambulance
Jeff Carl	Mercy San Juan	Wendin Gulbransen	Kaiser-South
Patti Styles	Mercy San Juan	Rupy Sandhu	UCDMC
Jori Rice	Mercy San Juan	Jared Gunter	AMR
Renee Roberts	VersaCare	Brian Meader	Medic Ambulance
Rose Colangelo	Sutter Roseville	Chris Bradburn	Sutter Sacramento
John Rose	UCDMC	Heather Garcia	Kaiser Roseville
Steve Brandon	Methodist	Mark Piacentini	Folsome FD
Kevin Mackey	SRFECC	Mario Frias	Sacramento VA
Brandie Cherry	Kaiser-North	Karen Scarpa	Sutter Sacramento

ITEM	DETAILS	ACTION
Welcome and Introductions		
Public Comment	NONE	NONE
Minutes Review	December Minutes March Minutes	Approved by: Brian Meader/Dave Buettner Approved by: Matt Burruel/Dave Buettner
Chairman's Report		
Covid Update	Sacramento County is in another surge, but this has been the slowest surge yet. As of June 8, 2022, Sacramento County has 177 Covid-positive patients in the hospital, with 19 in ICU.	NONE
APOT Report	In February, March, and April, when COVID cases went down, APOT times dropped to around 50-55 minutes. Pre-COVID times were about 40 minutes. This could be due to staffing that has fallen since Pre-COVID. Wall time problems are something hospital and fire leadership needs to be involved in. Matt Burrell – Rideout Hospital has 0 wall times. A decompression workgroup has been established, made up of hospital leaders, some private providers, and EMSA staff. They will	Report attached to minutes <ul style="list-style-type: none"> • Dr. Garzon to reach out to Rideout hospital regarding wall times and how they manage wall times • Dr. Beckerman will send the Rideout ED Medical Directors contact information

	<p>be working on other ways and solutions to address wall times other than a diversion.</p> <p>Dr. Garzon is open to suggestions. An attendee stated that in San Bernadino County, nurses are in the dispatch to help divert patients to the appropriate care.</p>	
<p>SCEMSA Quarterly Reports</p>	<p>See attached reports</p> <p>There is an ongoing conversation regarding stroke scales and being able to divert LVOs to comprehensive stroke centers. Some data shows that a CPSS of 2 or 3 has a higher likelihood of being an LVO stroke. At this time, the data is being validated. The data is difficult to validate due to the CEMSYS field for strokes being either positive or negative.</p>	<p>Report Attached to Minutes</p>
<p>Wall Time Reports</p>	<p>The attendee asks if there is a way to pull data to show where Sacramento County was/is with response times and wall times pre-covid vs. now. The attendee states her hospital is tracking this information now. Per Dr. Garzon, Eric Saylor from Sacramento, F.D. is working on tracking how response times are affected by wall times. There is a correlation between wall times and increased response times. EMS providers having to up-staff due to wall times is definitely part of this ongoing conversation.</p> <p>SCEMSA will be working on adding outcome data for Strokes to improve the use of the Stroke Scales.</p>	<p>Adding "Obtain a body temperature" to the Stroke Policy will be discussed.</p>
<p>Tele 911, MIH Policy, and UCDCM Pediatric Seizure study updates</p>	<p>The Tele 911 (CFD) and MIH (Sac Metro) trial programs will be started in late summer or early fall.</p> <p>UCDCM is conducting research into Pediatric Seizure care. The seizure policy is being amended only for this study, and the amendment only pertains to Sacramento Fire and may begin in the fall. The focus is to treat Pediatric seizures earlier, and the dosing of Versed will be higher. All</p>	

	other agencies will follow the standard policy.	
Old Business		
P.D. # 5053 – Trauma Triage	APPROVED WITH EDITS.	This is following National Guidelines and has been reviewed by the TRC.
P.D. # 8015 – Trauma	APPROVED WITH EDITS	Dr. Shatz: A reminder to crews that commercial Chest Seals are only to be used for sucking chest wounds. They are very difficult to remove and NOT to be used for anything other than a sucking chest wound.
P.D. # 8024 – Cardiac Dysrhythmia	APPROVED WITH EDITS TO THE WORKFLOW	
New Business		
Pilot Program – Additional Orientation Class	Additional orientation classes that were held are being canceled due to a lack of participants. We will continue with the orientation on the first Friday of every month.	
P.D. # 5050 – Destination	Monthly Required Reporting by ALS providers	Ben Merin: Hospitals do not need to submit the monthly forms. This is only for the ALS providers.
P.D. # 8065 - Hemorrhage	APPROVED WITH EDITS. Language updated stating the " <i>B/P less than 90 AND signs of hemorrhagic shock</i> " to satisfy LOSOP application for TXA.	
P.D. # 8066 – Pain Management	APPROVED WITH EDITS. Under Protocol, Respiratory Rate increased from 6 to 10. Fentanyl can now be given I.M. Repeat dose changed from every 5 minutes to every 10 minutes. Changes to Ketamine language due to renewal and request of EMSA for the LOSOP stating " <i>a second dose of Ketamine can be administered fifteen minutes after the first dose</i> ".	

Scheduled Policy Updates		
P.D. # 2103 – Off Duty Provisions of ALS by Sacramento County Accredited Paramedics	APPROVED – No Changes	
PD# 2210 – EMR Scope of Practice	APPROVED – No Changes	
PD# 2501 – Emergency Medical Dispatch (EMD)	Highlighted Section under Q.A., Q.I. Management Program Requirements mirror P.D. #7600	Comments from SRFEMSCC were sent in too late to be brought to the meeting.
PD# 5100 – Interfacility Transfers-ALS-CCT Program Requirements	APPROVED – No Changes	
PD# 5101 – Interfacility Transfers-Medical Control	APPROVED – No Changes	
PD# 5102 – Interfacility Transfers	APPROVED – No Changes	
PD# 5550 – Bio-Medical Maintenance	APPROVED – No Changes	
PD# 8001 – Allergic Reaction/Anaphylaxis	APPROVED with Edits – Venous Access changed to “ <i>Vascular Access</i> ” to be consistent with other policies.	Policy to be brought back for clarification of NOTE: 1. (Research when Glucagon was changed to 1mg) Glucagon 1 mg IV/IO or IM if no vascular access or delay is anticipated was added to this policy September 2018. Prior to that, Glucagon was not in the policy.
PD# 8017 – Dystonic Reaction	APPROVED – No Changes	
PD# 8018 – Overdose and/or Poison Ingestion	APPROVED with Edits – Decreased Sensorium removed as a cross-reference.	Confirm when Glucagon was removed for this policy to match PD# 8001 Glucagon was removed from this policy on 5/2018. There is nothing in the minutes from that meeting to explain why it was removed for Beta Blocker O.D.
PD# 8038 – Shock	APPROVED	
PD# 8044 – Spinal Motion Restriction (SMR)	To be brought back in September. Modified C-Spine is not SMR and is NOT in the policy. The term modified C-Spine should not be used in documentation or as a form of “SMR”. Providers to train on this to their field personnel.	Dr. Garzon: The SMR training video will be reviewed. He will also look at other training videos and trauma sites for additional training for SMR.

PD# 8062 – Behavioral Crisis Restraint	APPROVED – No changes	
PD# 8808 – Vascular Access	<p>APPROVED – With Edits</p> <p>REMOVED: Under Policy, D. <i>"When vascular access is indicated, only two (2) attempts by two (2) different Paramedics, for a maximum of four (4) attempts shall be made. Base Hospital contact must be established for further vascular attempts"</i></p> <p>ADDED: Under IO pain control and notes: 4. <i>"If the patient still has pain, slowly administer subsequent 1/2 dose"</i> 1ml of 2% Lidocaine, not to exceed 40mg, via IO slowly over 1-2 minutes</p>	
PD# 8827 – 12 Lead ECG	<p>APPROVED – With Edits</p> <p>ADDED: Under Indications B.: <i>"3. Diabetic > 30 years old with typical or atypical symptoms of ACS</i> <i>4. Syncope</i> <i>5. Post ROSC"</i></p> <p>Under Indications C.: <i>"Women ≥ 40"</i> with atypical signs or symptoms of ACS. Added Under Special Considerations: B. Removed: <i>"as soon as possible"</i> Added: <i>"Within ten (10) minutes of patient contact"</i></p> <p>REMOVED: Cross Reference PD#8007 – Abdominal Pain</p>	
PD# 9016 – Pediatric Parameters	APPROVED – No Changes	
Round Table:		
Barbie Law	<p>Announced she will be leaving the EMS division. John Rudnicki to take over as EMS Chief for SMFD.</p> <p>Sacramento County Child Death Review Committee has brought up concerns regarding the Pediatric Cardiac Arrest Policy. The concern is that children are being worked up for 20 minutes on scene and not being transported immediately. An email</p>	<p>Dr. Garzon: A bullet will be added to state all Pediatric Cardiac Arrest patients will be transported instead of pronouncing them on scene after 20 minutes. I do think it is important to spend the 20 minutes doing effective CPR and try to get ROSC in the field.</p>

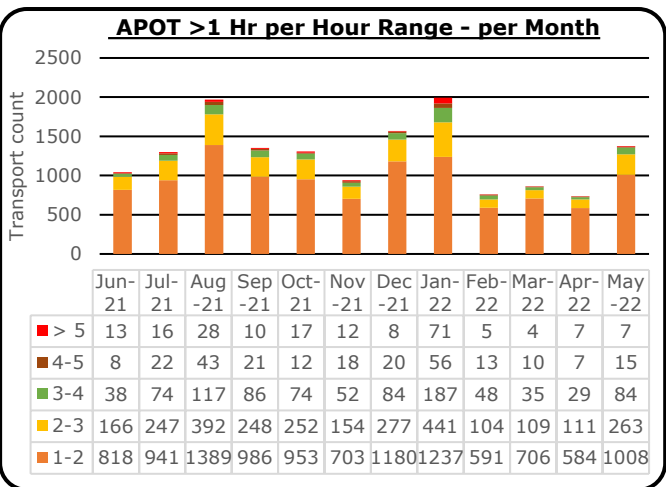
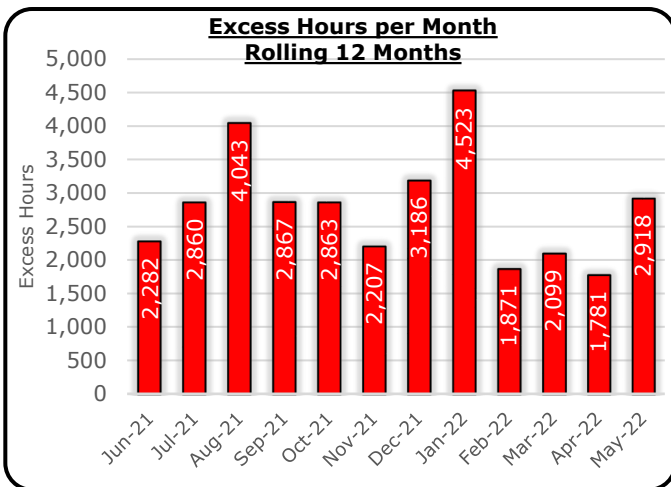
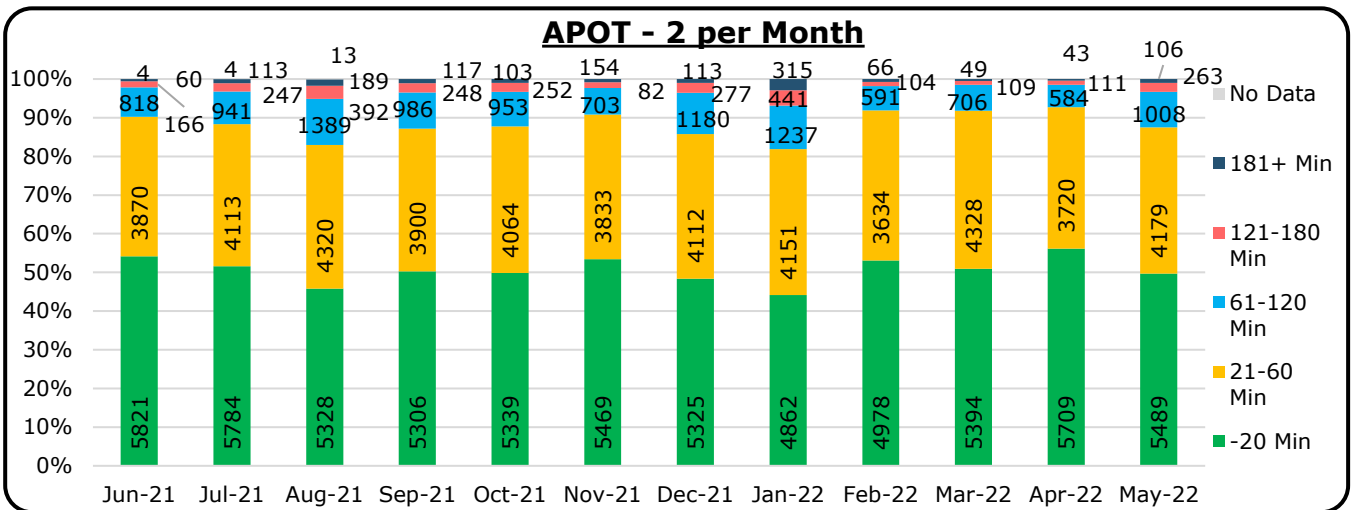
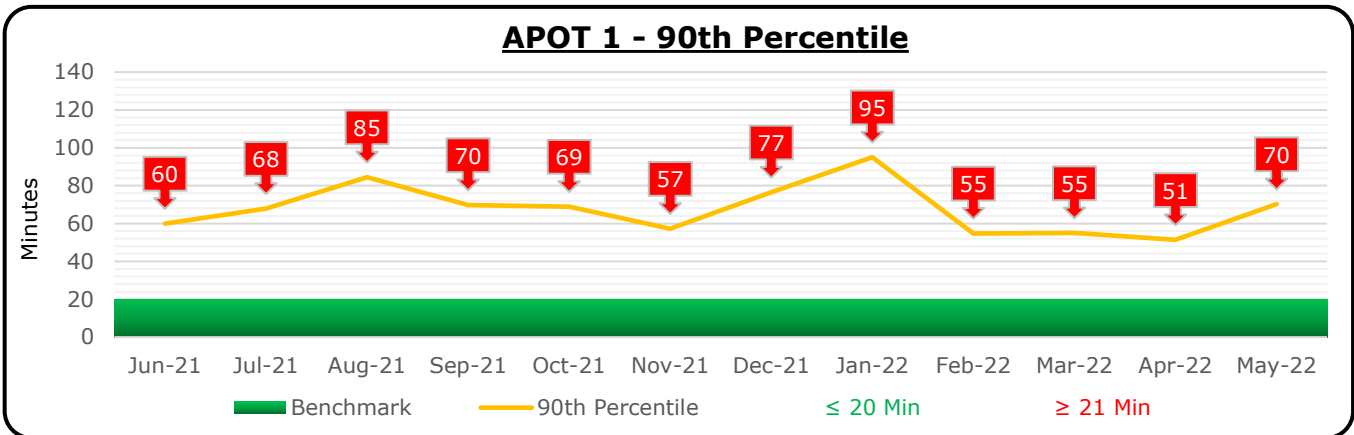
	<p>was sent to Dr. Garzon regarding this and he will review it.</p> <p>Should a Pediatric Traumatic Cardiac Arrest Policy be created?</p>	<p>One has been created and will be brought to MAC/OAC in September.</p>
<p>Lisa Curlee – Medic Ambulance</p>	<p>PD# 5100 – Interfacility Transfers-ALS-CCT Program Requirements: During a stable CCT transport, is an EMT required to be in the back with the RN or can they follow behind in a “fly” car? If the EMT can’t follow in the fly car, it affects the time of getting the BLS unit back in service, due to having to return the RN to the originating facility.</p> <p>What level of service can do deep suctioning on a trach?</p>	<p>Ben Merrin: Currently under our policy, the county standpoint is that the EMT is required to be in the back. The reason for this is that RN’s cannot manage an airway. Stable patients can become unstable. We can have a discussion in the future regarding critical care RN’s and additional training, and the designation of critical care RN’s within our county that meet certain training standards in order to consider letting the EMT follow in the fly car. Dr. Garzon will look into the standard national scope regarding deep suctioning of a trach by a paramedic since it is an invasive procedure. If it is not addressed in the standard scope, he would be open to supporting it, as long as it is tied to training. This will be brought back in September under Old Business</p>
<p>Jeff Carl – Mercy San Juan</p>	<p>Concerns over patient’s being brought to ED in Modified C-spine.</p>	<p>This was discussed during review of SMR Policy with edits made and action items assigned to Dr. Garzon for follow-up.</p>
<p>Matt Burrell – Alpha One</p>	<p>What is the status of getting real-time ambulance and hospital data Ben Merrin: Real-Time Data From EMResource: The CAD interface is with the 4 busiest providers – The fire service, Alpha One, AMR, and Medic Ambulance. Alpha one is already live in the system. AMR is sending test data and will be switching to production sometime in June. Medic Ambulance is currently working on it. The Fire service will not go live until their new CAD is in place (Date TBD).</p>	

	After these are in place, we should capture about 90% of calls that would generate usable data.	
Barbie Law	Proposing implementation of Policies twice a year instead of once a year.	This will be brought back in September for final approval.
Daniel Iniguez	Daniel is leaving Sacramento County and introduced Mark Mendenhall as his replacement.	

Next MAC/OAC: September 8, 2022

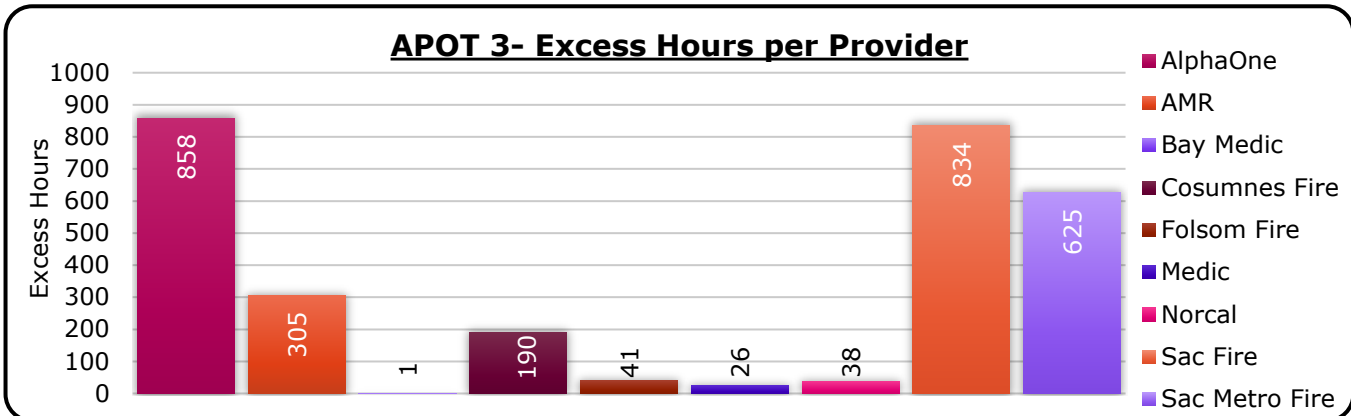
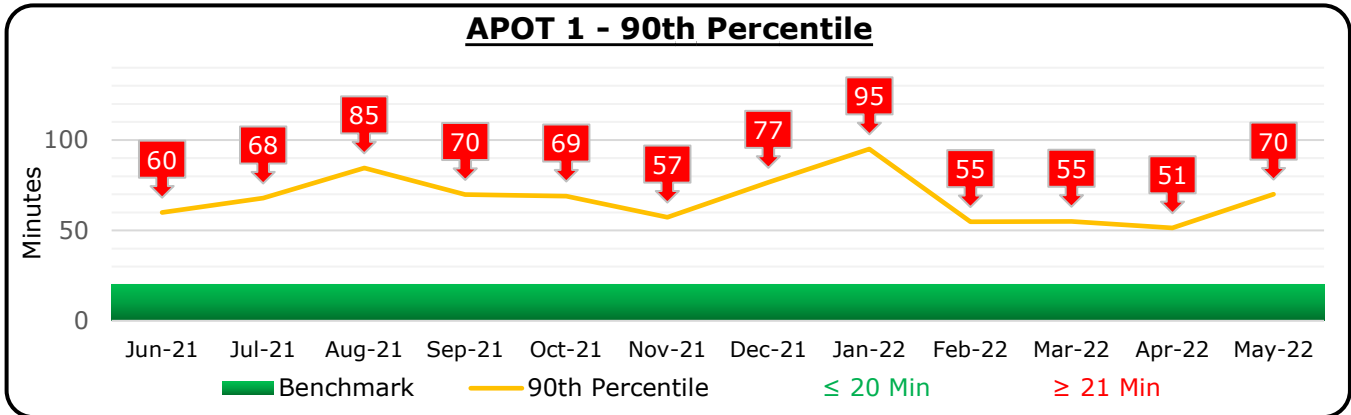
APOT 1, 2 & 3 - ROLLING 12 MONTHS / SYSTEM

APOT-1 represents the time (in minutes) under which 90% of patients have their care transferred from EMS to hospital staff. **APOT-2** is the percentage of patients whose care is transferred from EMS to hospital staff by designated time frames (see graph key for time ranges). **APOT-3** represents the excess time (in hours) over 20 minutes (Min.) aggregate of patient transferred from EMS to hospital per month. Illustrated is the System Total Excess hours per month. *Example: if APOT in minutes is 184 minutes then $184 - 20$ (APOT benchmark) = 164 minutes. Then $164 / 60 = 2.73$ hours. APOT >1 hour represents any transport with an APOT greater than one hour per hour range.*

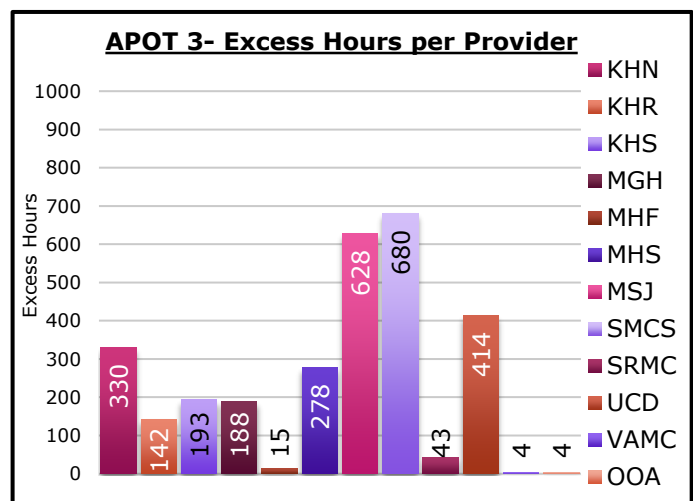


APOT 1 PER HOSPITAL & APOT 3 PER HOSPITAL & PROVIDER AGENCY FOR MAY - 2022

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Hour Range	1-2	2-3	3-4	4-5	5+
KHR	65	7	2	0	0
KHN	109	19	3	0	0
KHS	88	11	1	0	0
MGH	66	10	0	0	0
MHF	3	0	0	0	0
MSJ	229	67	25	6	3
MHS	89	25	5	2	0
SMCS	254	75	21	1	2
SRMC	10	3	0	0	0
UCD	93	46	27	6	2
VAMC	1	0	0	0	0



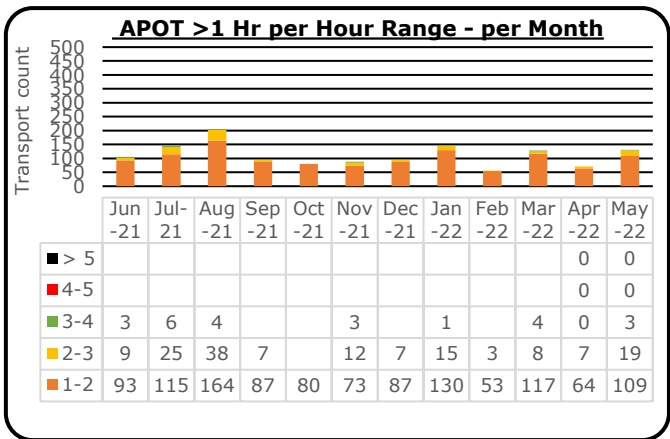
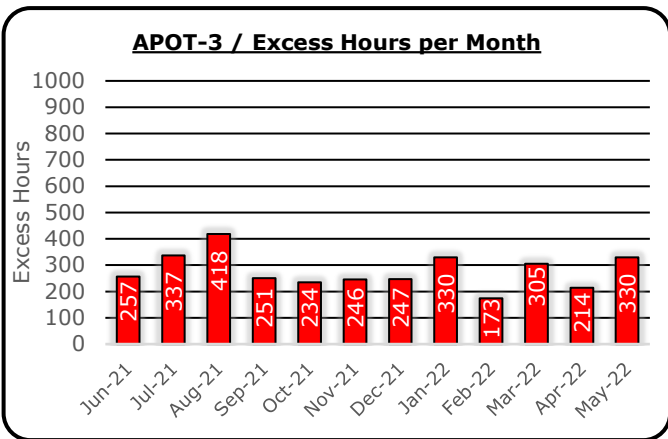
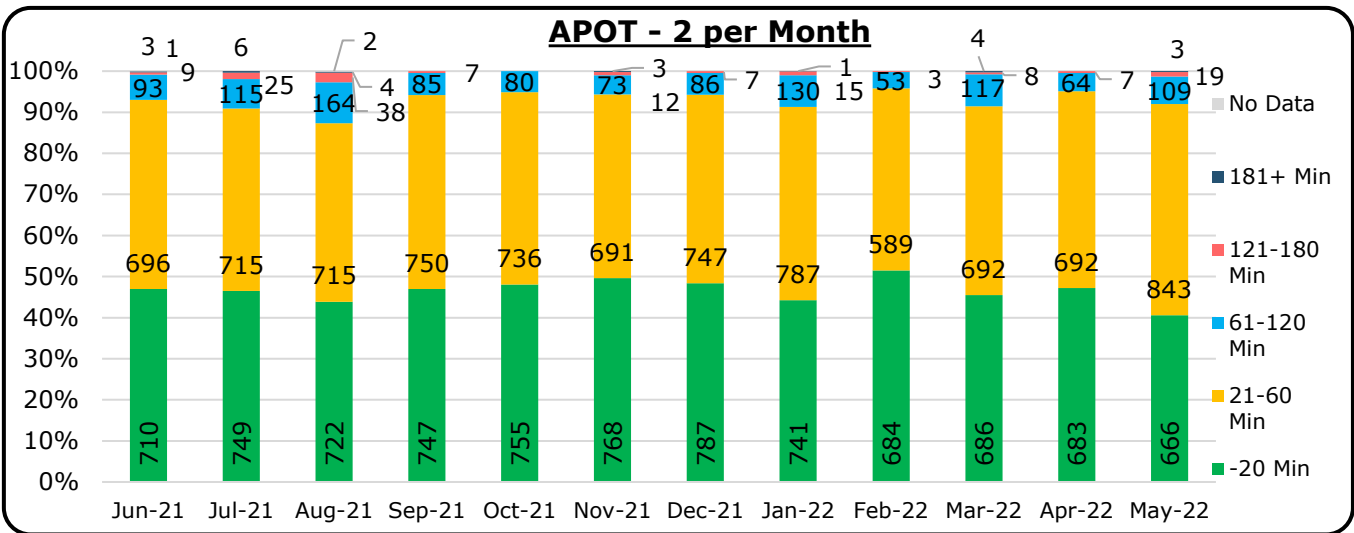
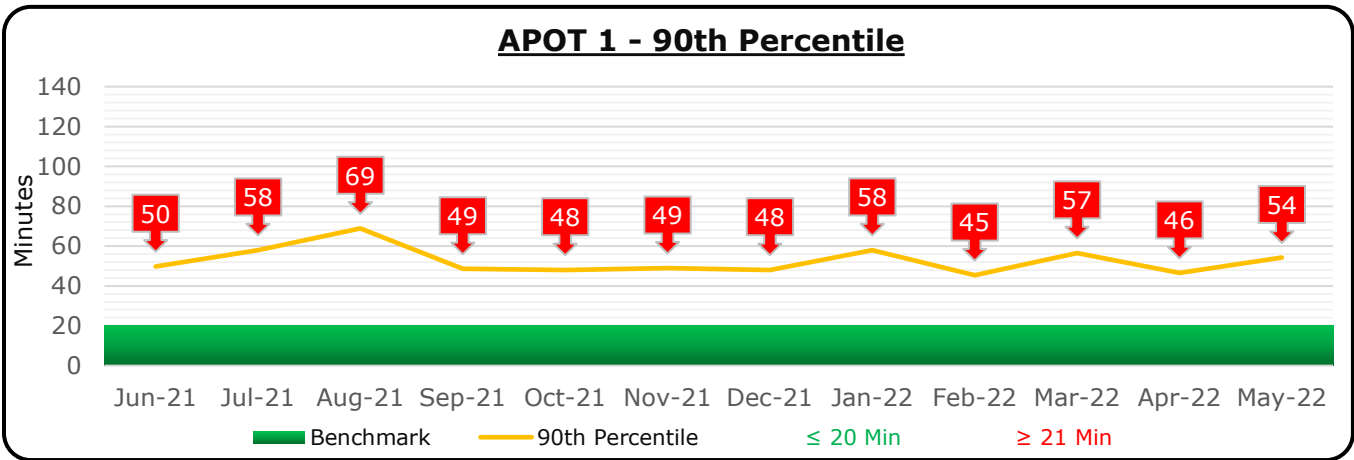
APOT Table - May 2022

Key: **Green Low / Best** / **Red Highest**

Hospital Names	Excess Hours	APOT in Minutes	Percentage within 20 min	EMS Field to ED Patient count	Average Cost of Excess Hours to EMS Strike Team Rate \$210.74hr	Average Cost per 10 patients
Kaiser Roseville	142	1:05:48	46.79%	624	\$29,889.96	\$479.01
Kaiser Morse	330	0:54:14	40.61%	1640	\$69,628.50	\$424.56
Kaiser South	193	0:46:18	70.42%	1508	\$40,700.92	\$269.90
Mercy General	188	0:58:04	40.94%	855	\$39,706.93	\$464.41
Mercy Folsom	15	0:22:54	86.94%	582	\$3,062.75	\$52.62
Mercy San Juan	628	1:39:23	51.21%	1613	\$132,281.50	\$820.10
Mercy Methodist	278	1:14:23	30.05%	822	\$58,504.94	\$711.74
Sutter Sacramento	680	1:45:17	23.69%	1338	\$143,387.50	\$1,071.66
Sutter Roseville	43	0:41:15	60.60%	401	\$8,974.01	\$223.79
UC Davis	414	1:15:37	53.85%	1402	\$87,218.26	\$622.10
VA Sacramento	4	0:21:44	89.30%	187	\$811.35	\$43.39
Out of Area	4	1:55:12	79.45%	73	\$776.23	\$106.33
System	2918	1:10:17	49.70%	11,045	\$614,942.83	\$556.76

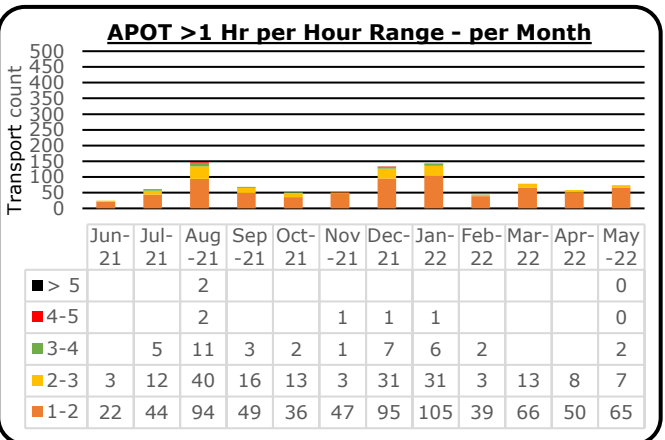
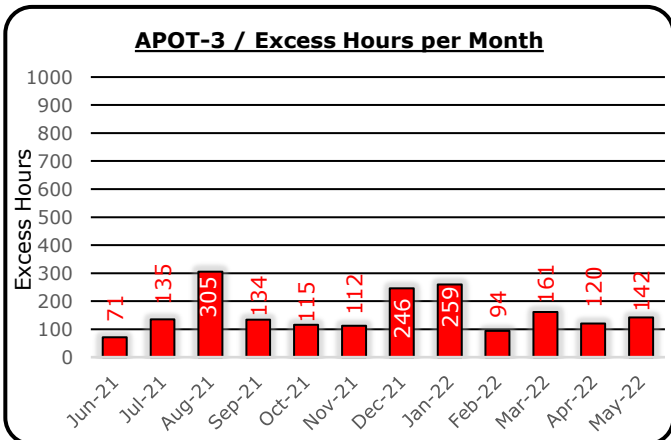
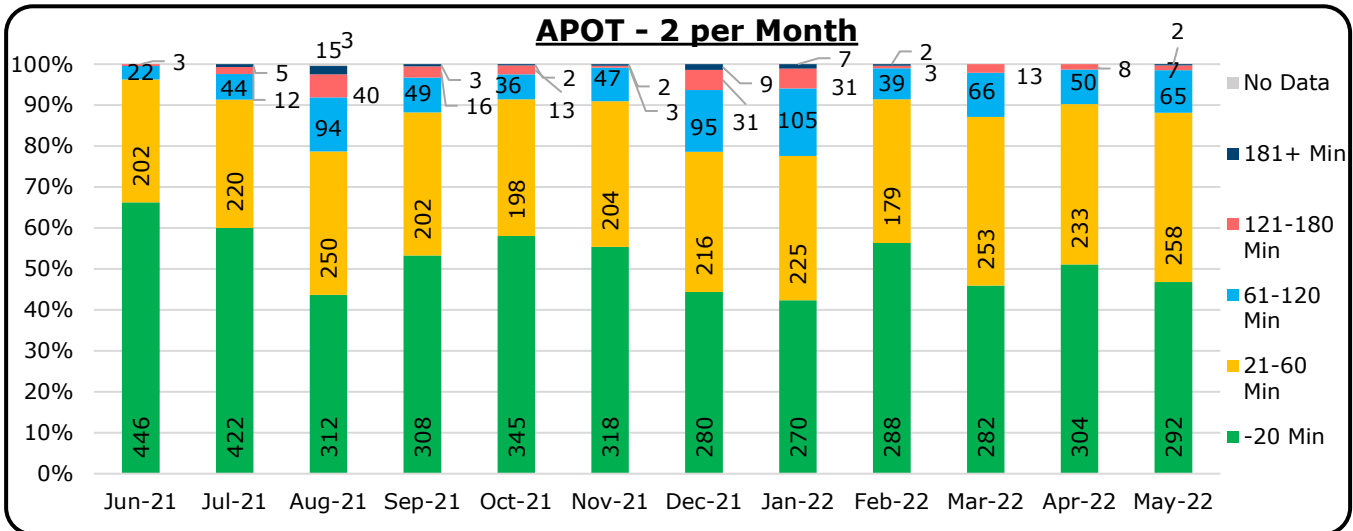
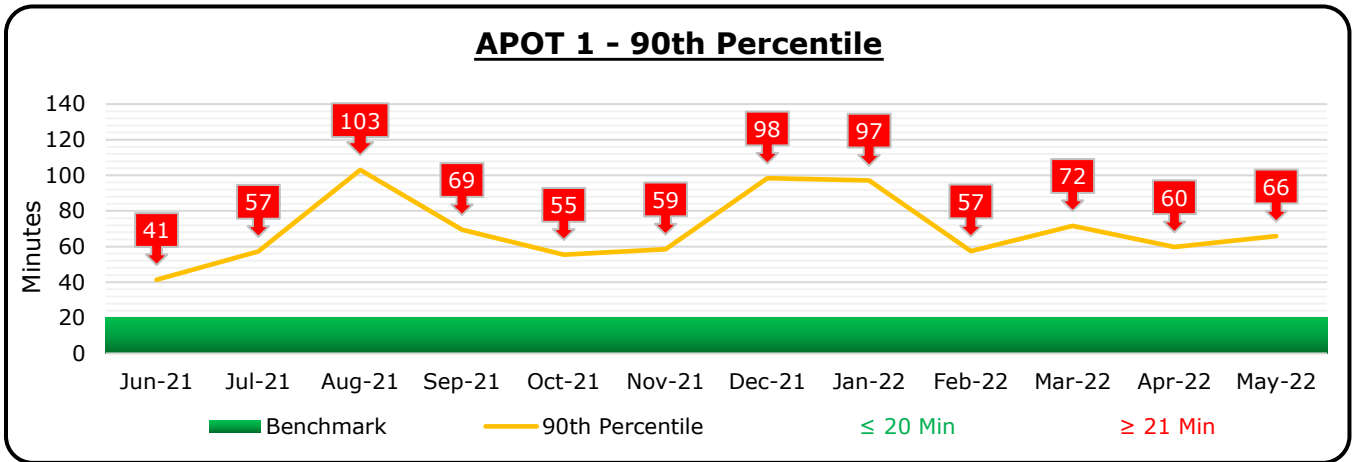
APOT 1, 2 & 3 - ROLLING 12 MONTHS / KAISER NORTH

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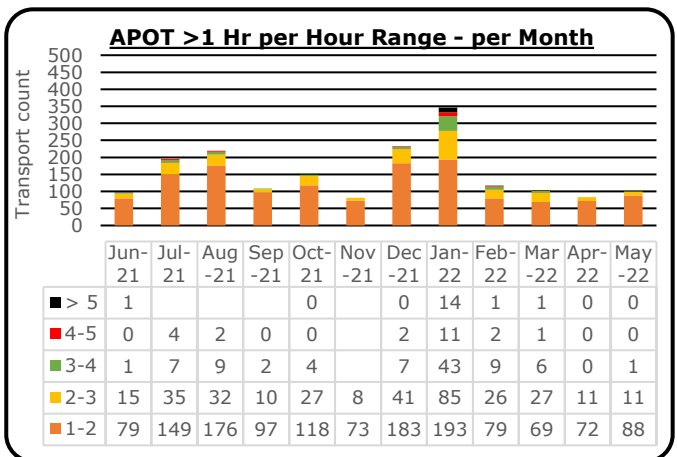
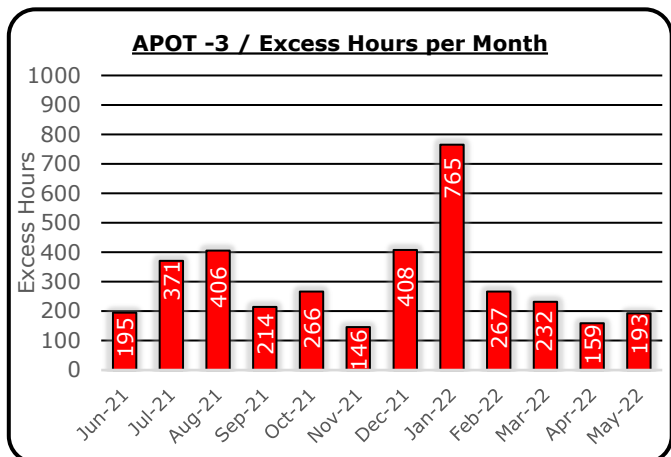
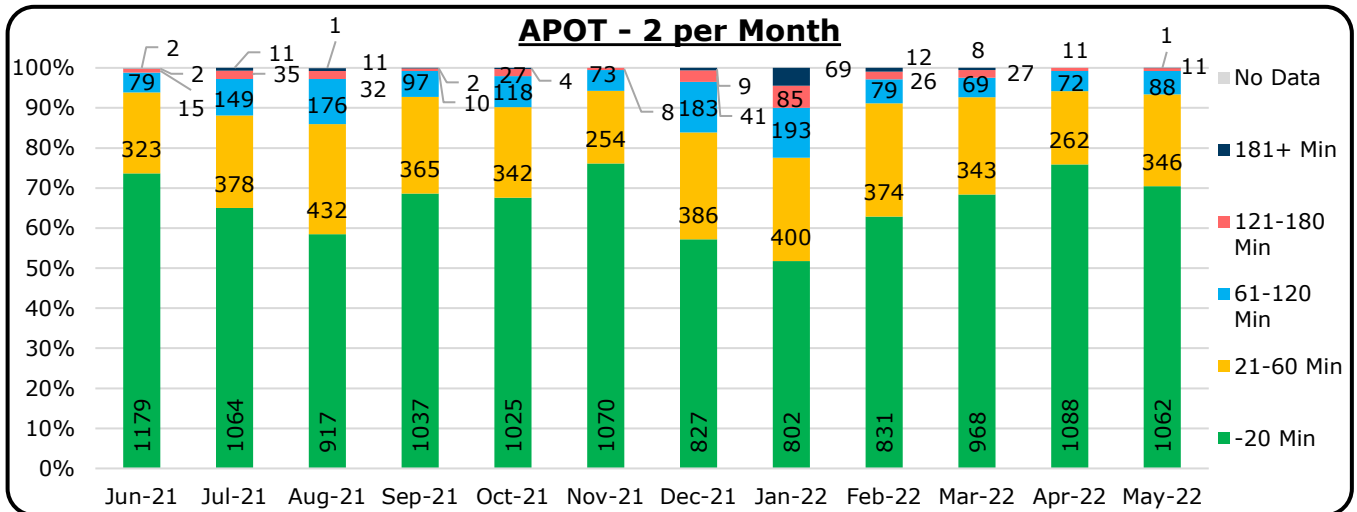
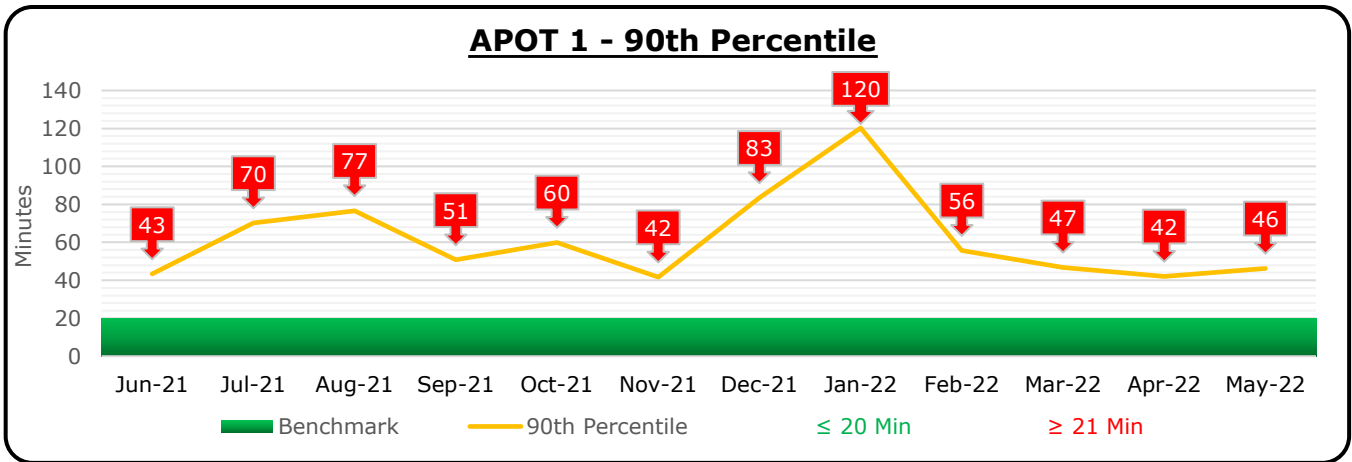
APOT 1, 2 & 3 - ROLLING 12 MONTHS / KAISER ROSEVILLE

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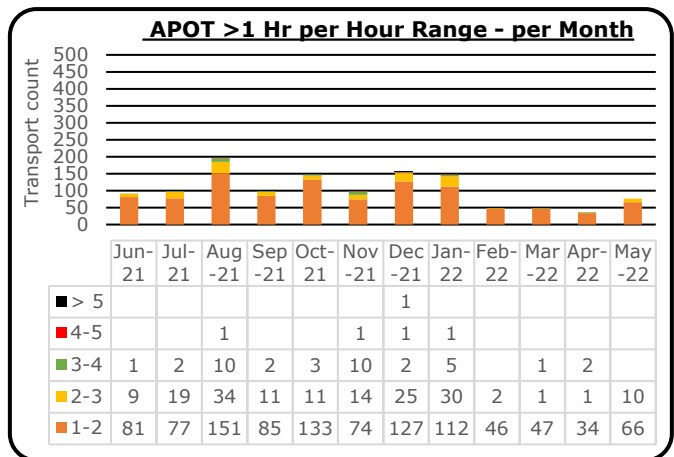
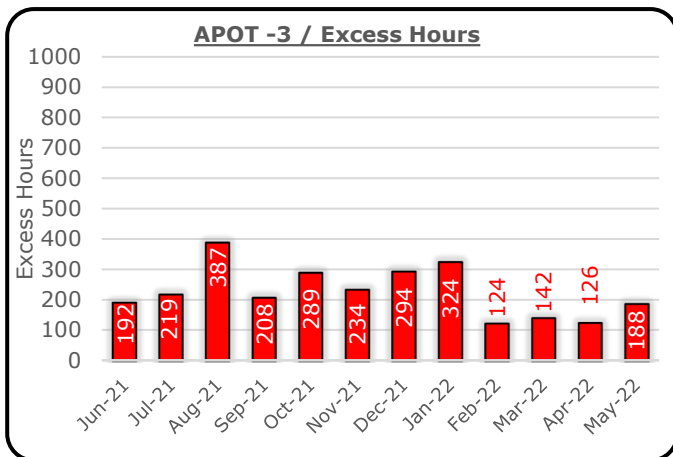
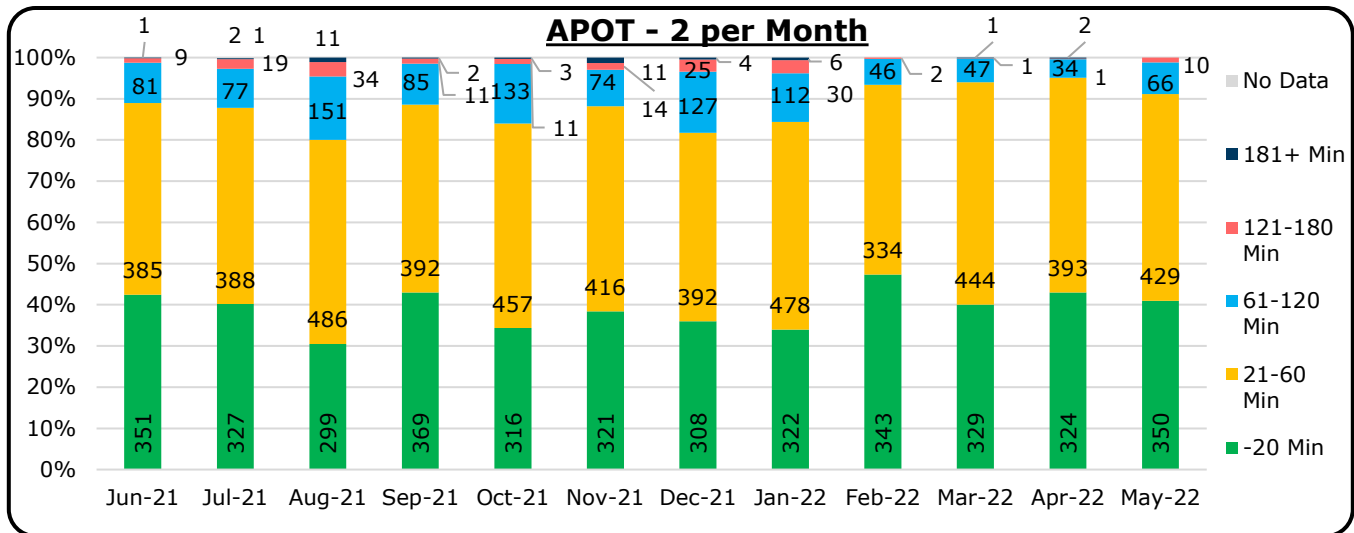
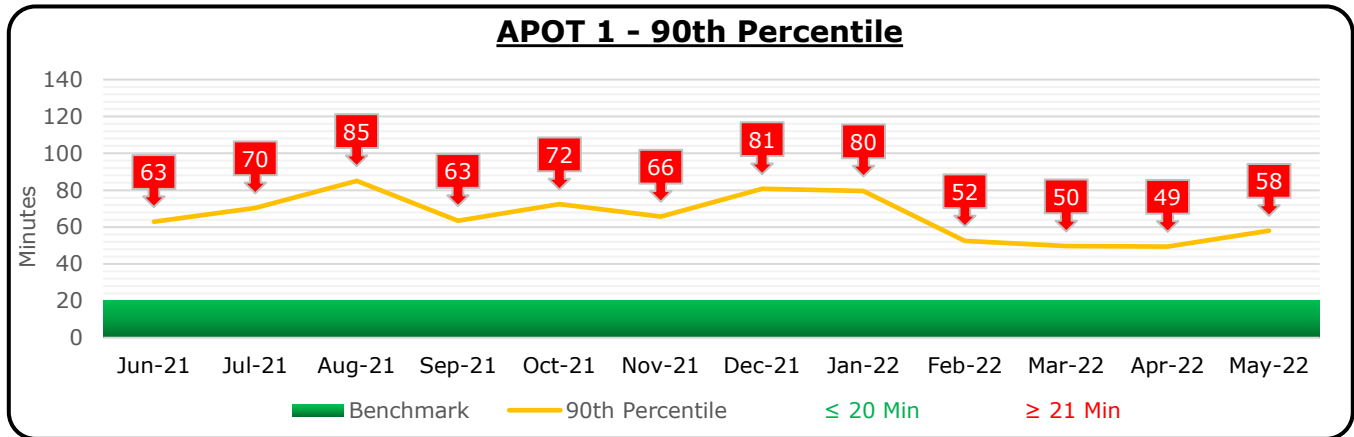
APOT 1, 2 & 3 - ROLLING 12 MONTHS / KAISER SOUTH

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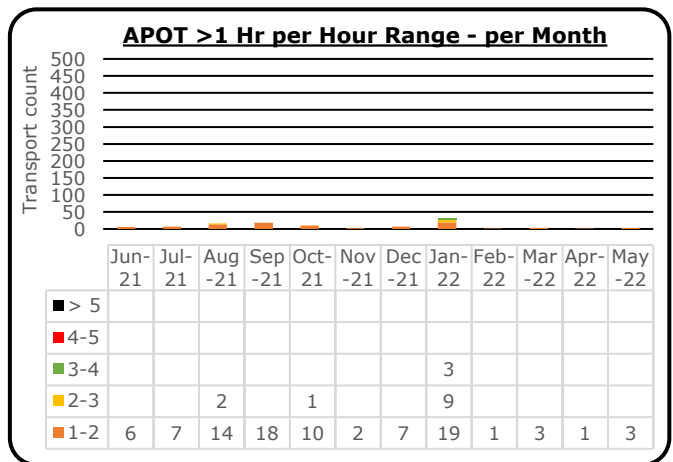
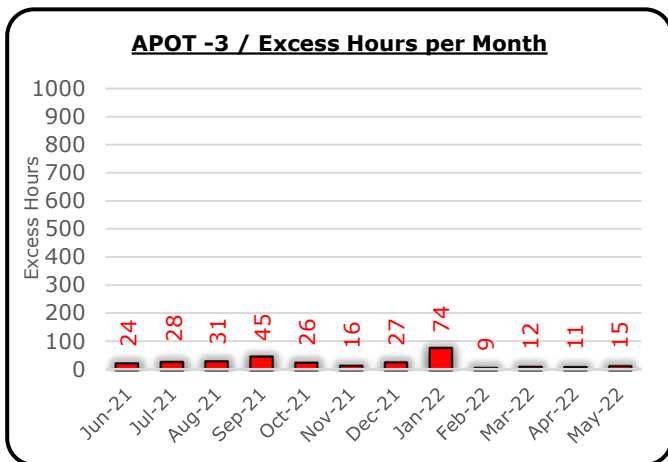
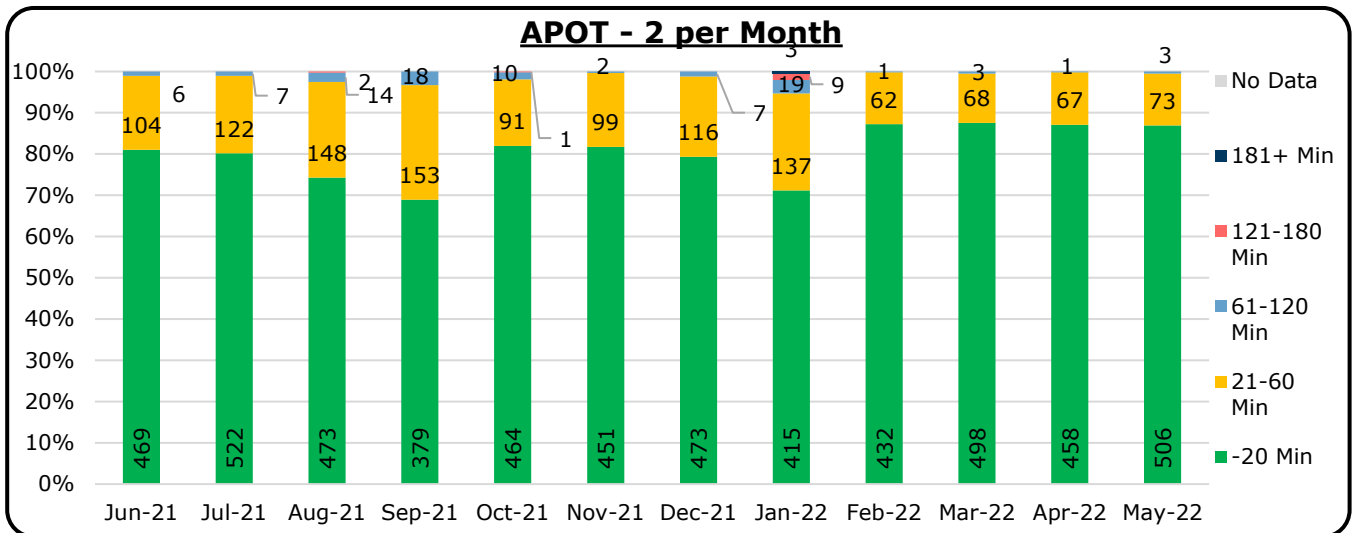
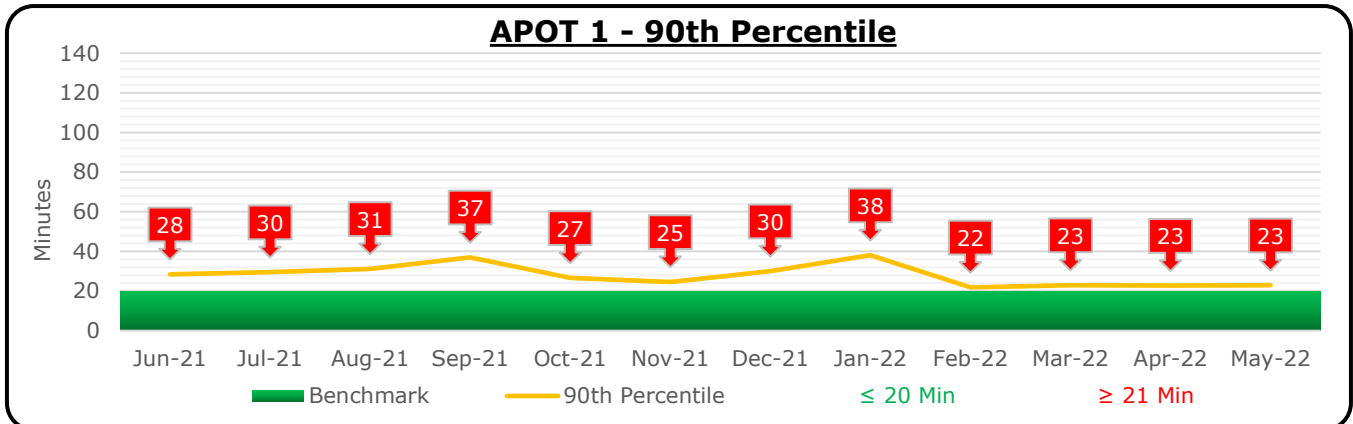
APOT 1, 2 & 3 - ROLLING 12 MONTHS / MERCY GENERAL

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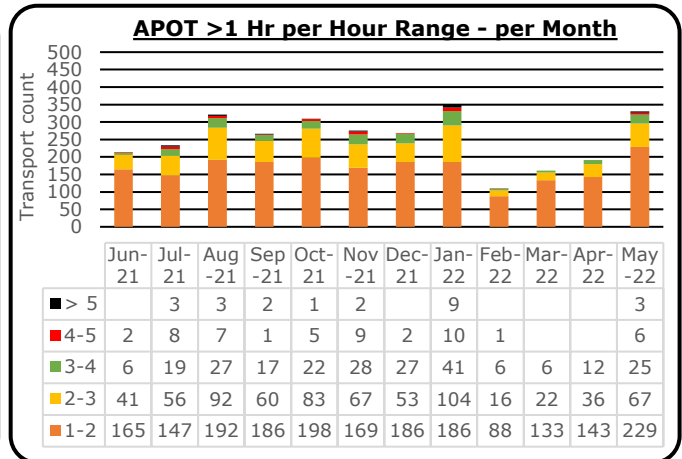
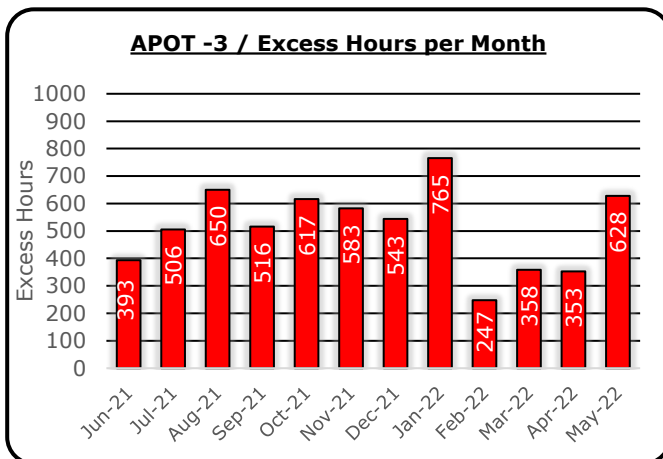
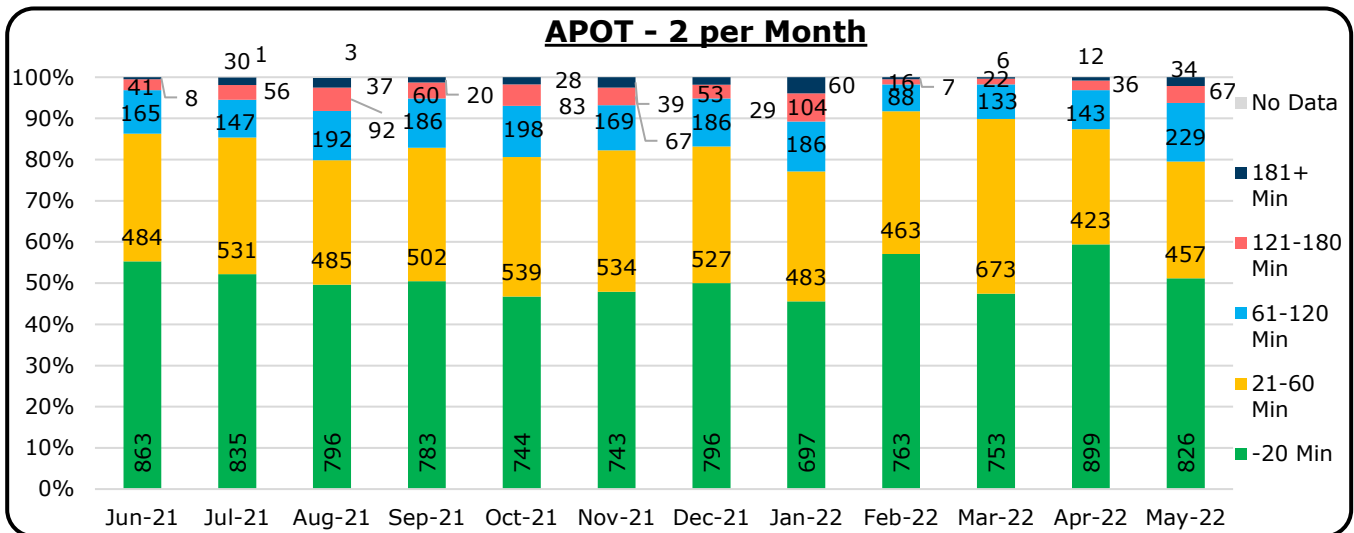
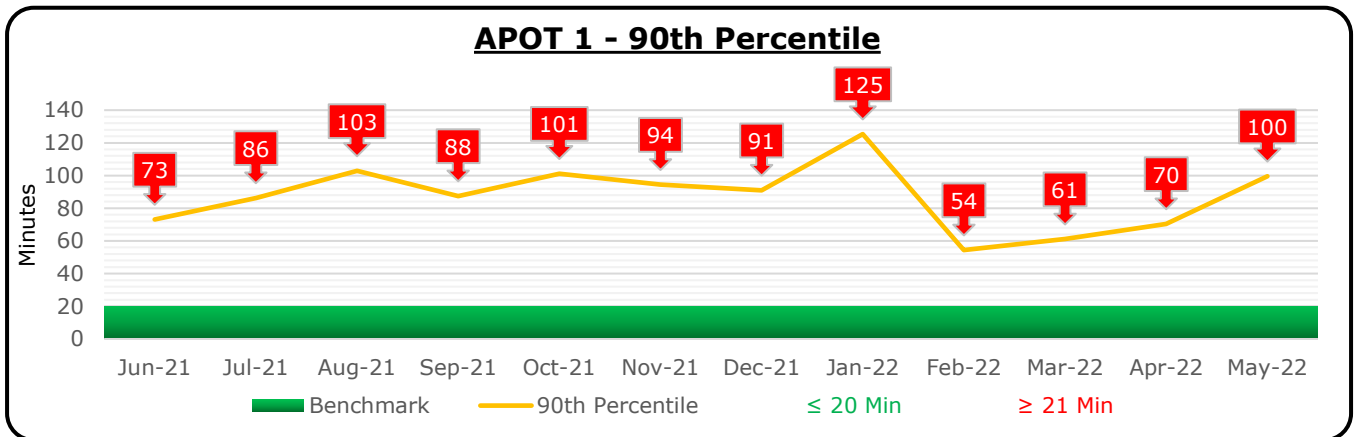
APOT 1, 2 & 3 - ROLLING 12 MONTHS / MERCY OF FOLSOM

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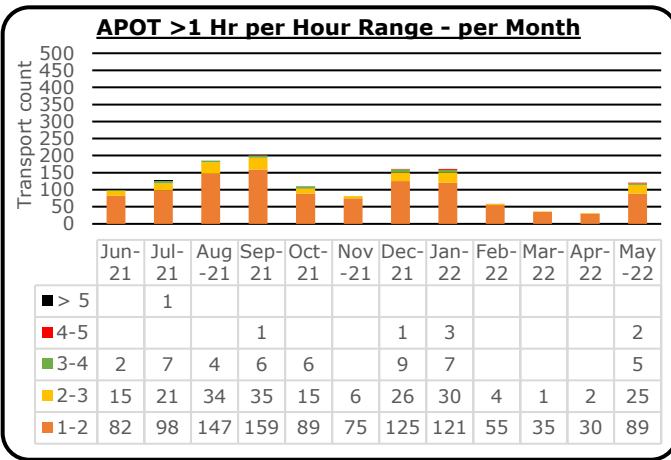
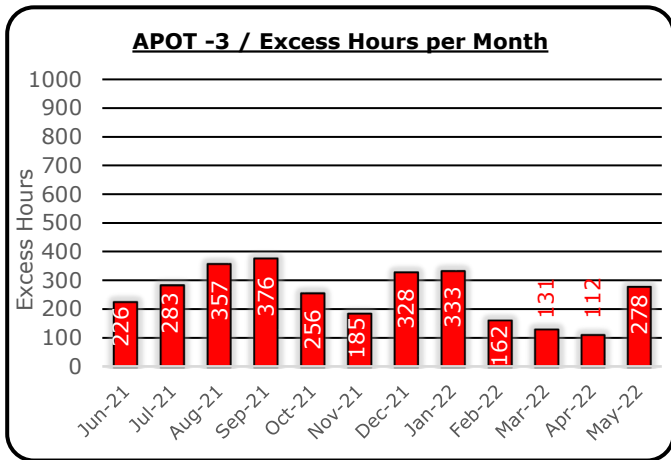
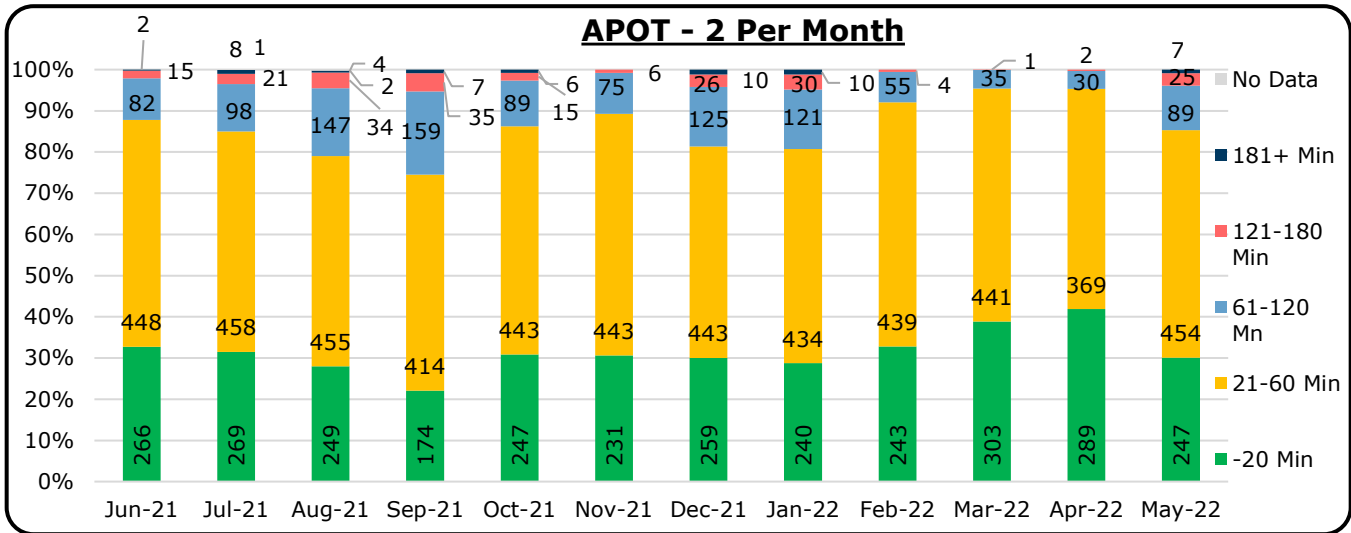
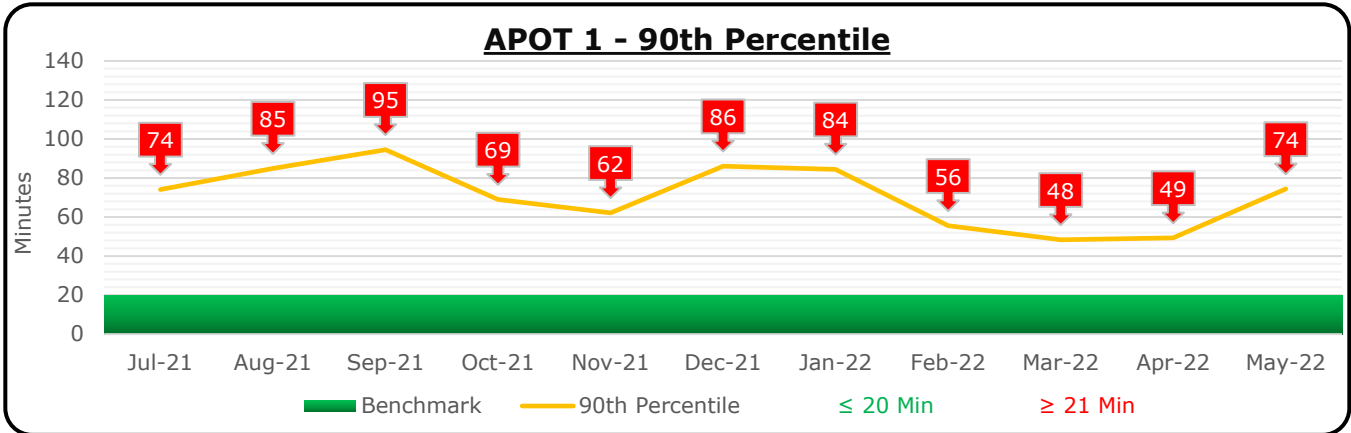
APOT 1, 2 & 3 - ROLLING 12 MONTHS / MERCY SAN JUAN

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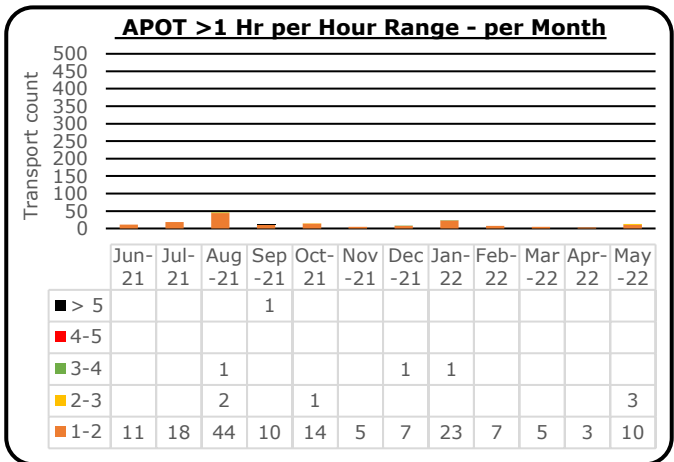
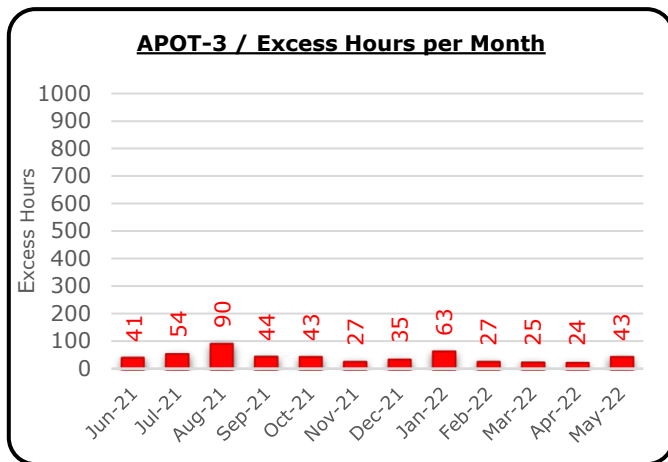
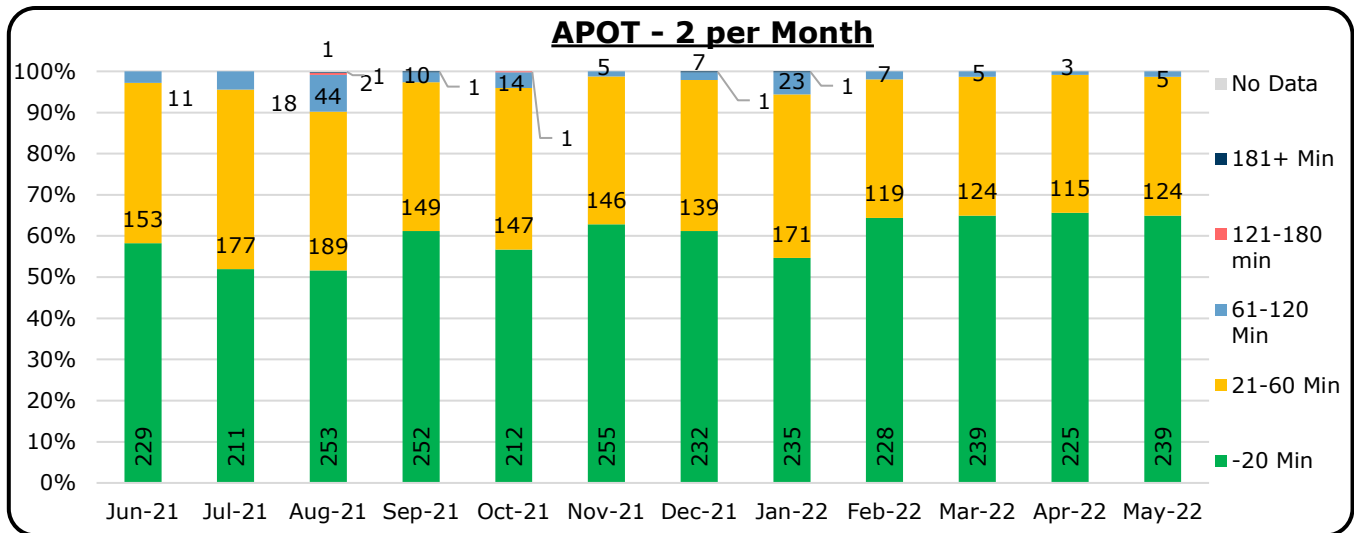
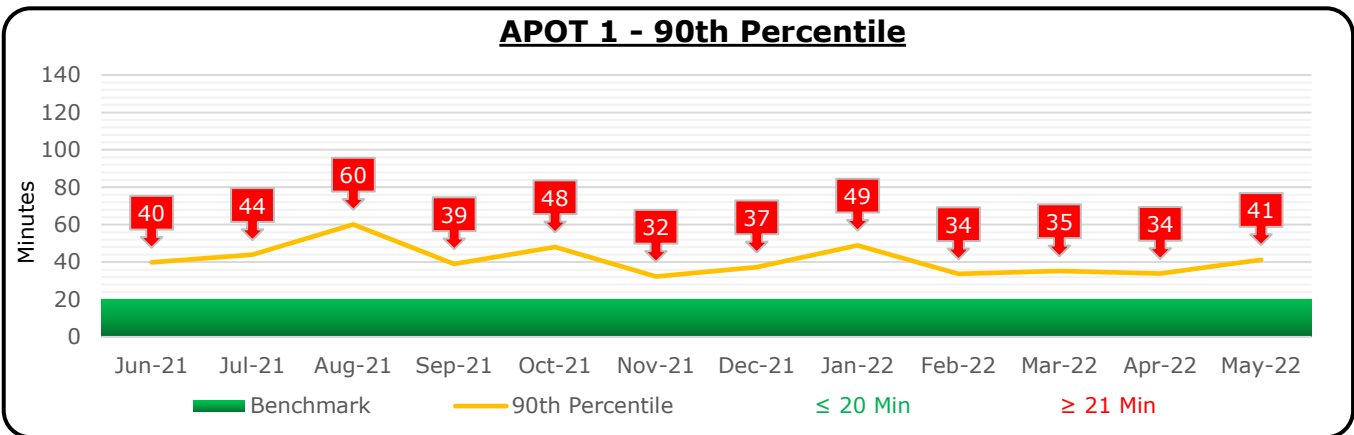
APOT 3 - ROLLING 12 MONTHS / MERCY METHODIST

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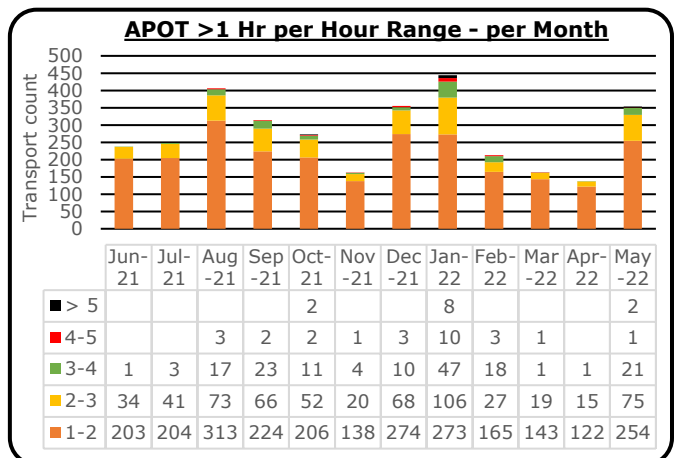
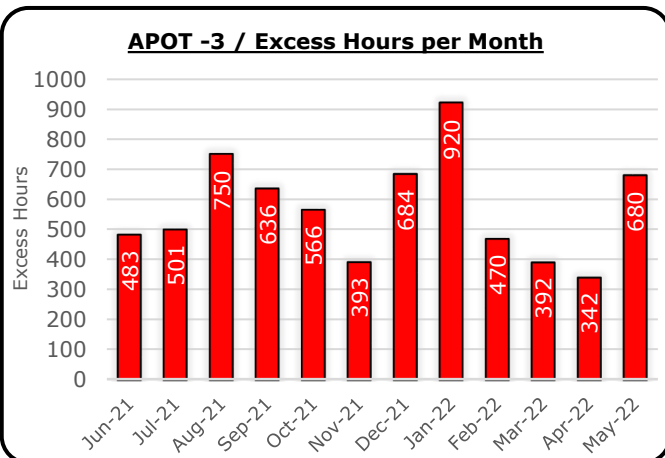
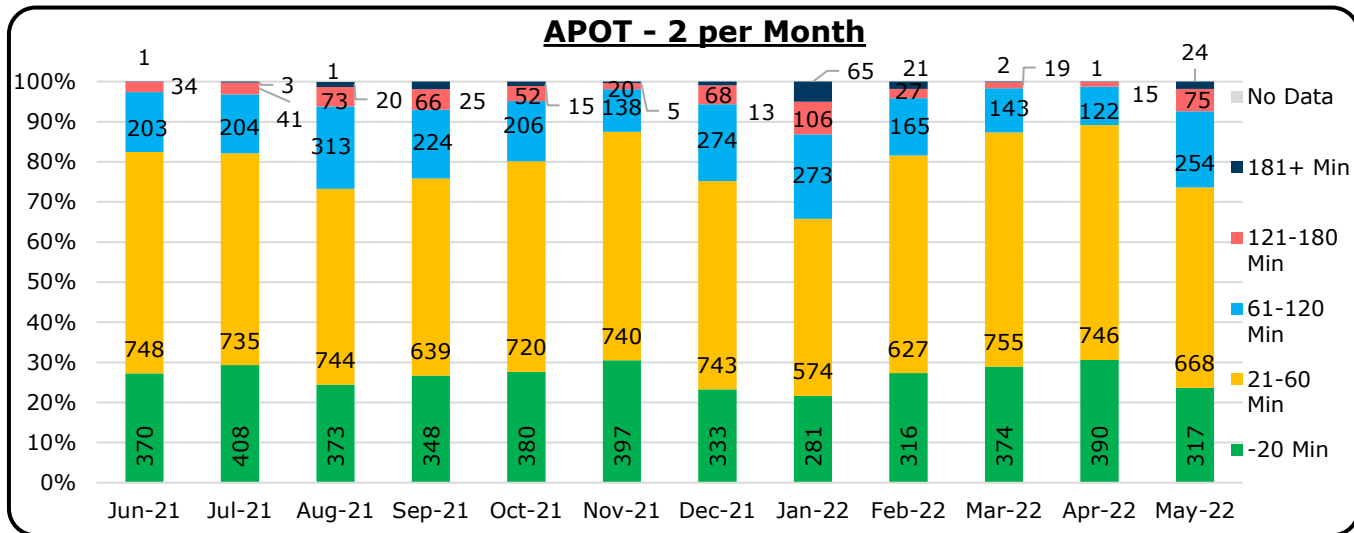
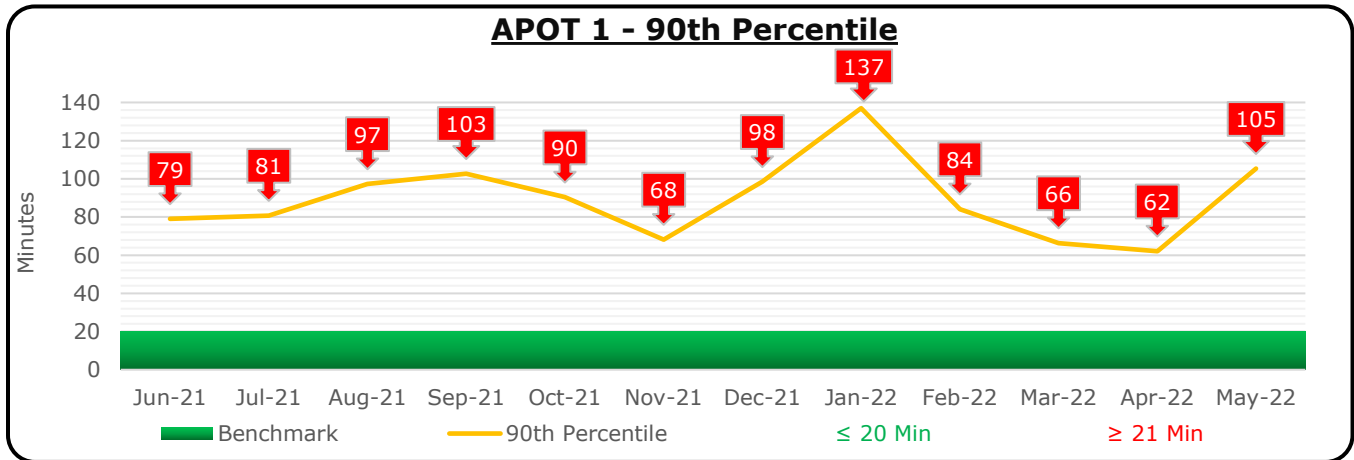
APOT 1, 2 & 3 - ROLLING 12 MONTHS / SUTTER ROSEVILLE

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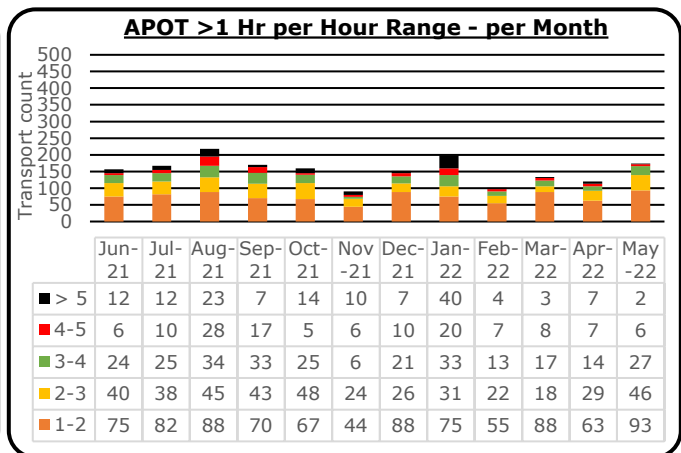
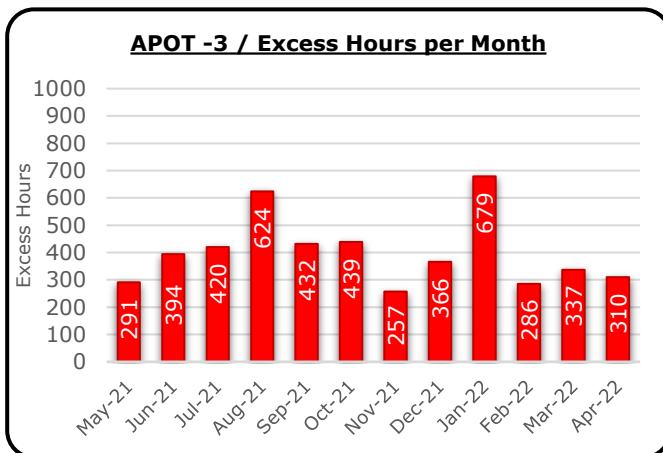
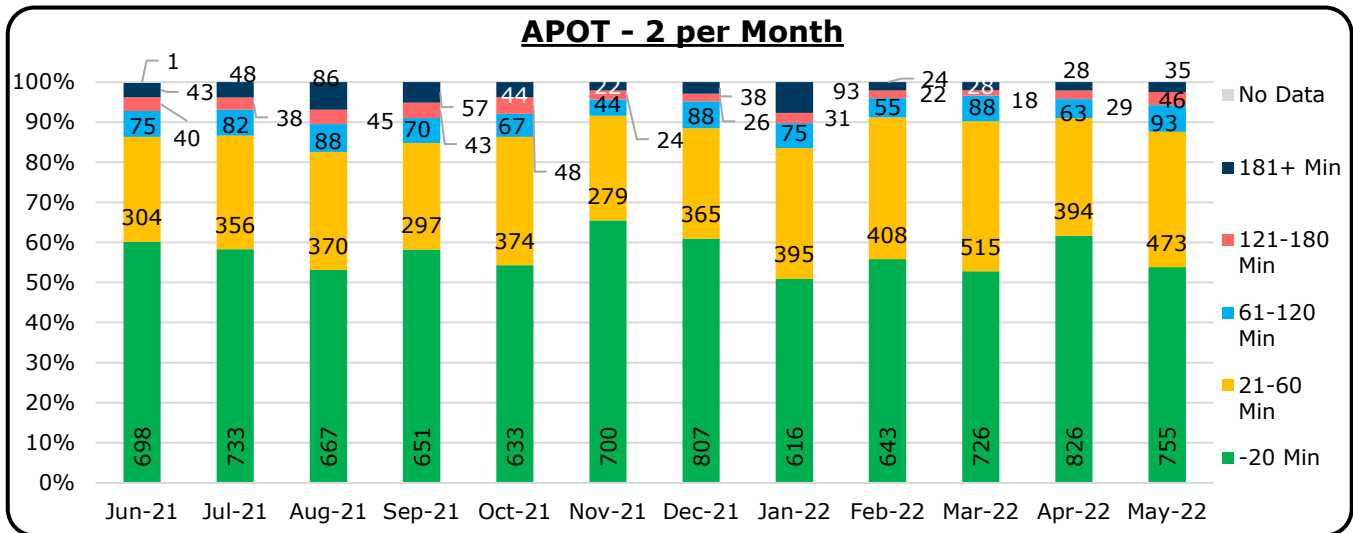
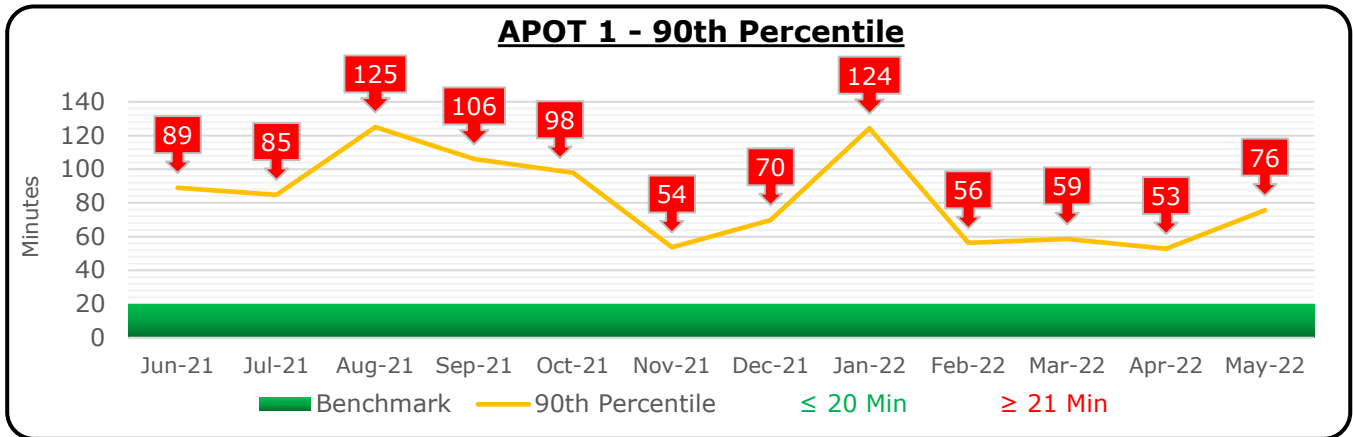
APOT 1, 2 & 3 - ROLLING 12 MONTHS / SUTTER SACRAMENTO

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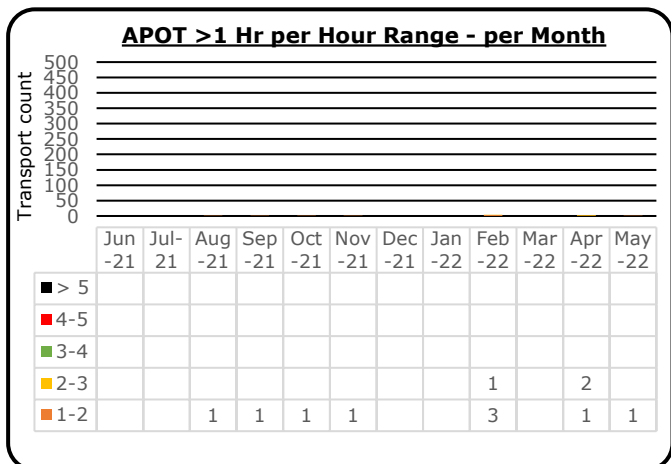
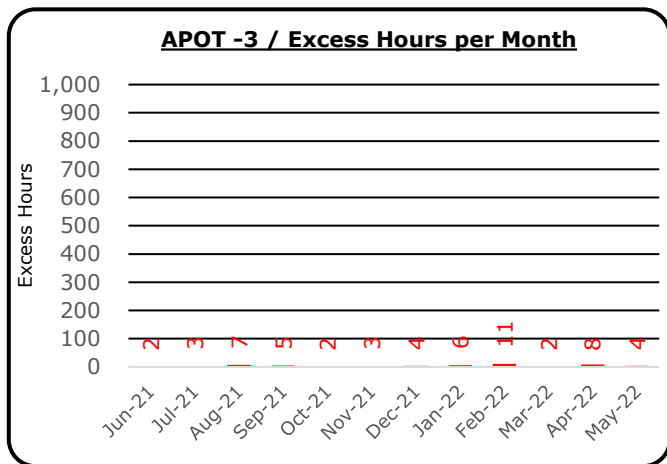
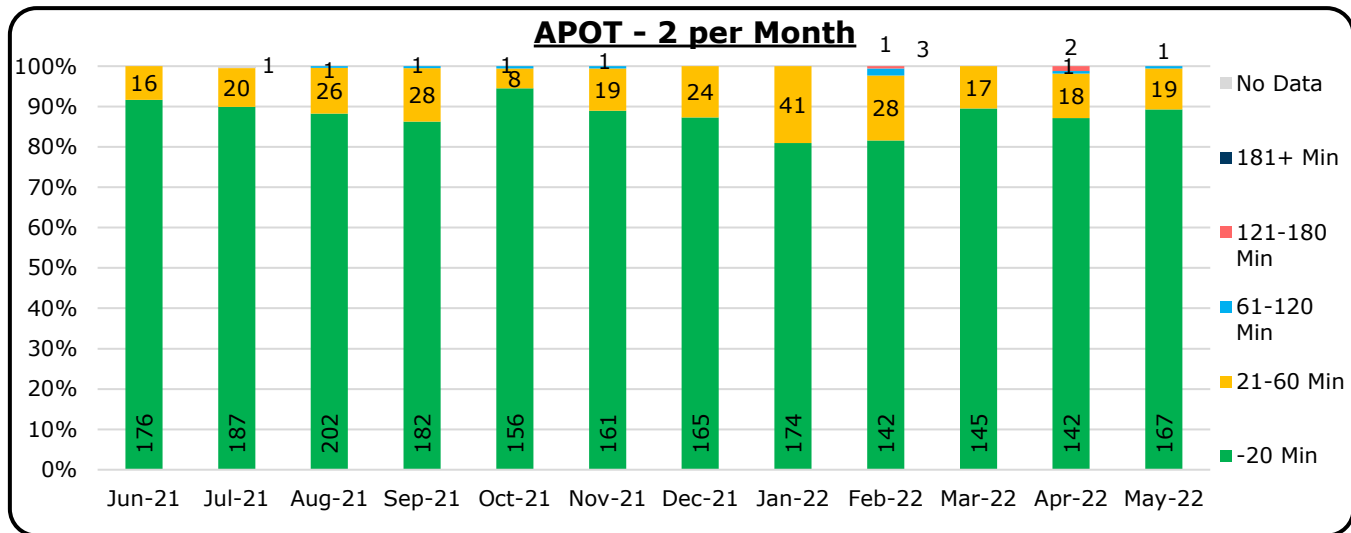
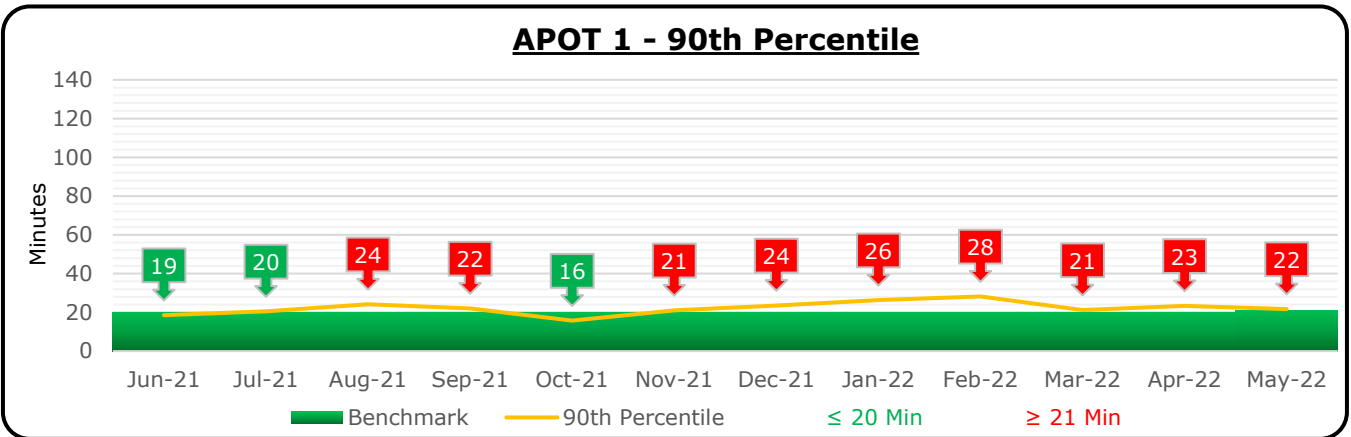
APOT 1, 2 & 3 - ROLLING 12 MONTHS / UC DAVIS

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APOT 1, 2 & 3 - ROLLING 12 MONTHS / VA

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SCEMSA Quarterly Reports

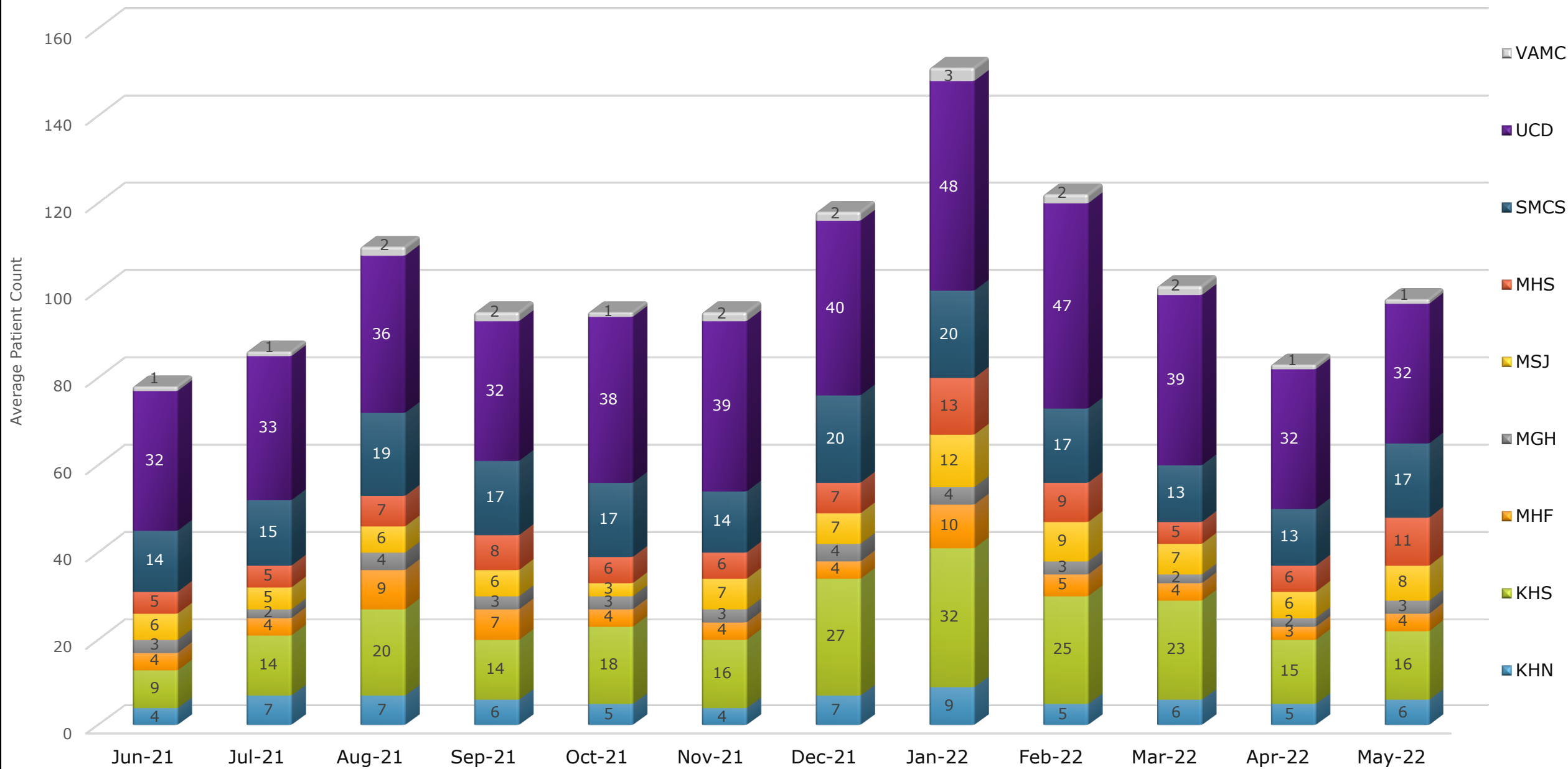
2022 - 1Quarter (January-March)

Presented: June 9, 2022

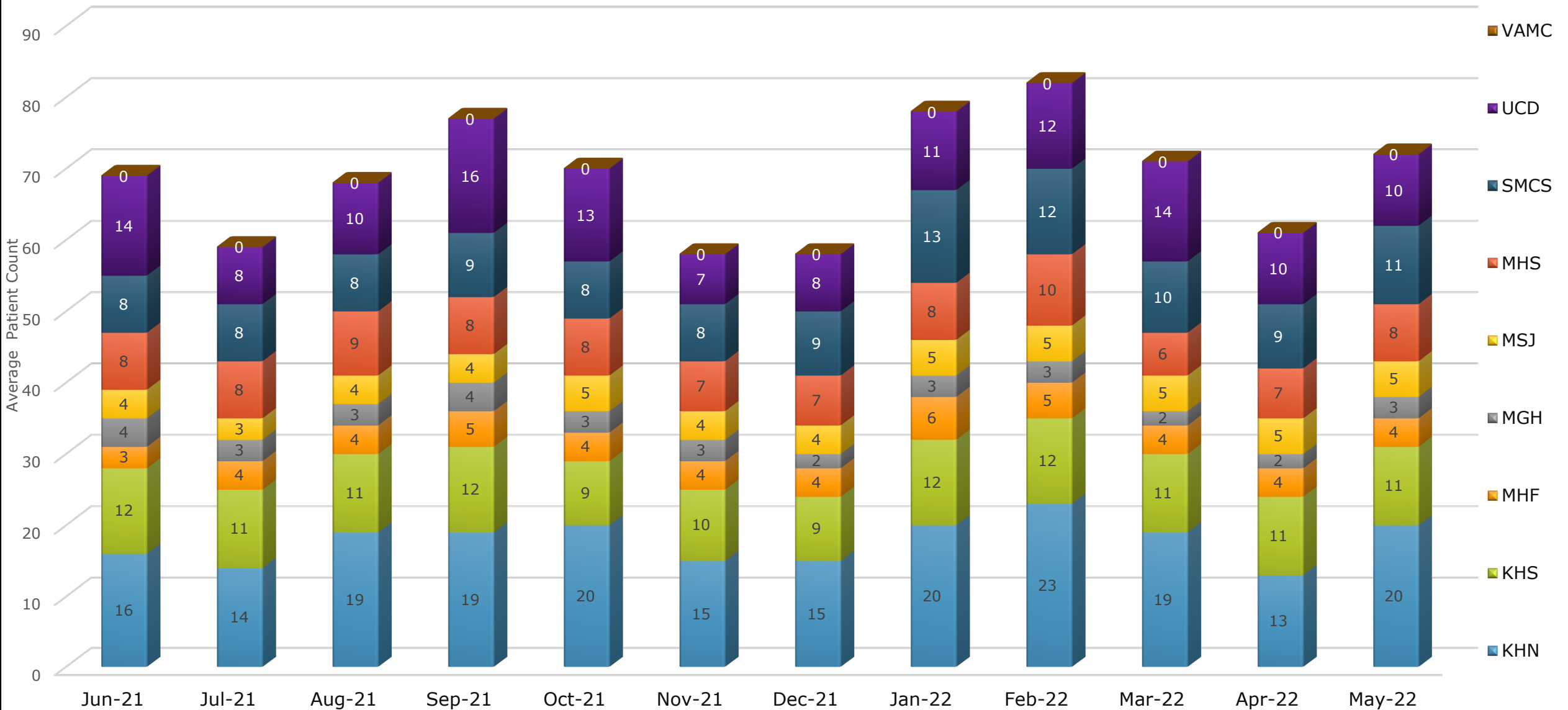


SCENE Calls (911-Response) - 2022-1Quarter	Incident Count	Notes
Responses (911-Response)	57992	All responses ePCRs 72,137
Average Response Time of First Unit on Scene (PSAP to Arrived Scene)	0:11:22	
Average Response Time of First Unit on Scene (unit notified to Arrived Scene)	0:07:39	
Treated and Transported	31200	(of Scene Calls 911-Response).
Treated and Transferred Care & Assist	5226	
Transported By Law Enforcement	0	
Coroners	705	
Cancelled	10553	No Patient found/ No Contact / Prior to Arrival/ Private Vehicle
RST -4 (Percentage of Response with Lights and Sirens)	62.42%	
RST -5 (Percentage of Transports with Lights and Sirens)	10.68%	
IFT's		
Primary Impressions of Scene calls treated and transported to ED	Incident Count	
Traumatic Injury (T14.90)	4,087	
General Weakness (R53.1)	2,650	
Abdominal Pain/Problems (GI/GU) (R10.84)	2,145	
Behavioral/Psychiatric Crisis (F99)	1,984	
Respiratory Distress/Other (J80)	1,762	
Non-Traumatic Body Pain (G89.1)	1,594	
No Medical Complaint (Z00.00)	1,464	
ALOC - (Not Hypoglycemia or Seizure) (R41.82)	1,459	
Chest Pain - Suspected Cardiac (I20.9)	1,182	
Pain / Swelling - Extremity - non-traumatic (M79.60)	1080	
Nausea / Vomiting (R11.2)	962	
Stroke / CVA / TIA (I63.9)	892	
Syncope / Near Syncope (R55)	873	
Seizure - Post (G40.909)	863	
Respiratory Distress / Bronchospasm (J98.01)	731	
AMA/ Released / Refused / No Treatment of Scene Calls	Incident Count	
AMA's	4833	
Patient Refused Evaluation / Care (Without Transport)	4406	
Patient Treated, Released (per protocol)	928	

EMS: Patients on Medical Hold per Local Hospital Emergency Department

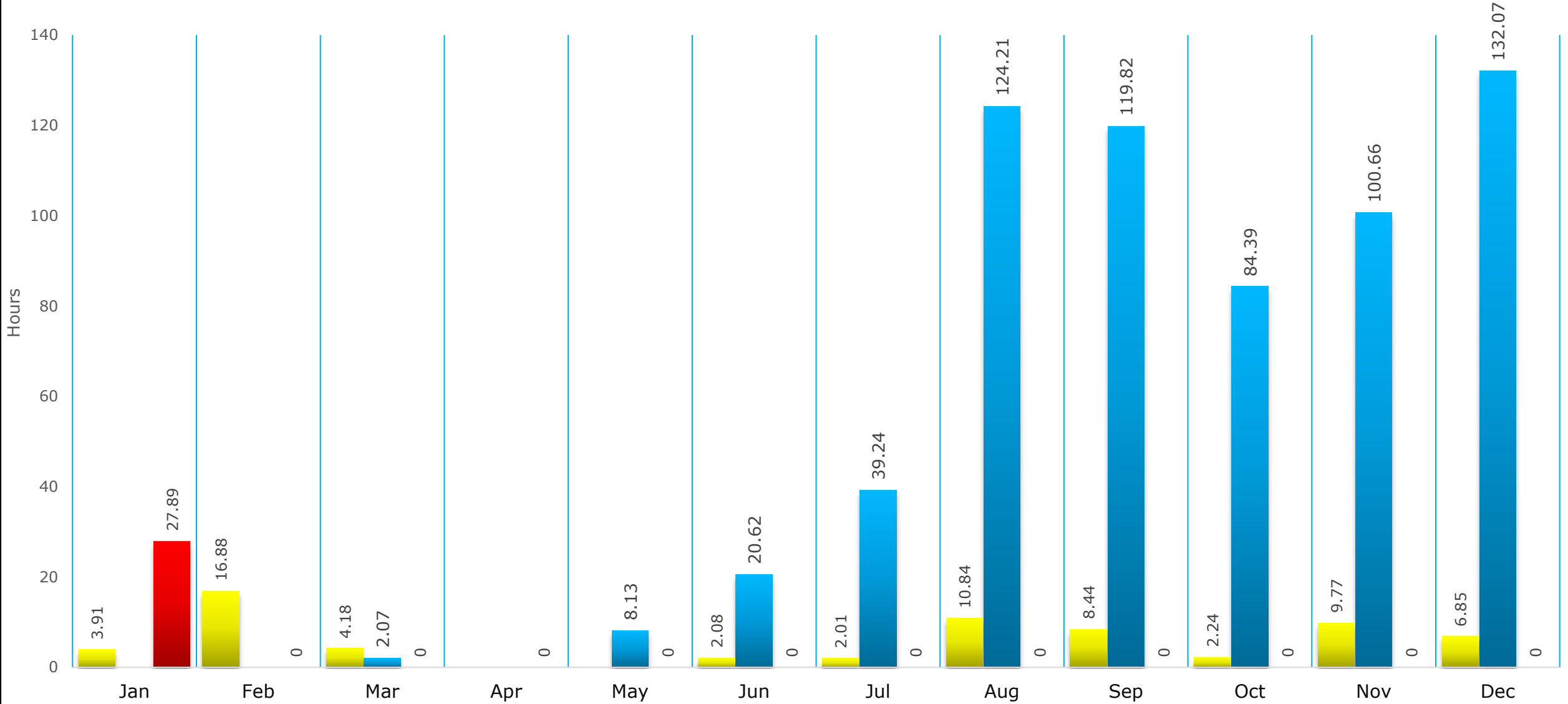


EMS: Patients Awaiting Placement into Psychiatric Facility per Local Hospital Emergency Department

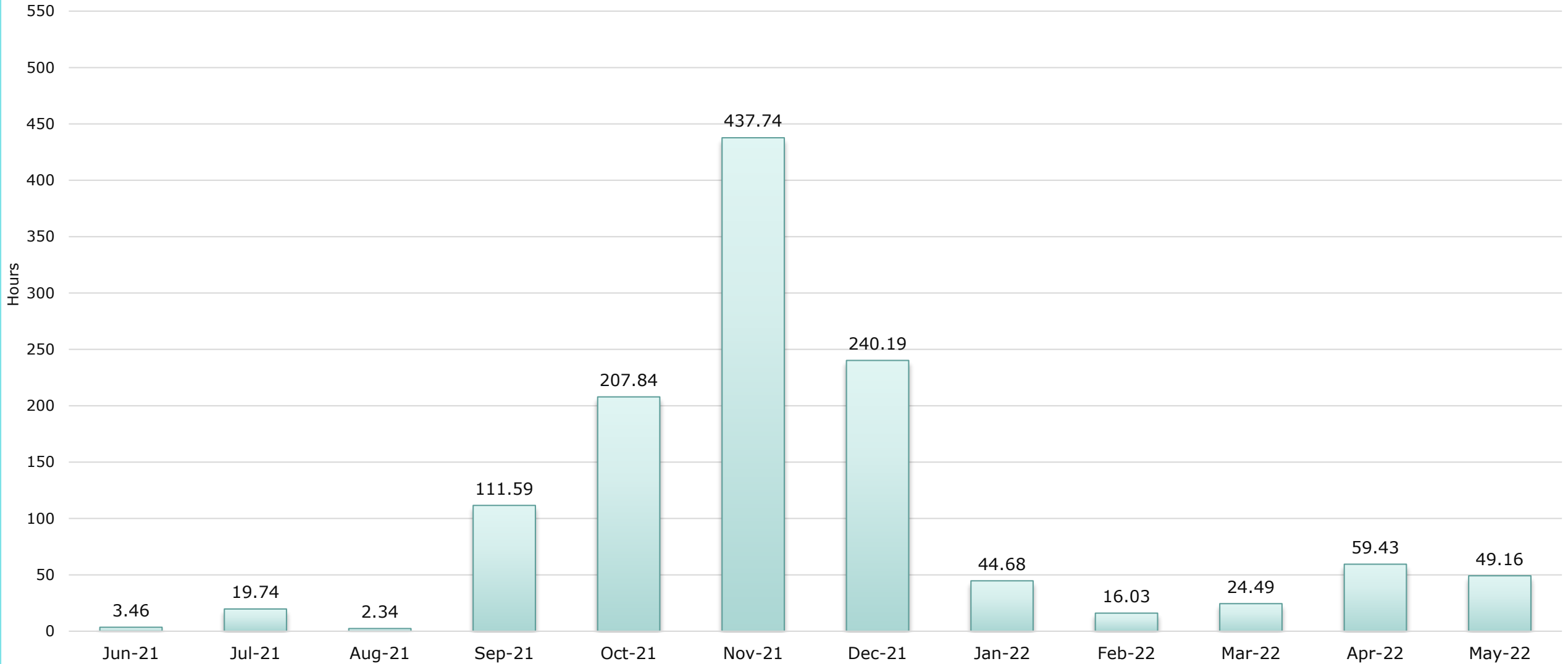


Diversion Hours per Month - 2020 | 2021 | 2022

2020 2021 2022 (Jan - Current)

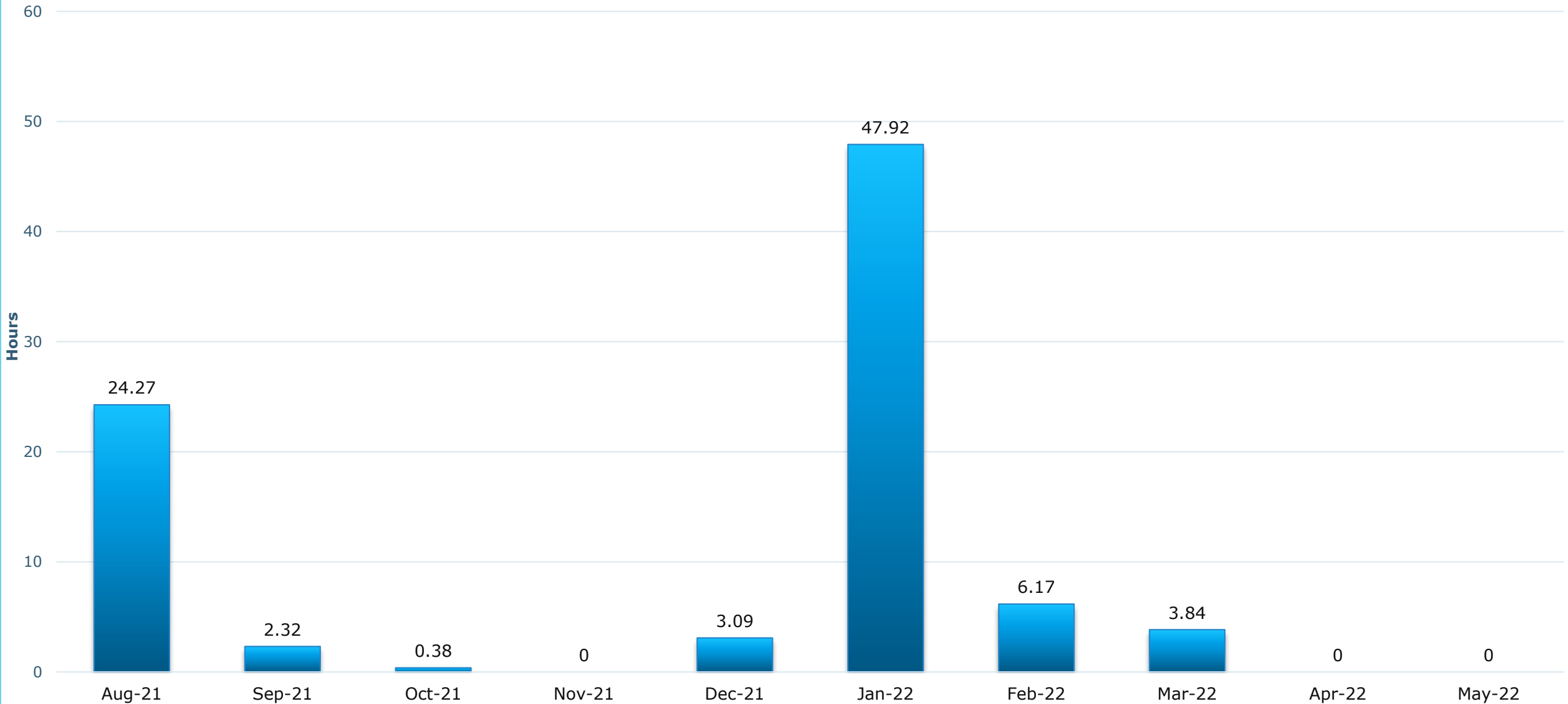


Total Advisory Hours per Month



Advisory Status Represents: CT or STEMI services unavailable / Power outage / Main power outage, using auxiliary power.

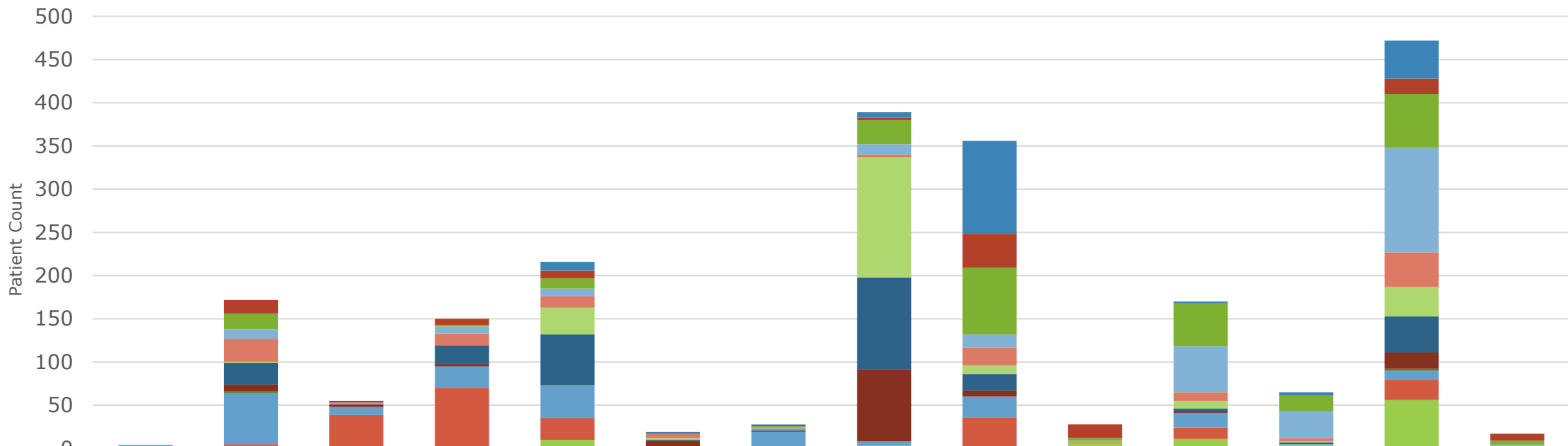
Total Internal Disaster Hours per Month



Internal Disaster Status: Damaged infrastructure Hazardous materials incident / Sheltering in place / Loss of main and auxiliary power / Loss of water supply / On campus fire or explosion / On campus security threat other event requiring hospital evacuation.

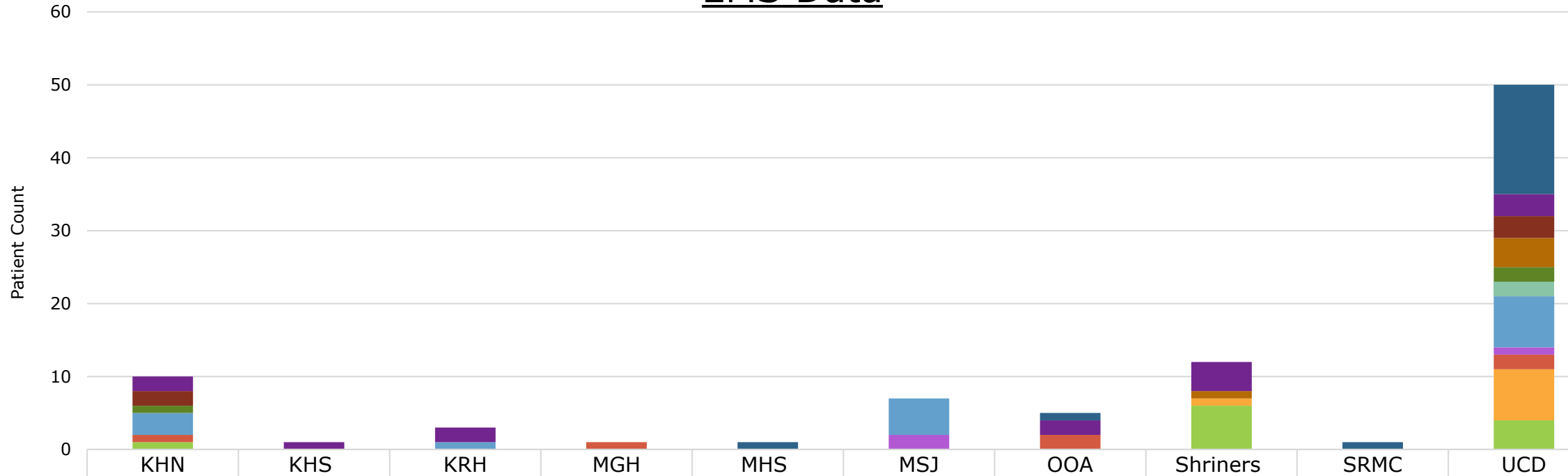
Interfacility Transports

Interfacility Transfers (IFTs) 2022-1Q - EMS Data



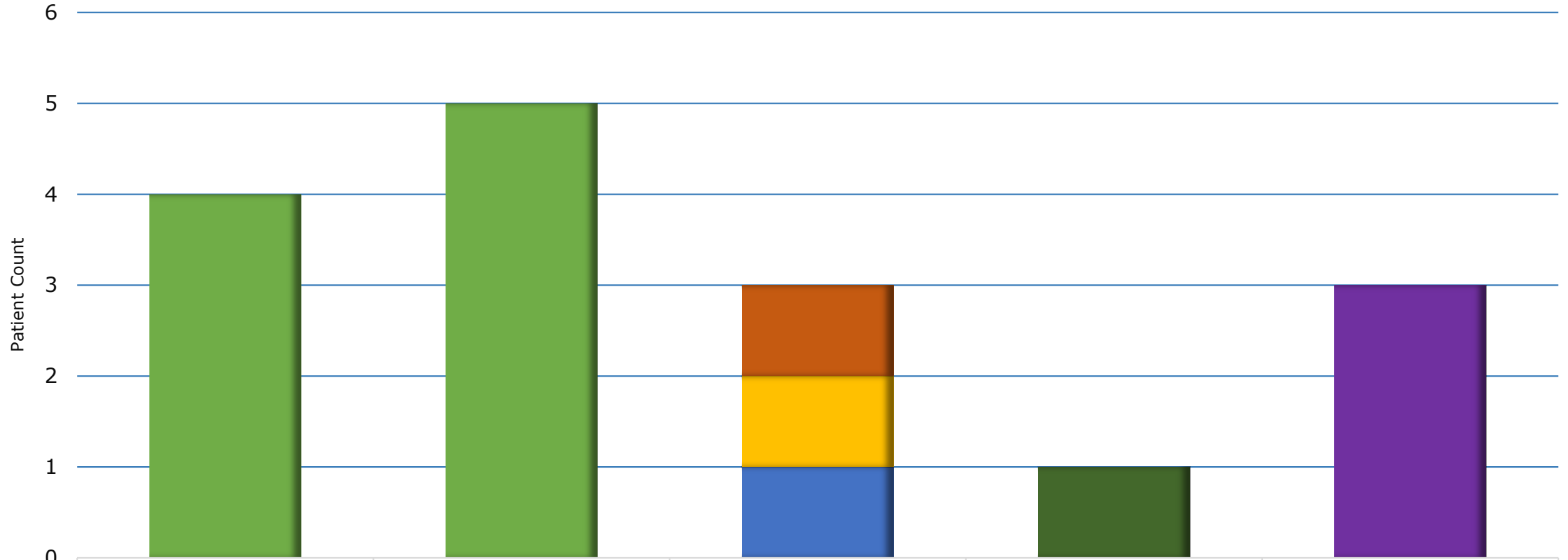
	Airfield	KHN	KHS	KRH	MGH	MHF	MHS	MSJ	OOA	Shriners	SMCS	SRMC	UCD	VA
VAMC- Send	1				10	1	1	6	108		2	4	44	
UCD- Send		16	2	7	9	1	1	3	39	16			18	8
SMCS- Send	2	18		2	12		2	28	77	3	50	18	62	5
OOA- Send		11	2	8	9		1	12	15	1	53	31	121	1
MSJ- Send		27		14	13	5	2	3	21		10	4	40	
MHS- Send		1			31	2		139	10		9	1	34	
MHF- Send		25		21	59	1	2	107	19		3	2	42	
MGH- Send	1	8	3	3		7		83	7		2		19	1
KRH- Send		2											2	
KHS- Send		59	9	25	38		19	5	24		17	1	11	
KHN- Send		3	39	68	25	1		1	36	1	13		23	2
Airfield- Send		2		2	10	1		2		7	11	4	56	

2022-1Q Interfacility Transfers with Primary Impression of Trauma - EMS Data



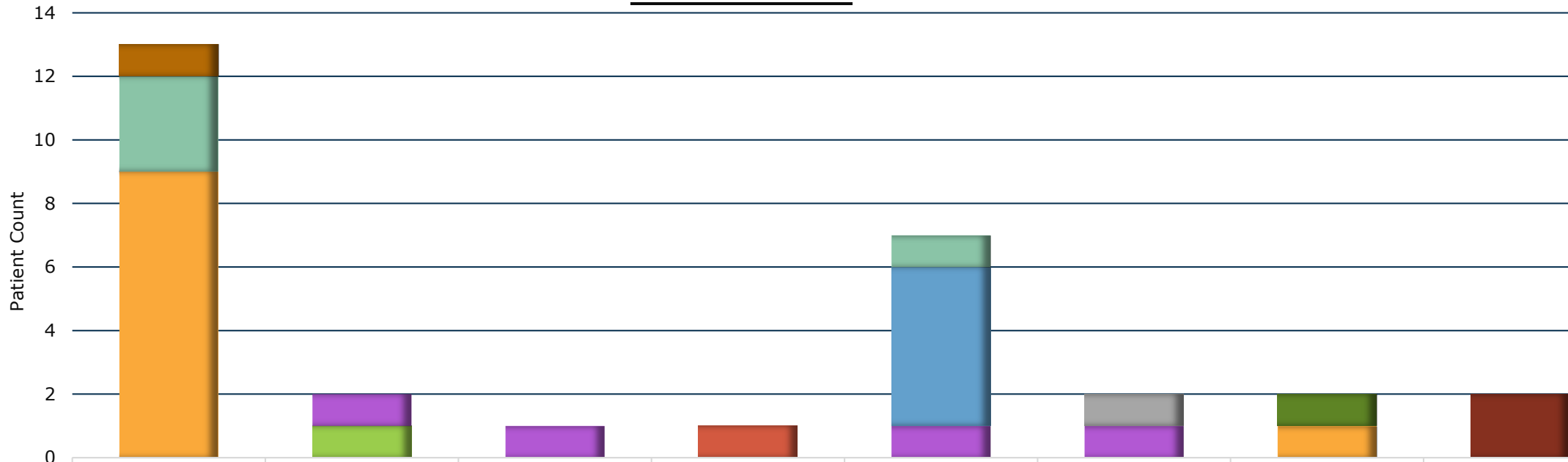
■ VAMC- Send					1		1		1	15
■ UCD- Send	2	1	2				2	4		3
■ SMCS- Send	2									3
■ OOA- Send								1		4
■ MSJ- Send	1									2
■ MHS- Send										2
■ MHF- Send	3		1			5				7
■ MGH- Send						2				1
■ KHS- Send	1			1			2			2
■ KHN- Send								1		7
■ Airfield- Send	1							6		4

2022-1Q Interfacility Transfers with Primary Impression of STEMI - EMS Data



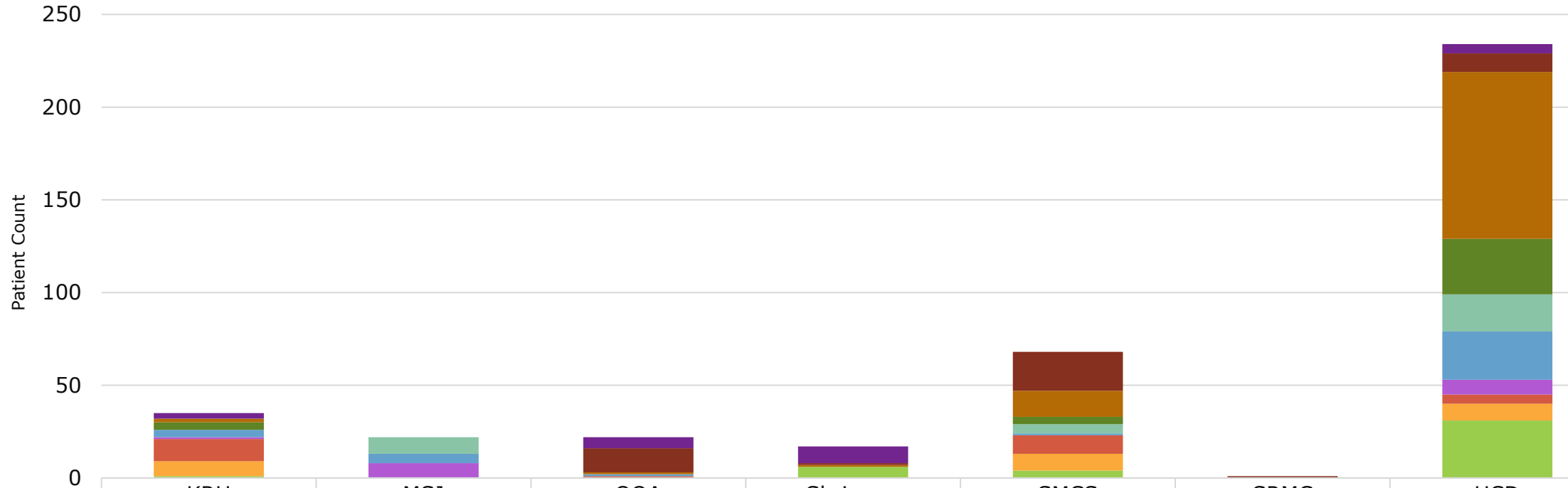
	KHS	KRH	MGH	SMCS	UCD
VAMC- Send					3
UCD- Send			1		
MSJ- Send				1	
MHS- Send			1		
MHF- Send			1		
KHN- Send	4	5			

2022-1Q Interfacility Transfers with Primary Impression of Stroke - EMS Data



	KHN	KRH	MGH	MHF	MSJ	OOA	SMCS	UCD
VAMC- Send						1		
UCD- Send								2
SMCS- Send	1							
OOA- Send							1	
MSJ- Send	3				1			
MHS- Send					5			
MHF- Send		1	1		1	1		
MGH- Send				1				
KHS- Send	9						1	
KHN- Send		1						

2022-1Q Interfacility Transfers Patients <15 Years Old - EMS Data

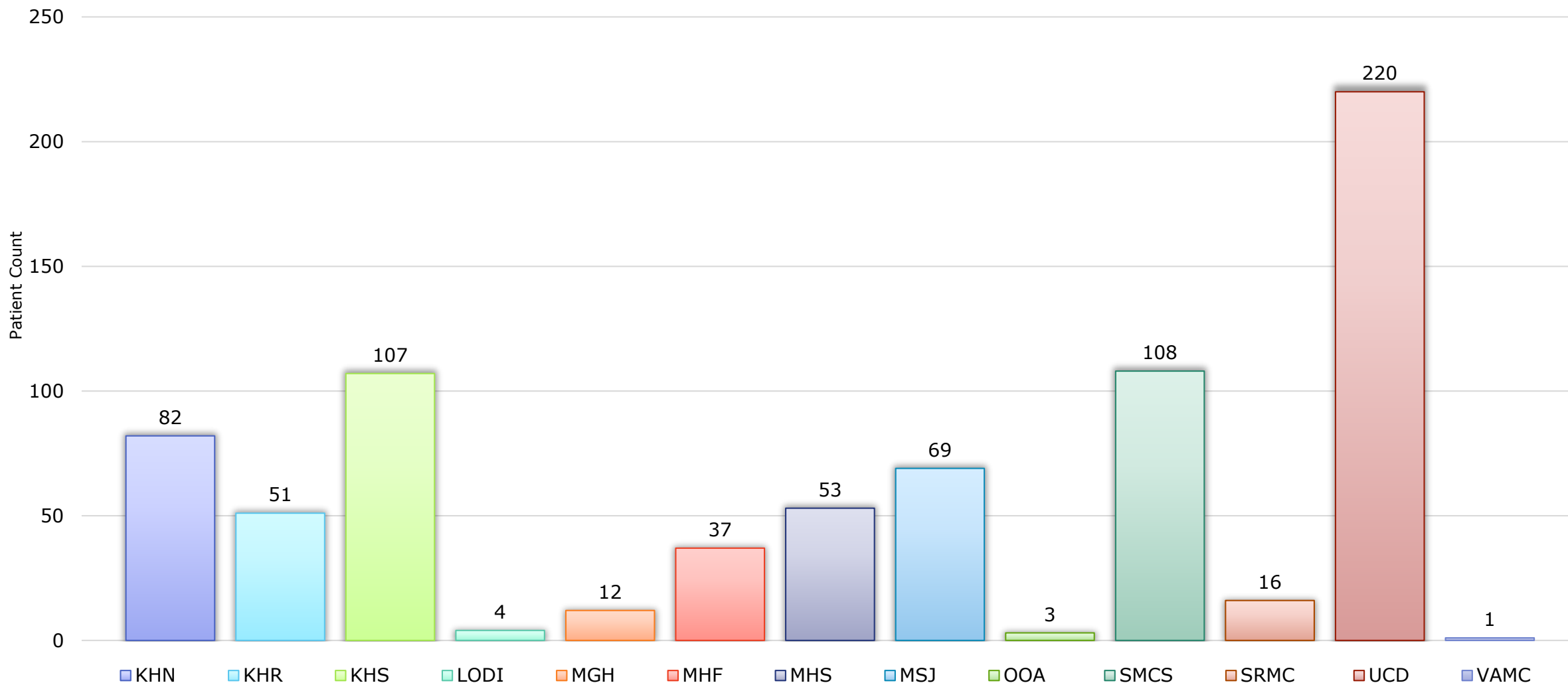


	KRH	MSJ	OOA	Shriners	SMCS	SRMC	UCD
UCD- Send	3		6	9			5
SMCS- Send			13	1	21	1	10
OOA- Send	2		1	1	14		90
MSJ- Send	4				4		30
MHS- Send		9			5		20
MHF- Send	4	5	1		1		26
MGH- Send	1	8					8
KHS- Send	12		1		10		5
KHN- Send	8				9		9
Airfield- Send	1			6	4		31

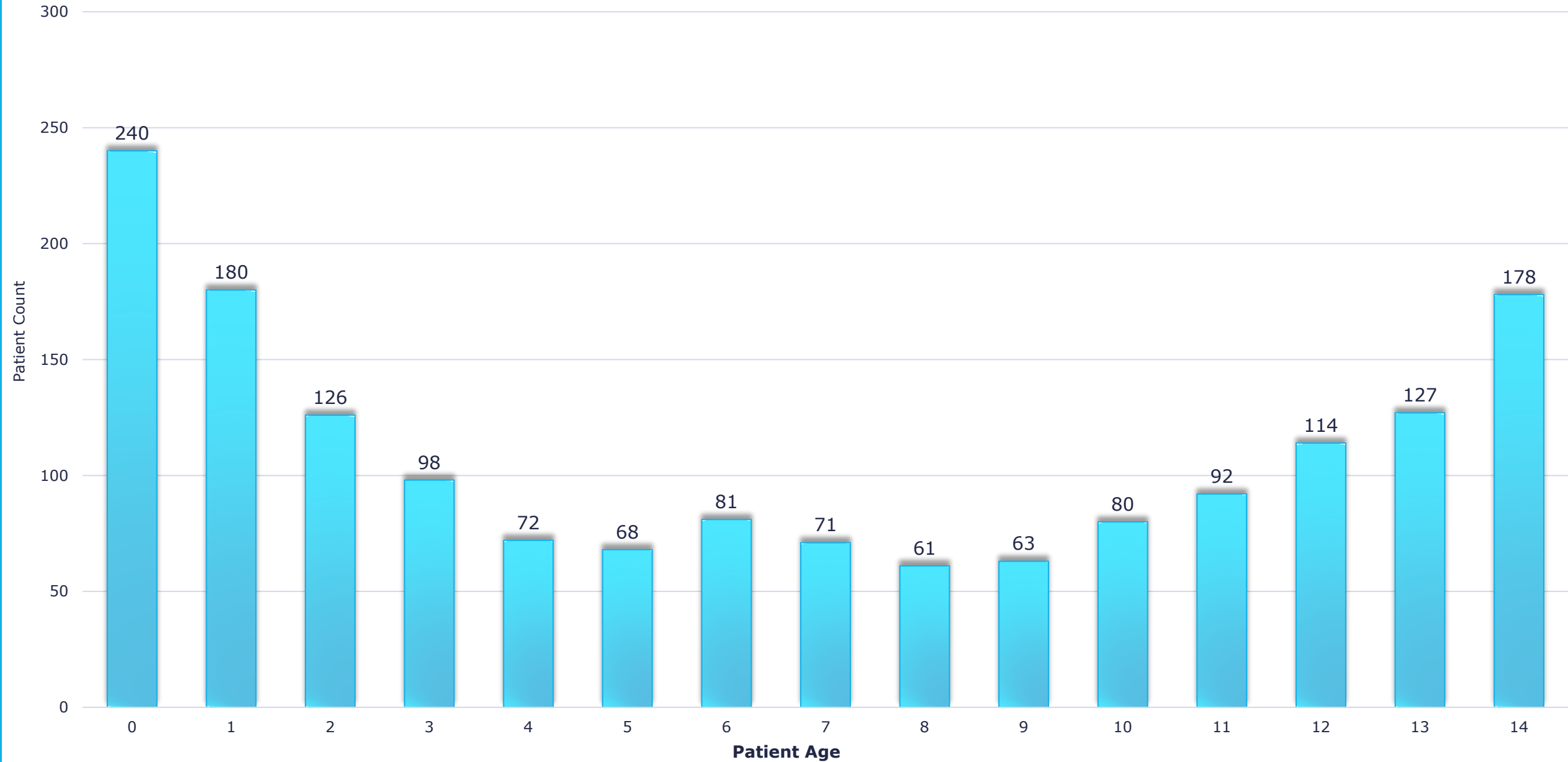
Pediatrics

Distribution of Scene Pediatric Patients to ED 2022-1Q - EMS Data

Total Transports: 763



Count of 911 Response (Despite Outcome) per Patient Age <15 2022-1Q - EMS Data



Top 25 Primary Impressions for Transported Pediatric Patients 2022-1Q - EMS Data

Number	Primary Impression	Counts
1	Traumatic Injury	165
2	Seizure - Post	125
3	Respiratory Distress/Other	65
4	Behavioral/Psychiatric Crisis	61
5	Fever	34
6	No Medical Complaint	32
7	Respiratory Distress/Bronchospasm	27
8	Overdose/Poisoning/Ingestion	26
9	General Weakness	25
10	Syncope/Near Syncope	24
11	Seizure - Active	20
12	Allergic Reaction	18
13	Abdominal Pain/Problems (GI/GU)	17
14	Cold/Flu Symptom	14
15	Nausea/Vomiting	11
16	ALOC - (Not Hypoglycemia or Seizure)	10
17	Anaphylaxis	10
18	Dizziness/Vertigo	8
19	Newborn	8
20	ALTE (BRUE)	7
21	Pain/Swelling - Extremity - non-traumatic	7
22	Cardiac Arrest -Non-traumatic	6
23	Airway Obstruction	5
24	Burn	5

STEMI

STEMI Dashboard - EMS Data

STEMI	System Total 2021 - 3Q	System Total 2021 - 4Q	System Total 2022- 1Q	System Total 2022- 2Q
Total transported patients with primary impression of STEMI	139	144	168	
Total number of patients that received ASA or pertinent negative present	125	137	153	
90% Scene time	0:31:41	0:16:26	0:16:59	
Patient with eVitals.03 or eDevice.08 documenting ECG of STEMI (started monitoring 2022-1Q)	-	-	70	
Percentage of STEMI primary impressions with a STEMI ECG	-	-	42%	
Patients with a prearrival notification	139	138	66%	
% Prearrival notification	100.00%	95.83%	94%	
90th % Time to First ECG (from arrival at scene to device)	0:14:33	0:20:00	-	
90th % ECG to hospital notification	0:18:20	0:14:48	-	

STEMI Core Measures - EMS Data

Core Measure	Definition	2021-3Q		2021-4Q		2022-1Q		2022-2Q	
		Patient Count	%	Patient Count	%	Patient Count	%	Patient Count	%
ACS-01	Number of patients 35 and older treated and transported to ED with a Primary (<i>or</i>) Secondary Impression of STEMI or Chest Pain Suspected Cardiac that received ASA	1,437	78.98%	1,532	70.89%	1,533	66.34%		
ACS-04	Number of patients with Primary (<i>or</i>) Secondary Impression of STEMI or ECG of STEMI - transported to a PCI capable hospital that had a STEMI alert	161	90.06%	197	82.74%	215	82.33%		
ACS-03	90th Percentile in minutes of Unit Arrived on Scene to Patient Arrived at Destination (Primary Impression of STEMI)	141	0:31	144	0:33	173	0:34		
ACS-06	90th Percentile in minutes of Unit Arrived on Scene to First ECG (Primary Impression of STEMI)	141	0:14	144	0:14	173	0:13		

STEMI Primary Impression for Treated and Transported Patients

Hospital Name	2021- 3Q	2021- 4Q	2022-1Q	2022-2Q
KHR	7	9	11	
KHN	0	1	0	
KHS	34	35	54	
MHF	0	0	1	
MGH	23	24	24	
MSJ	41	38	43	
SMCS	15	17	17	
SRMC	6	3	7	
UCD	13	17	11	
Totals	139	144	168	

CARES Data

Year	2019	2020	2021
Cares Measures	SCEMSA N=922	SCEMSA N=2,259	SCEMSA N=1,423
Age			
Mean	62.6	62.6	61.2
Median	65.0	65.0	64.0
Gender			
Female	346 (37.6)	884 (39.2)	499 (35.1)
Male	574 (62.4)	1373 (60.8)	924 (64.9)
Race			
American-Indian/Alaskan	1 (0.1)	9 (0.4)	6 (0.4)
Asian	64 (6.9)	152 (6.7)	100 (7.0)
Black / African-American	130 (14.1)	298 (13.2)	163 (11.5)
Hispanic / Latino	41 (4.4)	125 (5.5)	76 (5.3)
Native Hawaiian / Pacific Islander	4 (0.4)	10 (0.4)	16 (1.1)
White	358 (38.8)	928 (41.1)	598 (42.0)
Multi-racial	324 (35.1)	0 (0.0)	3 (0.2)
Unknown		737 (32.6)	461 (32.4)
Location			
Home / Residence	685 (74.3)	1,760 (77.9)	1,103 (77.5)
Nursing Home	81 (8.8)	187 (8.3)	119 (8.4)
Public Setting	156 (16.9)	312 (13.8)	201 (14.1)
Arrest witnessed (%)			
Bystander Witnessed	383 (41.5)	905 (40.1)	584 (41.0)
Witnessed by 911 Responder	88 (9.5)	259 (11.5)	125 (8.8)
Unwitnessed	451 (48.9)	1,095 (48.5)	714 (50.2)

Year	2019	2020	2021
Cares Measures	SCEMSA N=922	SCEMSA N=2,259	SCEMSA N=1,423
Who Initiated CPR? (%)			
Not Applicable	0 (0.0)	0 (0.0)	0 (0.0)
Bystander	515 (55.9)	1182 (52.3)	761 (53.5)
First Responder	115 (12.5)	288 (12.7)	186 (13.1)
Emergency Medical Services (EMS)	292 (31.7)	789 (34.9)	476 (33.5)
Was an AED applied prior to EMS arrival? (%)			
Yes	61 (6.6)	125 (5.5)	72 (5.1)
No	861 (93.4)	2134 (94.5)	1351 (94.9)
Who first applied automated external defibrillator? (%)			
Bystander	47 (77.0)	88 (70.4)	54 (75.0)
First Responder	14 (23.0)	37 (29.6)	18 (25.0)
Who first defibrillated the patient?* (%)			
Not Applicable	657 (71.3)	1,614 (71.4)	977 (68.7)
Bystander	12 (1.3)	20 (0.9)	10 (0.7)
First Responder	5 (0.5)	12 (0.5)	9 (0.6)
Responding EMS Personnel	248 (26.9)	613 (27.1)	427 (30.0)
First Arrest Rhythm (%)			
Vfib/Vtach/Unknown Shockable Rhythm	157 (17.0)	348 (15.4)	245 (17.2)
Asystole	514 (55.7)	1254 (55.5)	796 (55.9)
Idioventricular/PEA	238 (25.8)	626 (27.7)	361 (25.4)
Unknown Unshockable Rhythm	13 (1.4)	31 (1.4)	21 (1.5)
Sustained ROSC (%)			
Yes	199 (21.6)	532 (23.6)	332 (23.3)
No	723 (78.4)	1727 (76.4)	1091 (76.7)

Year	2019	2020	2021
Cares Measures	SCEMSA N=922	SCEMSA N=2,259	SCEMSA N=1,423
Pre-hospital Outcome (%)			
Pronounced in the Field	231 (25.1)	627 (27.8)	474 (33.3)
Pronounced in ED	219 (23.8)	388 (17.2)	124 (8.7)
Ongoing Resuscitation in ED	472 (51.2)	1244 (55.1)	825 (58.0)
Overall Survival (%)			
Overall Survival to Hospital Admission	241 (26.1)	592 (26.2)	398 (28.0)
Overall Survival to Hospital Discharge	59 (6.4)	178 (7.9)	115 (8.1)
With Good or Moderate Cerebral Performance	52 (5.6)	149 (6.6)	98 (6.9)
Missing hospital outcome	0	0	0
Utstein¹ Survival (%)	N=102 21.6%	N=213 26.8%	N=151 21.2%
Utstein Bystander² Survival (%)	N=72 19.4%	N=148 25.7%	N=108 25.0%

CARES Data 2021

Data Year – 2021	SCEMSA N=1,423	California N=28,177	National N=146,924
Who Initiated CPR? (%)			
Not Applicable	0 (0.0)	5 (0.0)	62 (0.0)
Bystander	761 (53.5)	11,454 (40.7)	59,738 (40.7)
First Responder	186 (13.1)	9,040 (32.1)	45,464 (30.9)
Emergency Medical Services (EMS)	476 (33.5)	7,678 (27.2)	41,656 (28.4)
Was an AED applied prior to EMS arrival? (%)			
Yes	72 (5.1)	4,103 (14.6)	40,753 (27.7)
No	1,351 (94.9)	24,074 (85.4)	106,169 (72.3)
Who first applied automated external defibrillator? (%)			
Bystander	54 (75.0)	759 (18.5)	8,422 (20.7)
First Responder	18 (25.0)	3,344 (81.5)	32,306 (79.3)
Who first defibrillated the patient?* (%)			
Not Applicable	977 (68.7)	20,718 (73.5)	104,038 (71.3)
Bystander	10 (0.7)	223 (0.8)	1,911 (1.3)
First Responder	9 (0.6)	1,345 (4.8)	7,940 (5.4)
Responding EMS Personnel	427 (30.0)	5,891 (20.9)	32,030 (22.0)

Inclusion criteria: An out-of-hospital cardiac arrest where resuscitation is attempted by a 911 responder (CPR and/or defibrillation). This would also include patients that received an AED shock by a bystander prior to the arrival of 911 responders.

**This is a new question that was introduced on the 2011 form. ¹Witnessed by bystander and found in a shockable rhythm*

²Witnessed by bystander, found in shockable rhythm, and received some bystander intervention (CPR by bystander and/or AED applied by bystander)

Data Year - 2021	SCEMSA N=1423	California N=28177	National N=146924
First Arrest Rhythm (%)			
Vfib/Vtach/Unknown Shockable Rhythm	245 (17.2)	4212 (14.9)	24083 (16.4)
Asystole	796 (55.9)	16618 (59.0)	77581 (52.8)
Idioventricular/PEA	361 (25.4)	6237 (22.1)	32544 (22.2)
Unknown Unshockable Rhythm	21 (1.5)	1110 (3.9)	12687 (8.6)
Sustained ROSC (%)			
Yes	332 (23.3)	6233 (22.1)	39820 (27.1)
No	1091 (76.7)	21944 (77.9)	107044 (72.9)
Pre-hospital Outcome (%)			
Pronounced in the Field	474 (33.3)	14696 (52.2)	62260 (42.4)
Pronounced in ED	124 (8.7)	1678 (6.0)	14711 (10.0)
Ongoing Resuscitation in ED	825 (58.0)	11803 (41.9)	69953 (47.6)
Overall Survival (%)			
Overall Survival to Hospital Admission	398 (28.0)	6078 (21.6)	36294 (24.7)
Overall Survival to Hospital Discharge	115 (8.1)	2180 (7.7)	13403 (9.1)
With Good or Moderate Cerebral Performance	98 (6.9)	1665 (5.9)	10532 (7.2)
Missing hospital outcome	0	78	305
Utstein¹ Survival (%)	N=151 21.2%	N=2460 28.1%	N=14251 29.0%
Utstein Bystander² Survival (%)	N=108 25.0%	N=1430 31.8%	N=8370 32.5%
<i>Inclusion criteria: An out-of-hospital cardiac arrest where resuscitation is attempted by a 911 responder (CPR and/or defibrillation). This would also include patients that received an AED shock by a bystander prior to the arrival of 911 responders.</i>			

STROKE

Stroke Core Measure – EMS Data

Core Measure	Definition	2021- 3Q		2021- 4Q		2022- 1Q		2022-2Q	
		Patient Count	%	Patient Count	%	Patient Count	%	Patient Count	%
STR-01	Prehospital Screening for Stroke Patients	971	96.70%	900	95.00%	1,011	95.84%		
STR-02	Glucose Testing for Suspected Stroke Patients	971	94.95%	875	97.22%	860	96.60%		
STR-04	Advanced Hospital Notification for Stroke Patients with positive Stroke Scale	551	95.10%	584	94.00%	94.01%	602		

Stroke Dashboard - EMS Data

Stroke	System Total 2021- 3Q	System Total 2021- 4Q	System Total 2022- 1Q	System Total 2022-2Q
Total transported patients with Primary impression of Stroke	839	900	887	
Number of patients with documented Stroke Screen	825	855	851	
% of patients with documented Stroke Screen	98.33%	95.00%	95.94%	
Documented Glucose	816	875	860	
% of documented Glucose	97.26%	97.22%	96.96%	
Patients with a Stroke pre-arrival notification	743	805	795	
% of Stroke pre-arrival notification	88.56%	89.44%	89.63%	

Stroke Primary Impression for Treated and Transported Patients - EMS Data

Hospital Name	2021- 3Q	2021- 4Q	2022-1Q	2022-4Q
Kaiser Antioch	1	0	1	
KHR	35	47	38	
KHN	126	173	147	
KHS	167	153	176	
Lodi	1	0	1	
MGH	48	37	42	
MHF	41	66	72	
MSJ	180	164	171	
MHS	73	95	76	
VAMC	2	0	0	
SMCS	75	76	81	
SRMC	24	17	20	
UCD	66	72	62	
Total	839	900	887	

Stroke Score Value for Transported Patients by Hospital Destination

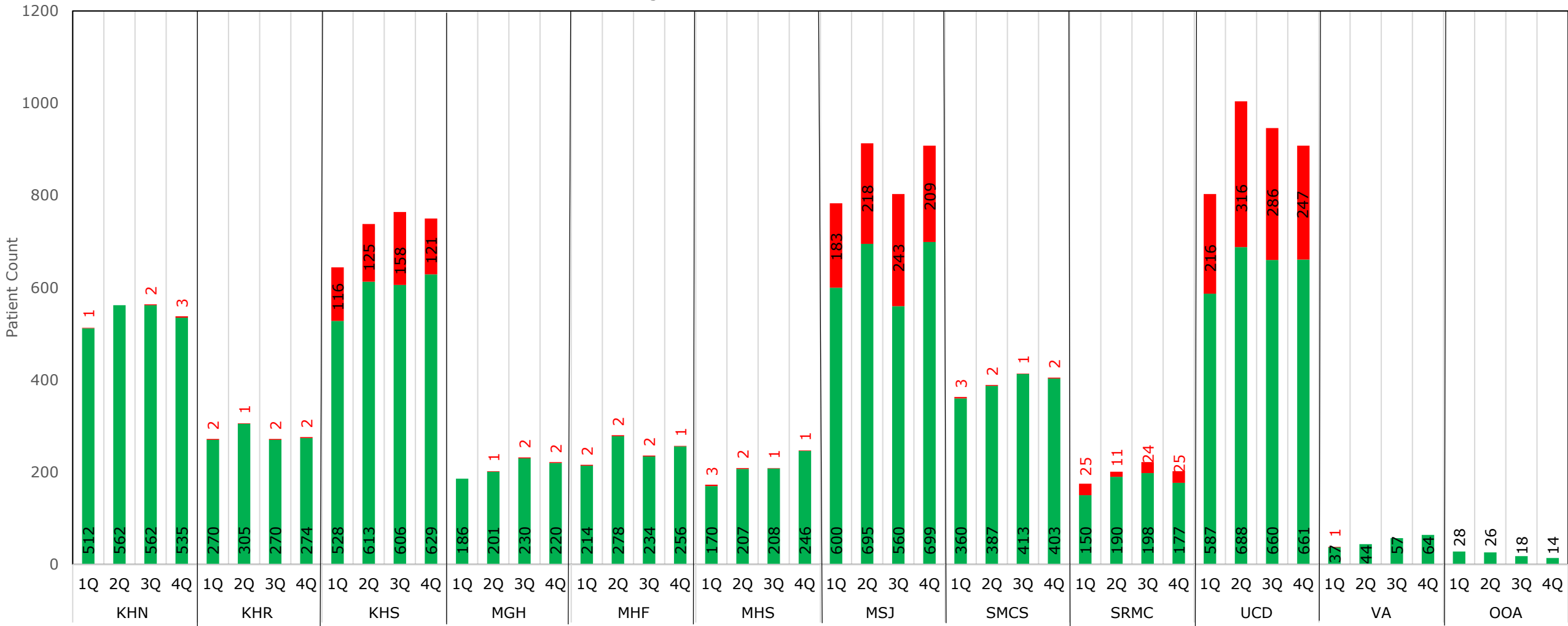
Hospital Name	Stroke Score				Not Recorded	Grand Total
	0	1	2	3		
KHR	16	14	7	5	5	47
KHN	62	51	20	6	35	174
KHS	33	66	7	4	47	157
MGH	10	13	3		13	39
MHF	17	24	7	1	17	66
MSJ	50	50	33	15	16	164
MHS	22	31	13	6	24	96
SMCS	18	30	5	1	24	78
SRMC	5	6	3	1	2	17
UCD	22	25	2		25	74
Grand Total	255	310	100	39	208	912

Additional records due to data generated after original report

Trauma

Transported Patients with a Primary Impression of Trauma 2021 per Quarter - EMS Data

■ Negative TTC ■ Positive TTC



Originating County	KHS	MSJ	SRMC	UCD	Grand Total
Grand Total	714	1441	847	3564	6566
Yuba		2		186	188
Yolo	8	22		355	385
Washoe				4	4
Tuolumne				7	7
Trinity				6	6
Tehama				18	18
Sutter		1		54	55
Stanislaus				72	72
Sonoma	2			30	32
Solano				70	70
Siskiyou				12	12
Shasta				59	59
Santa Cruz				2	2
Santa Clara				1	1
Santa Barbara				1	1
San Luis Obispo				3	3
San Joaquin	8	3		164	175
San Francisco		1		1	2
San Benito				1	1
Sacramento	670	1345	847	1831	4693
Plumas				2	2
Placer	1	13		75	89
Nevada		33		25	58
Napa				23	23
Monterey				1	1
Mono				1	1
Modoc				4	4
Merced				14	14
Mendocino		1		28	29
Los Angeles	1			2	3
Lake		2		25	27
Kern				3	3
Humboldt				30	30
Glenn				12	12
Fresno				2	2
El Dorado		13		231	244
Douglas				1	1
Del Norte				4	4
Contra Costa				8	8
Colusa		1		23	24
Churchill				1	1
Calaveras	1	3		28	32
Butte		1		80	81
Amador	22			59	81
Alameda	1			5	6



Scene Time for Patients with +TTC 2021-1Q

90th Percentile - 00:15:00

Average - 00:10:39

13.58% of Trauma had +TTC

99.29% of patients with +TTC were taken
to a trauma center