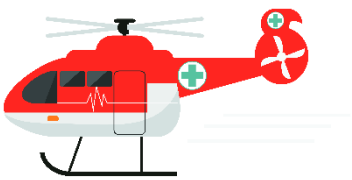
S-SV Emergency Medical Services Agency

Butte, Colusa, Glenn, Nevada, Placer, Shasta, Siskiyou, Sutter, Tehama, & Yuba Counties

Serving Butte, Colusa, Glenn, Nevada, Placer, Shasta, Siskiyou, Sutter, Tehama, & Yuba Counties

2023 EMS Quality Improvement Plan Annual Update



Sierra – Sacramento Valley Emergency Medical Services Agency

Regional Executive Director
John Poland, Paramedic

Medical Director
Troy M. Falck, MD, FACEP, FAAEM

JPA Board Chairperson
Jim Holmes, Placer County Supervisor

Address & Contact Information
535 Menlo Drive, Suite A
Rocklin, CA 95765
(916) 625-1702
info@ssvems.com
www.ssvems.com

Serving Butte, Colusa, Glenn, Nevada, Placer, Shasta, Siskiyou, Sutter, Tehama, & Yuba Counties

January 2024

Tom McGinnis, Chief of EMS Systems Division
California EMS Authority (EMSA)
10901 Gold Center Drive, Suite 400
Rancho Cordova, 95670

Mr. McGinnis,

Pursuant to CCR, Title 22, Division 9, Chapter 12, Article 4, § 100404, Item (a)(4), this letter and all attachments are being submitted to EMSA as the required S-SV EMS LEMSA 2023 Calendar Year Annual EMSQIP update. S-SV EMS has a strong commitment to EMS QI. We work with EMS system participants to ensure that every patient in need of EMS assistance receives consistent, competent, and compassionate evidence-based EMS care. S-SV EMS currently employs seven (7) clinical staff, including a physician medical director and six (6) licensed paramedics with extensive EMS experience. These clinical staff are primarily responsible for the S-SV EMS EMSQIP, with assistance provided by other non-clinical agency staff as needed.

In 2023, we extended our QI program with the development of the Prehospital Advisory Committee (PAC). This committee is comprised of selected BLS, ALS and RN field providers who function to provide support to the agency in protocol review/development and to assist with QI activities and regional audits. The committee met four times in 2023 and was well attended by committee members.

S-SV EMS staff continue to coordinate and receive input/feedback from multiple other regional EMS system QI committees, and conduct/facilitate a significant amount of EMS system data review, audit, and educational activities. We continue to focus on methods to improve the quality, consistency, and validity of our EMS system data.

S-SV EMS has a strong commitment to EMS system transparency and accountability. As a result, we continue to update and publish an EMS system performance data report monthly, which includes the following EMS system data:

- S-SV EMS Regional APOT Data

- S-SV EMS Regional Ground and EMS Aircraft Data
- S-SV EMS Regional Prehospital Naloxone Utilization Data

The above-mentioned report, and various others, will continue to be refined/improved as necessary. A copy of this report for 2023 is included in this EMSQIP annual update. S-SV EMS also requires EMS system participants to regularly conduct focused audits, and to report their results back to our agency for additional review, compiling and publishing. The results of these audits are utilized for ongoing education/training purposes. Any identified clinical and/or documentation issues are then monitored and tracked as necessary until the matter is adequately resolved. S-SV EMS has also implemented necessary policy/protocol changes based on the results of previous audits, followed by additional monitoring/auditing activities to ensure that the identified issues have been corrected.

S-SV EMS continues to participate in various other EMS data registries/programs as follows:

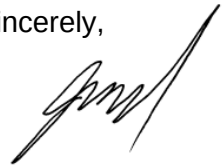
- ESO Trauma 1 Data Registry
- AHA Get With The Guidelines (GWTG) Stroke Registry
- AHA Get With The Guidelines – Coronary Artery Disease (GWTG-CAD) STEMI Registry
- EMSA Annual EMS Core Measures

S-SV EMS has a robust system to identify and address clinical issues/concerns, in close collaboration with EMS system participants. This is accomplished using a just culture type philosophy, to ensure an appropriate oversight/accountability balance. Prehospital personnel and EMS system participants have clearly embraced this concept, as evidenced by an increase in self-reported policy/protocol deviations, patient care issues, medication errors, etc. These matters are thoroughly investigated and addressed to ensure that they do not reoccur. S-SV EMS policy/protocol updates are also reviewed/implemented as determined necessary.

We have recently reorganized our Regional Emergency Medical Advisory Committee (REMAC) format and meeting schedule to better correspond with our other regional QI committees (PAC, Trauma QI, STEMI QI). The primary goal of this restructuring is to increase meaningful contribution to EMSQIP activities by all EMS system participants throughout our region.

Thank you for the opportunity to provide this update covering the EMS QI work that S-SV EMS staff and EMS system participants provide on an ongoing basis. Please feel free to contact me with any specific questions you may have regarding this matter.

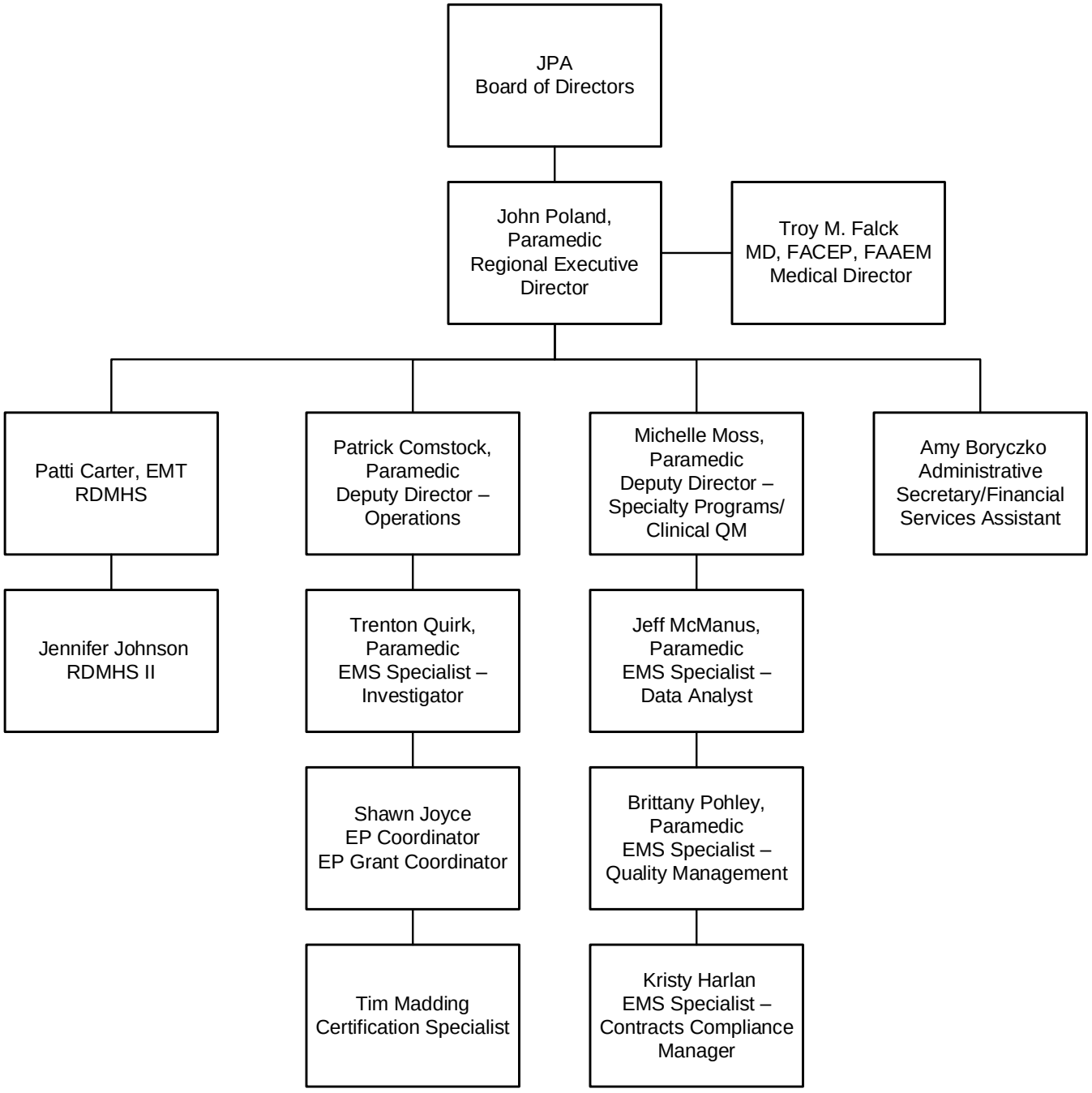
Sincerely,



John Poland, Paramedic
Regional Executive Director
Sierra – Sacramento Valley EMS Agency

S-SV EMS Agency Organizational Chart & Staff Primary Responsibilities

Sierra – Sacramento Valley EMS Agency Program Policy			
S-SV EMS Agency Organizational Chart			
	Effective: 07/01/2023	Next Review: As Needed	**201**
	Approval: Troy M. Falck, MD – Medical Director		SIGNATURE ON FILE
	Approval: John Poland – Executive Director		SIGNATURE ON FILE



Name, Title, & Contact Information	Primary Responsibilities
John Poland, Paramedic **Regional Executive Director** John.Poland@ssvems.com (916) 625-1719	• S-SV EMS Agency member county BOS, CAO & PHO contact • S-SV EMS Agency legal counsel contact • Hospital administration contact • S-SV EMS Agency & personnel oversight • S-SV EMS Agency contracts • S-SV EMS Agency fiscal management • S-SV EMS Agency EMS Plan • S-SV EMS Agency EMS system policies/protocols • Region III RDMHC/S program oversight
Troy M. Falck, MD **Medical Director** Troy.Falck@ssvems.com (916) 625-1715	• Medical control, direction & oversight of the S-SV EMS system and all EMS personnel within the S-SV EMS region • Assist in the development/approval of all S-SV EMS policies and treatment protocols
Patrick Comstock, Paramedic **Deputy Director – Operations** Patrick.Comstock@ssvems.com (916) 625-1714	• EMS training programs approval/oversight • S-SV EMS Agency EMS personnel credentialling & investigation/enforcement program oversight/management • S-SV EMS Agency RFPs, provider agreements, & permitting oversight/management • EMCC/EMAG/HPP/HP liaison • S-SV EMS Agency EMS data system oversight • S-SV EMS Agency LEMSA Duty Officer • S-SV EMS Agency personnel oversight
Michelle Moss, Paramedic **Deputy Director – Specialty Programs/Clinical Quality Management** Michelle.Moss@ssvems.com (916) 625-1711	• Regional STEMI/stoke/trauma systems oversight/management • Regional HEMS program oversight/management • Regional specialty systems contracting oversight • Clinical quality management (QA/QI) oversight/management • EMS for Children/pediatric specialty center liaison • S-SV EMS Agency data system/patient registries oversight • S-SV EMS Agency personnel oversight
Amy Boryczko **Administrative Secretary/ Financial Services Assistant** Amy.Boryczko@ssvems.com (916) 625-1712	• Secretary to the S-SV EMS Regional Executive Director • Secretarial support for S-SV EMS staff • Clerk of the Board to the S-SV EMS JPA Governing Board • Technical/clerical support for HPP & other grant activities • Assist with S-SV EMS Agency fiscal management • Placer County Auditor-Controller's Office liaison
Patti Carter, EMT **Region III RDMHS** Patti.Carter@ssvems.com (530) 722-6613	• Region III RDMHS • EMCC/EMAG/HPP/EP liaison • Region III RDMHS Program Duty Officer • S-SV EMS LEMSA Duty Officer

Name, Title, & Contact Information	Primary Responsibilities
Jennifer Johnson **Region III RDMHS II** Jennifer.Johnson@ssvems.com (530) 722-6615	• Assists with Region III RDMHS Program duties/responsibilities • EMCC/EMAG/HPP/EP liaison • Region III RDMHS Program Duty Officer
Trenton Quirk, Paramedic **EMS Specialist – Investigator** Trenton.Quirk@ssvems.com (916) 625-1716	• Processing/managing California DOJ and/or FBI CORI background and subsequent arrest/disposition records • Overseeing/assisting with S-SV EMS Agency investigation and personnel enforcement related matters • Assists with S-SV EMS Agency operational duties
Shawn Joyce **EP/EP Grant Coordinator** Shawn.Joyce@ssvems.com (916) 625-1718	• Emergency preparedness (EP) & EP grant coordination
Tim Madding **Certification Specialist** info@ssvems.com (916) 625-1702	• EMS personnel certification, accreditation, & authorizations • Assists with S-SV EMS Agency operational duties
Jeff McManus, Paramedic **EMS Specialist – Data Analyst** Jeff.McManus@ssvems.com (916) 625-1721	• Supports the S-SV EMS Agency & EMS system participants with the EMS data system and patient data registries • Analysis/reporting of statistical EMS & specialty program data • HIE data oversight • Assist with S-SV EMS Agency QA/QI initiatives • S-SV EMS Agency LEMSA Duty Officer
Brittany Pohley, Paramedic **EMS Specialist – QM** Brittany.Pohley@ssvems.com (916) 625-1724	• EMS system participant QA/QI primary liaison • Development, coordination, and oversight of EMS QA/QI activities/initiatives • QI indicator reporting to the S-SV EMS Agency and EMS system participants • Development, oversight, planning, and coordination of S-SV EMS Agency initiated training/education programs
Kristy Harlan **EMS Specialist – Contracts Compliance Manager** Kristy.Harlan@ssvems.com (916) 625-1722	• EMS system participant liaison • Prehospital provider organization contract compliance • Internal/external compliance reporting • Assist with S-SV EMS Agency QA/QI initiatives • S-SV EMS Agency LEMSA Duty Officer

S-SV EMS Policy Action & EMSQIP Policy

Sierra – Sacramento Valley EMS Agency Program Policy			
S-SV EMS Policy/Protocol Actions			
	Effective: 12/01/2023	Next Review: 09/2025	**220**
	Approval: Troy M. Falck, MD – Medical Director		SIGNATURE ON FILE
	Approval: John Poland – Executive Director		SIGNATURE ON FILE

PURPOSE:

To provide a mechanism for creation, review, revision, or removal of S-SV EMS policies and/or treatment protocols (collectively referred to in this policy as 'policy/protocol action').

AUTHORITY:

A. HSC, Division 2.5, § 1797.107, 1797.171, 1797.172, 1797.176, 1797.202, 1797.220, and 1798.

B. CCR, Title 22.

POLICY:

A. Prehospital provider organizations shall not institute patient care policies/protocols that conflict with those established by the S-SV EMS Agency. This does not apply to treatment protocols developed by air ambulance or ground critical care transport providers for RN personnel.

B. New policies/protocols are developed as necessary based on EMS system needs.

C. Consideration of proposed policy/protocol actions will be given to suggestions/ requests from EMS system participants.

D. Existing S-SV EMS policies/protocols are routinely reviewed a minimum of every three (3) years but may be reviewed on a more frequent basis as necessary.

PROCEDURE:

A. Policy/protocol action input may be solicited from individuals, organizations, and/or advisory committees. S-SV EMS may also establish an ad hoc committee to recommend policy actions as necessary.

B. Approval of policy/protocol actions will occur as follows:

1. Proposed policy actions will be placed on the S-SV EMS Regional Emergency Medical Advisory Committee (REMAC) meeting agenda for consideration.

2. The REMAC meeting agenda and all proposed policy actions will be distributed to EMS system participants and posted on the S-SV EMS website a minimum of 30 days prior to the applicable REMAC meeting in which they will be considered.

3. Proposed policy actions listed on the REMAC agenda may be approved upon majority vote of the REMAC members. If necessary, proposed policy actions may be carried over to subsequent REMAC meetings until a consensus is reached by the committee.

4. All policy actions passed by the REMAC shall be approved by the S-SV EMS Medical Director and Regional Executive Director prior to implementation.

C. Implementation of policy actions will occur as follows:

1. New policies/protocols will be assigned an S-SV EMS policy/protocol number.

2. An effective date and next review date will be assigned to all policies/protocols.

3. The S-SV EMS Medical Director and Regional Executive Director will approve and sign the policy/protocol.

4. EMS system participants will be notified of the policy action and implementation date. Policy/protocol updates are routinely released on a bi-annual basis for either a June 1st or December 1st implementation but may be released more frequently as necessary.

D. Some policy actions may require immediate action to maintain compliance with statutes/regulations, or to preserve medical control/integrity of the EMS system. Policy actions of this type may be implemented by S-SV EMS as urgency measures and scheduled for discussion at the next regularly scheduled REMAC meeting if necessary.

Sierra – Sacramento Valley EMS Agency Program Policy			
EMS System Quality Improvement Program (EMSQIP)			
	Effective: 12/1/2023	Next Review: 09/2026	**620**
	Approval: Troy M. Falck, MD – Medical Director		SIGNATURE ON FILE
	Approval: John Poland – Executive Director		SIGNATURE ON FILE

PURPOSE:

To establish a system wide Emergency Medical Services System Quality Improvement Program (EMSQIP) to monitor, review, evaluate, and improve the delivery of prehospital care in the S-SV EMS region.

AUTHORITY:

A. HSC, Division 2.5, § 1797.204, 1797.220 and 1798.

B. CCR, Title 22, Chapter 12.

POLICY:

A. ALS/LALS prehospital provider organizations and base/modified base hospitals shall submit a written EMSQIP to S-SV EMS for review and approval every five (5) years. The EMSQIP shall include the provider/hospital name and management structure, including quality improvement (QI) coordinator (or similar position), medical director, and internal QI staff and structure. A provider/hospital organizational chart shall also be included if available.

B. The EMSQIP shall, at a minimum, include the following QI activities:

1. Prospective QI – Systematic approach to identify, measure, and improve the quality of care provided.

2. Concurrent QI – Ongoing process to monitor and improve the quality of care in real-time during patient care.

3. Retrospective QI – Analysis of data and events after the delivery of patient care to identify trends, patterns, and recurring issues.

4. Reporting/Feedback – Sharing information about performance, outcomes, and quality measures with system participants.

C. ALS/LALS prehospital provider organization EMSQIPs shall, at a minimum, detail the process for conducting the following activities:

1. Prospective QI:

- Participation in S-SV EMS and base/modified base hospital QI committees.
- Initial and continuing employee education:
  - Orienting field personnel to the S-SV EMS system.
  - Developing educational programs based on problem identification and trend analysis.
  - Process for communicating system changes to field personnel.
- Process for development of performance standards to evaluate the quality of care delivered by field personnel.
- Methods for evaluating field personnel:
  - New/probationary employee clinical performance standards.
  - Clinical/operational deficiency identification methodology.
  - Problem-oriented evaluation and corrective action plans for identified deficiencies, including an example of a standardized performance improvement plan (PIP).
- Personnel certification/accreditation tracking:
  - Initial and ongoing certification/accreditation tracking process.
  - Other S-SV EMS required training/education.

2. Concurrent QI:

- Direct observation (ride-along, field training officer, etc.) of field personnel evaluating patient care against performance standards.
- Availability of field supervisors and/or QI personnel for field personnel support.

3. Retrospective QI:

- Process for retrospective analysis of field care to include but not be limited to:
  - High-acuity, low occurrence (HALO) call/event types.
  - Audit topics.
  - Problem oriented calls/events.
  - Calls/events requested to be reviewed by S-SV EMS.
- Documentation/PCR review to assure quality, accuracy, and adherence to provider/S-SV EMS documentation standards/requirements.
- Compliance with reporting and other quality improvement requirements as specified by S-SV EMS.

4. Reporting/Feedback:

    - Process for reporting trends/issues to S-SV EMS and/or base/modified base hospitals.
    - Process for communicating quality improvement/opportunities for improvement to field personnel.

D. All EMS system participants shall submit an annual EMSQIP report, utilizing an S-SV EMS developed standardized form, for the previous calendar year to S-SV EMS no later than March 31st.

E. All EMS system participants shall participate in the S-SV EMS EMSQIP, which may include providing records for program monitoring and evaluation.

S-SV EMS 2022 Calendar Year

Annual EMSQIP Reporting Forms

BLS Provider 2022 Calendar Year EMS QI Report (Submission Due Date: 3/31/2023)

PROVIDER AGENCY INFORMATION			
Provider Agency:		Type: ☐ Paid ☐ Volunteer ☐ Combination	
Position/Title	**Name**	**Telephone Number**	**Email Address**
Chief/Director/Manager			
QI Coordinator			
# Of PSFAs:		# Of EMRs:	
# Of EMTs		# Of AEMTs/Paramedics:	

DISPATCH/PATIENT CARE DOCUMENTION INFORMATION	
Dispatch Center Name:	# Of 911 EMS Calls:
Type Of Patient Care Records Used? ☐ Written ☐ Electronic ☐ Both ☐ None	
Current Electronic PCR Program & Version (if applicable):	

AED INFORMATION	
Do You Provide AED Services? ☐ Yes ☐ No	Are All AED Uses Reviewed? ☐ Yes ☐ No
Are AEDs Maintained Per Manufacturer Guidelines? ☐ Yes ☐ No	
Are All Personnel Using AEDs Properly Trained/Certified? ☐ Yes ☐ No	
Did You Have Any AED Equipment Failures (including dead batteries, etc.)? ☐ Yes ☐ No	
AED Issues/Comments	

BLS Provider 2022 Calendar Year EMS QI Report (Submission Due Date: 3/31/2023)

BLS OPTIONAL SKILLS INFORMATION

Which BLS Optional/Expanded Skills Do Your Personnel Utilize?

☐ Auto-Injector Epinephrine ☐ Naloxone

☐ Epinephrine IM Injection (EMT) ☐ King Airway (EMT) ☐ i-gel LMA (EMT)

Is BLS Optional Skills Review/Verification Completed At Least Annually? ☐ Yes ☐ No

Are All BLS Optional Skills Uses Reviewed For QI Purposes? ☐ Yes ☐ No

BLS Optional/Expanded Skills Issues/Comments

EDUCATION/TRAINING

EMS Education/Training Provided To The Public

EMS Education/Training Provided To Your Personnel

ADDITIONAL QI ACTIVITIES/COMMENTS

ALS/LALS Ground Provider 2022 Calendar Year EMS QI Report (Submission Due Date: 3/31/2023)

PROVIDER AGENCY INFORMATION			
Provider Agency:			
Position/Title	**Name**	**Telephone Number**	**Email Address**
Chief/Director/Manager			
Medical Director			
QI Coordinator			
EMS Data Manager			
# Of EMTs:		# Of AEMTs:	
# Of Paramedics:		# Of RNs:	
# Of EMS Calls:			

POLICIES/PROCEDURES
New/Revised <u>Provider Agency Specific</u> EMS Related Policies/Procedures

EDUCATION/TRAINING

EMS Education/Training Provided To The Public

EMS Education/Training Provided To Your Personnel

ADDITIONAL EMS QI ACTIVITIES/GOALS

Additional EMS QI Activities

2023 EMS QI Goals

EMS Aircraft Provider 2022 Calendar Year EMS QI Report (Submission Due Date: 3/31/2023)

PROVIDER AGENCY INFORMATION

Provider Agency:

Position/Title	Name	Telephone Number	Email Address
Chief/Director/Manager			
Medical Director			
QI Coordinator			
EMS Data Manager			
# Of Paramedic Personnel:		# Of RN Personnel:	
# Of Completed 911 Calls:		# Of Completed IFT Calls:	

EQUIPMENT/MEDICATIONS/PROCEDURES

Pertinent Equipment/Supply/Medication Changes

POLICIES/PROCEDURES

New/Revised Provider Agency Specific EMS Related Policies/Procedures

EDUCATION/TRAINING

EMS Education/Training Providing To The Public

EMS Education/Training Provided To Your Personnel Or Other EMS System Participants

EMS Aircraft Provider 2022 Calendar Year EMS QI Report (Submission Due Date: 3/31/2023)

EMS QI ACTIVITIES/GOALS

Additional EMS QI Activities

2023 EMS QI Goals

Base/Modified Base Hospital 2022 Calendar Year EMS QI Report (Submission Due Date: 3/31/2023)

HOSPITAL INFORMATION			
Hospital Name:		Type: Base Modified Base	
Position/Title	**Name**	**Telephone**	**Email**
CEO			
ED Manager			
Base/Modified Base Hosp. Medical Director			
Base/Modified Base Hosp. Coordinator			
Number of MICNs (if applicable):			

EMS ACTIVITIES

EMS Training/Classes/Drills/Exercises

EMS QI ACTIVITIES

2023 S-SV EMS Regional Meeting Calendar

Sierra - Sacramento Valley EMS Agency 2023 Calendar

January						
Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

February						
Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

March						
Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

April						
Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

May						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

June						
Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

July						
Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

August						
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

September						
Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

October						
Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

November						
Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

December						
Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

S-SV EMS Holidays - Office Closed

S-SV EMS Agency Regional Meetings & Classes

JPA Governing Board of Directors 1:00 pm - 3:00 pm
• January 13, 2023
• March 10, 2023
• May 12, 2023
• July 14, 2023
• September 8, 2023
• November 3, 2023

Regional Emergency Medical Advisory Committee 9:00 am - 12:00 am
• January 17, 2023
• March 21, 2023
• May 16, 2023
• July 18, 2023
• September 19, 2023
• November 21, 2023

Paramedic, Flight Nurse & MICN Accreditation/Orientation Class 9:00 am - 1:00 pm	
• January 10	• July 11
• February 14	• August 8
• March 14	• September 12
• April 11	• October 10
• May 9	• November 14
• June 13	• December 12

Region III RDMHS/MHOAC 9:00 am - 12:00 pm
• March 22, 2023
• June 28, 2023
• September 27, 2023
• December - TBD

*Regional Trauma QI Committee 11:00 am - 3:00 pm
• May 4, 2023
• December 7, 2023

*Regional STEMI QI Committee 9:30 am - 12:00 pm
• March 16, 2023
• September 21, 2023

*Prehospital Advisory Committee 9:00 am - 12:00 pm
• February 23, 2023
• April 26, 2023
• July 12, 2023
• October 18, 2023

S-SV EMS Agency Office/Meeting Locations
Rocklin Office 535 Menlo Drive, Suite A Rocklin, CA 95765
Redding Office 1255 East Street, Second Floor Redding, CA 96001
Telephone Number (916) 625-1702

***QI Meetings Established Pursuant to § 1157.7 of the CA Evidence Code - Invite Only - Not Public Meetings**

S-SV EMS 2023
Audit Reports

PAIN MANAGEMENT REPORT

UTILIZATION OF COMBINATION FENTANYL/MORPHINE OR KETAMINE/OPIOID

OVERVIEW:

We looked at data between 11/01/2022 – 10/30/2023 to include all patients who received ketamine or opioids for pain management. We also looked at a comparison of pain scales for different pain management medication options.

Total 911 transports: 146,919

Total patients treated with ketamine or opioids: 5,013

Patients who received one of the (above) combinations: 95

FENTANYL/MORPHINE

- **70 total patients**
- **7**: Given by BHO when base consultation was not necessary (standing order)
- **13**: Protocol violations
- **5**: Appropriate vitals not documented
- **37**: Administered by the same agency (30 by same paramedic)

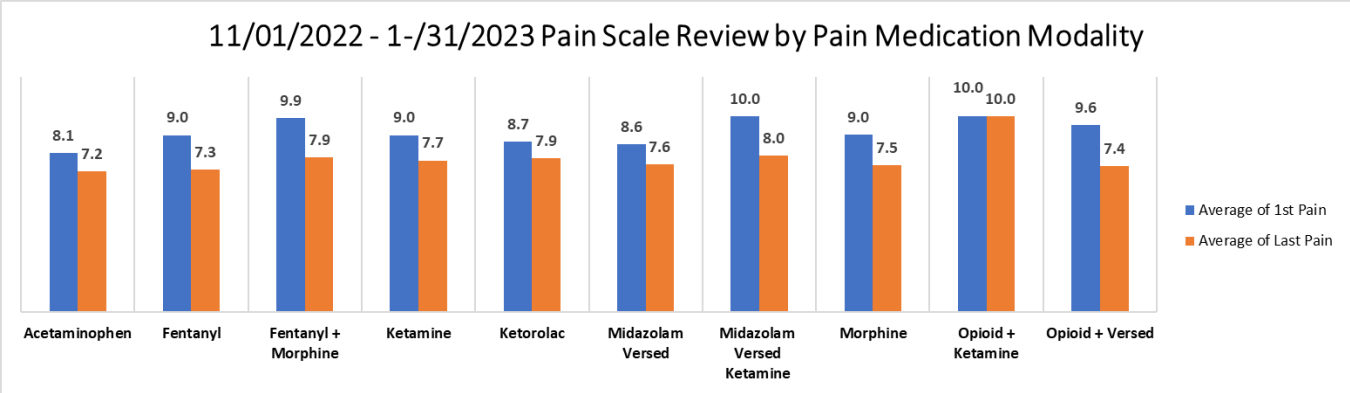
PAIN MANAGEMENT REPORT

KETAMINE/OPIOID

- **25 total patients**
- **2**: Incorrect dose
- **9**: Given by BHO when base consultation was not necessary (standing order)

PAIN MANAGEMENT REPORT

PAIN SCALE COMPARISON



Medication/Combination	Average of 1st Pain	Average of Last Pain
Acetaminophen	8.1	7.2
Fentanyl	9.0	7.3
Fentanyl + Morphine	9.9	7.9
Ketamine	9.0	7.7
Ketorolac	8.7	7.9
Midazolam Versed	8.6	7.6
Midazolam Versed Ketamine	10.0	8.0
Morphine	9.0	7.5
Opioid + Ketamine	10.0	10.0
Opioid + Versed	9.6	7.4

Red Box Transfers

Crystal Walsh, BSN, TPM
Mercy Redding
Darcey Thinnes, BSN, TPM
St. Elizabeth Hospital

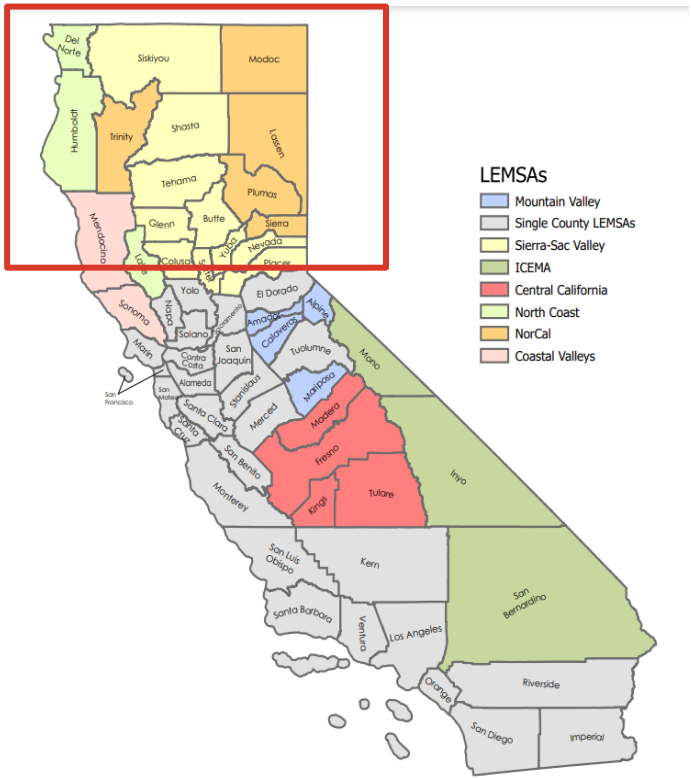
Dignity Health.

Background

The Region

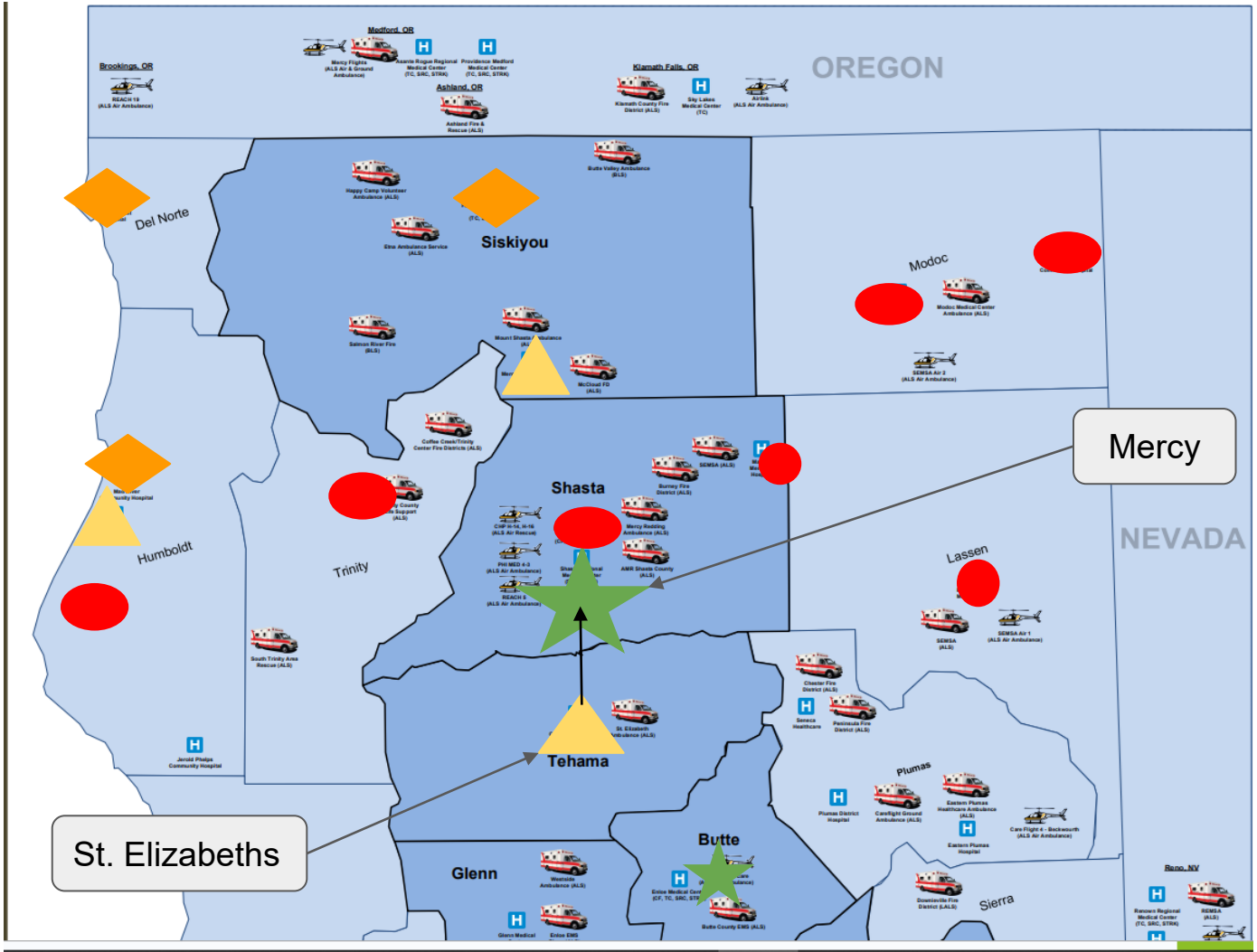
Far Northern California encompasses 8 counties, totaling approximately 24,900 square miles, which is roughly the size of the state of West Virginia. It is a rural part of California with small communities spread throughout. There are approximately 12 hospitals in this region. Sierra Sacramento Valley EMS agency is the LEMSA responsible for the counties in dark blue (next slide) and the trauma centers they designate. The remainder of the area is covered by NorCal EMS and North Coast EMS.

- Non trauma centers
- Three Level 4 trauma centers
- Three Level 3 trauma centers
- Two Level 2 trauma centers- Enloe Medical Center is 90 min south of Redding
- One Level 1 trauma center 2 hours south of Mercy Redding (UC Davis)



Legend

- Non Trauma Center
- Level 4 Trauma Center
- Level 3 Trauma Center
- Level 2 Trauma Center



Mercy Medical Center Redding (MMCR)

- Sits in the valley surrounded by 3 mountain ranges in Redding California
- 246 beds acute care hospital
  - ED: 28 beds & 2 Trauma Bays
  - ICU: 28 beds
  - OR: 9 suites
- ACS Level II Adult Trauma Center
- STEMI and Stroke Receiving Center
- Level 3 NICU
- 225 Transfers in meeting NTDB in 2022 from all counties north of Tehama

St. Elizabeth Community Hospital (SECH)

- Red Bluff, California is in the center of Tehama County. We are the only hospital in our county.
- There are approximately 65,000 residents spread over 2,962 miles in the county.
- 76 bed acute care hospital
  - ED: 14 beds
  - ICU 8 beds
  - OR: 4 suites
- **ACS Level III Adult Trauma Center**
- Specialties:
  - General surgery
  - Orthopedics
- 2022 Transfer out volume: 109

How trauma transfers are managed in our region

- The North Regional Trauma Coordinating Committee (NRTCC) developed regional guidelines for trauma transfers in 2002
- Our LEMSA Sierra-Sacramento Valley EMS (S-SV EMS) uses this guideline as the basis for their policy on Rapid Re-Triage of Trauma Patients (Policy 510)
- The term “Red Box” refers to the criteria in the box at the top of the guidelines. These patients are the highest priority and every effort should be made to transfer within 1 hour of arrival
- Other traumatic injuries below have a goal of transfer within 4 hours
- Trauma transfers data, including volume and average times, are discussed at our bi-annual S-SV trauma meetings. There are frequent discussions on opportunities for improvement for trauma transfer patients

Guidelines for Transfer to a Trauma Center

North Regional Trauma Coordinating Committee

Emergency Transfer: *Call the Trauma Center for immediate consult and/or acceptance. Avoid unnecessary studies that would delay the transfer. The goal is transfer within 1 hour of arrival.*

- Systolic blood pressure <90 mm Hg
- Labile blood pressure despite 2L of IV fluids or requiring blood products to maintain blood pressure
- GCS ≤8 or lateralizing signs
- Penetrating injuries to head, neck, chest or abdomen
- Fracture/dislocation with loss of distal pulses &/or ischemia
- Pelvic ring disruption or unstable pelvic fracture
- Vascular injuries with active arterial bleeding

URGENT TRANSFER: *Call the Trauma Center and initiate transfer as soon as any of the following are identified. Avoid unnecessary studies. The goal is transfer within 4 hours of arrival.*

Physiologic

- For a child, labile blood pressure despite 20 ml/kg of fluid resuscitation
- Patients requiring blood products to maintain their blood pressure

Note:
1. For pediatric patients, systolic blood pressure <70 plus 2 times the age should suggest hypotension
2. Systolic blood pressure <110 may represent shock in patients >65 years of age

Extremity Injuries

- Amputation of extremity proximal to wrist or ankle
- Open long-bone fractures
- Two or more long-bone fracture sites*
- Crush injury/mangled extremity

*A radius/ulna fracture or tibia/fibula fracture are considered one site

Neck & Thoracic Injuries

- Tracheobronchial injury
- Esophageal trauma
- Great vessel injury
- Major chest wall injury with ≥3 rib fractures &/or pulmonary contusion
- Pneumothorax or hemothorax with respiratory failure
- Radiographic evidence of aortic injury
- Known or suspected cardiac injury

Neurological Injuries

- GCS deteriorating by 2 points during observation
- Open or depressed skull fracture
- Acute spinal cord injury
- Spinal fractures, unstable or potentially unstable
- Neurologic deficit

Abdominal Injuries

- Evisceration
- Free air, fluid or solid organ injury on diagnostic testing

Pelvic/Urogenital

- Bladder rupture

Burn Injuries

- Second or third-degree thermal or chemical burns involving >10% of total body surface area in patients <15 years or >55 years of age
- Second or third-degree thermal or chemical burns involving the face, eyes, ears, hands, feet, genitalia, perineum, and major joints
- Third-degree burns >5% of the body surface area in any age group
- Electrical burns, including lightning injury
- Burn injury with inhalation injury

Co-Morbid Factors

- Adults >55 years of age with significant trauma
- Significant torso injury with advanced co-morbid disease (cardiac or respiratory disease, insulin-dependent diabetes, morbid obesity, immunosuppression or End Stage Renal Disease requiring dialysis)
- Patients taking anti-coagulant medication or platelet inhibitors
- Children <14 years of age with significant trauma
- Traumatic injury and pregnancy >20 weeks gestation

Note: All transfers must be in accordance with both state and federal EMTALA laws

Reference: American College of Surgeons, Committee on Trauma, Interfacility Transfer of Injured Patients: Guidelines for Rural Communities, 2002

What is a Red Box?

Emergency Transfer: *Call the Trauma Center for immediate consult and/or acceptance. Avoid unnecessary studies that would delay the transfer. The goal is transfer within 1 hour of arrival.*

- Systolic blood pressure <90 mm Hg
- Labile blood pressure despite 2L of IV fluids or requiring blood products to maintain blood pressure
- GCS ≤8 or lateralizing signs
- Penetrating injuries to head, neck, chest or abdomen
- Fracture/dislocation with loss of distal pulses &/or ischemia
- Pelvic ring disruption or unstable pelvic fracture
- Vascular injuries with active arterial bleeding

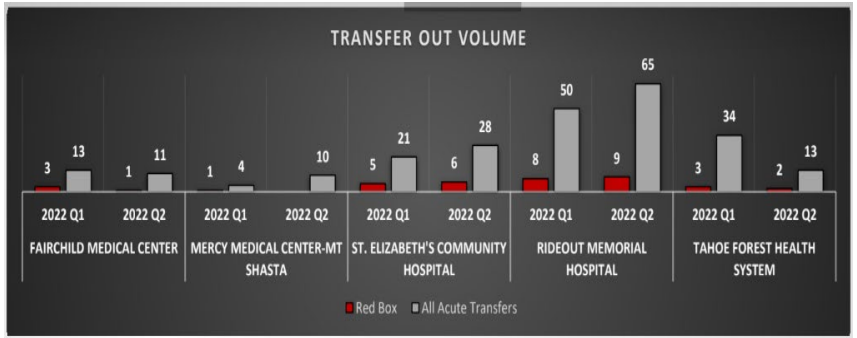
How is the process different for these patients?

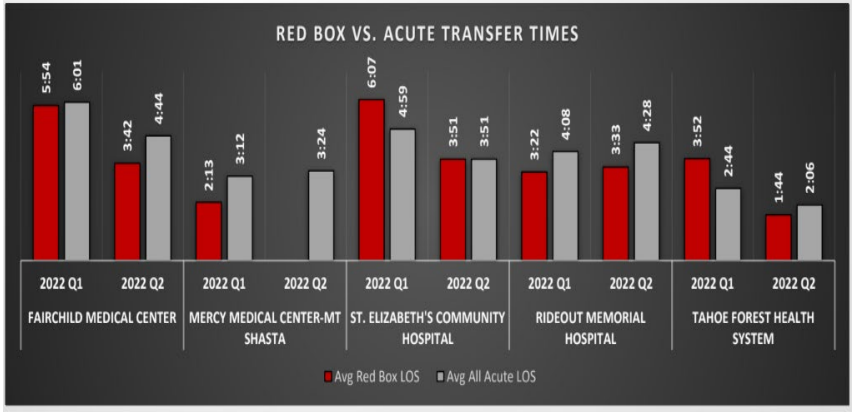
- Initiate transfer once it is clear that the patient will require care beyond the scope of the referring facility
- Avoid unnecessary studies that would delay the transfer
- Goal is to stabilize and transfer within 1 hour of arrival
- Red Box patients meeting criteria shall be accepted for transfer unless the Trauma Center is on trauma diversion or internal disaster
- Ensure patient is ready for transfer, medications and equipment must be in the scope of practice of the IFT staff

The Identified Problem

Regional issues

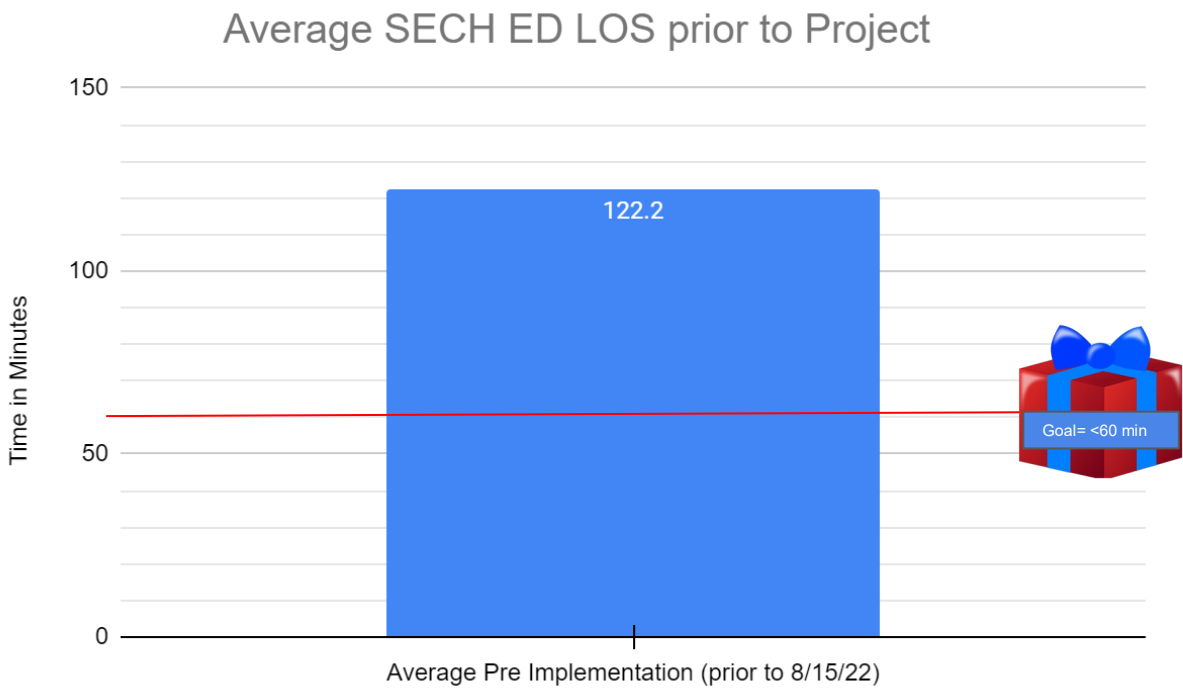
- Seemed that many facilities were challenged in meeting the 60 minute goal for a variety of reasons
- COVID challenges impacted our region and added extra burden to our hospitals, making trauma transfers more difficult
- Identified that the current way that Red Box transfer data was being tracked in our region was not ideal, and did not capture the appropriate patients.
- Without good data it is difficult to identify barriers and make changes

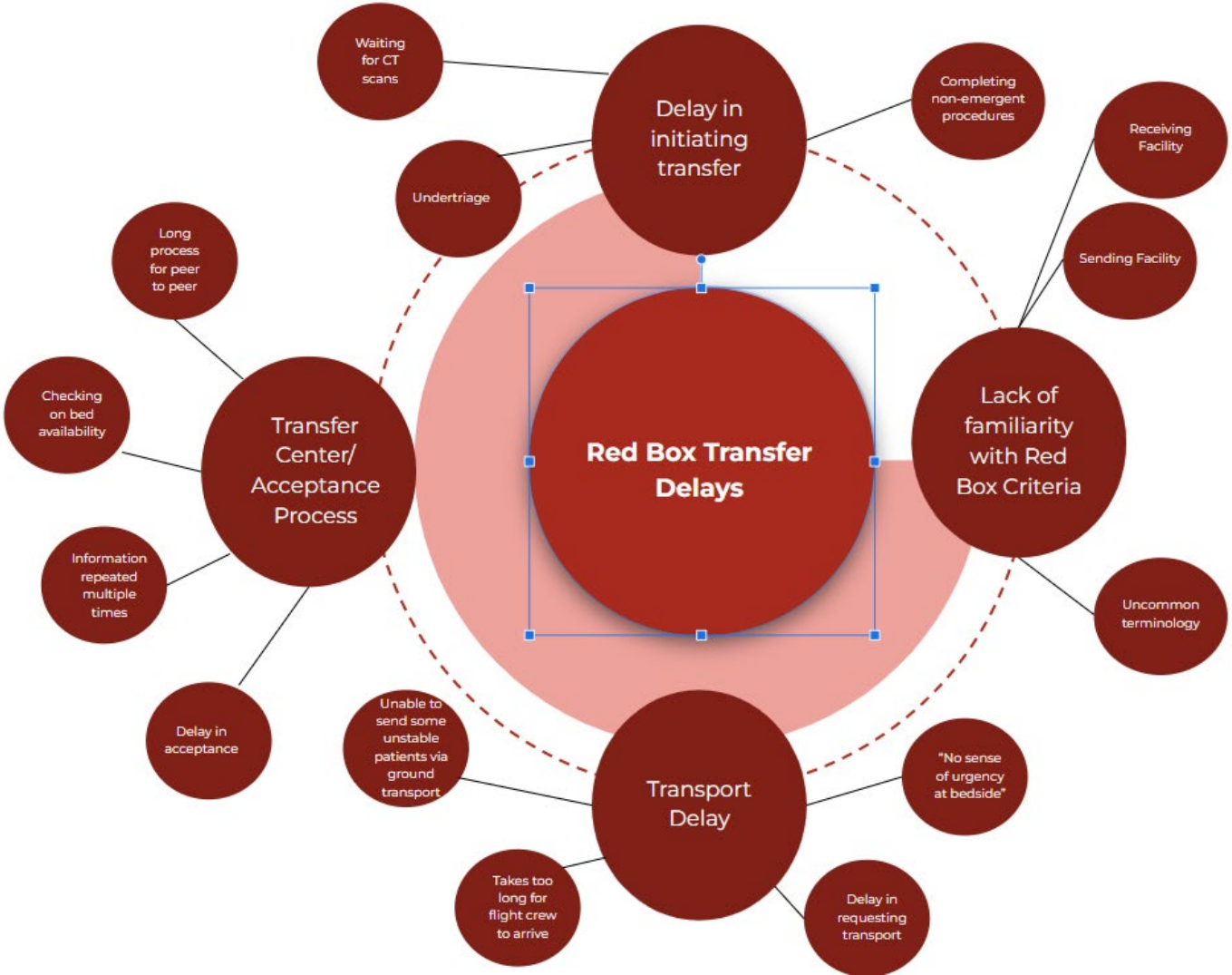




Transfer Problems at St. Elizabeth

- Began tracking transfer delays in 2020, focus on Red Box patients began in 2021
- Consistently not meeting the 60 minute goal for Red Box Transfers
- **Average Red Box ED LOS was more than double the goal!**
- Many identified barriers and challenges existed in meeting this goal, but common themes were identified
- We knew we could do better to stabilize our patients and quickly transfer to a facility that had the specialized services that were required





Red Box transfer delays identified through PI case review

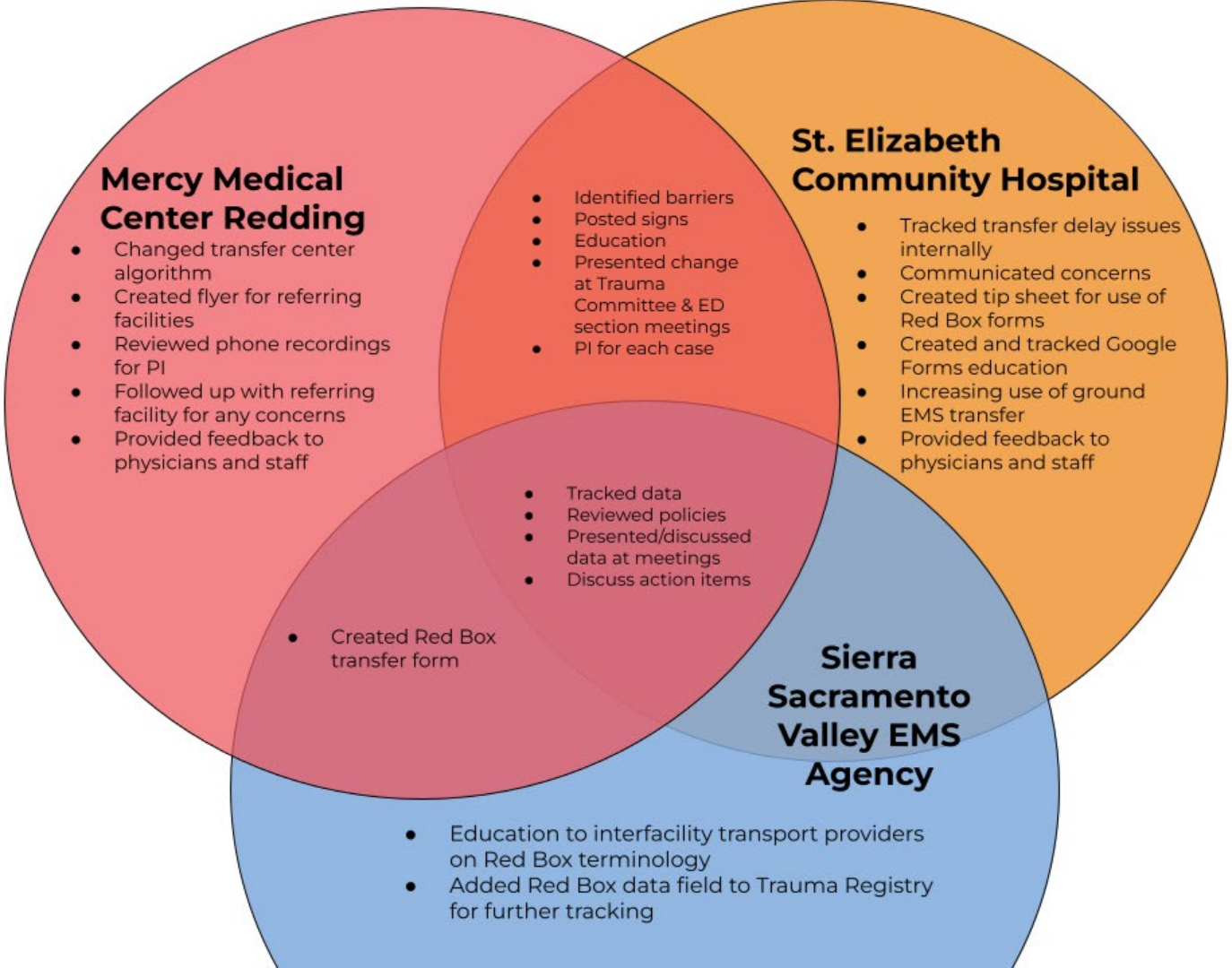
Pre-Implementation Case Example

- 2/10/2021
- 51M unknown PMH
- Unhelmeted bicyclist struck by vehicle @ 45 mph, thrown 30 feet
- Combative, GCS 7, trauma to head, bilateral lower extremity deformities
- Level 1 trauma alert in ED. Intubated on arrival. Ankle fracture reduced & splinted, FAST exam, XR chest, sent to CT for pan scan
- Call to MMCR 21 min after arrival, acceptance took 13 minutes. Transport not request until after acceptance. Took 55 minutes for flight crew to arrive, and 56 minutes for flight crew to prepare patient for transport
- **Total ED time = 115 min**
- Criteria met: GCS <8
- At MMCR: SAH, IPH, compartment syndrome of left lower extremity, spleen hematoma, clavicle fracture, occipital bone fracture, rib fractures. To OR for emergent fasciotomy, required multiple revisions, hospitalized for over 2 months

The Solution

Actions

- Collaboration to provide education on the existing policy and work was done to decrease barriers to quick transfer



Dignity Health.

Transfer Center Algorithm Changes

Pre Implementation

1. Call to Transfer center from referring hospital
2. Transfer Center takes detailed information
3. Transfer Center Calls Nursing Supervisor to see if there is a bed
4. If there is a bed, transfer center then calls the ED for peer to peer and acceptance.
5. Peer to Peer takes place. May ask for more information and imaging
6. If accepted referring facility calls for transport

Post Implementation

1. Call to transfer center from referring hospital who states they have a “Red Box” Transfer, simultaneously calling for transport
2. Transfer center takes minimal information
3. Transfer center calls ED for peer to peer
4. All transfers accepted, no request for imaging that will delay transfer.

Red Box Trauma Transfer to MM

Flyer for Referring Facilities

Red Box Trauma Criteria

- Systolic BP < 90 mmhg
- Labile blood pressure despite 2L of IV fluids or requiri
  products to maintain blood pressure
- GCS ≤ 8 or lateralizing signs
- Penetrating injuries to the head, neck, chest or abdomen *not all stab wounds will be deep enough to penetrate internal organs, so please evaluate depth to ensure appropriate use of red box transfer
- Fracture/dislocation with loss of distal pulses &/or ischemia
- Vascular injuries with active arterial bleeding
- Pelvic ring disruption or unstable pelvic fractures

Goal is to door to transfer out of your facility within 1 hour. (excluding those that need OR prior for stabilization)

If your patient meets red box criteria call the Dignity Health Transfer Center @ (916)851-2878

1. When calling the transfer center you **MUST** state immediately **"I have a red box transfer".** You will **not** be asked if the patient meets red box criteria.
2. You will be immediately connected to the ED Department physician (the goal is within 2 minutes)
3. In the beginning of your report please state which red box criteria the patient meets.
4. Start getting transport set up immediately.
5. If the patient needs to go to OR at your facility prior to transfer do not wait to initiate transfer
   a. Once patient is done in the OR, please call back with an update
6. RN to RN report is still expected

Paperwork

1. Please fill out the Red Box Transfer form and fax to (530)225-7259 and send with patient.

AMERICAN COLLEGE OF SURGEONS Verified Trauma Center

Dignity Health. Mercy Medical Center Redding

SIERRA - SACRAMENTO VALLEY EMERGENCY MEDICAL SERVICES AGENCY

TRAUMA RAPID RE-TRIAGE RED BOX TRANSFER FORM

Transfer Request Date	Transfer Request Time	Transferring Facility	Transferring MD
/ /	:		

PATIENT

Afix patient sticker

MECHANISM

RED BOX CRITERIA

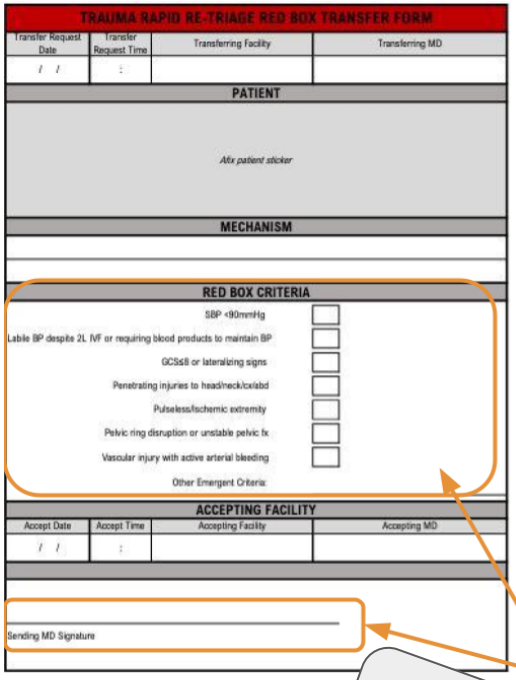
SBP <90mmHg	☐
Labile BP despite 2L IVF or requiring blood products to maintain BP	☐
GCS≤8 or lateralizing signs	☐
Penetrating injuries to head/neck/cx/abd	☐
Pulseless/Ischemic extremity	☐
Pelvic ring disruption or unstable pelvic fx	☐
Vascular injury with active arterial bleeding	☐
Other Emergent Criteria:	

ACCEPTING FACILITY

Accept Date	Accept Time	Accepting Facility	Accepting MD
/ /	:		

Sending MD Signature

Red Box Transfer Form



TRAUMA RAPID RE-TRIAGE RED BOX TRANSFER FORM

Transfer Request Date	Transfer Request Time	Transferring Facility	Transferring MD
/ /	:		

PATIENT

Affix patient sticker

MECHANISM

RED BOX CRITERIA

- SBP <90mmHg ☐
- Labile BP despite 2L IVF or requiring blood products to maintain BP ☐
- GCSs8 or lateralizing signs ☐
- Penetrating injuries to head/neck/cx/abd ☐
- Pulseless/ischemic extremity ☐
- Pelvic ring disruption or unstable pelvic fx ☐
- Vascular injury with active arterial bleeding ☐
- Other Emergent Criteria:

ACCEPTING FACILITY

Accept Date	Accept Time	Accepting Facility	Accepting MD
/ /	:		

Sending MD Signature

Dignity Health. St. Elizabeth Community Hospital

Tip Sheet

Begins 8/15/22

- Used for Red Box trauma transfers ONLY
- Initiate process as soon as injury requiring emergent transfer is identified
- ED Clerk calls DHTC and says: **"I have a Red Box transfer"**
- DHTC is immediately connect to an ED physician at MMCR (goal is within 2 minutes)
- ED clerk to initiate this form and set up appropriate transport as soon as patient is accepted
- Do not delay this process for patients requiring OR stabilization
- **Completing the form:**
  - EDMD is responsible for selecting criteria and signing form
  - ED Clerk is responsible for all other items
  - Paperwork:
    - ✅Fax to MMCR (530)225-7259
    - ✅Copy with trauma sheet in binder
    - ✅Original copy sent with patient
  - Please document any issues/delays on transfer sheet along with times as per current process
- RN to RN report is still expected

Goal: 60 minutes door to door

*EDMD to complete & sign

New Process for Red Box Trauma Transfers

Starting August 15th, 2022 we will be instituting a new process to expedite acceptance of trauma transfers that meet red box criteria (those that are critically ill). Please see this overview flyer.

- The Red Box Transfer form can be seen here. ED clerks, nurses, and physicians should be familiar with it. This form is located in the back of the ED trauma binder at the ED clerk's station.
- THE FORM MUST BE COMPLETED FOR ALL RED BOX TRANSFERS
- Instructions for the process for initiating Red Box Transfer are here. This is posted for reference on the cabinets above the work station for the ED physician and ED clerk
- For further information the SSV 510 Policy is available here

Email *

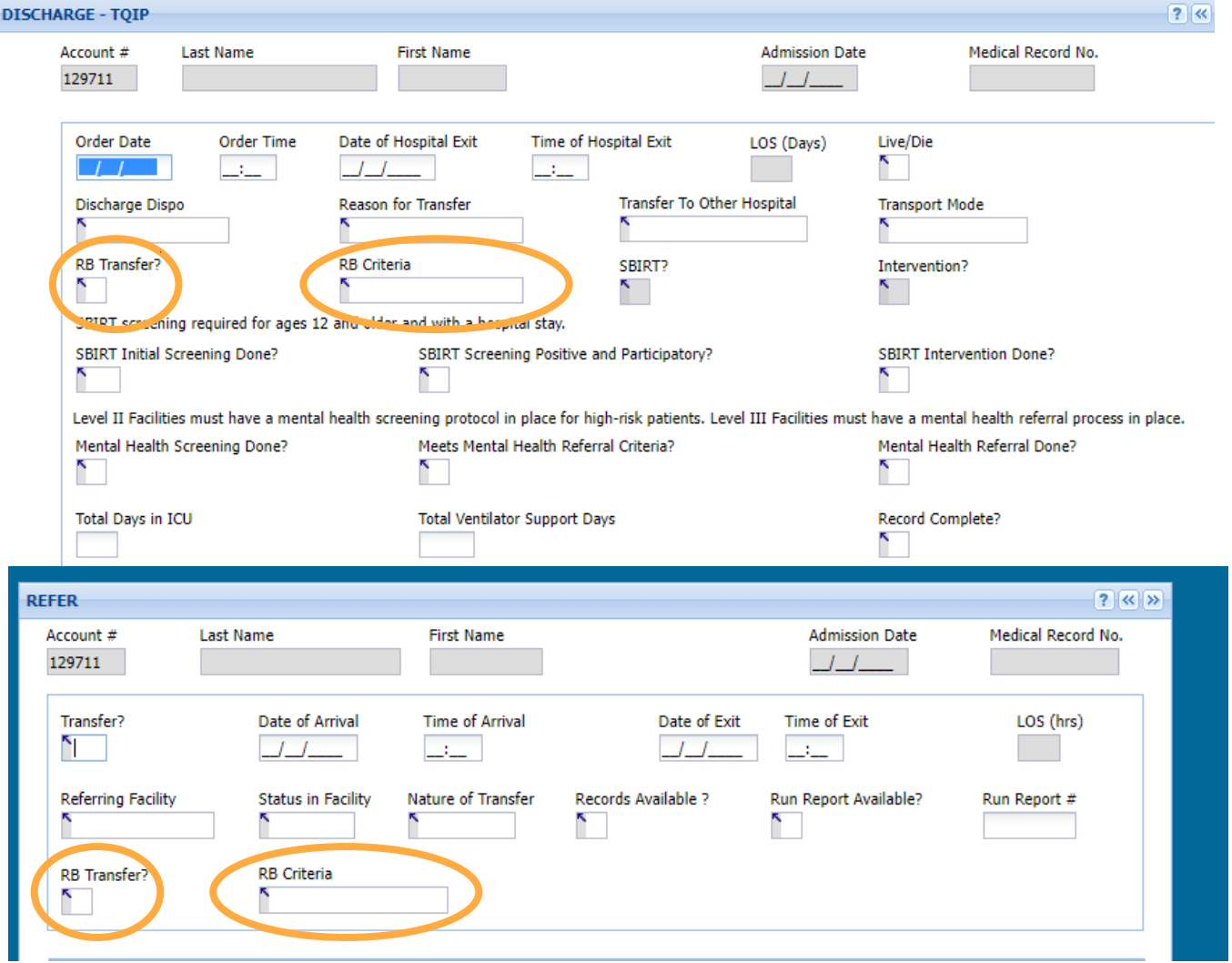
Valid email

This form is collecting emails. Change settings

What is our goal for Red Box transfers? *

- ○ Door (arrival) to door (transfer out) of our facility within 1 hour
- ○ Initiation of transfer call to out the door within 1 hour

Google Forms Education



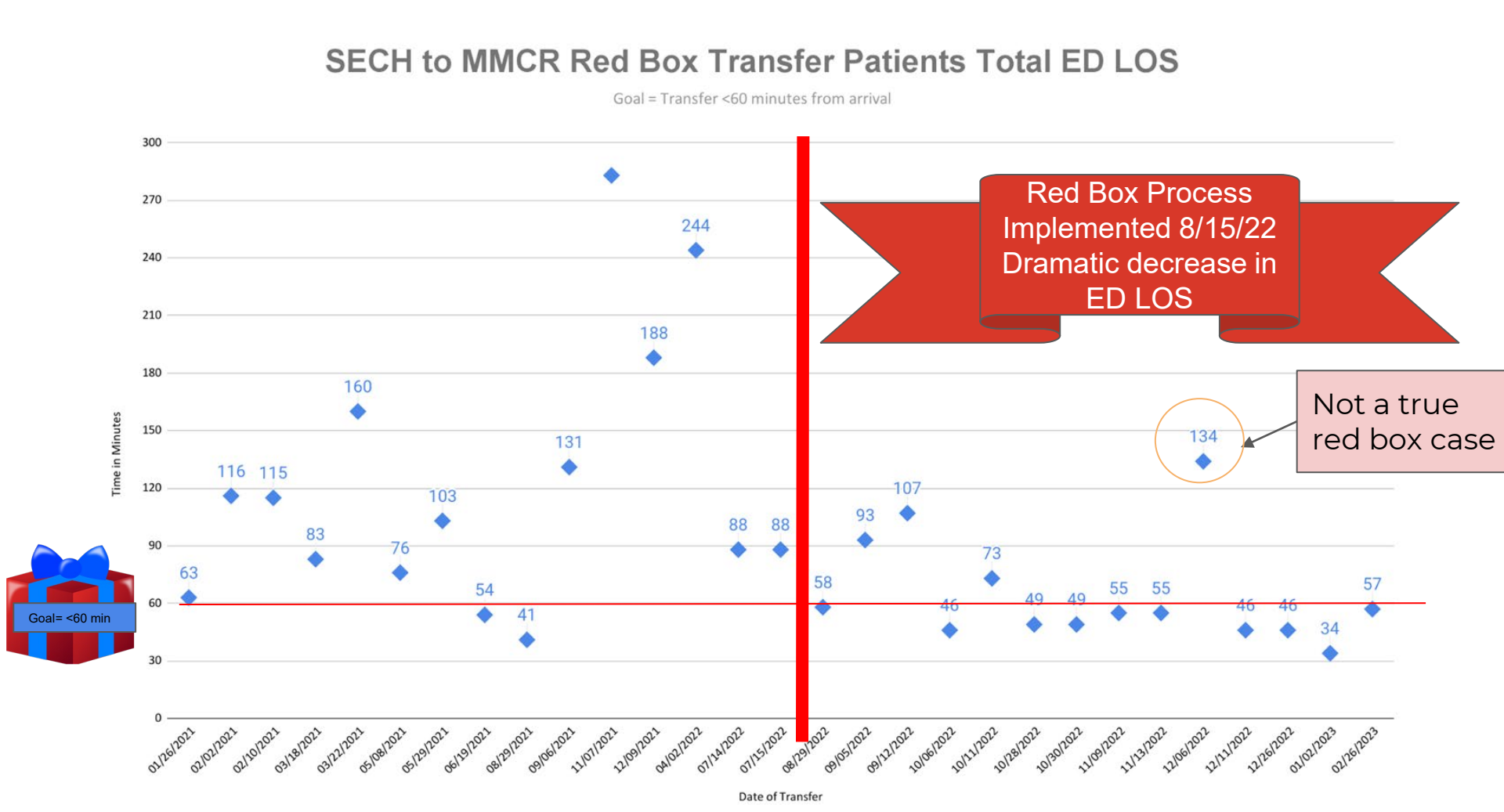
New data fields in registry

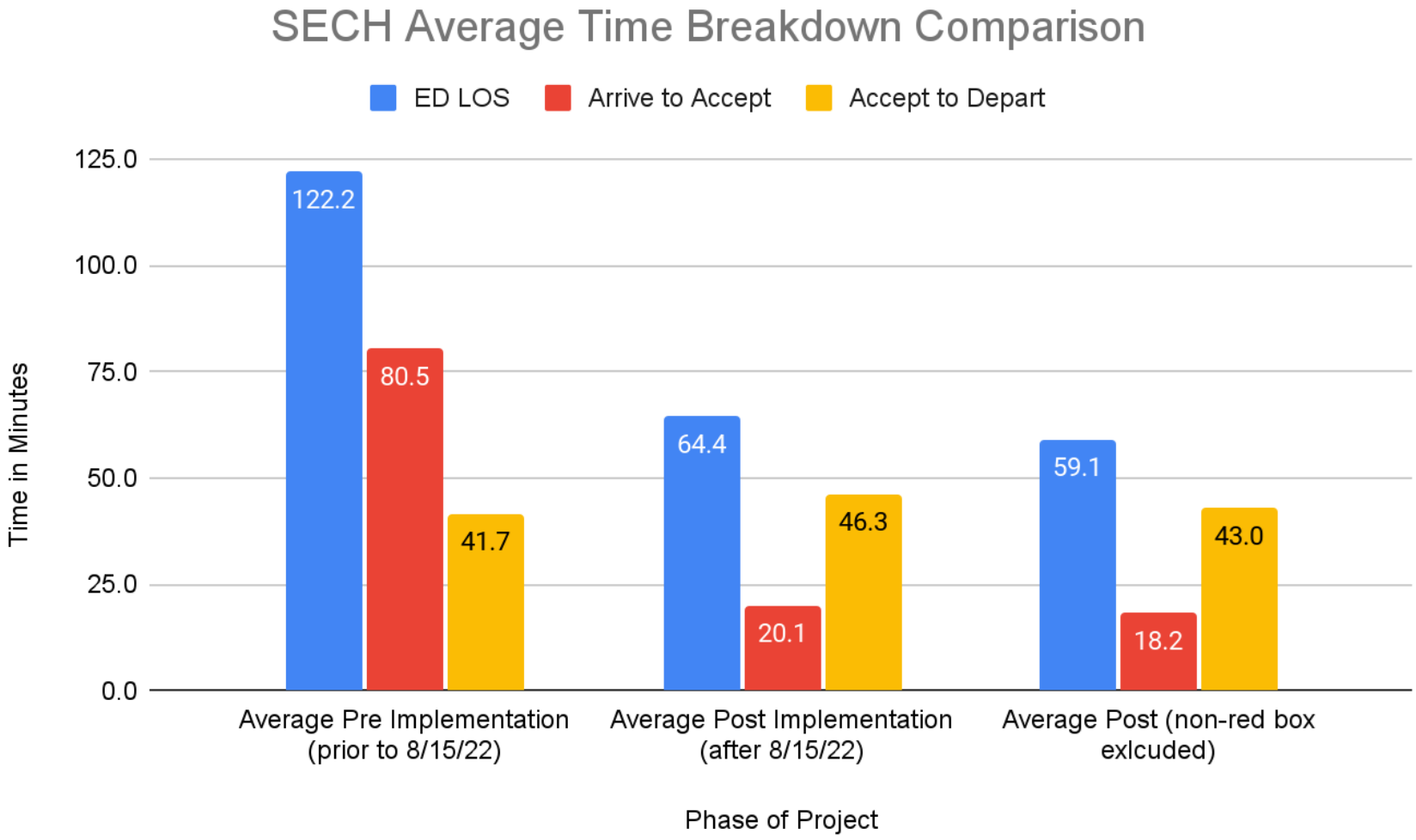
- Allows both sending and facility to track Red Box Transfers and create custom reports
- Added January 2023

The Data

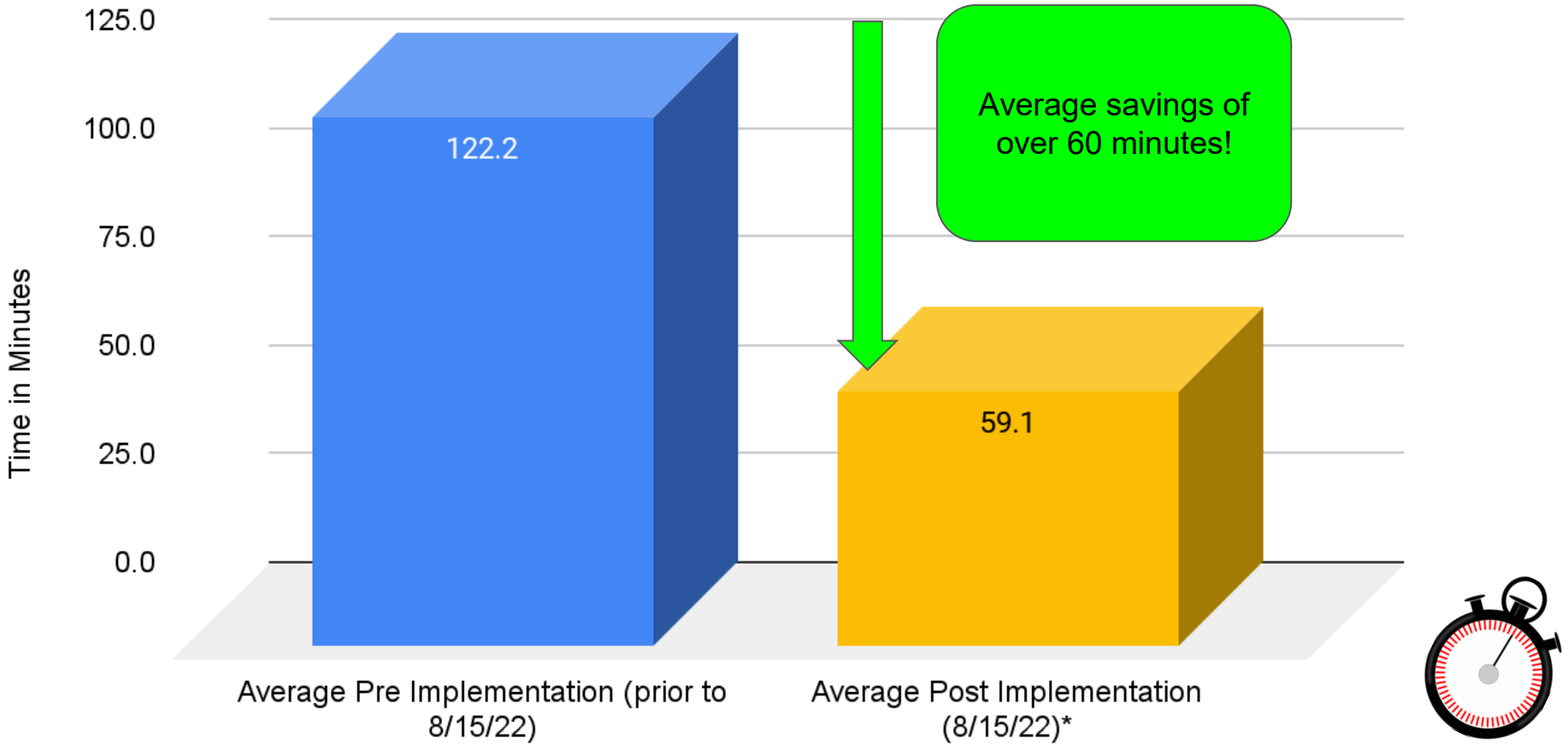
SECH to MMCR Red Box Transfer Patients Total ED LOS

Goal = Transfer <60 minutes from arrival

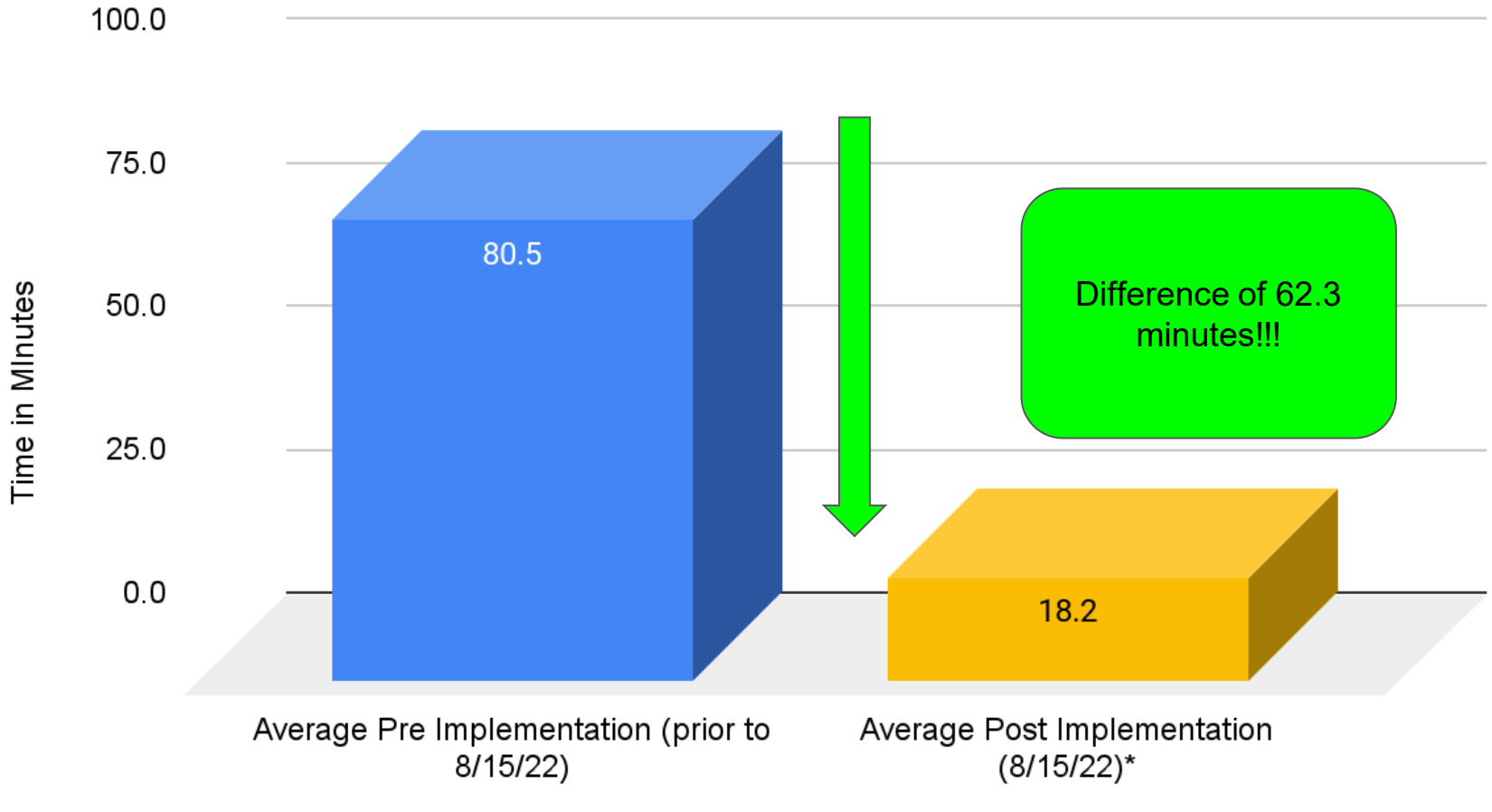



SECH Average Time Breakdown Comparison
ED LOS
Arrive to Accept
Accept to Depart
125.0
100.0
75.0
50.0
25.0
0.0
Time in Minutes
122.2
80.5
41.7
64.4
20.1
46.3
59.1
18.2
43.0
Average Pre Implementation (prior to 8/15/22)
Average Post Implementation (after 8/15/22)
Average Post (non-red box exlcuded)
Phase of Project

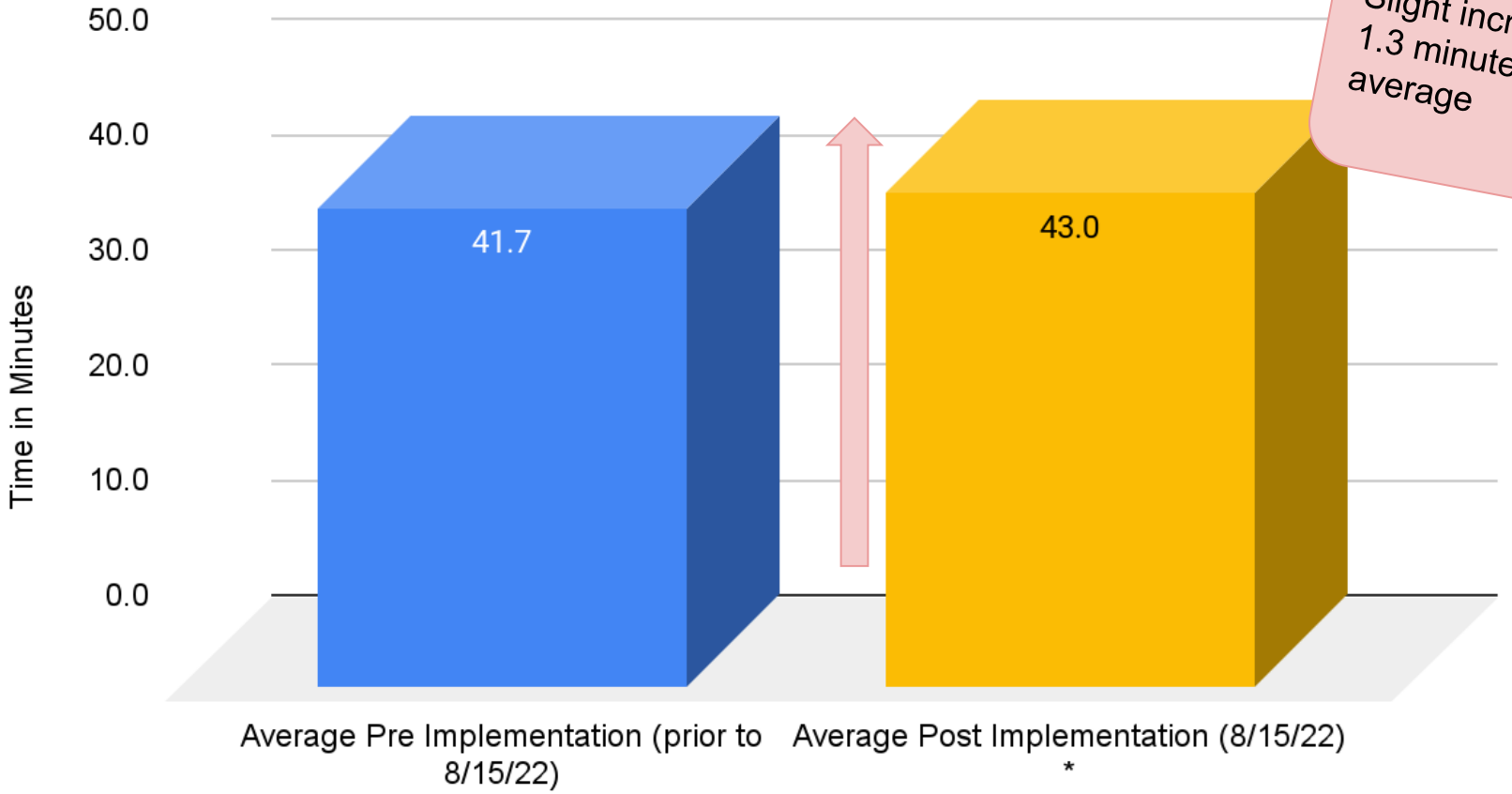
SECH Average ED Length of Stay for Red Box Transfers



SECH Average Time from Arrival to Acceptance at MMCR



Average Time From Accept to Depart



Slight increase of 1.3 minutes on average

Red Box Transfer Patients Total ED LOS

Goal = Transfer <60 minutes from arrival

Example case

Time in Minutes

Date of Transfer

Date of Transfer	Time in Minutes
01/26/2021	63
02/02/2021	116
02/10/2021	115
03/18/2021	83
03/22/2021	160
05/08/2021	76
05/29/2021	103
06/19/2021	54
08/29/2021	41
09/06/2021	131
11/07/2021	283
12/09/2021	188
04/02/2022	244
07/14/2022	88
07/15/2022	88
08/29/2022	58
09/05/2022	93
09/12/2022	107
10/06/2022	46
10/11/2022	73
10/28/2022	49
10/30/2022	49
11/09/2022	55
11/13/2022	55
12/06/2022	134
12/11/2022	46
12/26/2022	46
01/02/2023	34
02/26/2023	57

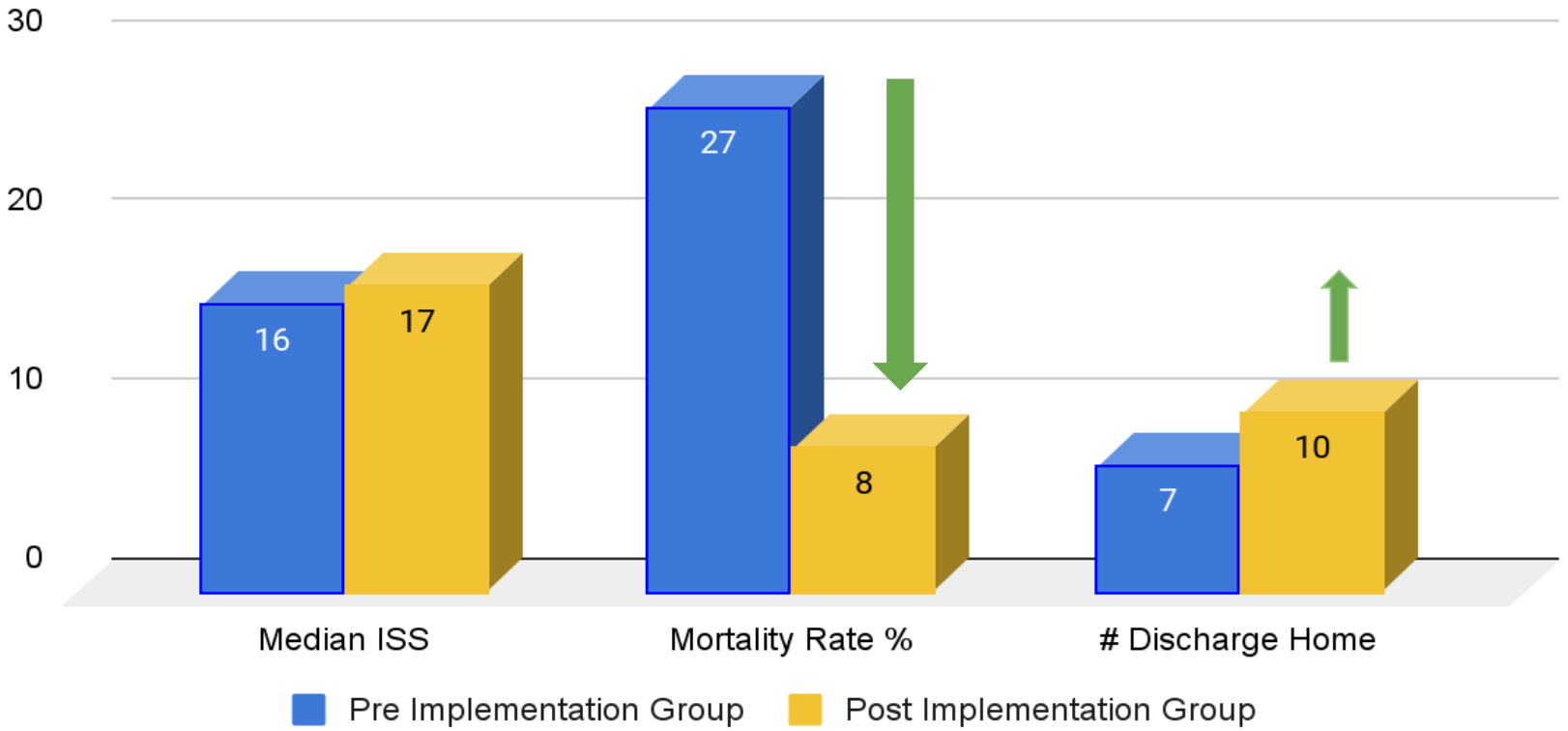
Post implementation case example

8/29/22

- 33M GSW to chest
- Hypotensive for EMS
- On arrival BP stable, GCS 6. BP dropped to 60/36
- Procedures: Intubation, XR chest, chest tube, central line, MTP, TXA, antibiotics, calcium, sedation gtts
- Quick acceptance at MMCR
- Departed with RT and RN on code 3 ground ambulance
- **ED Time = 58 minutes**
- At MMCR: Required emergent OR median sternotomy, wedge resection of RML, diaphragmatic repair, repair of liver laceration, admit to ICU

SECH Red Box Patients Transferred to MMCR

: Comparison of Patient ISS and Outcomes



The Summary

Pre-Implementation (Prior to 8/15/22)

- Lack of knowledge about criteria
- Taking too long to initiate transfer
- Transfer center delays
- No sense of urgency
- **Average Red Box Transfer Time = 122.2 min**
- Time from arrival to acceptance = 64.4 min
- NO GOOD WAY TO TRACK THIS POPULATION IN OUR REGISTRY!

Post-Implementation (After 8/15/22)

- Education on goals and criteria to:
  - ED staff
  - Physicians (sending and receiving)
  - EMS
  - Transfer Center
- Easy quick reference sheet
- **Average Red Box Transfer Time = 59.1 min**
- Time from Arrival to Acceptance = 18.2 min

Future Goals

- Continue to track this data using new registry fields
- Improve ability to transport critical patients via ground EMS
- Work with flight crews to facilitate quicker transfer
- Improve documentation
- Refine transfer center process
- Consideration of changing criteria?

Thank you for your consideration

Contact Information:

Crystal Walsh: Crystal.walsh2@commonsprit.org 530-225-7242

Darcey Thinnes: Darcey.thinnes@commonspirit.org 530-529-8182

Hospital	Fall	MVC	MCA	Pedestrian	GSW	3 or more Pre-Existing Conditions	HTN	Diabetes	Anti-Coagulation	Smoker	Alcohol Use Disorder	Substance Use Disorder
Enloe	40%	25%	9%	9%	4%	28%	39%	13%	11%	27%	8%	17%
MMCR	43%	26%	8%	8%	3%	26%	32%	12%	12%	29%	18%	10%
SUTR	52%	17%	9%	8%	1%	22%	44%	18%	17%	17%	14%	12%
AHRO	45%	18%	8%	6%	3%	27%	34%	16%	13%	18%	8%	18%
MMCMS	39%	36%	3%	10%	3%	14%	27%	8%	14%	19%	3%	8%
STE	64%	12%	2%	3%	1%	35%	38%	15%	14%	27%	10%	17%
TFHD	43%	7%	1%	23%	0%	1%	14%	1%	0%	8%	1%	1%
Median Totals	***43%***	***18%***	***8%***	***8%***	***3%***	***26%***	***34%***	***13%***	***13%***	***19%***	***8%***	***12%***

Shock Index vs. SBP For Identifying Major Trauma (ADULT ONLY)

Result: High ISS score correlates more closely to SI>1 than SBP<90

Universe: NONE, Population: *EXCLUDE UCD , ISS > 15, Repeat Set: NONE
Report Name: SI VS SBP STAN DEVIATION RPT
Data From: All Sites
Admission Date From : 10/1/2022 To : 9/30/2023

Hospital Code	Hosp Account #	Age	Gender	ISS	Shock Index	SBP	Pulse	Live/Die	Body Part Injured	AIS-90 1-Digit Value	Body Part Injured 2	AIS-90 1-Digit Value3	Body Part Injured 4	AIS-90 1-Digit Value5	Body Part Injured 6	AIS-90 1-Digit Value7	Body Part Injured 8	AIS-90 1-Digit Value9
SUTR	*BL	38	M	30	0.31	184	57	L	6	1	6	1	3	2	3	2	4	5
SUTR	*BL	63	M	17	0.36	160	57	L	1	2	2	2	6	1	3	3	4	2
ENLO	22065974	84	M	22	0.39	197	76	L	4	3	3	3	5	2	5	1		
SUTR	*BL	54	M	33	0.39	171	66	L	1	2	3	3	3	2	3	1	3	1
TCMS	34004363957	45	M	17	0.40	141	56	L	3	3	3	4	6	1				
ENLO	21380626	43	M	17	0.42	180	75	L	3	3	3	2	3	3	3	2	4	2
SUTR	*BL	89	M	17	0.42	156	66	L	3	3	3	4	6	1	6	1	6	1
TRID	73104000822	83	M	22	0.42	118	50	D	3	3	4	2	3	3	6	1	5	3
SUTR	*BL	63	M	17	0.43	116	50	L	3	3	3	3	3	1	3	1	3	2
SUTR	*BL	98	F	17	0.44	119	52	L	1	2	6	1	3	3	5	2	5	2
TFMC	978800274738	81	F	18	0.45	180	81		3	3	5	3						
SUTR	*BL	96	M	19	0.45	132	60	L	6	1	3	2	3	3	4	3	6	1
MMCR	32011562025	63	F	17	0.46	162	74	L	1	2	3	2	3	2	3	3	4	2
MMCR	32011599092	61	M	17	0.46	146	67	L	3	2	3	3	1	2	4	2	4	2
MMCR	32012282003	90	M	19	0.47	141	66	L	1	9	3	3	3	3	6	1	5	3
ENLO	23595344	38	M	17	0.47	190	90	L	5	3	3	2			5	2	6	2
SUTR	*BL	84	F	17	0.47	179	85	L	1	2	3	2	4	3				
MMCR	32012284223	95	F	27	0.48	186	89	L	1	9	6	1	6	1			2	1
MMCR	32012427483	70	F	17	0.48	174	84	L	6	1	2	2	6	1				
MMCR	32012661123	75	M	17	0.48	155	75	L	1	2	3	3	5	2	5	2	6	1
TRID	73105012054	33	M	22	0.50	108	54	L	4	3	4	2	6	1	3	1	6	1
MMCR	32012193234	61	M	22	0.51	150	76	L	1	2	6	2	6	1	6	1	2	2
ENLO	24228017	84	F	18	0.51	184	94	L	3	3	5	3						

TCMS	34004425368	77	M	22	0.52	156	81	L	6	1	3	3	1	2	1	1	1	1
MMCR	32012219393	77	M	22	0.52	156	81	L	6	1	1	2	1	2	3	2	3	2
TFHS	314001282088	41	M	17	0.52	138	72	L	4	3	5	2	3	2	5	2	5	1
SUTR	*BL	67	F	29	0.52	155	81	L	2	2	2	1	2	1	3	3	3	2
SUTR	*BL	82	F	18	0.53	156	82	L	3	3	4	3						
ENLO	24212822	53	M	17	0.53	136	72	L	3	3	3	2	5	2	5	2	1	2
ENLO	21352518	50	M	17	0.53	162	86	L	3	3	3	2	4	2				
TCMS	34004588611	67	M	19	0.53	210	112	L	4	3	3	3	3	2	6	1	3	3
MMCR	32012749977	67	M	19	0.53	210	112	L	6	1	3	3	3	2	4	3	6	1
SUTR	*BL	73	F	17	0.53	180	96	L	3	3	3	2	3	4	6	1	6	1
SUTR	*BL	68	M	18	0.54	168	90	L	4	3	3	3	4	3				
MMCR	32012235662	41	M	17	0.54	125	67	L	1	2	5	2	5	1	3	3	6	1
TFHS	314001269593	62	F	17	0.54	122	66	L	3	3	5	2	3	2	3	2	3	2
SUTR	*BL	17	M	30	0.54	107	58	L	3	2	4	5	4	3	6	1	6	1
TRID	73104659083	60	F	17	0.55	128	70	L	3	3	3	1	3	3	5	2	6	2
SUTR	*BL	73	M	19	0.55	137	75	L	6	1	6	1	6	1	3	3	6	1
SUTR	*BL	37	M	18	0.55	133	73	L	4	3	5	3						
SUTR	*BL	64	M	17	0.55	133	73	L	1	2	3	3	6	1	5	2	5	2
MMCR	32012644343	36	M	17	0.55	156	86	L	1	2	6	1	6	1	6	1	5	2
TFHS	314001227314	74	M	19	0.55	116	64	L	5	3	3	3	3	3	5	2	6	1
SUTR	*BL	74	M	18	0.56	108	60	L	5	3	3	3	3	1				
MMCR	32012447713	75	M	22	0.56	108	60	L	1	2	6	1	1	2	3	2	6	1
TFHS	314001282071	82	M	19	0.56	171	95	L	5	3	3	3	5	2	5	2	6	1
TRID	73104919235	76	M	17	0.56	141	79	L	6	2	6	2	3	3	6	1	6	1
TCMS	34004588611	67	M	19	0.56	177	100	L	3	3	4	3	3	2	3	3	6	1
SUTR	*BL	66	F	17	0.57	134	76	L	1	2	6	1	3	3	4	2		
ENLO	21991975	42	M	22	0.57	118	67	L	3	3	4	3	1	2	3	2		
SUTR	*BL	84	F	18	0.57	144	82	L	3	3	5	3						
MMCR	32011999854	86	M	19	0.57	152	87	L	3	3	3	3	6	1	4	3	6	1
MMCR	32012319318	61	M	17	0.58	189	109	L	6	1	5	1	6	1			6	1
TRID	73103302848	65	M	22	0.58	156	90	L	3	3	5	3	5	2	4	2	1	2
SUTR	*BL	37	F	17	0.58	142	82	L	1	2	6	1	6	1	5	2	3	2
TRID	73104686805	36	M	17	0.58	102	59	L	1	2	3	3	3	1	5	2	5	2
SUTR	*BL	61	F	22	0.58	152	88	L	1	2	3	3	3	1	3	2	4	3
SUTR	*BL	63	M	34	0.58	157	91	L	6	1	3	3	3	2	3	2	3	2

TRID	73103952085	43	M	17	0.58	148	86	L	2	2	6	1	6	1	2	1	3	2
SUTR	*BL	26	F	17	0.58	132	77	L	1	2	2	2	6	1	6	1	6	1
SUTR	*BL	54	M	22	0.58	154	90	D	6	1	1	2	3	2	3	3	6	1
MMCR	32012277169	51	M	21	0.59	128	75	L	6	1	3	4	3	3	5	2	6	1
SUTR	*BL	42	M	27	0.59	145	85	L	3	1	6	1	4	5	6	1	6	1
TRID	73104909467	64	F	24	0.59	107	63	L	3	3	3	1	3	4	5	2	5	2
MMCR	32011601625	64	M	18	0.59	173	102	L	5	3	3	3						
SUTR	*BL	43	M	21	0.59	115	68	L	3	3	3	4	5	2	5	2	6	1
SUTR	*BL	71	M	17	0.59	101	60	L	1	2	1	1	1	2	3	3	6	1
ENLO	23258402	76	M	17	0.60	176	105	L	5	3					5	2	4	2
MMCR	32011640128	72	M	19	0.60	153	92	L	3	3	5	3	6	1				
SUTR	*BL	57	M	19	0.60	136	82	L	6	1	6	1	3	3	5	2	5	3
MMCR	32011651588	56	M	26	0.60	184	111	L	6	1	6	1	3	3	3	3	3	4
SUTR	*BL	35	M	17	0.60	159	96	L	5	2	3	3	3	3	3	2	3	1
MMCR	32012743764	78	M	21	0.61	112	68	L	6	1	1	2	5	4	4	1	6	1
TRID	73103328388	18	M	17	0.61	143	87	L	4	2	1	2	3	2	3	2	3	3
ENLO	22036439	83	F	17	0.61	131	80	L	3	3	3	2	5	2	1	2	3	2
TRID	73103805314	23	M	17	0.61	158	97	L	6	2	1	2	6	1	6	1	6	1
ENLO	21456080	75	M	17	0.62	159	99	L	3	3	3	2	3	2			4	2
ENLO	23597356	68	F	19	0.63	128	80	L	3	3	5	3	5	2	3	2	3	2
MMCR	32011549220	68	M	17	0.63	169	106	L	3	2	4	2	4	2	3	1	3	2
SUTR	*BL	32	F	17	0.63	108	68	L	1	2	1	2	1	2	6	1	2	2
MMCR	32012471358	60	M	33	0.63	133	84	L	1	2	3	5	3	3	5	1	5	1
SUTR	*BL	78	F	26	0.63	169	107	L	3	3	3	4	5	3	6	1		
TRID	73103727274	76	M	22	0.64	137	87	L	1	2	3	3	3	2	3	3	4	2
TRID	73103687764	55	M	26	0.64	200	128	L	5	3	3	3	3	2	3	4	3	3
TRID	73103329126	68	M	19	0.64	129	83	L	3	3	5	3	5	2	5	2	5	2
TRID	73104250005	22	M	21	0.64	152	98	L	3	2	3	4	5	2	5	2	5	1
TRID	73104598102	47	F	17	0.65	125	81	L	5	3	5	2	5	2	5	2	5	2
ENLO	23007017	44	M	22	0.65	163	106	L	5	3	5	3	3	3	5	2	1	2
ENLO	22208021	58	F	18	0.65	109	71	L	4	3	4	3	4	3	5	3	4	2
SUTR	*BL	67	F	17	0.65	124	81	L	1	2	6	1	2	1	2	1	5	2
TRID	73103982385	60	M	34	0.65	107	70	L	1	2	6	1	6	1	3	3	3	2
TRID	73103367390	92	M	17	0.65	171	112	L	5	3	5	3	5	2	6	2	1	2
SUTR	*BL	21	F	24	0.66	132	87	L	3	2	5	4	5	4	4	2	4	2

SUTR	*BL	61	F	41	0.66	94	62	L	6	3	3	3	3	3	4	4	4	4
SUTR	*BL	40	M	21	0.66	142	94	L	6	1	3	4	3	4	5	1	5	2
SUTR	*BL	56	M	27	0.66	161	107	L	2	1	6	1	6	1	3	3	4	3
SUTR	*BL	65	M	25	0.67	124	83	L	3	3	3	3	5	4	5	4	5	4
TFHS	314001297871	55	M	17	0.67	152	102	L	3	3	3	2	1	2	3	1	5	2
TRID	73105302783	32	M	26	0.67	134	90	L	3	3	3	2	3	3	3	2	3	1
TRID	73104248654	44	M	17	0.67	144	97	L	1	2	1	2	4	2	4	2	3	3
SUTR	*BL	73	M	21	0.68	142	96	L	1	1	3	1	3	1	3	1	5	4
ENLO	22605919	65	M	22	0.68	158	107	L	3	3	5	3			3	2	4	2
SUTR	*BL	63	M	19	0.68	121	82	L	6	1	3	2	3	3	3	2	6	1
TRID	73104548382	51	M	17	0.68	115	78	L	3	3	4	2	5	2	1	2		
SUTR	*BL	59	F	22	0.68	112	76	L	3	3	3	3	3	2	4	2	5	3
SUTR	*BL	30	M	38	0.68	137	93	L	6	1	6	1	6	1	6	1	3	3
ENLO	23314732	60	M	17	0.68	133	91	L	1	2	3	3	3	2	5	2	5	2
TFHS	314001114524	45	M	18	0.69	141	97	L	4	3	3	3						
TFMC	978800117121	50	M	17	0.69	154	106	L	1	2	6	1	3	2	3	2	3	2
MMCR	32011564435	50	M	24	0.69	154	106	L	1	2	3	3	3	4	5	2	4	2
MMCR	32012279926	55	F	21	0.69	134	93	L	3	2	3	1	6	1	6	1	4	4
TRID	73104498716	47	M	30	0.70	123	86	L	6	1	6	1	4	2	4	2	3	5
SUTR	*BL	34	M	17	0.70	100	70	L	2	1	3	2	3	3	4	2	5	2
ENLO	23863988	82	F	17	0.70	190	133	L	5	3	1	2	6	2			6	1
SUTR	*BL	66	F	22	0.70	127	89	L	3	3	4	3	4	3	5	2		
ENLO	21871331	73	F	17	0.71	85	60	L	3	3	1	2	3	2	3	2	5	2
TFMC	978800210356	80	F	17	0.71	136	96	L	3	3	5	2	4	2	3	2		
TRID	73105303642	70	M	24	0.71	137	97	L	1	2	1	2	6	1	5	4	4	2
ENLO	23874791	67	F	19	0.71	153	109	L	5	3	5	3	3	3	3	3	5	2
SUTR	*BL	49	F	19	0.71	129	92	L	6	1	6	1	4	2	4	2	4	3
ENLO	23233248	63	F	17	0.73	142	103	L	3	3	3	3	4	2	4	2	1	2
TFHS	314001281096	43	M	17	0.73	108	79	L	3	3	3	2	3	2	5	2	5	2
TRID	73103727114	85	F	22	0.73	108	79	L	1	2	6	2	3	3	3	2	4	2
TRID	73103814785	57	F	22	0.73	172	126	L	1	2	1	2	6	1	2	2	2	2
TRID	73103302062	40	M	17	0.73	150	110	L	5	2	5	2	5	1	2	1	2	2
SUTR	*BL	78	M	17	0.74	136	100	L	2	2	6	2	5	3	5	2	5	1
SUTR	*BL	63	M	17	0.74	132	98	L	2	2	6	1	6	1	6	1	3	3
MMCR	32011705111	47	F	17	0.74	113	84	L	6	2	1	9	4	2	4	2	4	2

ENLO	22324156	19	M	19	0.75	134	100	L	3	3	5	3	5	2					
MMCR	32012214428	69	M	17	0.75	142	106	L	3	2	3	2	4	3	4	3	4	3
ENLO	22204439	27	M	17	0.75	136	102	L	3	3	3	2	5	2	4	2	5	2
TFMC	978800267188	44	M	18	0.75	145	109	L	3	3	6	3						
ENLO	24201830	71	F	17	0.77	103	79	L	1	2	3	3	4	2			5	2
TFHS	314001251964	42	F	22	0.77	130	100	L	4	3	3	3	5	2	6	1	6	1
MMCR	32011837971	73	M	17	0.78	190	148	L	1	2	3	3	3	3	3	2	4	2
TRID	73105384860	60	M	17	0.78	148	116	L	1	1	3	2	3	3	4	1	4	2
TRID	73103872491	57	M	33	0.79	137	108	L	3	3	3	4	5	2	5	4	6	1
SUTR	*BL	89	M	19	0.79	114	90	D	6	1	6	1	6	1	3	3	3	2
TRID	73103302083	42	M	22	0.79	116	92	L	6	1	1	2	3	3	3	2	3	2
MMCR	32011840520	49	F	18	0.80	158	126	L	2	1	5	2	5	4	6	1	6	1
MMCR	32012769652	22	M	17	0.80	110	88	L	1	2	3	2	6	1			4	3
SUTR	*BL	42	M	27	0.80	125	100	L	3	1	5	5	5	5	5	5	6	1
SUTR	*BL	62	M	17	0.80	100	80	L	6	1	6	1	3	3	5	2	5	2
TRID	73105064303	41	M	17	0.81	126	102	L	1	2	1	1	3	2	3	2	3	2
MMCR	32012701598	74	M	17	0.81	116	94	L	1	2	6	1	3	1	6	1	4	3
MMCR	32012563055	21	F	17	0.82	110	90	L	6	1	2	1	2	2	2	2	6	1
ENLO	22767209	28	M	17	0.82	85	70	L	5	3	5	3	3	2	4	2	5	2
ENLO	23546848	33	M	22	0.82	114	94	L	3	3	3	3	3	3	3	2	4	3
TRID	73104284840	59	M	19	0.83	141	117	L	3	3	4	3	4	1	4	1	4	1
ENLO	22754109	55	M	27	0.84	104	87	L	4	3			3	3	5	3		
TRID	73104499533	54	M	17	0.84	123	103	L	3	2	3	3	3	3	1	2	5	2
SUTR	*BL	29	F	26	0.85	118	100	L	1	1	3	3	3	2	3	2	4	4
MMCR	32012589506	78	M	21	0.85	118	100	L	1	2	3	4	6	1	6	1	6	1
SUTR	*BL	46	M	22	0.85	94	80	L	3	1	3	1	3	1	3	3	3	3
SUTR	*BL	58	F	21	0.86	140	120	L	6	1	6	1	5	4	4	2	4	1
SUTR	*BL	62	M	29	0.86	148	127	L	1	2	6	1	6	1	1	2	1	2
SUTR	*BL	66	F	19	0.86	99	85	D	3	3	3	3	6	1	5	3	5	2
SUTR	*BL	50	M	22	0.88	104	91	L	1	2	1	1	3	3	4	3	6	1
ENLO	21231018	57	M	17	0.88	125	110	L	5	2	4	2	3	3	4	2		
MMCR	32012617612	29	M	26	0.88	111	98	L	6	1	6	1			2	1	6	1
TRID	73105134836	47	M	17	0.89	117	104	L	1	2	3	2	3	3	3	2	3	3
SUTR	*BL	62	F	18	0.89	153	136	L	3	3	4	3						
TRID	73103537857	44	M	17	0.89	109	97	L	1	2	3	2	3	3	1	1	4	2

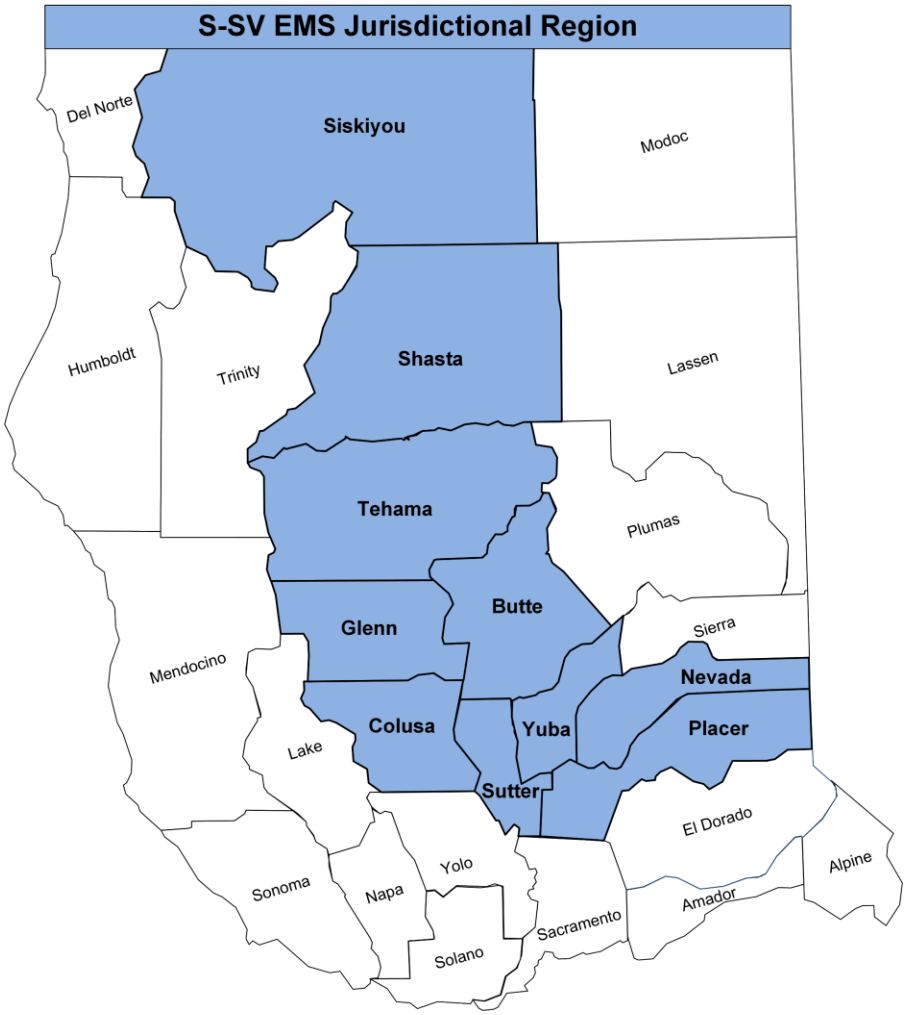
ENLO	23965311	25	M	17	0.89	85	76	L	5	3	1	2	2	2	2	2	2	2
MMCR	32012032952	53	M	19	0.90	96	86	L	5	3	5	2	3	1	3	3	4	1
TRID	73104339846	64	M	17	0.90	132	119	L	1	2	4	2	3	3	6	1		
SUTR	*BL	69	F	21	0.90	112	101	L	1	2	6	1	6	1	3	4	3	2
SUTR	*BL	22	M	38	0.91	143	130	L	3	3	3	3	6	1	4	2	5	5
SUTR	*BL	19	F	17	0.91	111	101	L	6	1	6	1	6	1	3	2	4	1
TRID	73103837718	63	M	24	0.91	101	92	L	1	2	3	3	3	3	3	2	3	4
SUTR	*BL	56	F	22	0.91	90	82	L	1	2	3	3	4	2	1	1	1	1
ENLO	23847868	19	M	17	0.92	106	97	L	4	3	3	2	3	2	1	2	6	1
MMCR	32012456375	43	M	24	0.92	148	136	L	1	2	3	4	3	3	6	1		
ENLO	22013679	49	M	22	0.93	108	100	L	3	3	5	3	5	2			5	3
TRID	73104503047	74	F	27	0.93	101	94	L	3	3	4	3	5	3	3	2	3	3
SUTR	*BL	40	M	34	0.94	115	108	L	6	1	3	3	4	2	4	4	5	3
TRID	73105163930	80	F	19	0.95	131	124	L	3	2	3	3	4	3	6	1		
ENLO	22183002	32	M	19	0.95	99	94	L	3	3	5	3	5	2	5	2	5	1
TRID	73104718382	63	F	29	0.97	146	142	L	3	2	3	3	3	1	5	4	5	3
TRID	73103915566	16	M	34	0.98	119	117	L	4	3	5	3	3	3	5	3	5	4
SUTR	*BL	45	M	29	0.99	110	109	D	2	1	1	2	1	1	1	2	1	2
MMCR	32012355064	18	M	43	1.00	95	95	L	6	1	6	1			6	1		
ENLO	22035004	25	M	22	1.00	108	108	L	5	3	4	2	4	3	5	2	3	2
TFHS	314001182289	31	M	22	1.00	110	110	L	3	3	4	3	3	2	4	1	3	2
TRID	73104485833	36	M	24	1.00	110	110	L	2	2	2	2	2	2	1	2	1	2
TRID	73103959282	61	F	17	1.00	138	138	L	1	2	3	1	3	3	3	2	3	3
ENLO	23378895	77	M	22	1.01	118	119	L	4	3	5	3	3	2				
SUTR	*BL	40	M	17	1.01	107	108	L	1	2	2	2	3	3	6	1		
MMCR	32012678358	21	F	26	1.01	92	93	L	6	1	4	5	6	1	6	1		
ENLO	23434919	41	M	17	1.02	110	112	L	3	3	1	2	5	2	5	2	5	2
TRID	73104964568	45	M	19	1.02	100	102	L	3	3	3	2	5	3	6	1	6	1
TRID	73103342359	81	F	19	1.04	106	110	D	3	3	5	3	5	3	6	1	6	1
MMCR	32012486687	17	M	17	1.05	88	92	L	1	2	2	2	2	1	6	1	6	1
ENLO	21280569	22	F	17	1.07	100	107	L	5	3	3	2	4	2	5	1	6	1
SUTR	*BL	20	F	17	1.09	110	120	L	6	1	6	1	5	2	5	2	5	4
SUTR	*BL	26	M	22	1.09	110	120	L	1	2	2	2	3	3	3	3	3	2
ENLO	23630669	85	F	17	1.10	101	111	L	3	3	3	3	3	3	4	2	3	2
MMCR	32012588532	31	M	26	1.11	83	92	L	5	2	6	1					5	4

ENLO	22839182	16	M	22	1.12	116	130	L	4	3	3	3	1	2	5	2	6	1
TRID	73105307144	56	M	17	1.14	88	100	L	1	2	3	3	3	3	3	3	3	3
SUTR	*BL	70	F	29	1.17	72	84	L	6	1	3	2	3	1	4	3	4	2
SUTR	*BL	47	M	21	1.17	94	110	L	6	1	4	1	4	3	4	4	4	4
MMCR	32011770024	30	F	34	1.18	61	72	L	6	1	6	1	3	1	3	2	3	2
TRID	73105064452	25	M	24	1.20	70	84	L	1	2	6	1	6	1	3	1	3	4
SUTR	*BL	54	M	17	1.21	99	120	L	3	3	3	2	5	2	5	2	6	1
SUTR	*BL	37	F	21	1.21	103	125	L	6	1	4	4	3	1	5	2	5	2
MMCR	32011947978	21	F	17	1.22	94	115	L	1	2	1	2	6	1	6	1	2	1
SUTR	*BL	35	F	26	1.31	81	106	L	6	1	3	3	3	1	3	2	5	4
MMCR	32011732115	44	M	17	1.32	98	129	L	1	2	6	1	5	2	3	3	3	3
TRID	73104193360	47	M	26	1.33	85	113	L	4	2	4	3	5	3	5	2	4	2
SUTR	*BL	45	M	36	1.35	96	130	L	6	2	2	2	3	2	4	2	4	2
TRID	73103514823	21	F	17	1.38	96	132	L	1	2	6	2	6	1	3	3	3	3
TRID	73104987750	38	M	18	1.40	60	84	L	5	3	5	3	5	3	5	3	6	2
ENLO	23629566	38	M	24	1.40	90	126	L	3	3	3	4	3	3	5	2	3	2
SUTR	*BL	41	M	43	1.68	95	160	D	3	3	3	2	3	2	3	3	3	2
SUTR	*BL	28	M	21	1.82	76	138	L	6	1	6	1	3	4	3	2	3	2

	Column 1	*Column 2*	*Column 3*
Column	1		
Column	0.2242	1	
Column	-0.145	-0.656	1

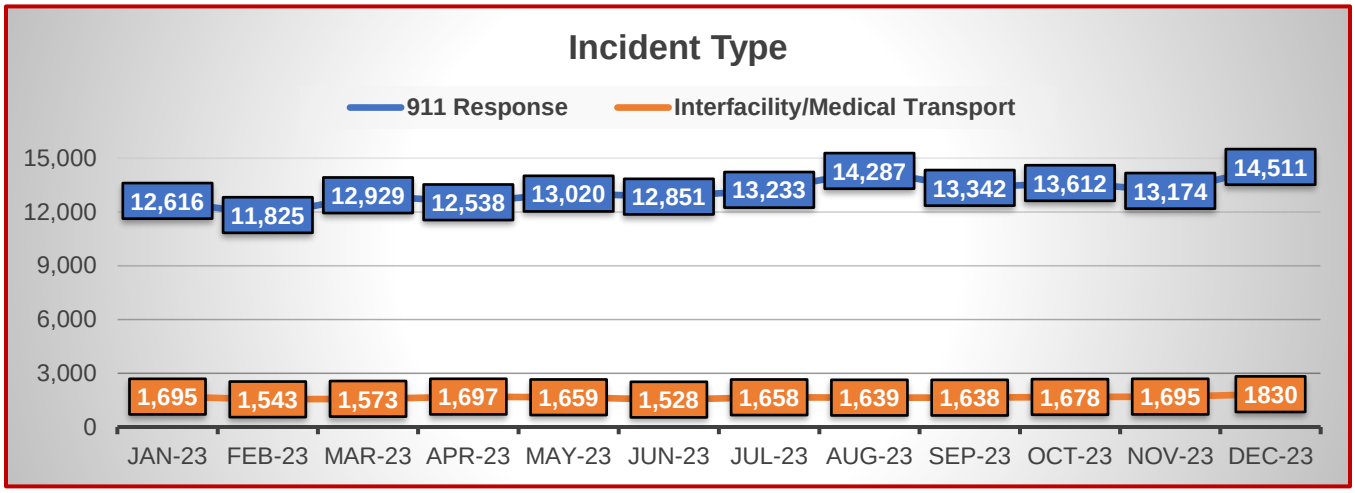
S-SV EMS 2023
EMS System Data Reports

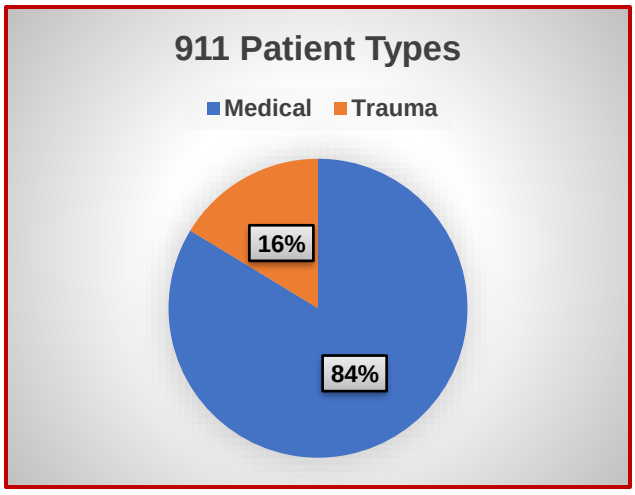
Regional EMS System Data Report
Updated Through December 31st, 2023

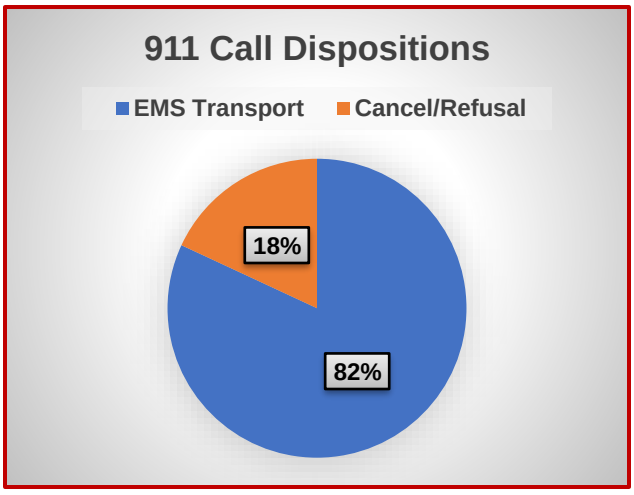


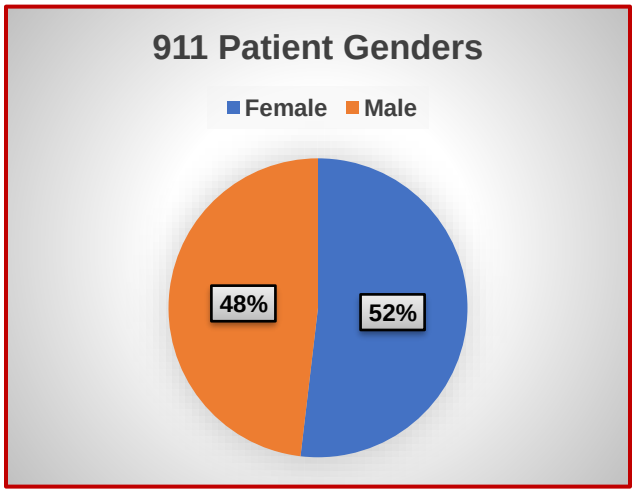
Contents

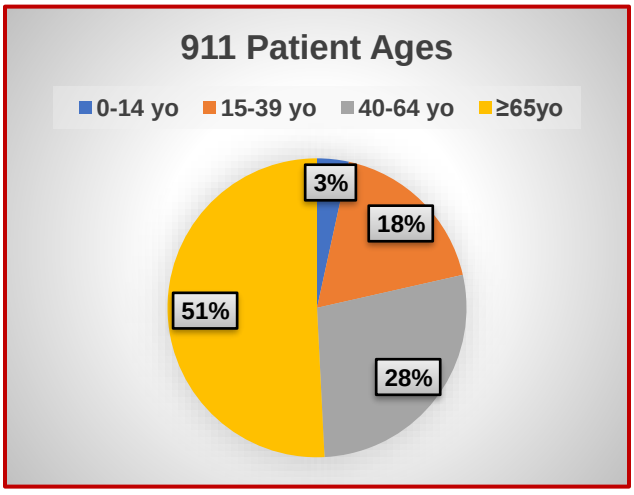
Ground EMS Incident System Data



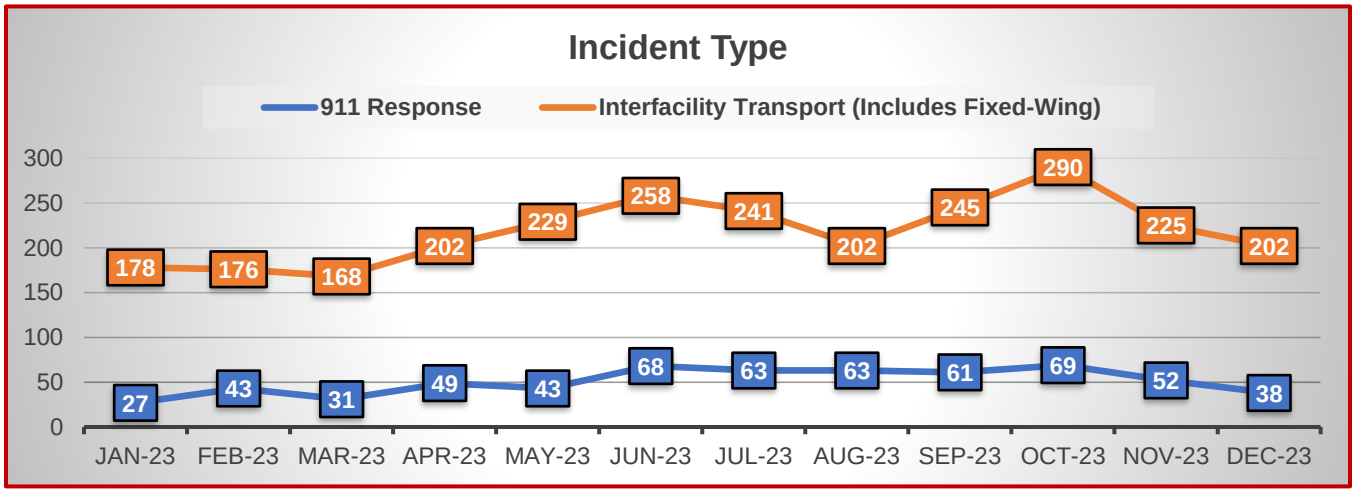


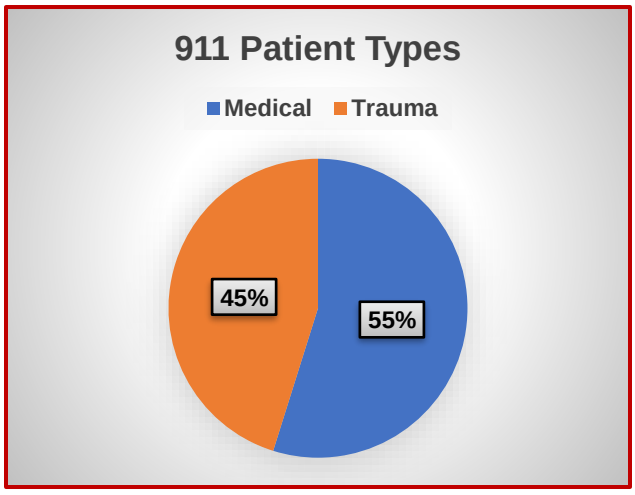


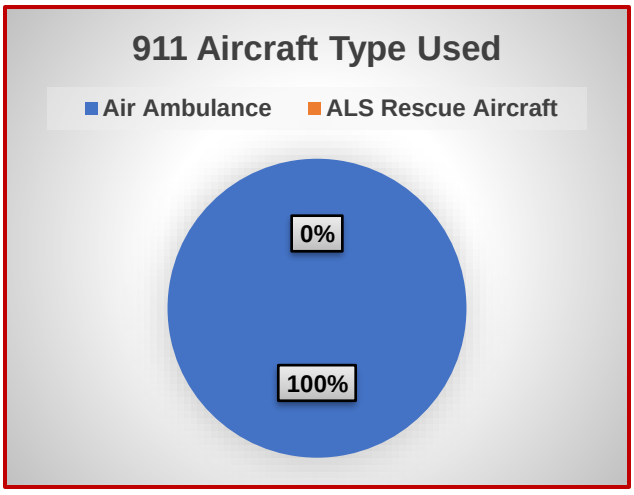


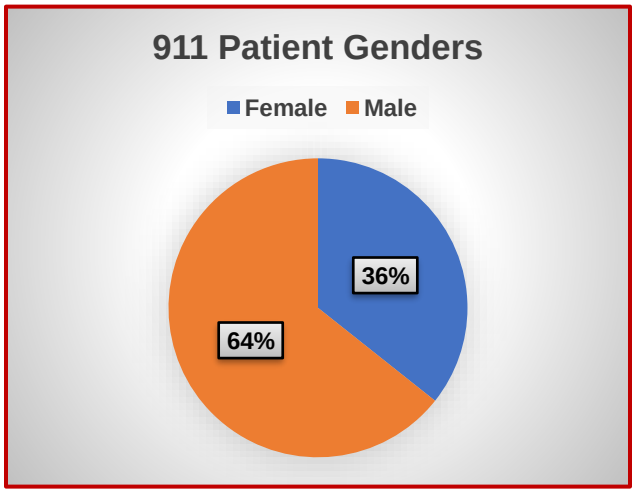


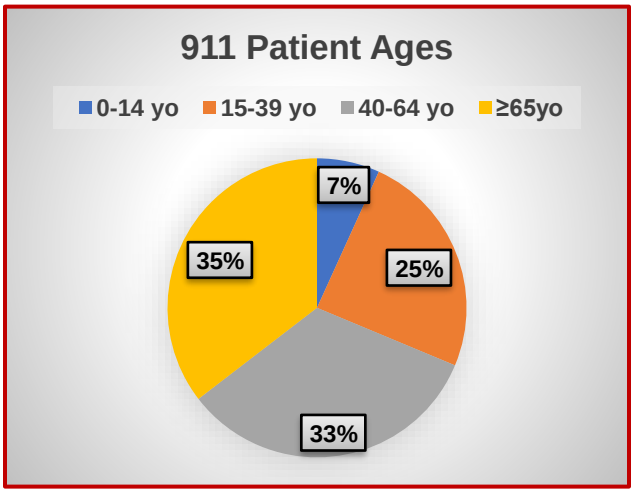
EMS Aircraft Incident System Data











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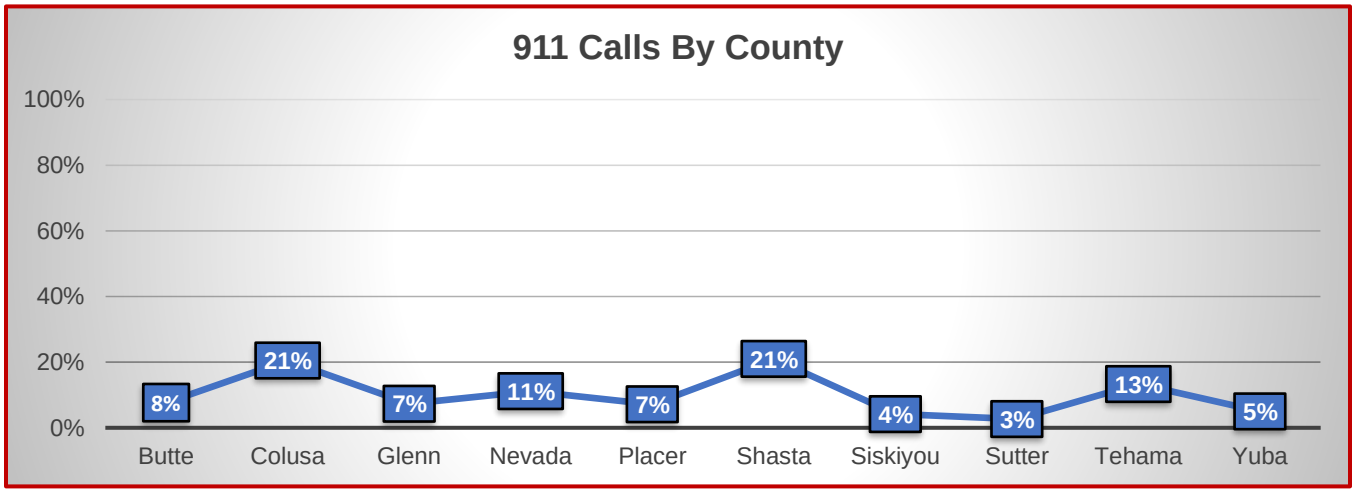
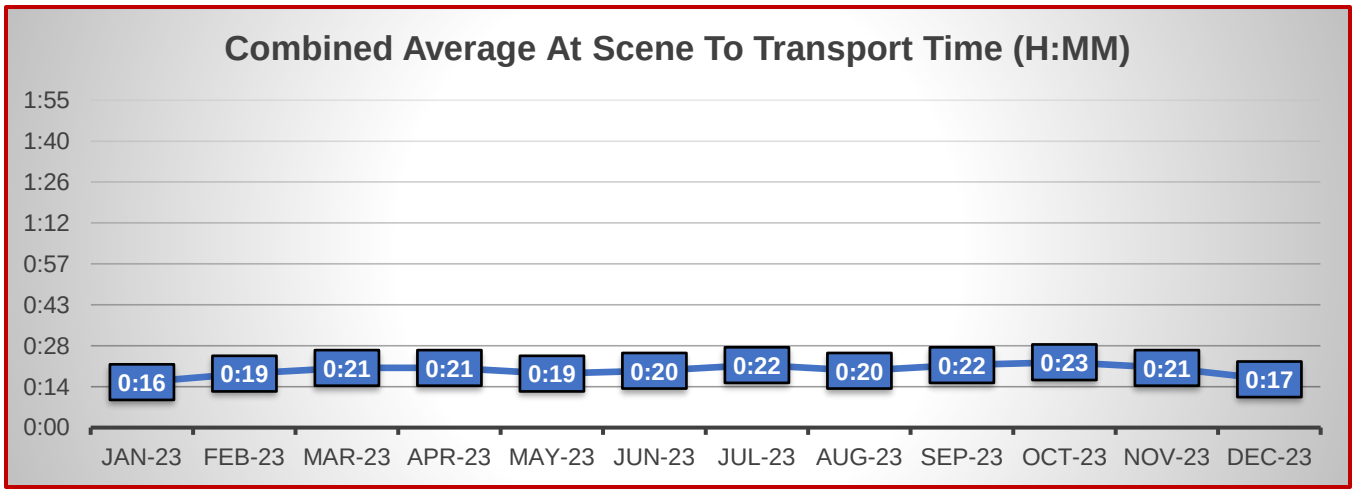
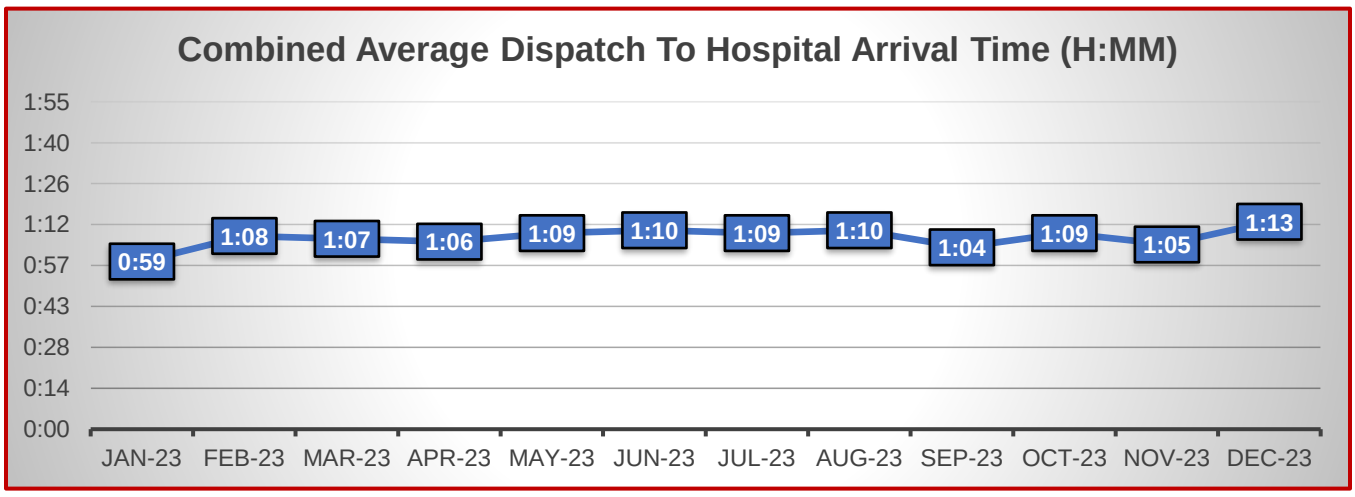
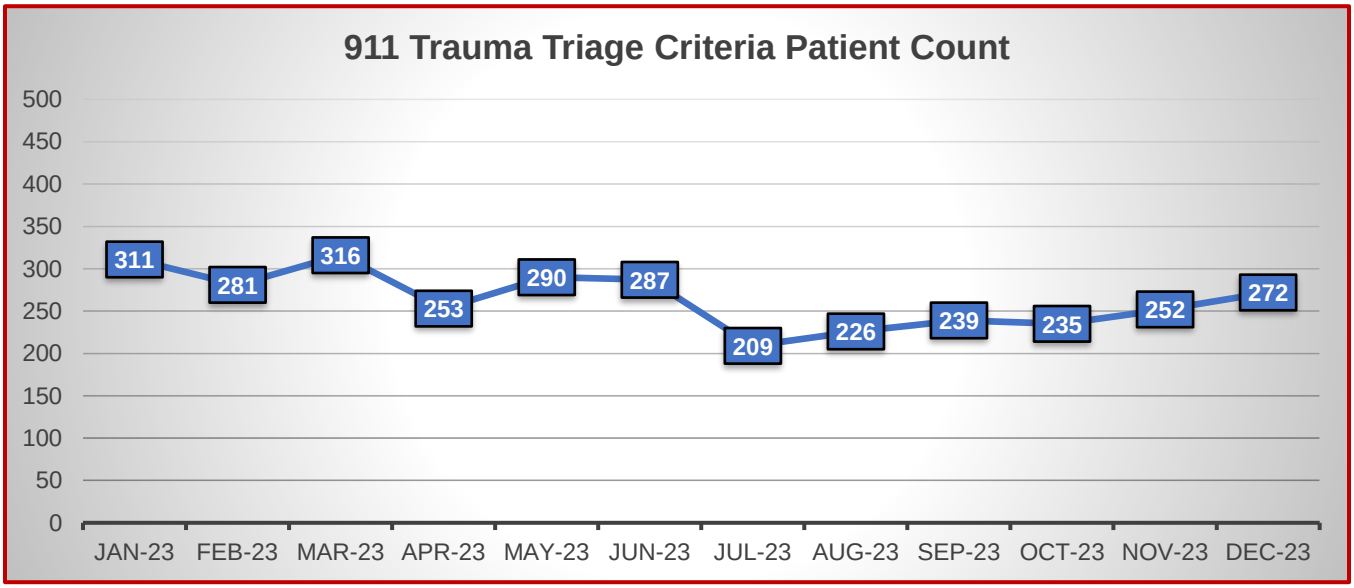
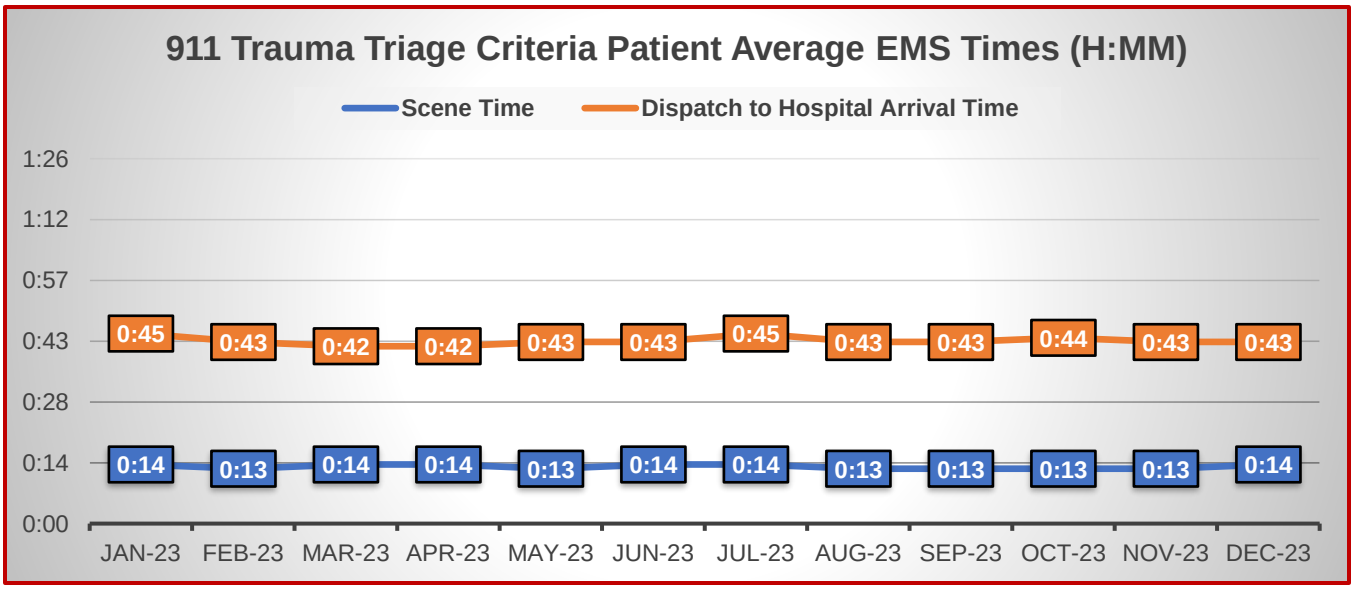




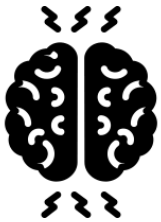


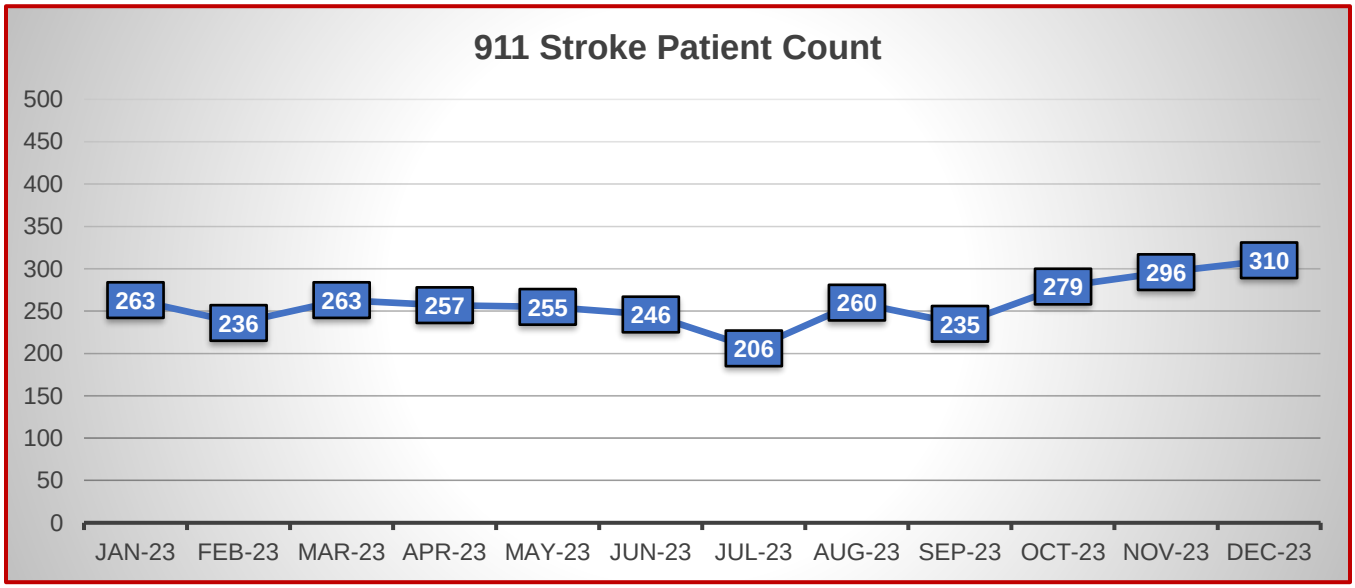
EMS Trauma Patient Data

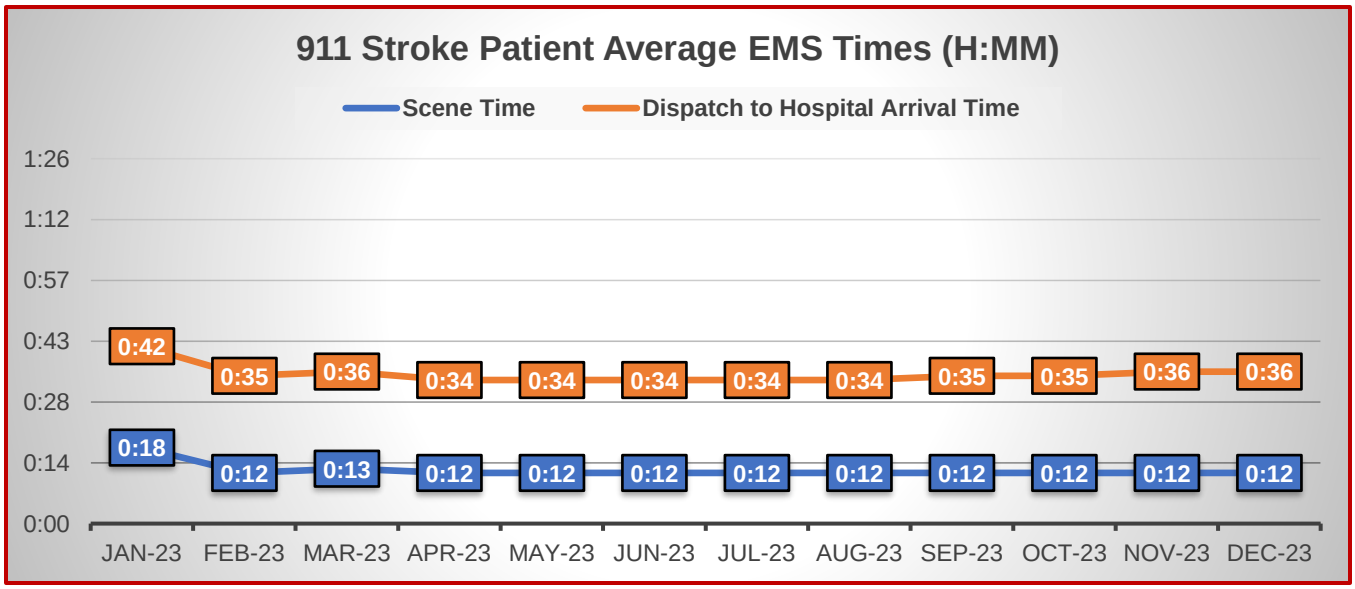




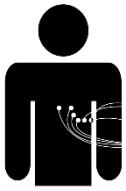
EMS Stroke Patient Data

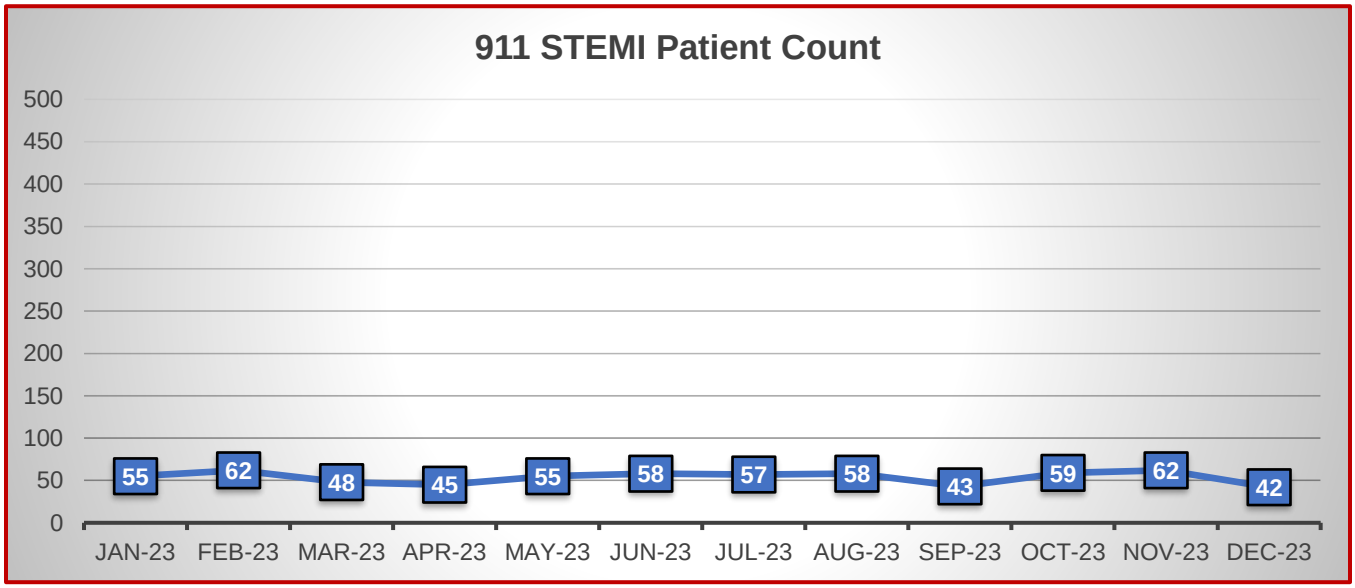


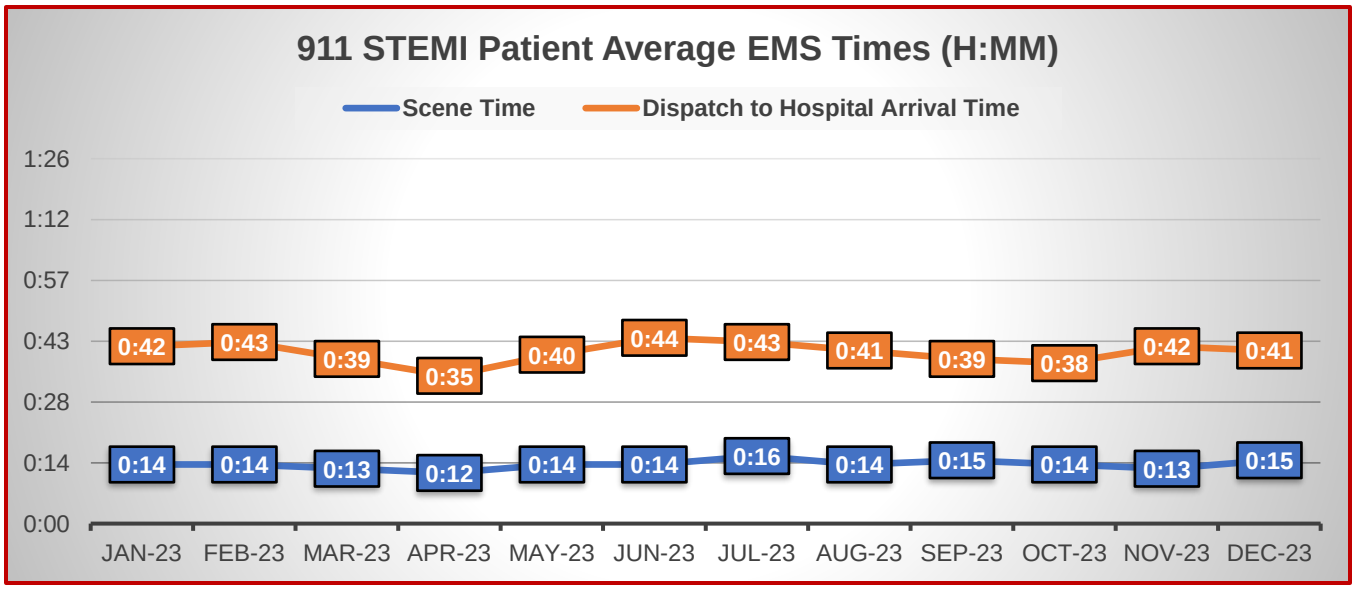




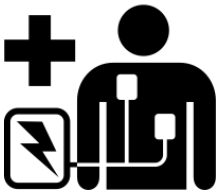
EMS STEMI Patient Data

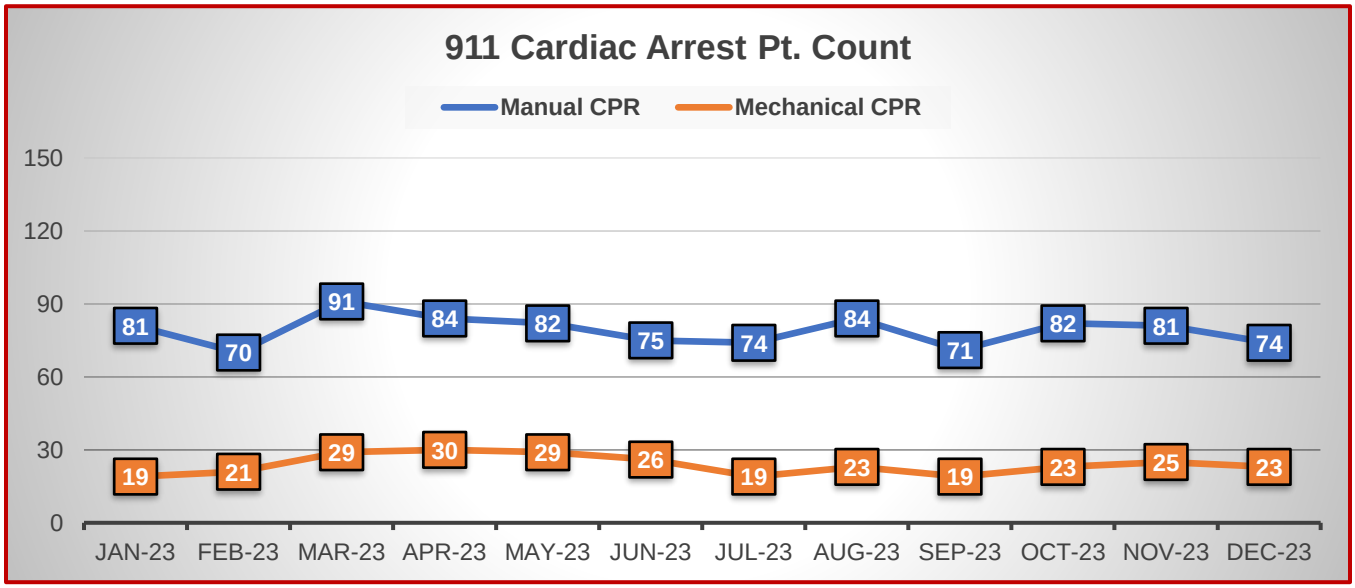


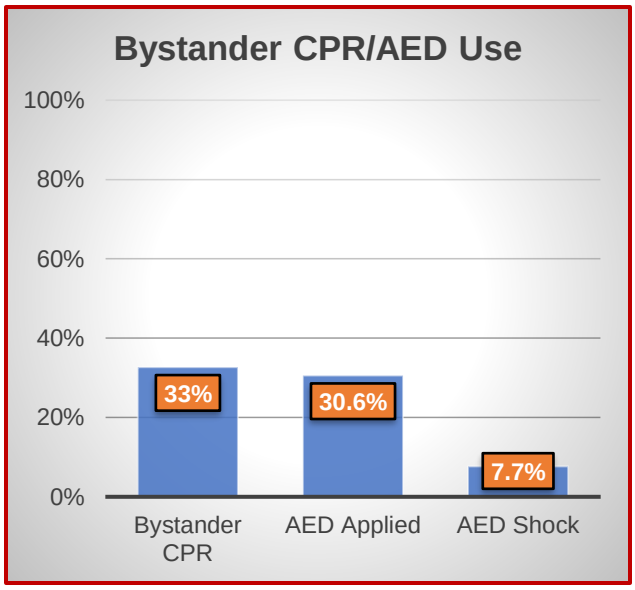


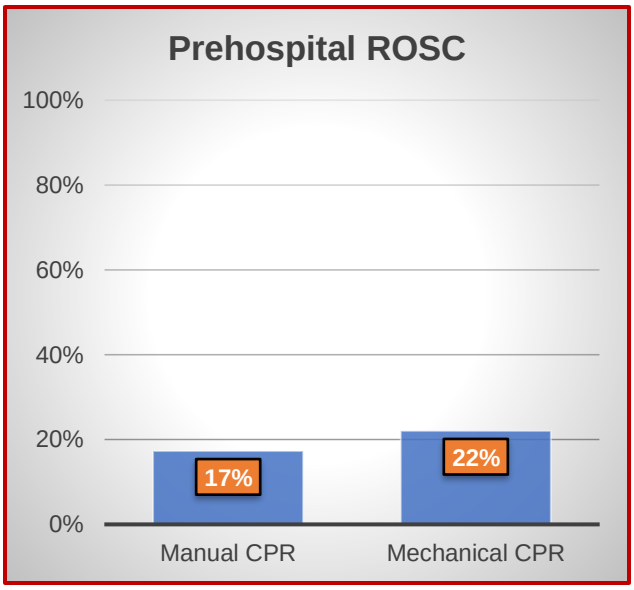


EMS Cardiac Arrest Patient Data

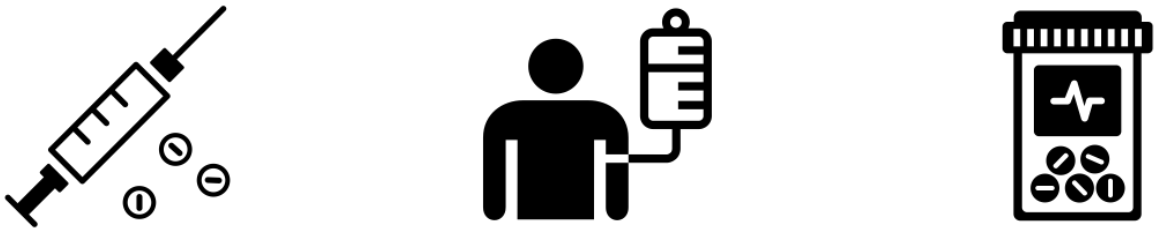



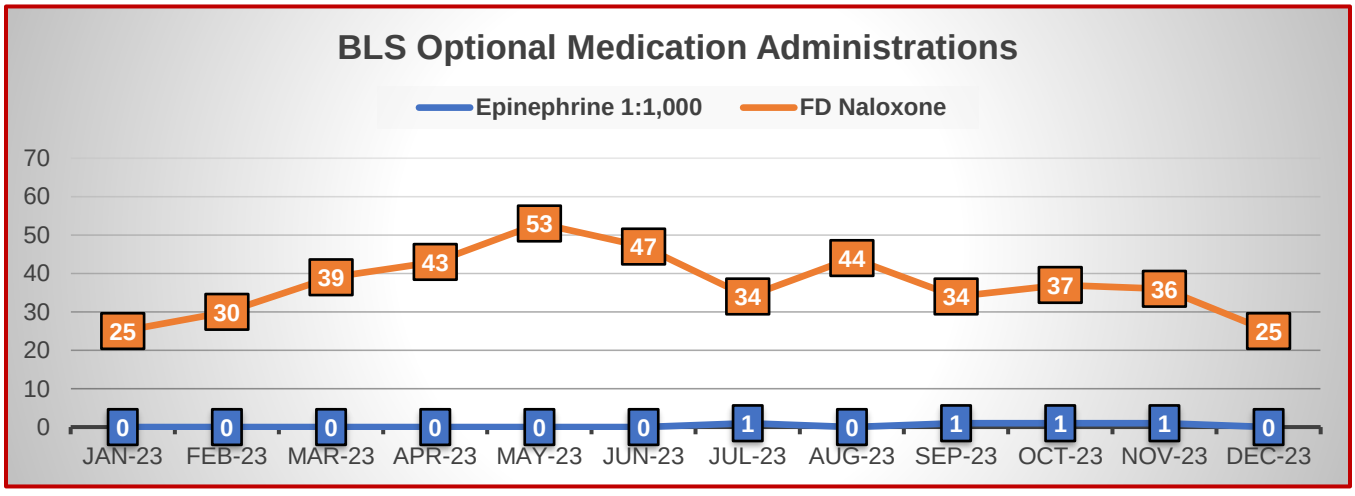




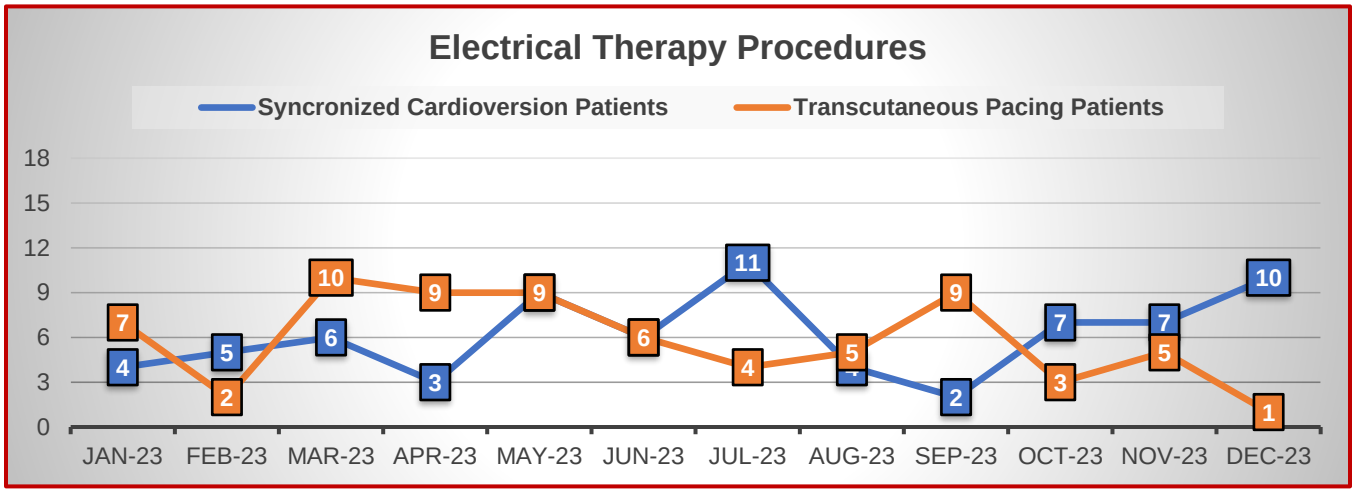
EMS Medication Utilization Data

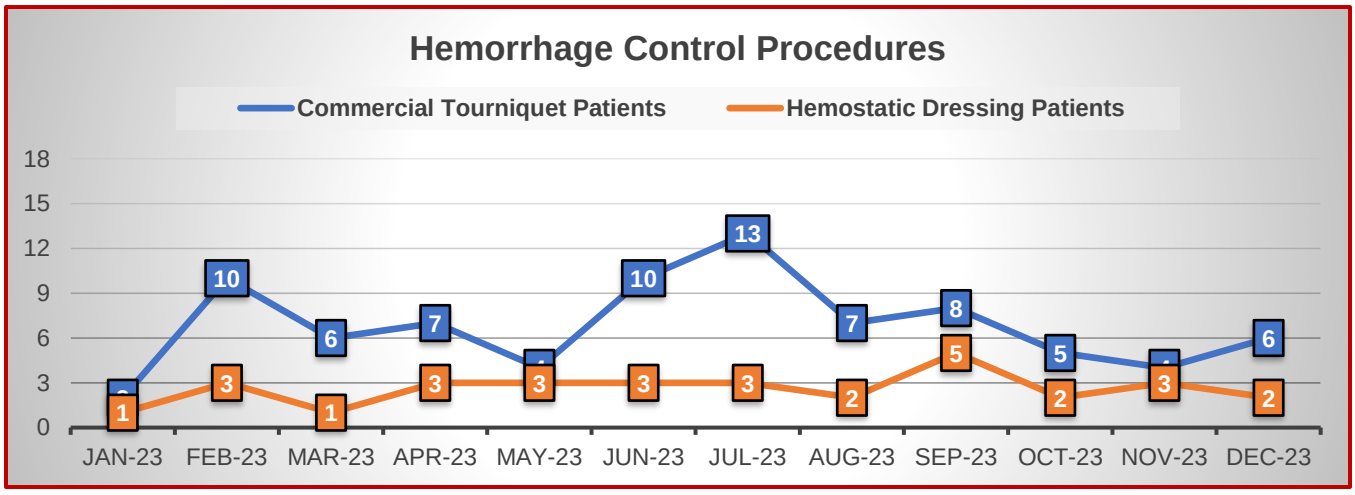


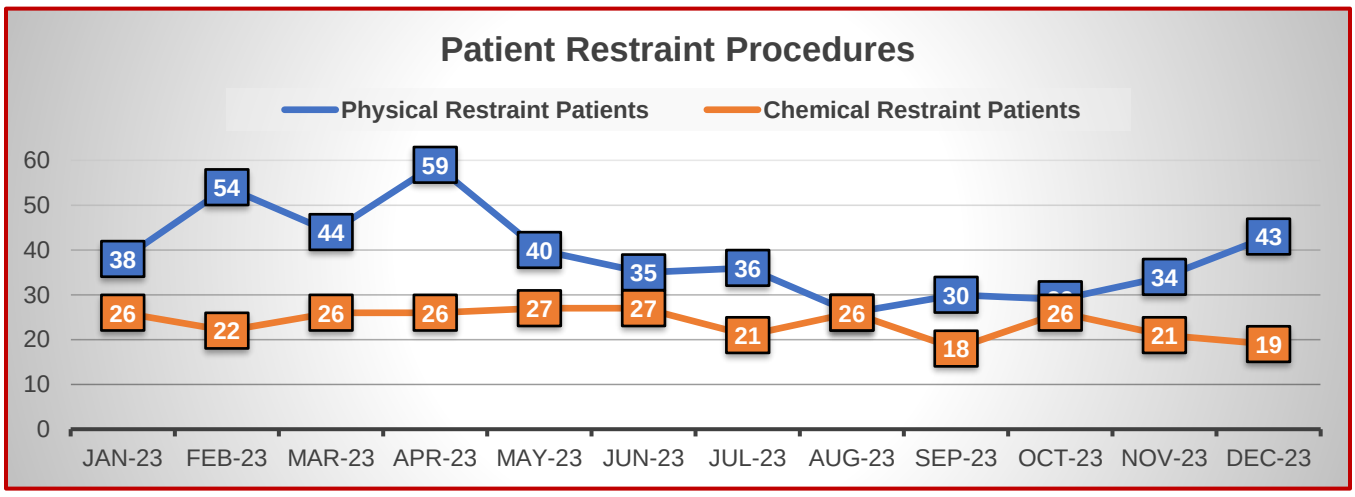
Medication	Ground Doses	Aircraft Doses	Medication	Ground Doses	Aircraft Doses
Acetaminophen (IV)	795	0	Ipratropium	4132	73
Activated Charcoal	73	0	Ketamine	179	69
Adenosine	265	0	Ketorolac	147	0
Albuterol	4626	7	Lidocaine	72	1
Amiodarone	233	0	Lorazepam	0	16
Aspirin	5410	10	Midazolam	1202	24
Atropine	181	3	Morphine	1014	10
Dextrose 10%	793	5	Naloxone	2362	4
Dextrose 50%	28	0	Nitroglycerin	6700	29
Diphenhydramine	479	1	Norepinephrine	0	7
Dopamine	0	0	Ondansetron	11043	124
Epinephrine 1:1,000	342	10	Rocuronium	0	40
Epinephrine 1:10,000	4464	64	Sodium Bicarbonate	122	4
Etomidate	0	9	Terbutaline	0	0
Fentanyl	8106	227	TXA	18	13
Glucagon	164	0	Vecuronium	0	0



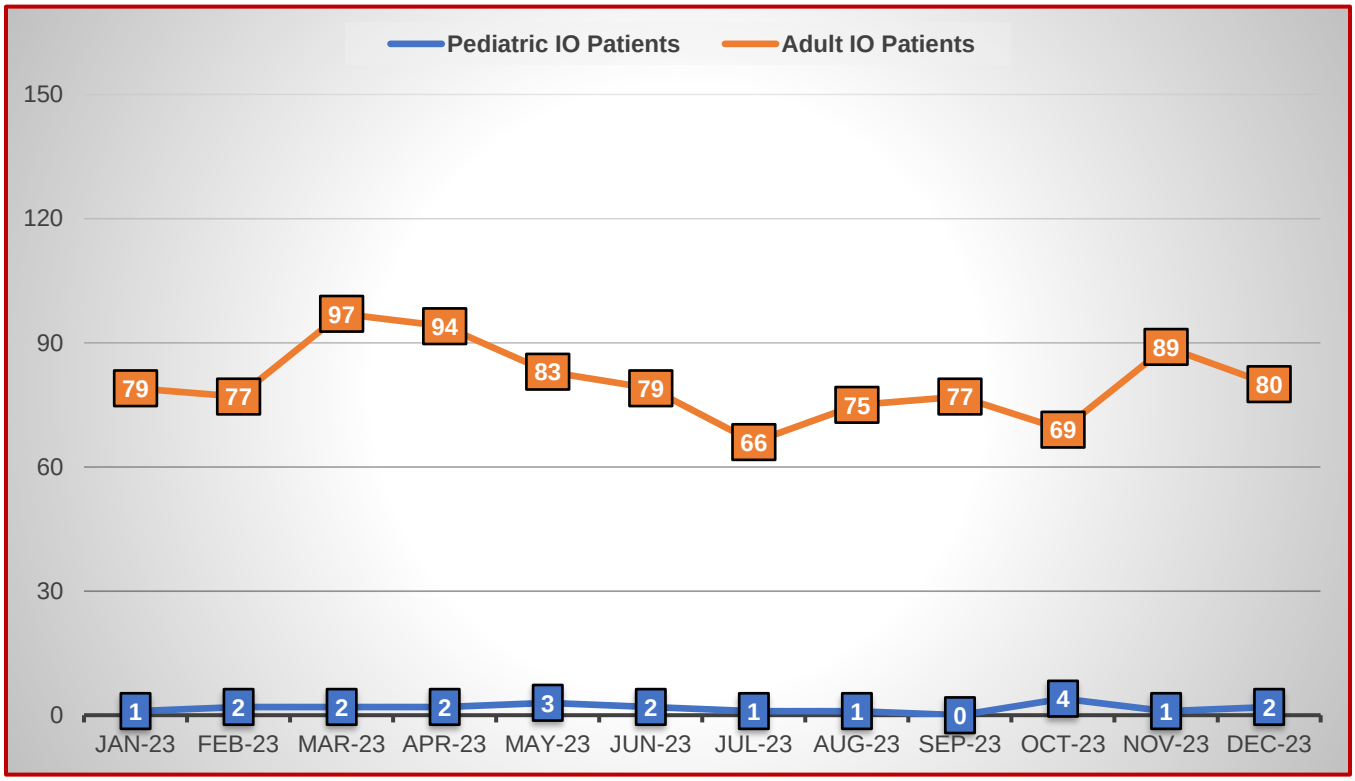
EMS Electrical Therapy, Restraint & Hemorrhage Control Procedures

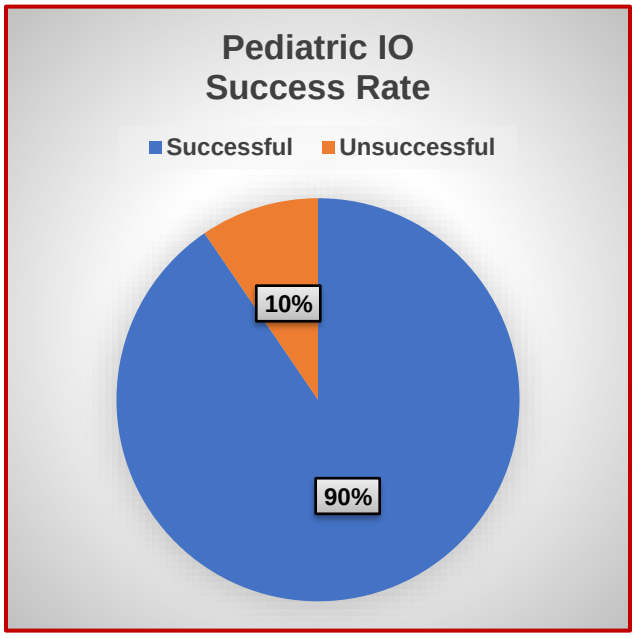


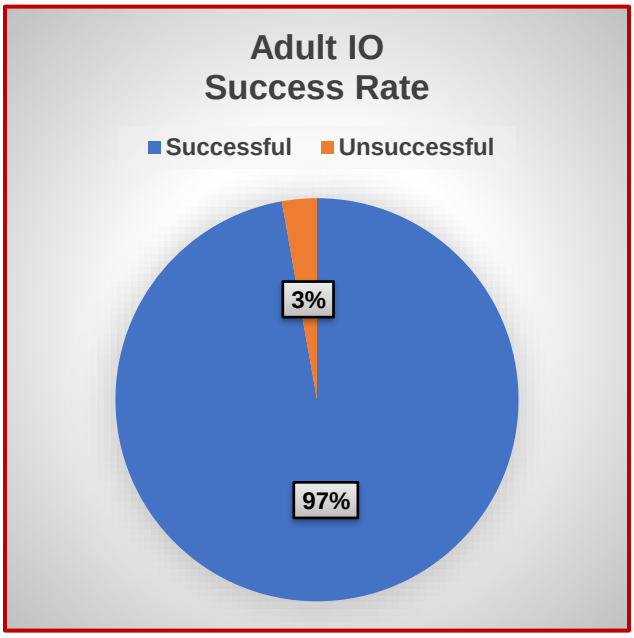




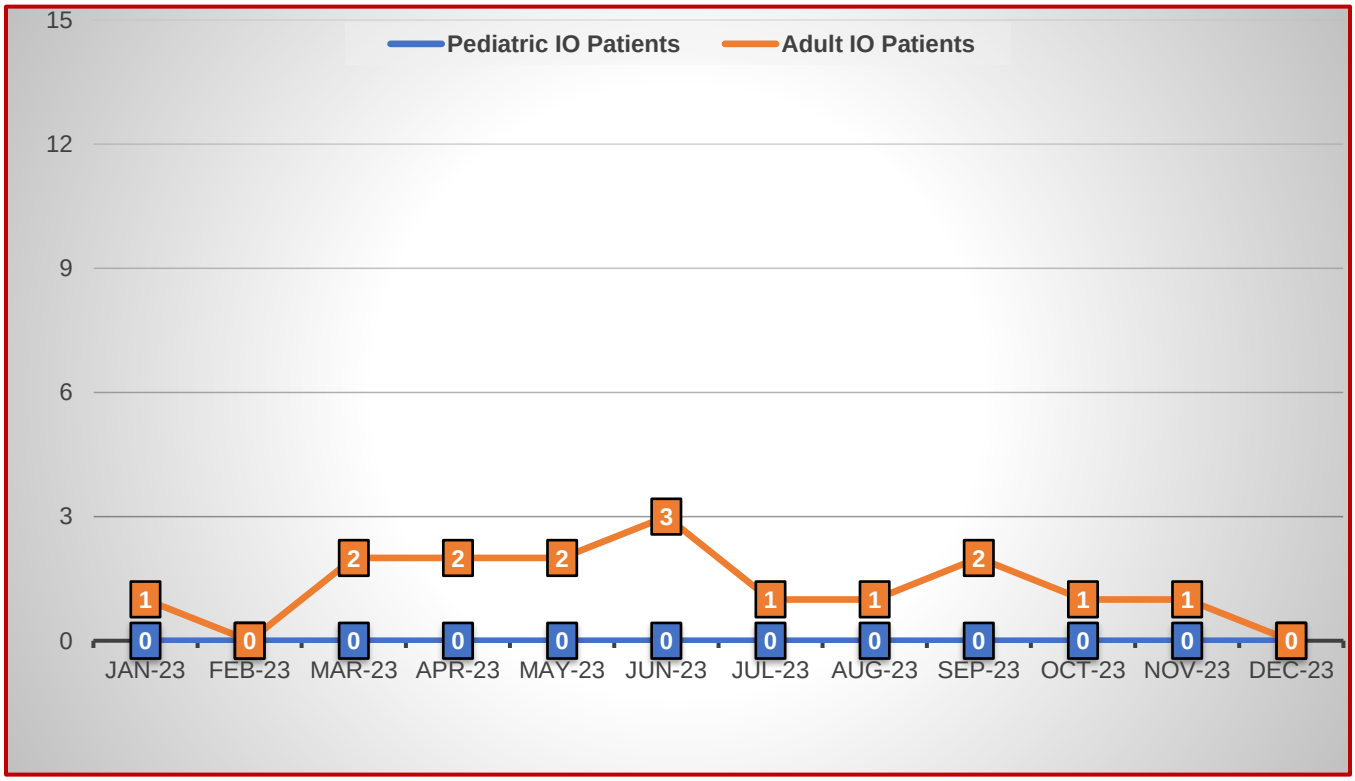
Ground EMS Intraosseous (IO) Procedures

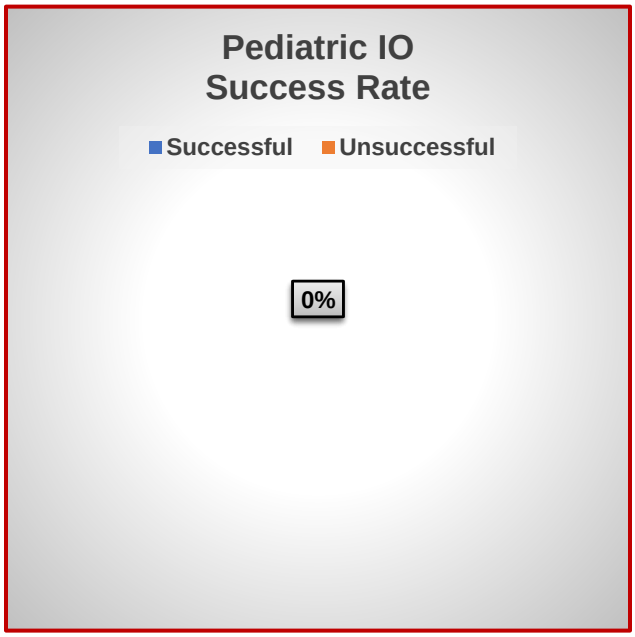


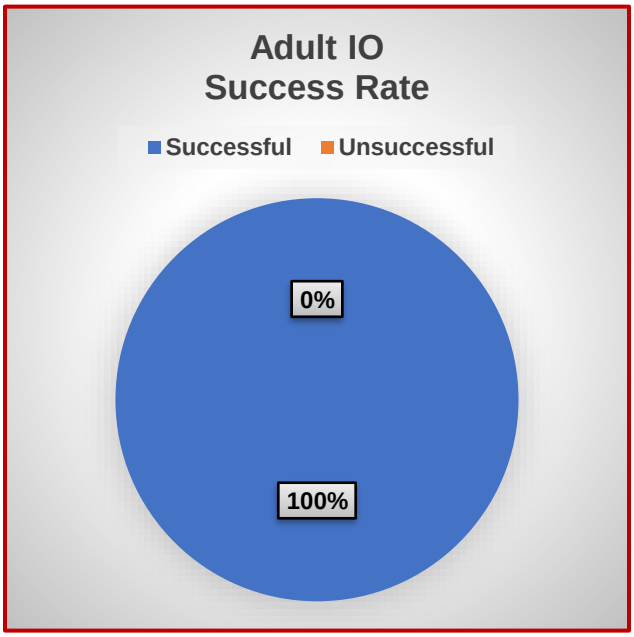




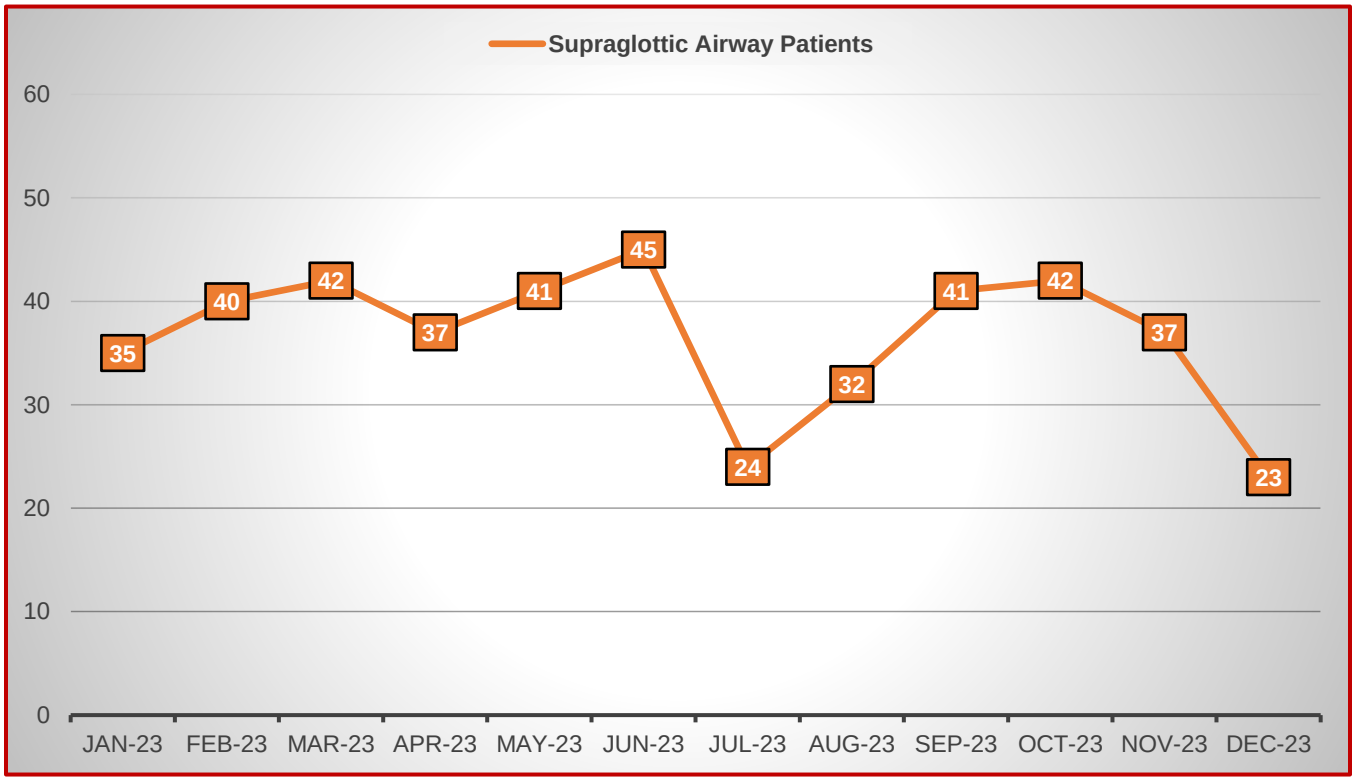
EMS Aircraft Intraosseous (IO) Procedures

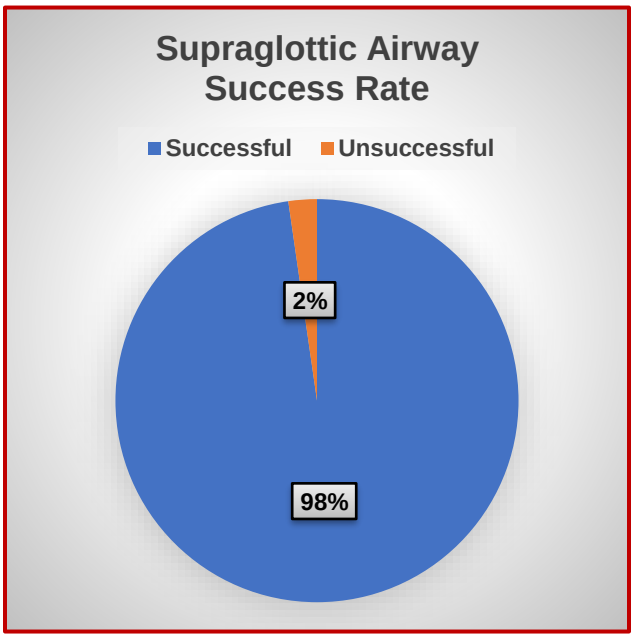




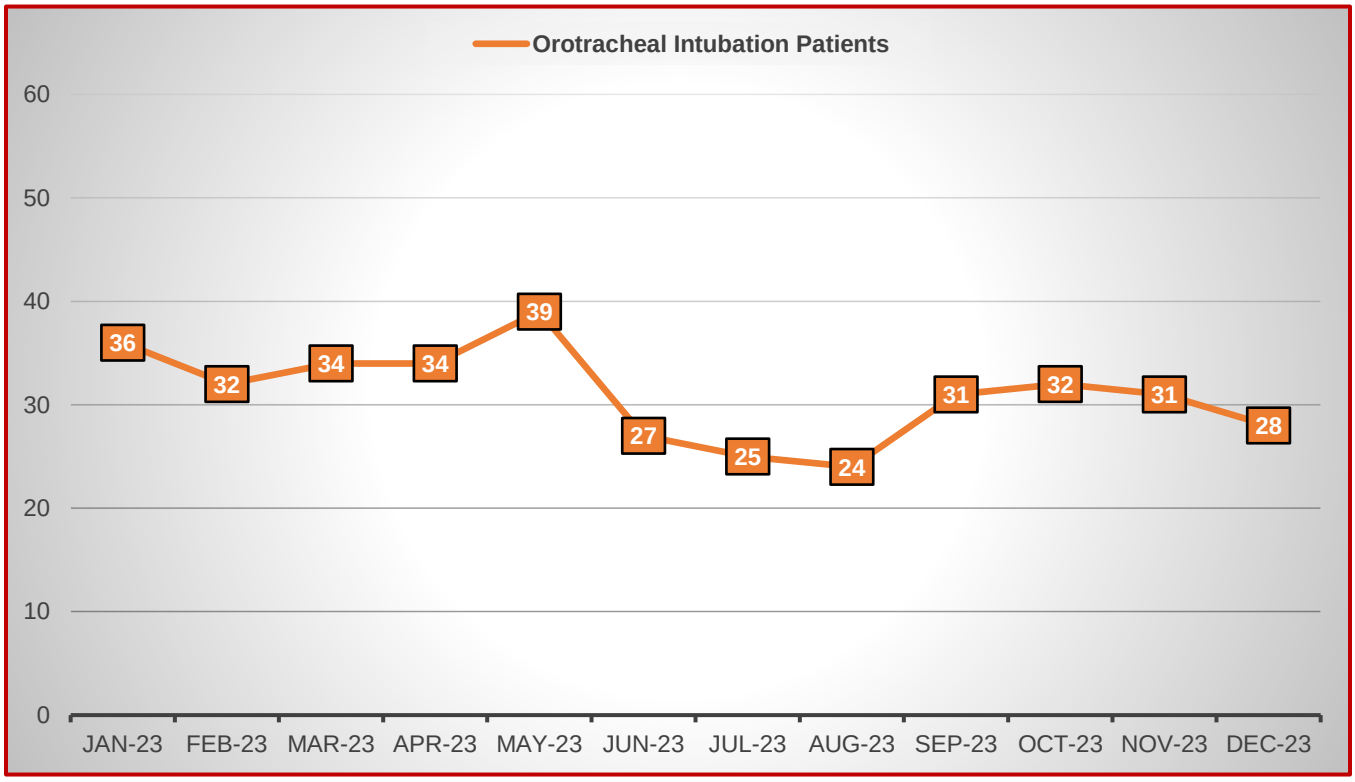


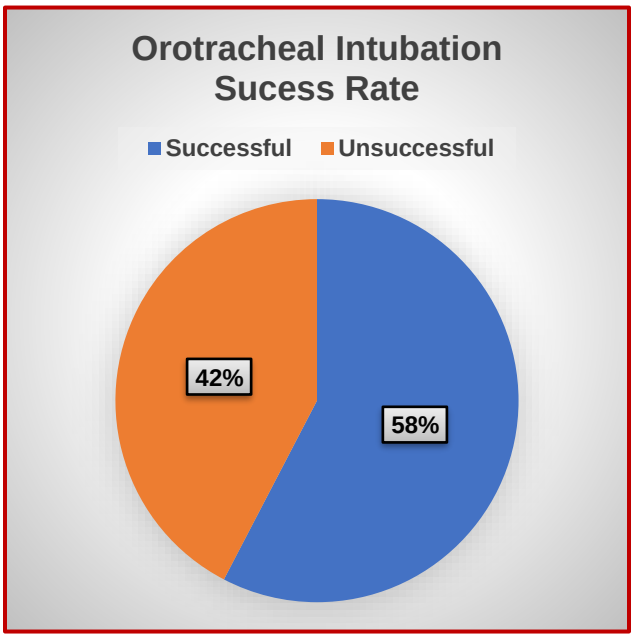
BLS Supraglottic Airway Procedures



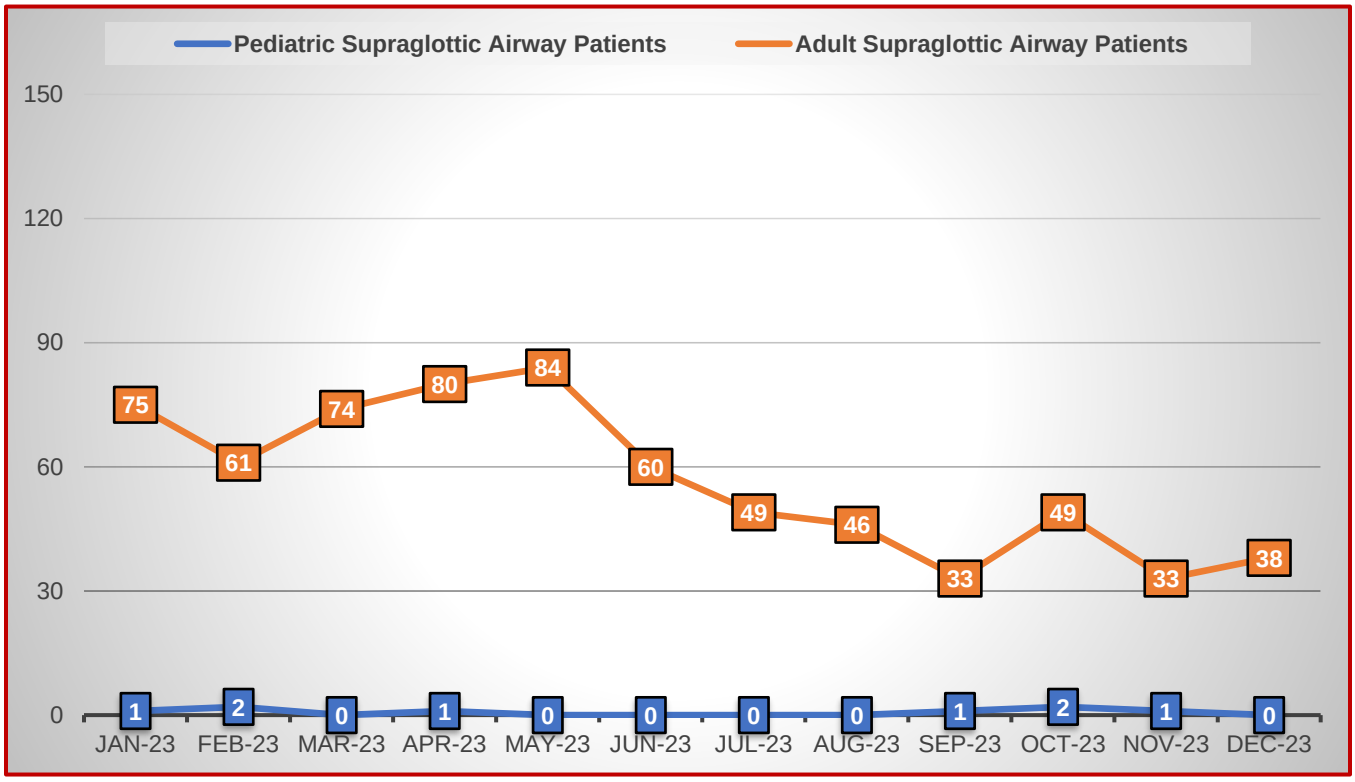


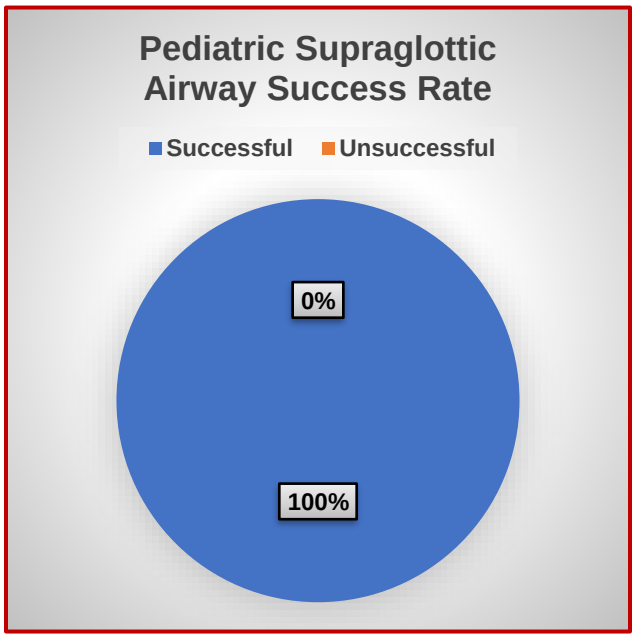
ALS Ground Orotracheal Intubation Procedures

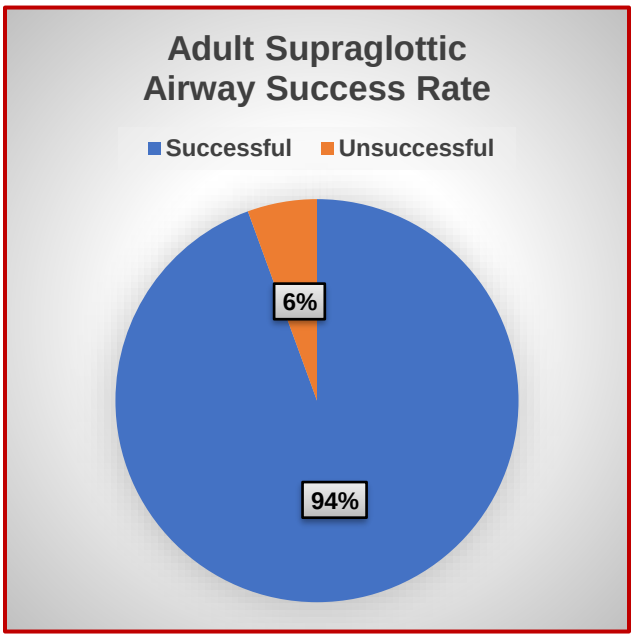




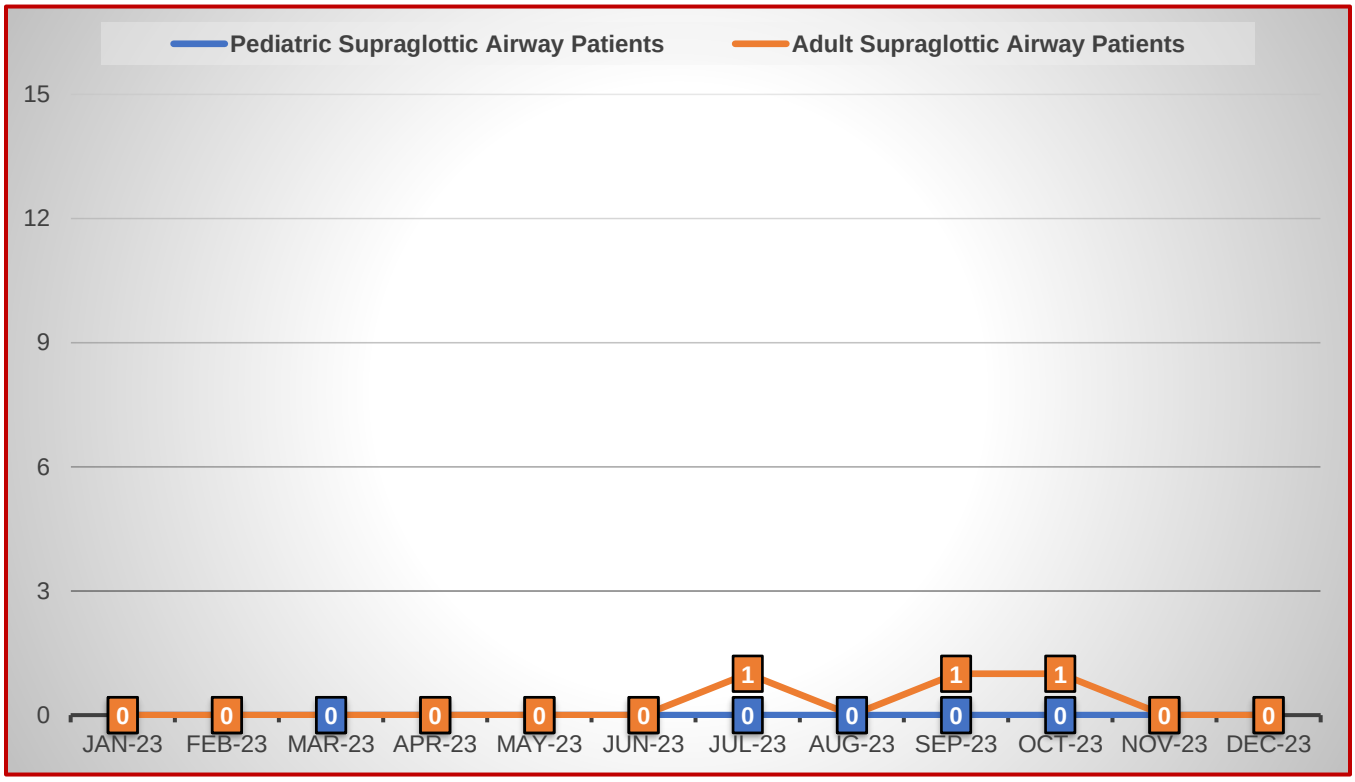
ALS Ground Supraglottic Airway Procedures

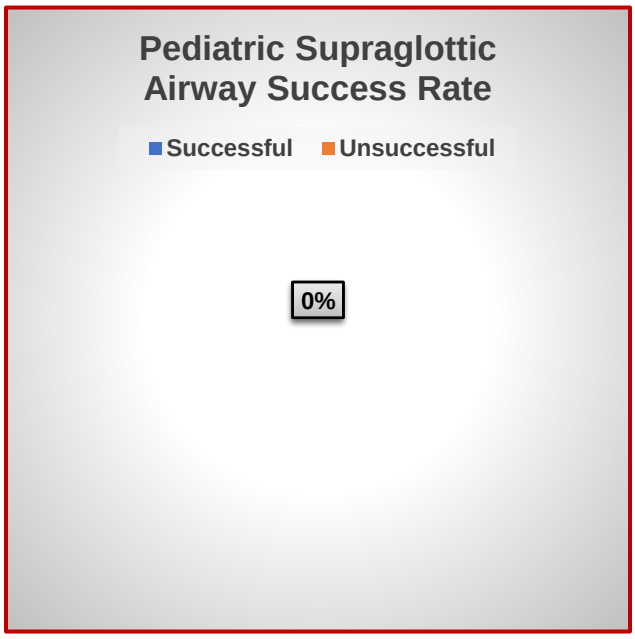


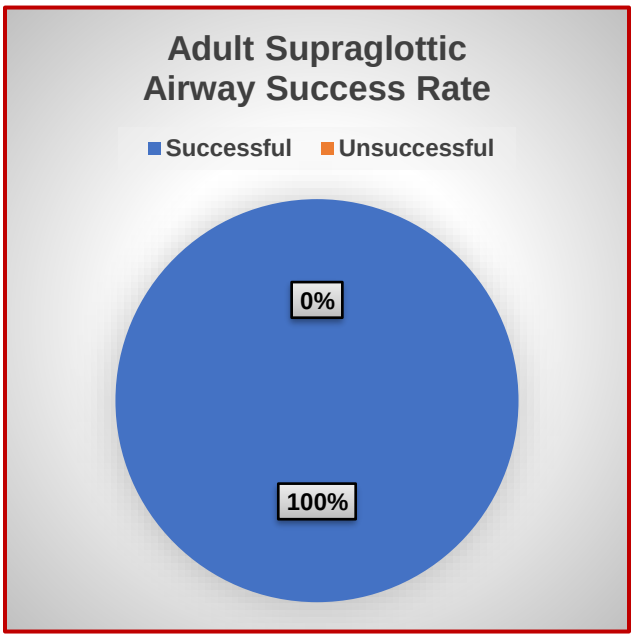




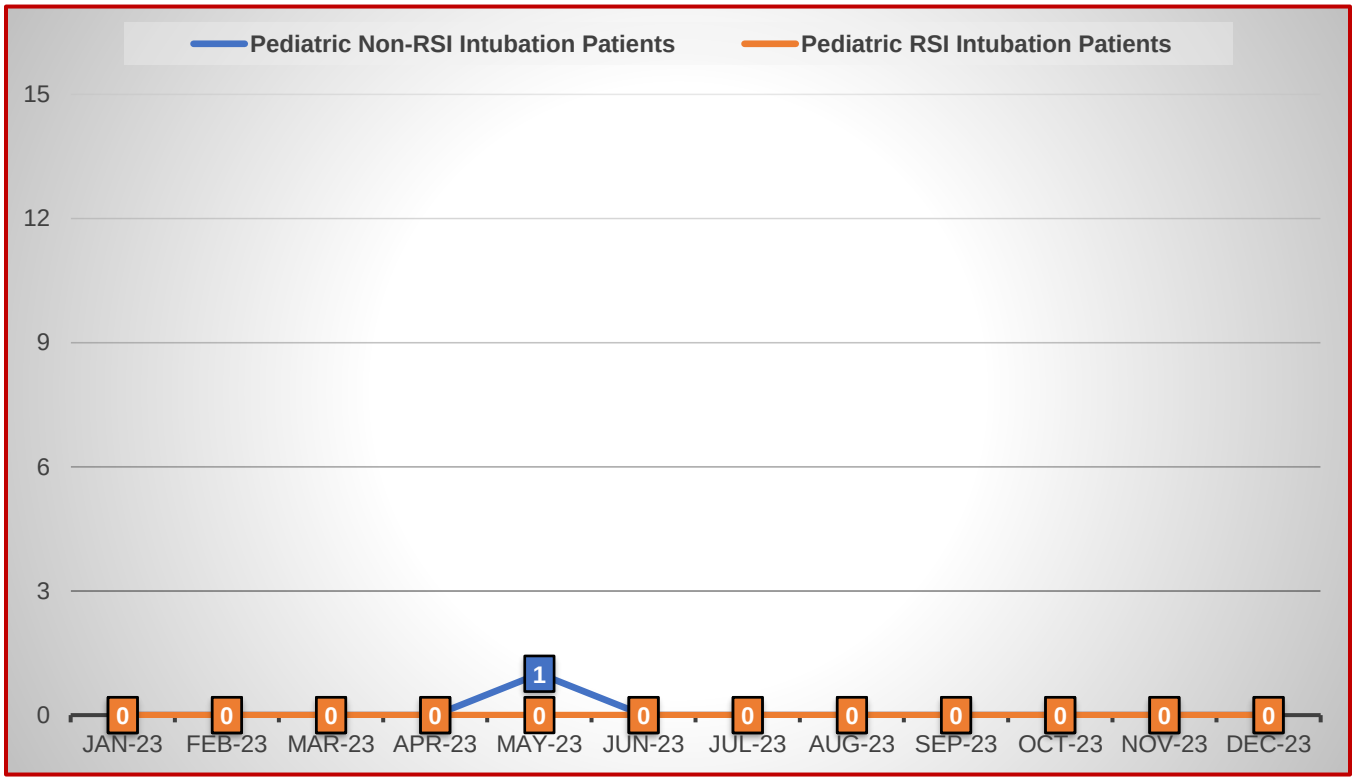
EMS Aircraft Supraglottic Airway Procedures

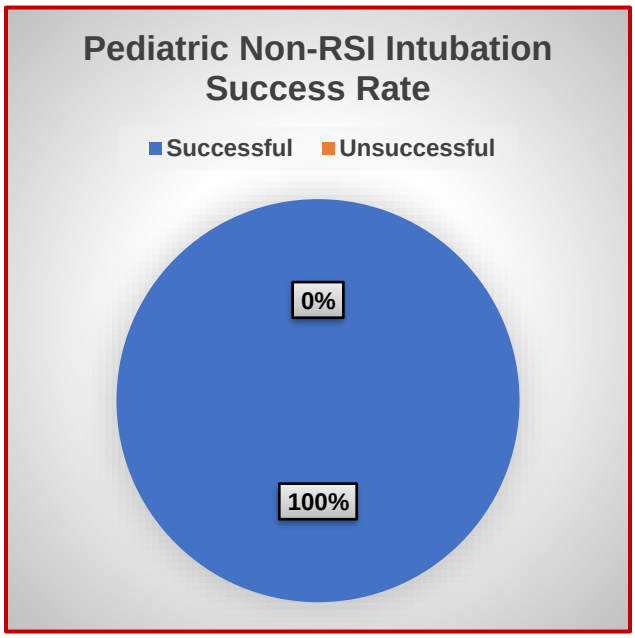


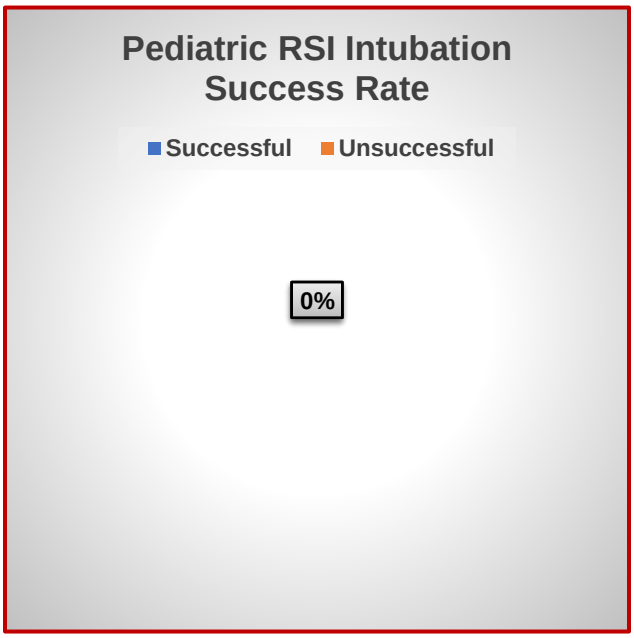




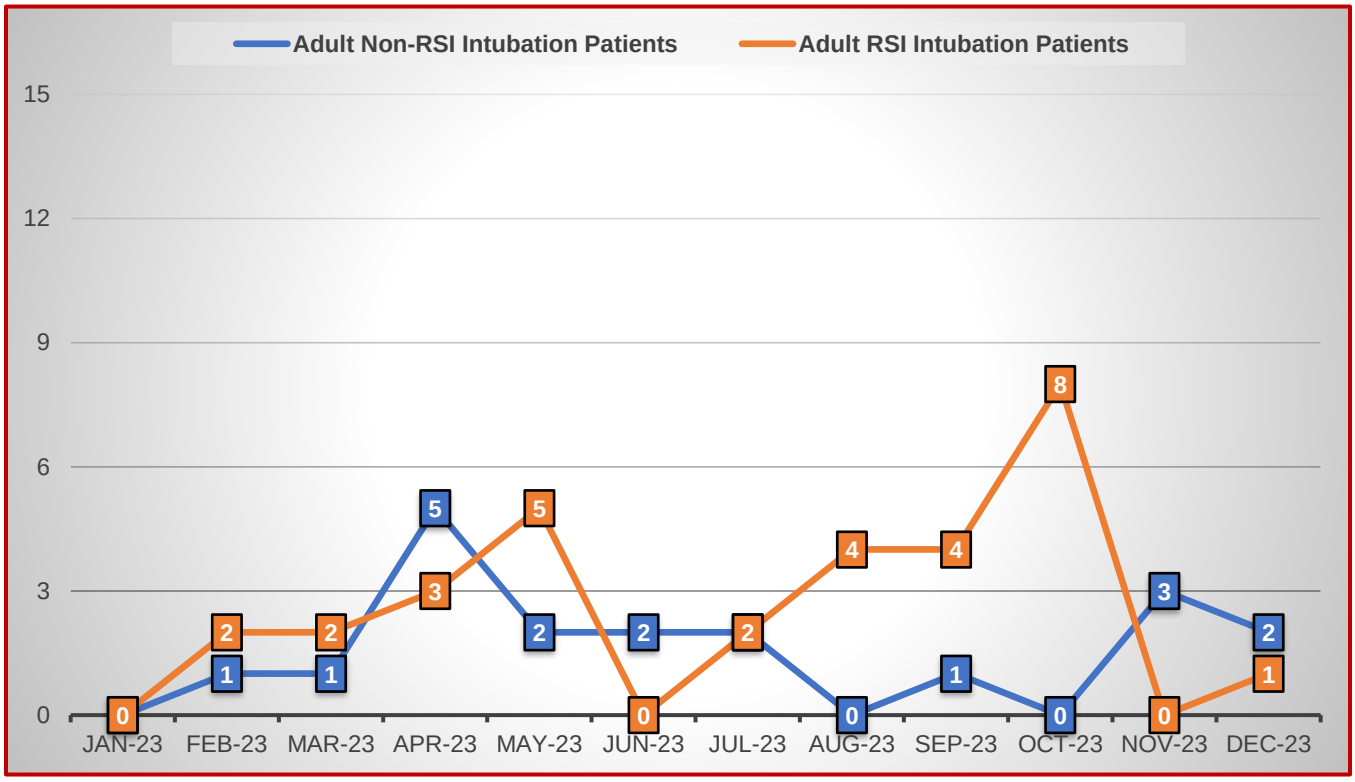
EMS Aircraft Pediatric Orotracheal Intubation Airway Procedures

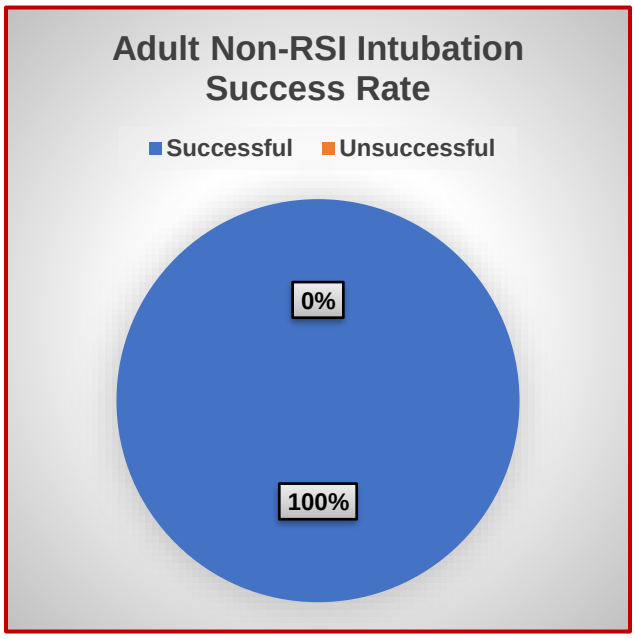


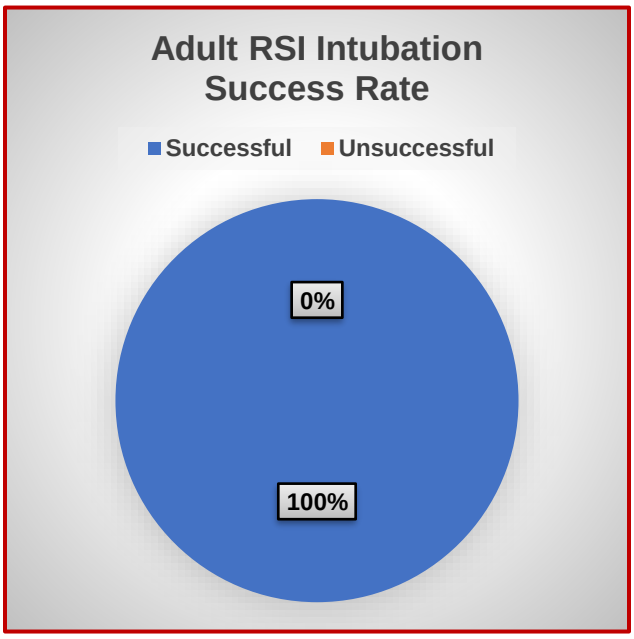




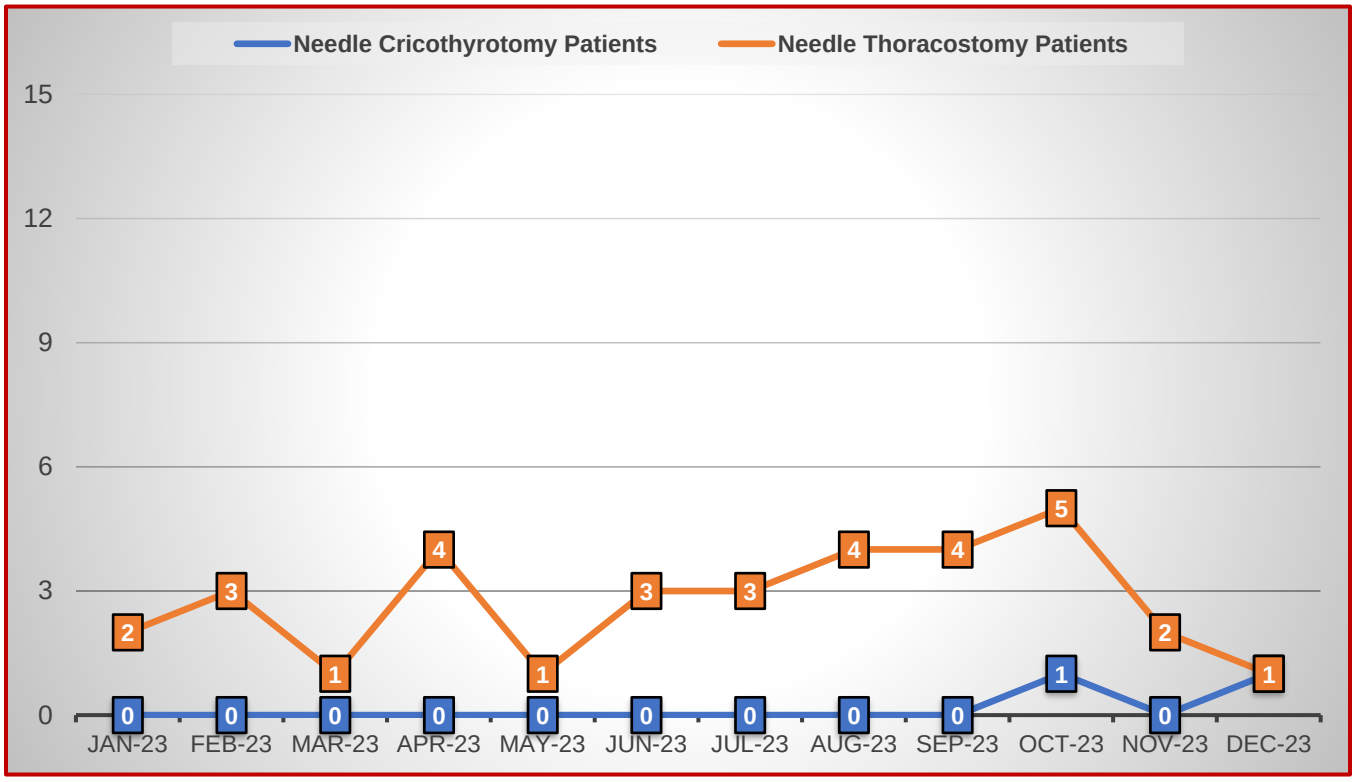
EMS Aircraft Adult Orotracheal Intubation Airway Procedures

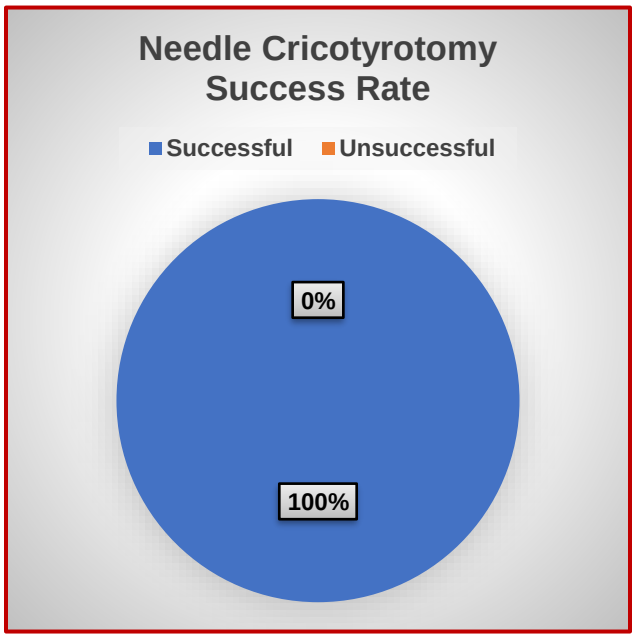


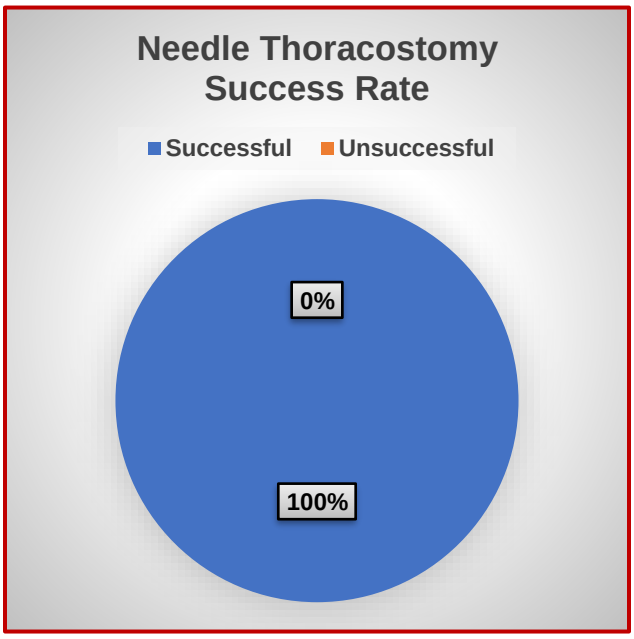




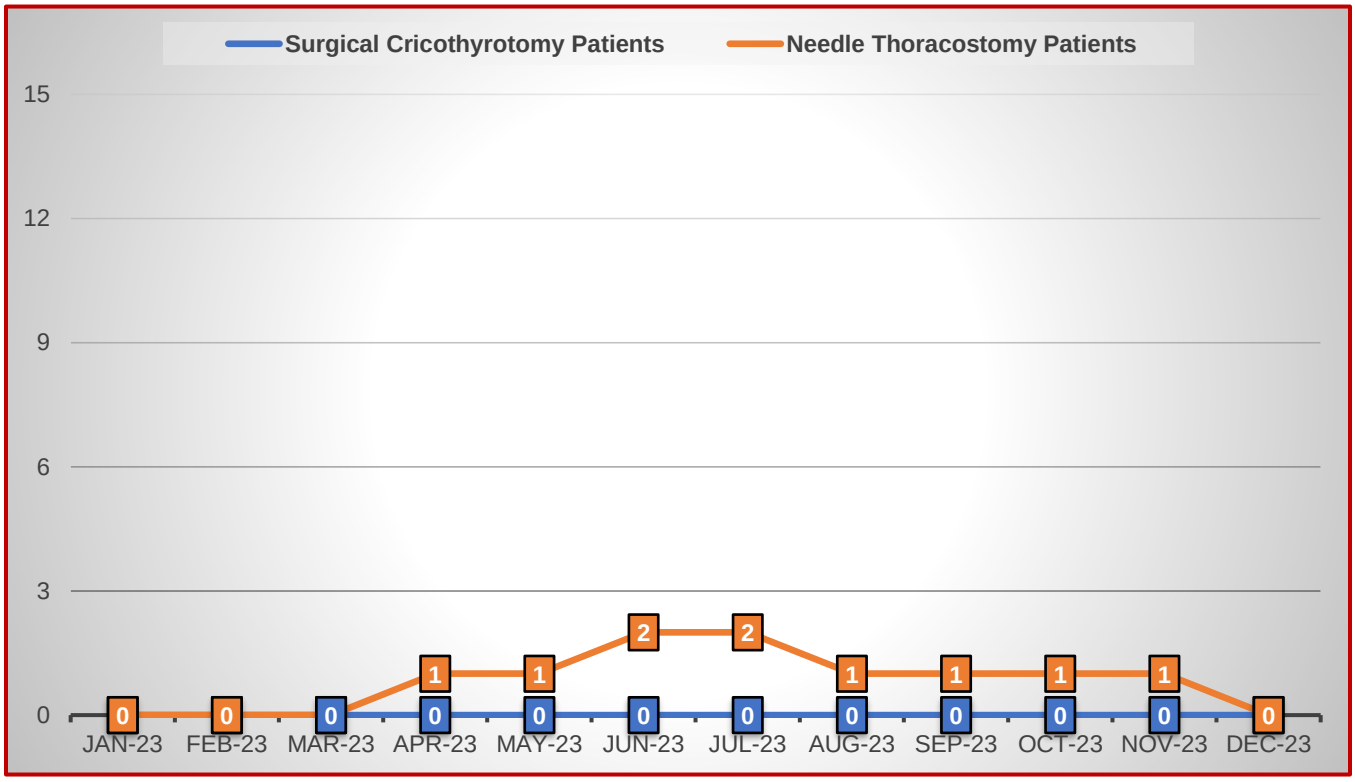
ALS Ground Cricothyrotomy & Thoracostomy Procedures

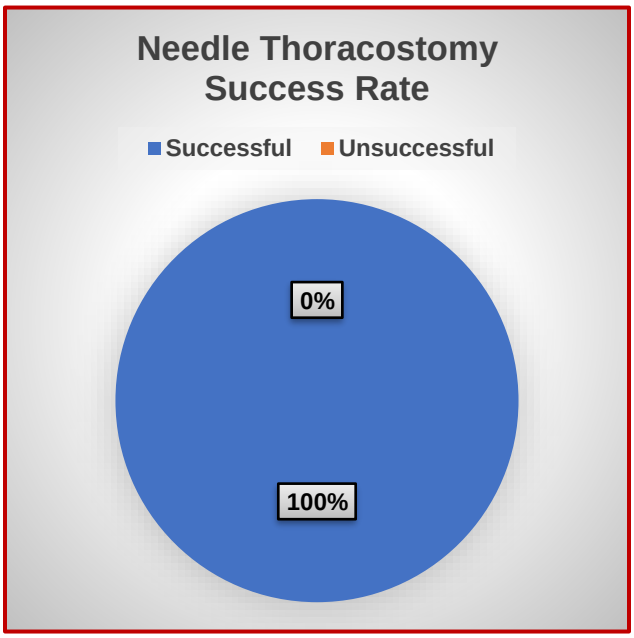




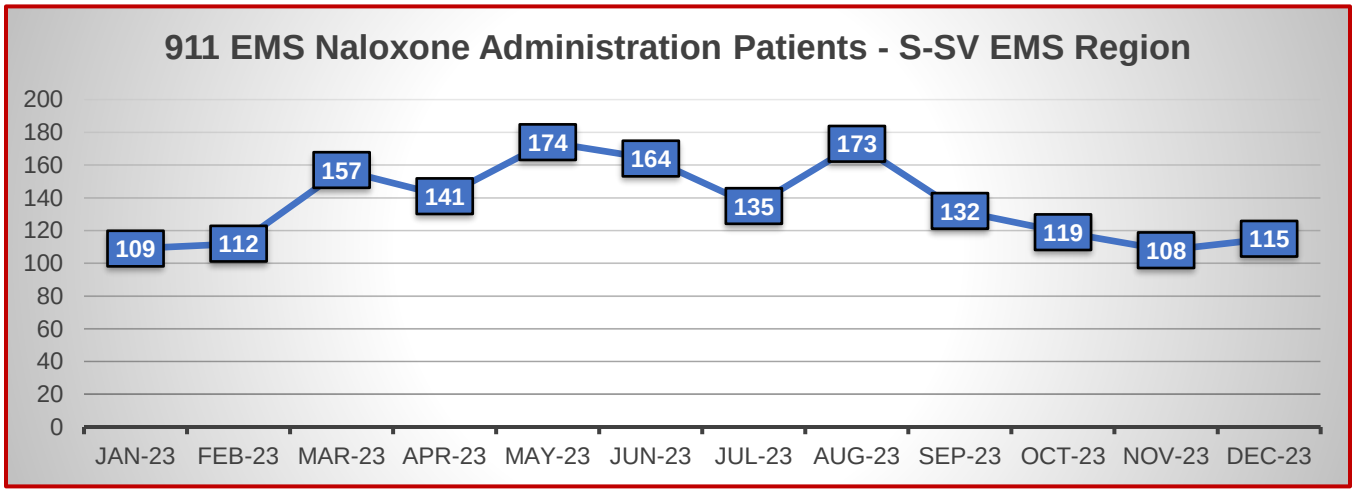


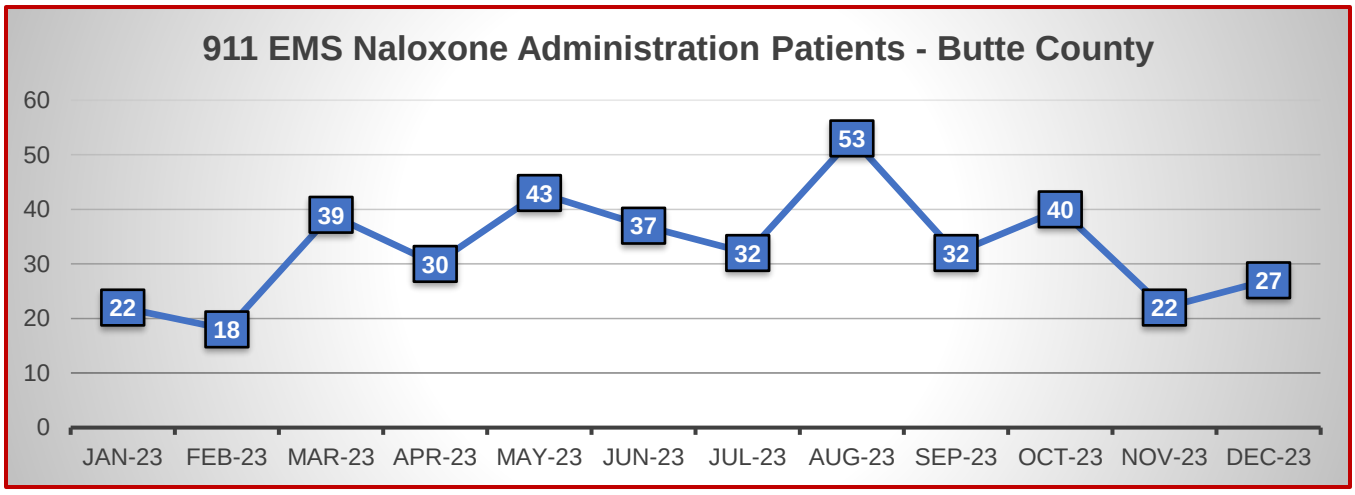
EMS Aircraft Cricothyrotomy & Thoracostomy Procedures

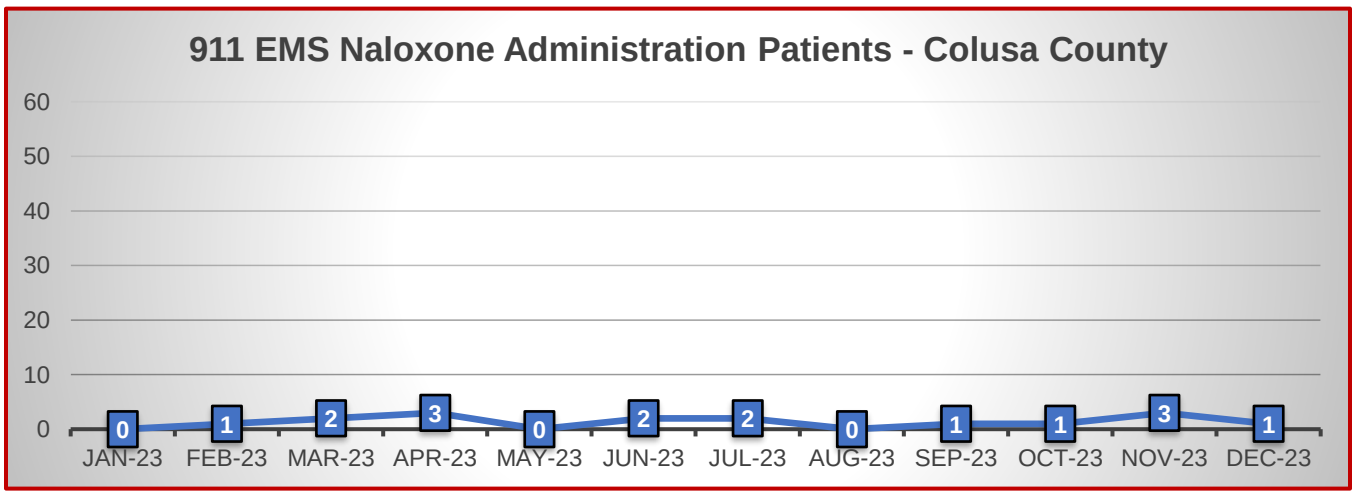




EMS Naloxone Utilization







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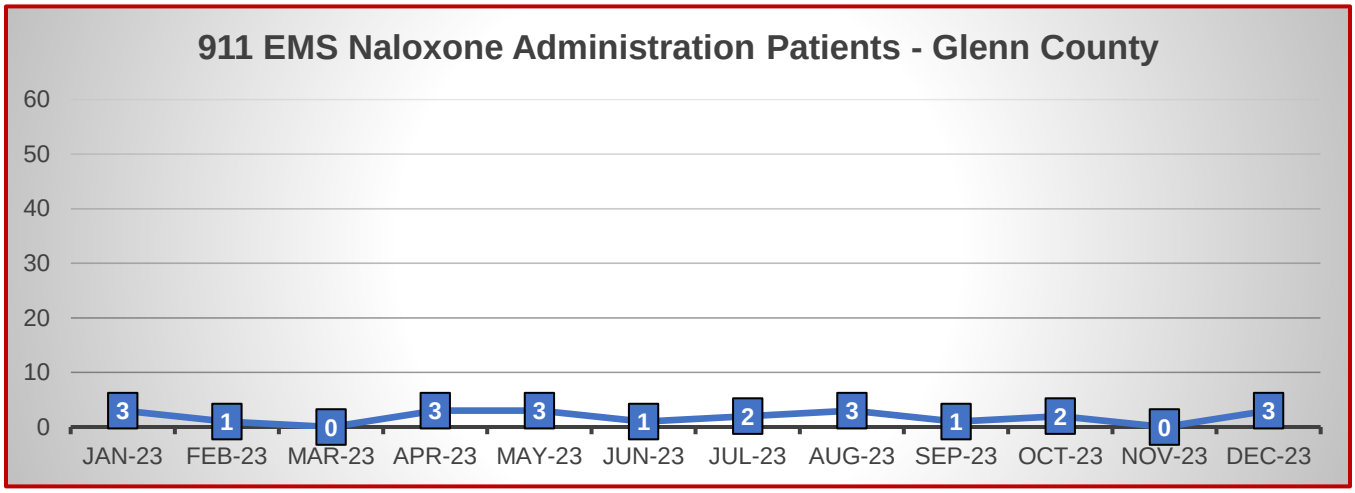

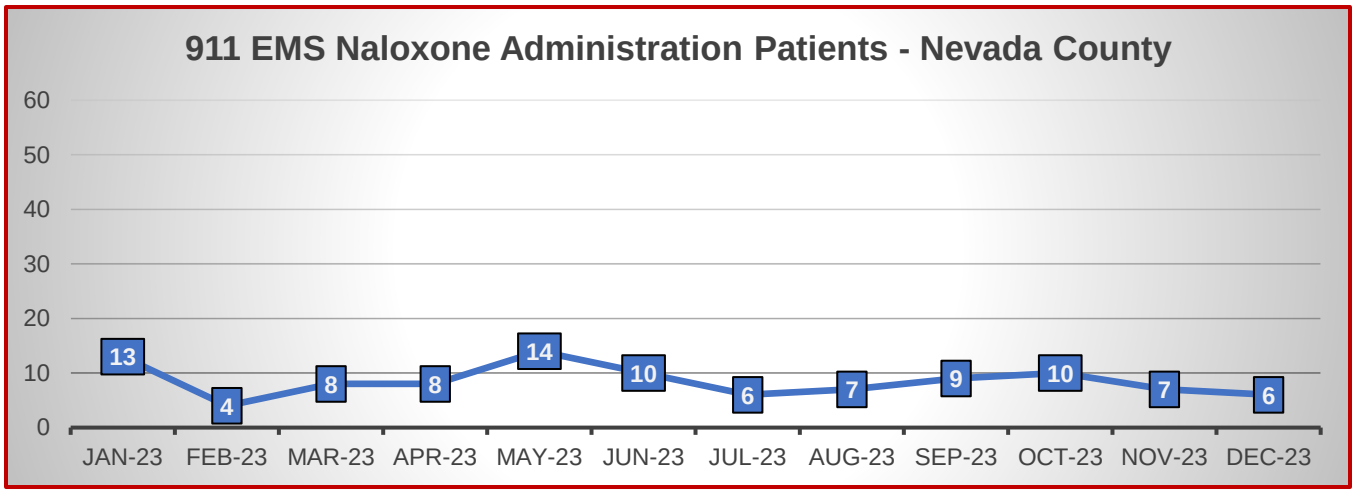

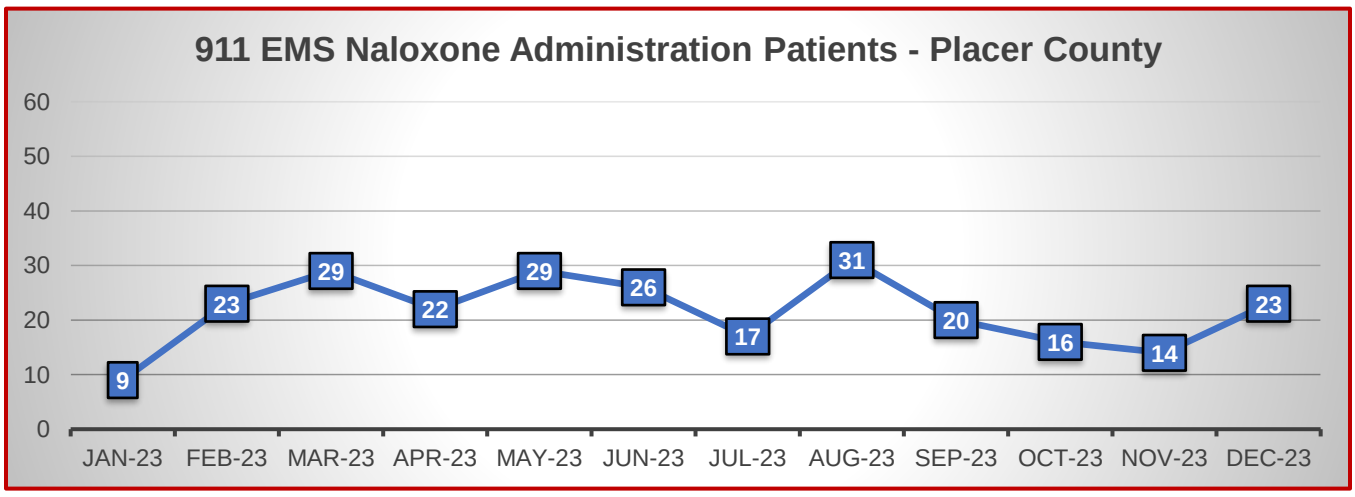

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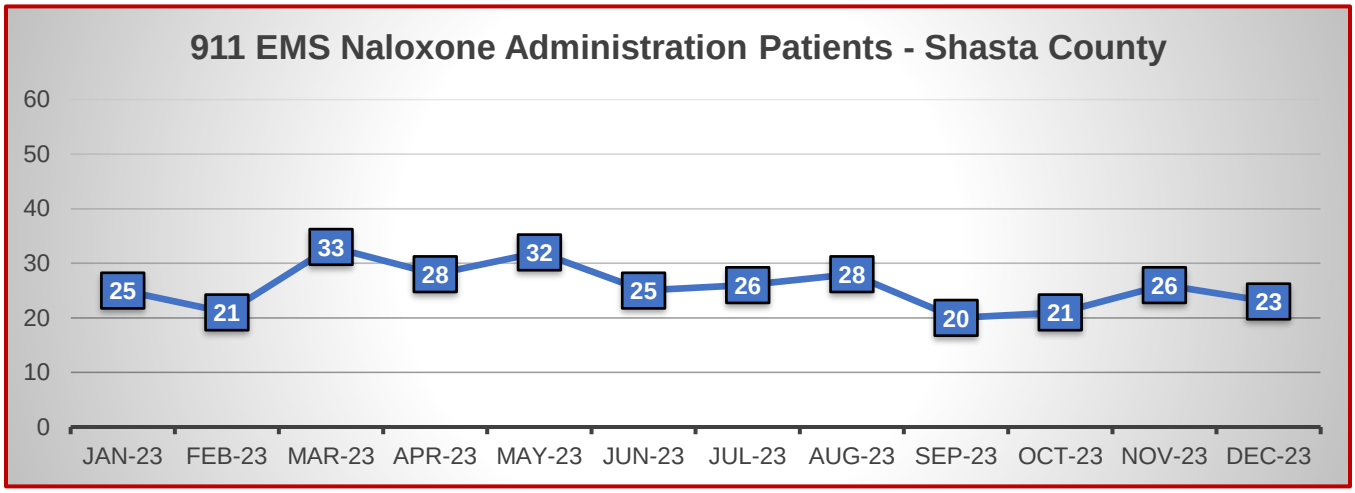

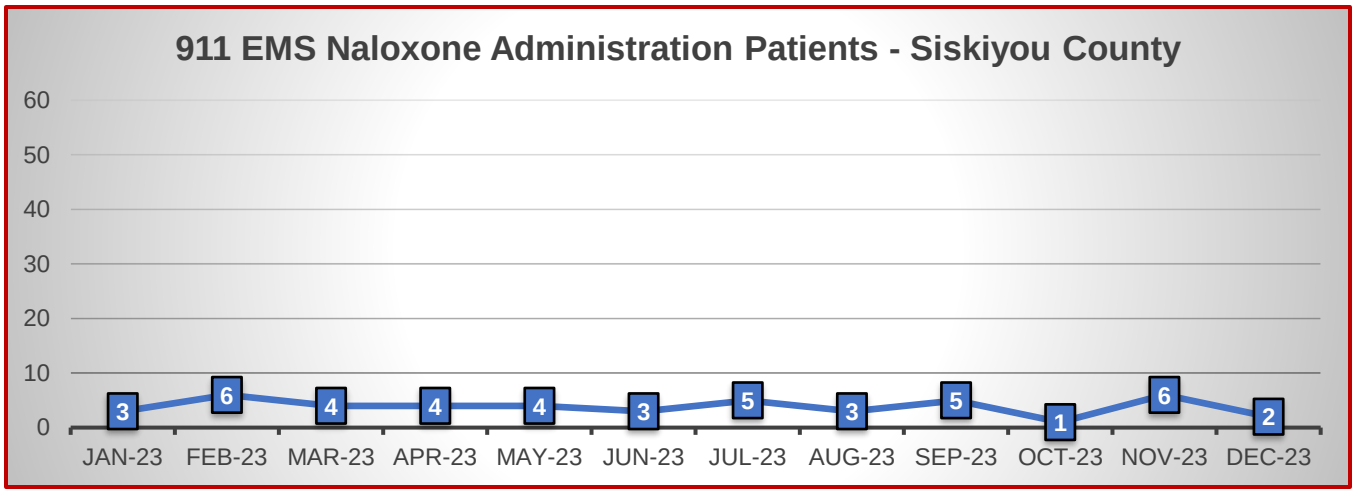

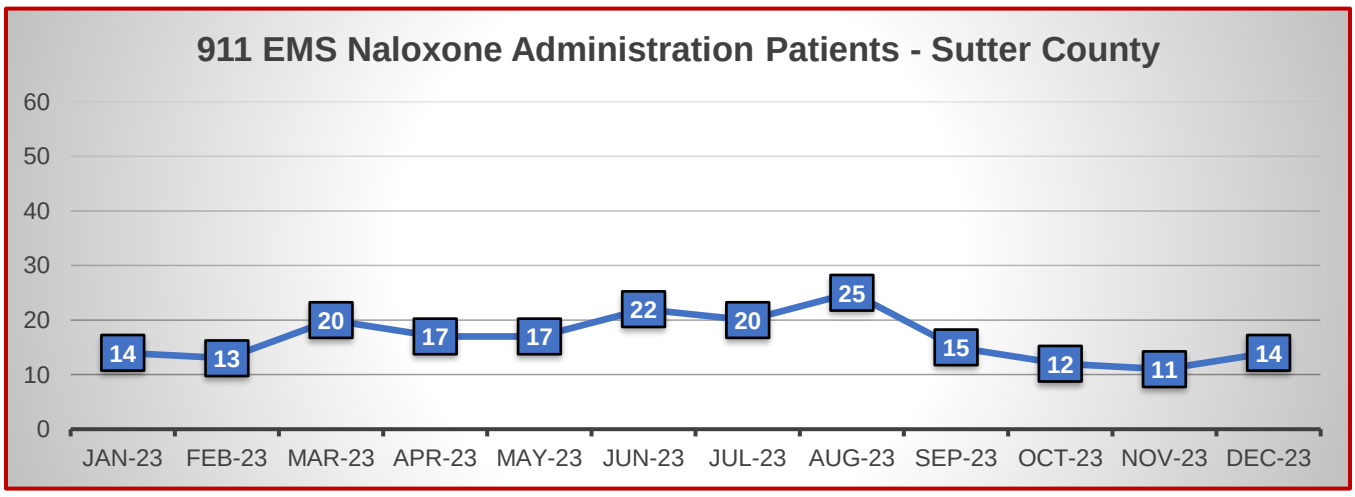

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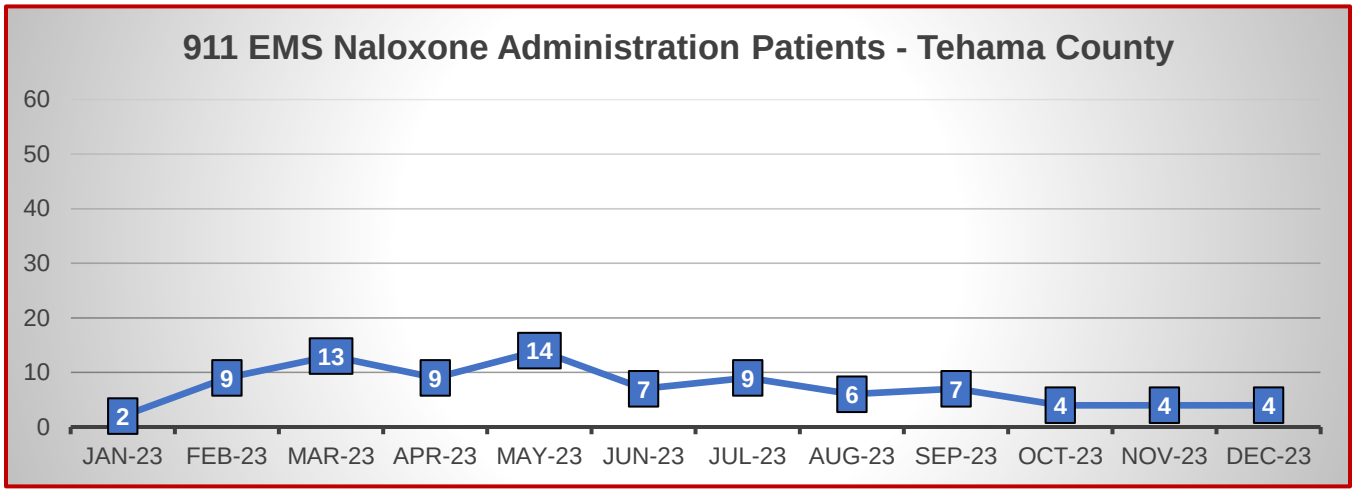
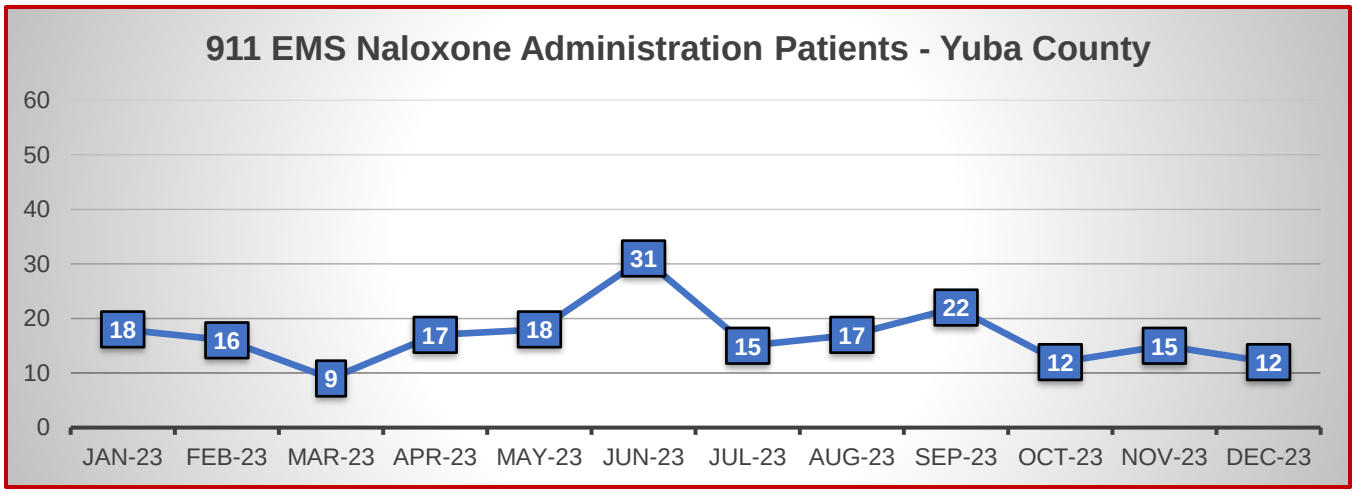




Ambulance Patient Offload Time (APOT) General Information



Ambulance Patient Offload Time (APOT) Definition – The time interval between the arrival of an ambulance patient at a hospital emergency department (ED), and the time the patient is transferred to the ED gurney, bed, chair or other acceptable location and the ED assumes full responsibility for care of the patient. The following NEMSIS Version 3.4 data elements, descriptions and calculations (as documented on the legal electronic patient care report by EMS personnel) are utilized to determine/report the APOT data:

NEMSIS Data Element	Data Element Description	S-SV EMS Criteria/Calculation
dAgency.03	Agency Name	All S-SV EMS 911 Transport Providers
eResponse.05	Response Type of Service Requested	911 Response (Scene)
eDisposition.12	Incident/Patient Disposition	Treated, Transported by EMS
eDisposition.01	Destination/Transferred to, Name	All S-SV EMS Jurisdiction Hospitals
eTimes.11 eTimes.12	Pt Arrived at Destination Date/Time Destination Pt Transfer of Care Date/Time	Calculation = Difference (Minutes) Between eTimes.11 & eTimes.12

APOT Measures

- **APOT 1.1** – An ambulance patient offload time interval measure. This metric is a continuous variable measured in minutes, aggregated and reported as a median.
- **APOT 1.2** – An ambulance patient offload time interval measure. This metric is a continuous variable measured in minutes, aggregated and reported as a 90th percentile.
- **APOT 2** – An ambulance patient offload time interval process measure. This metric demonstrates the incidence of ambulance patient offload times expressed as a percentage of total EMS patients within a 20 minute target, and exceeding that time in reference to 60, 120 & 180 minute intervals.

APOT Charts/Graphs Color Key Definitions

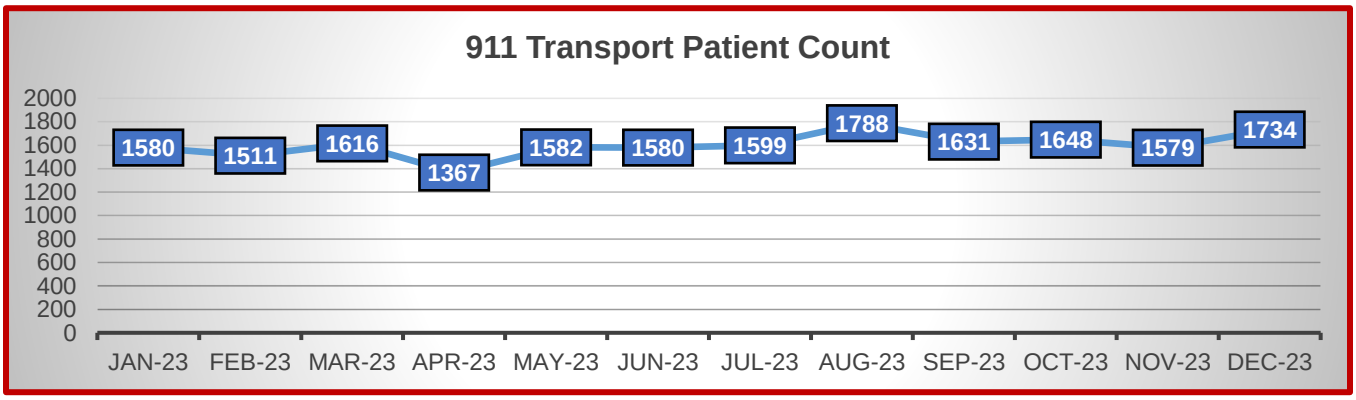
Total Number of 911 patient transports for the reporting month

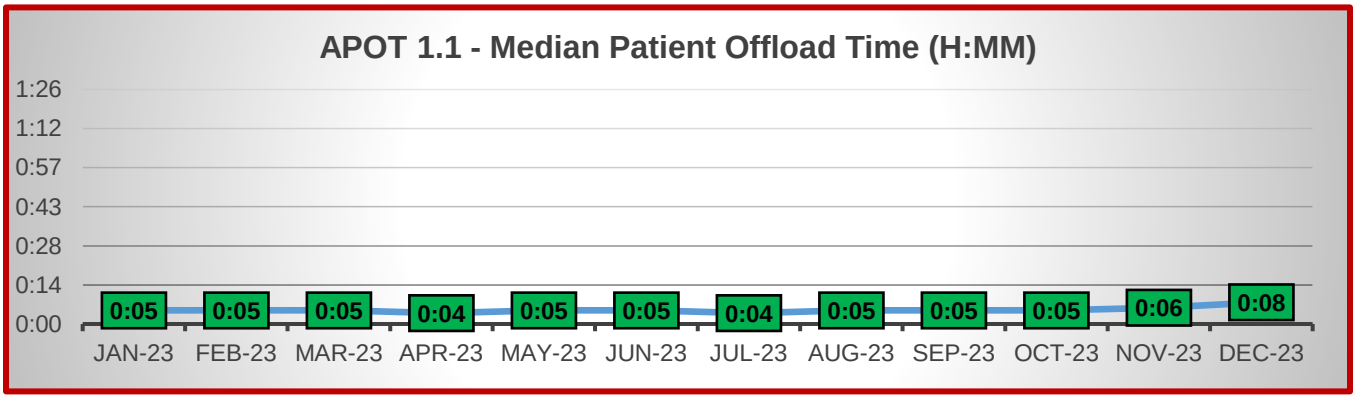
Meets APOT Standard (All APOT measures: ≤20 minutes)

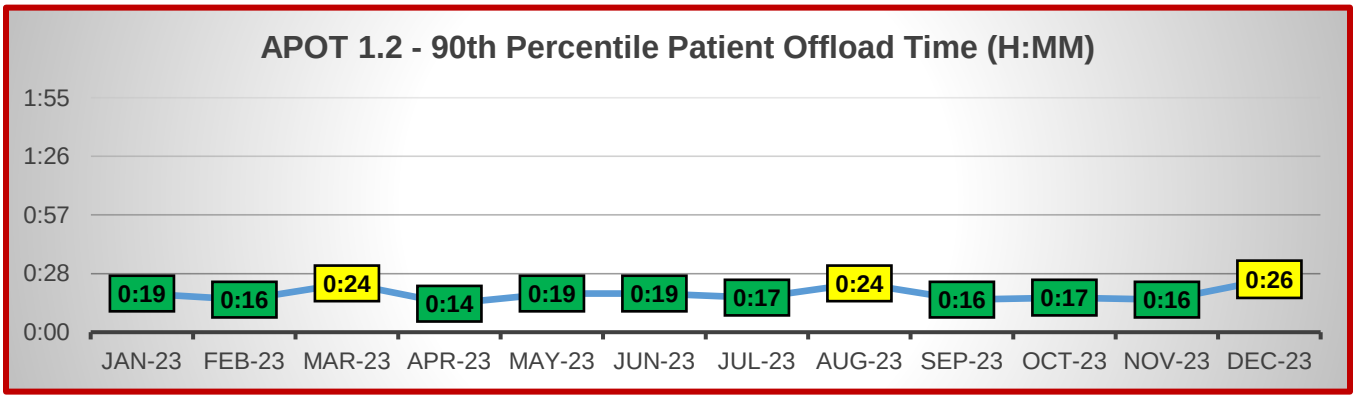
Exceeds APOT Standard (APOT 1.1 & 1.2: 21-30 minutes, APOT 2: 21-60 minutes)

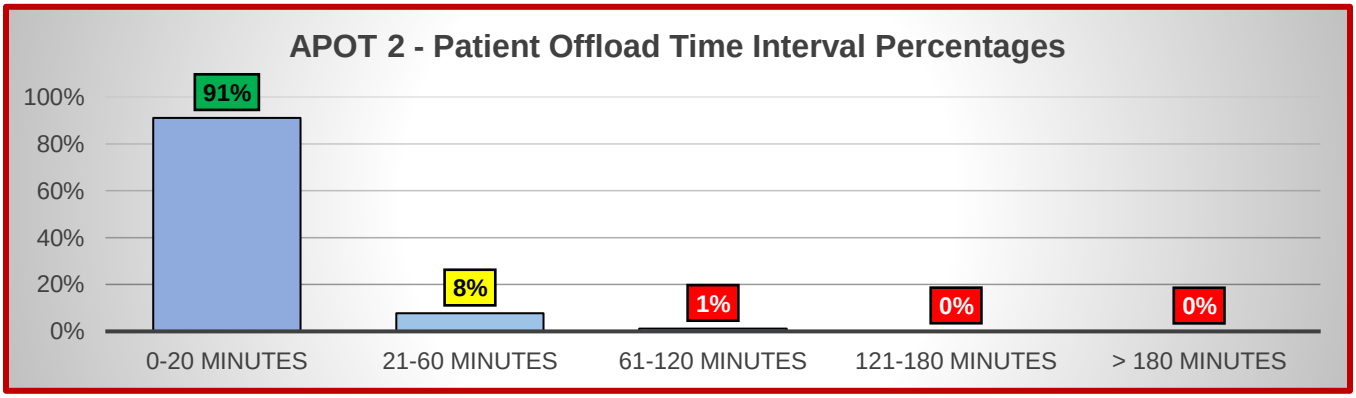
Significantly Exceeds APOT Standard (APOT 1.1 & 1.2: >30 minutes, APOT 2: >60 minutes)

Adventist Health +Rideout APOT

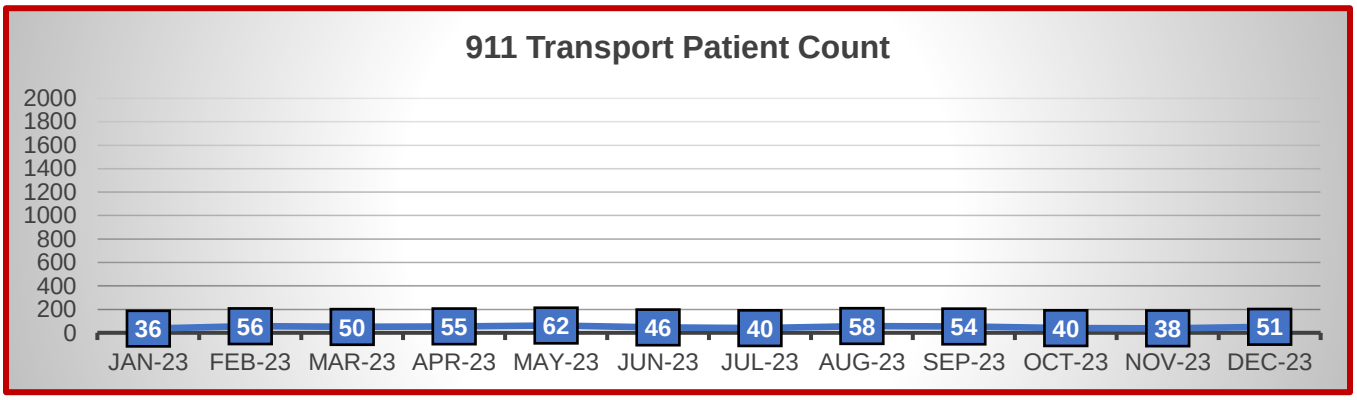


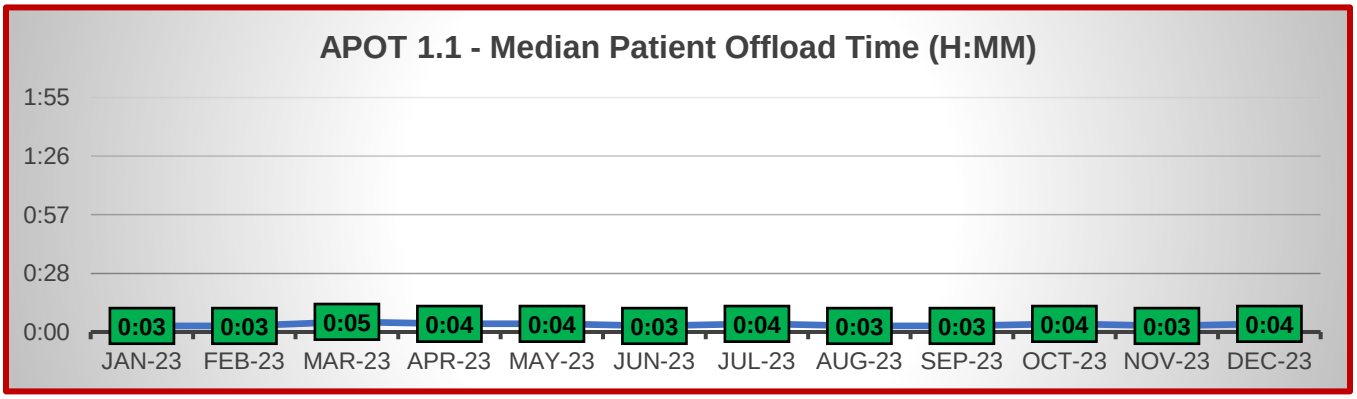


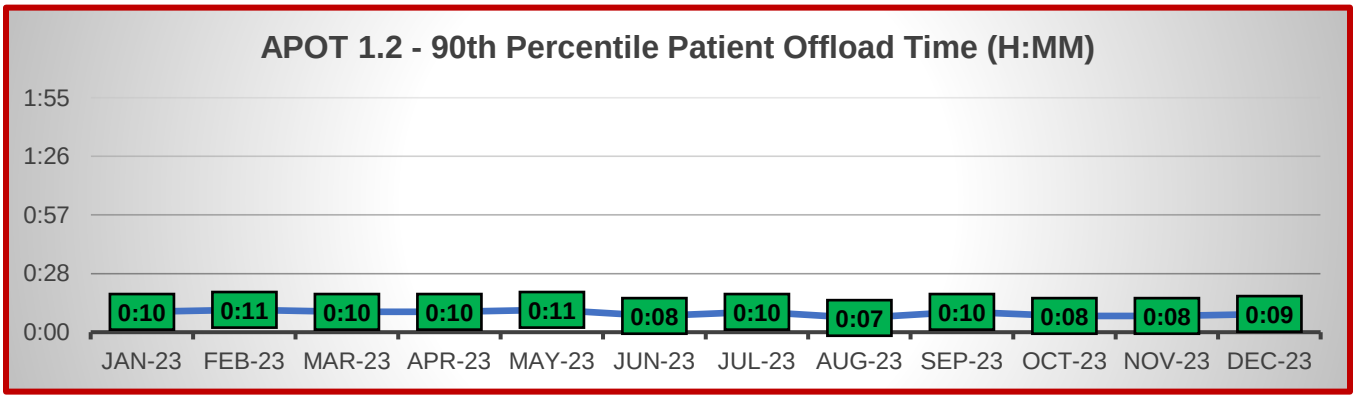


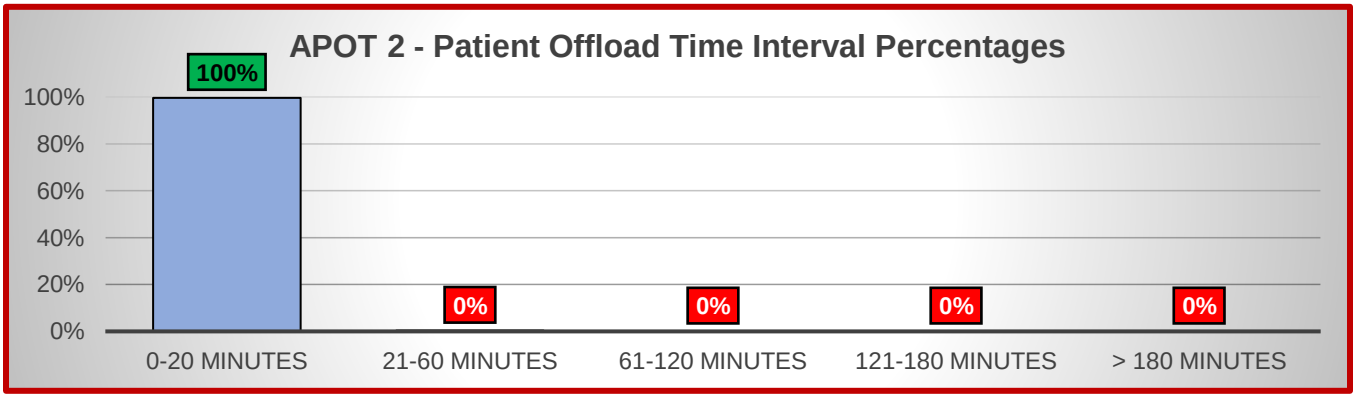


Colusa Medical Center APOT

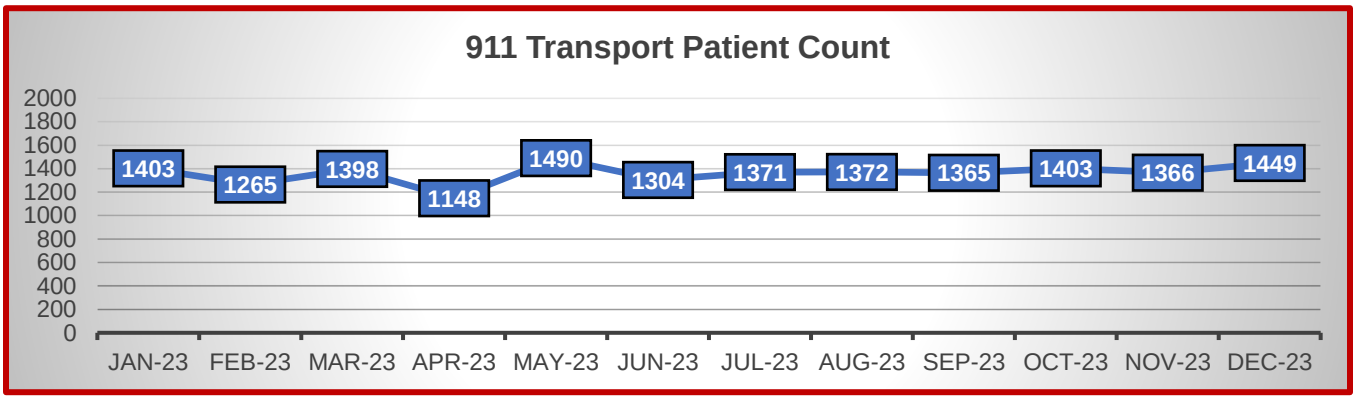


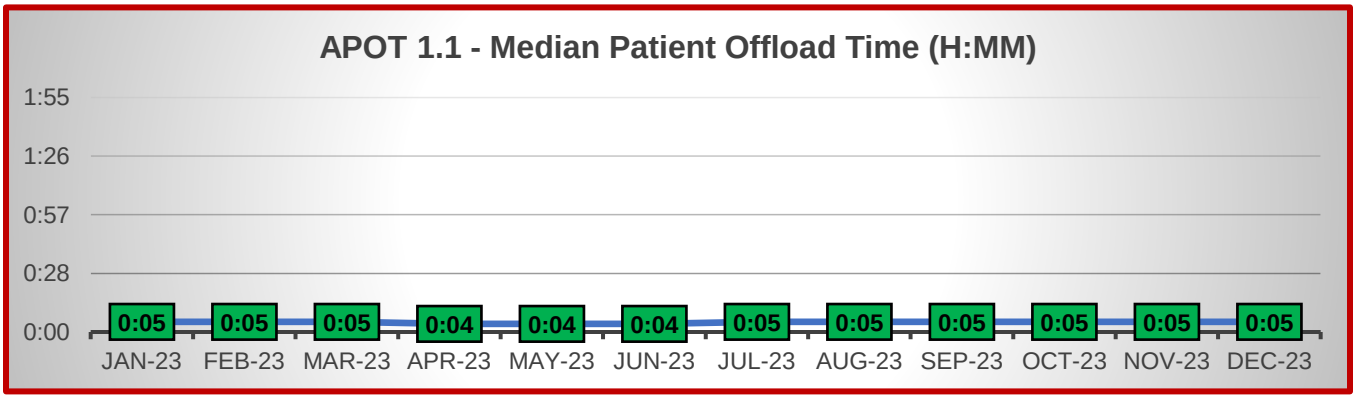


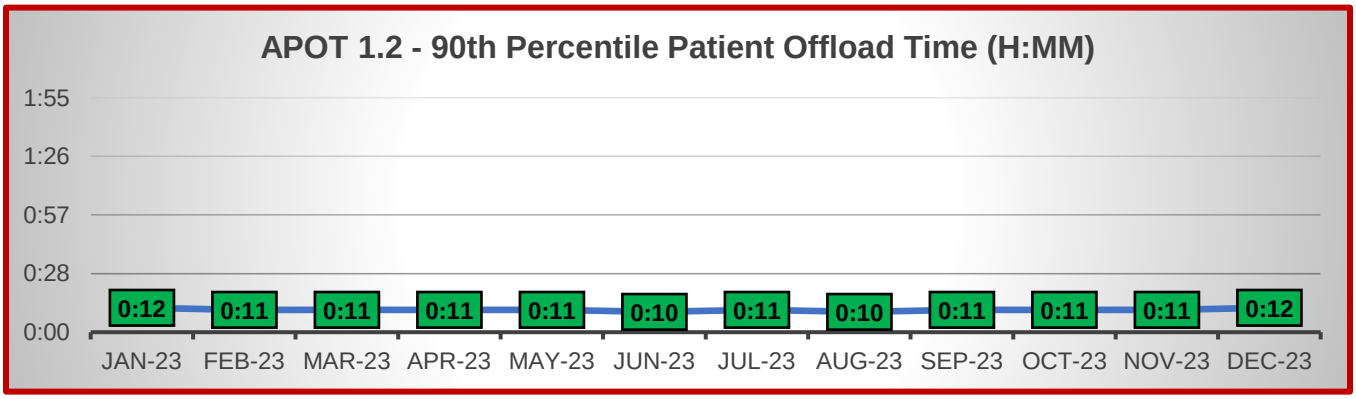


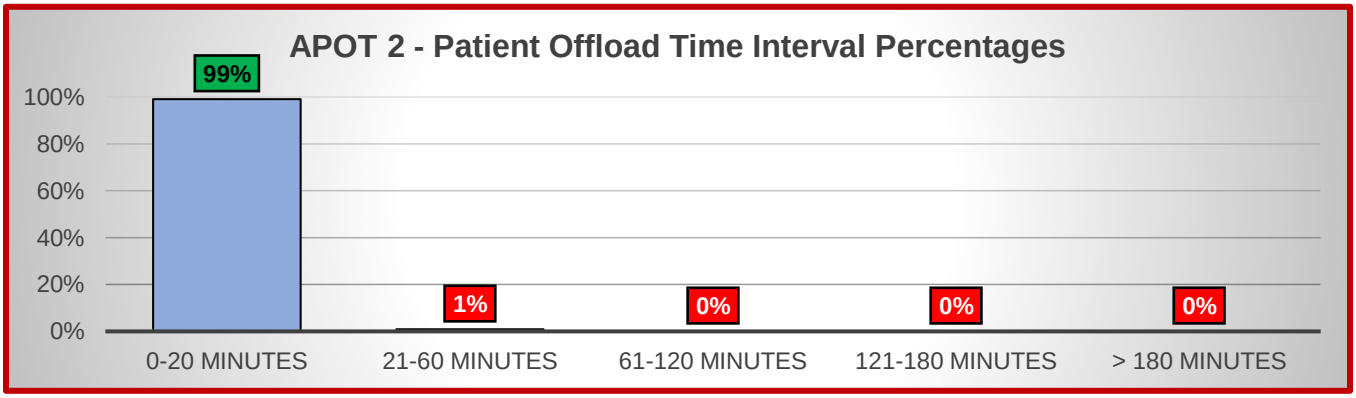


Enloe Medical Center APOT

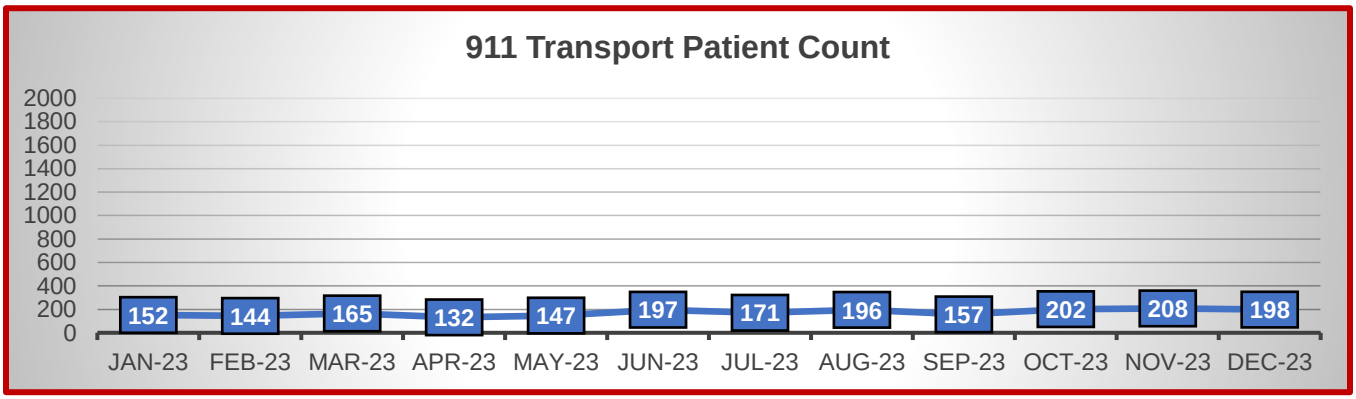


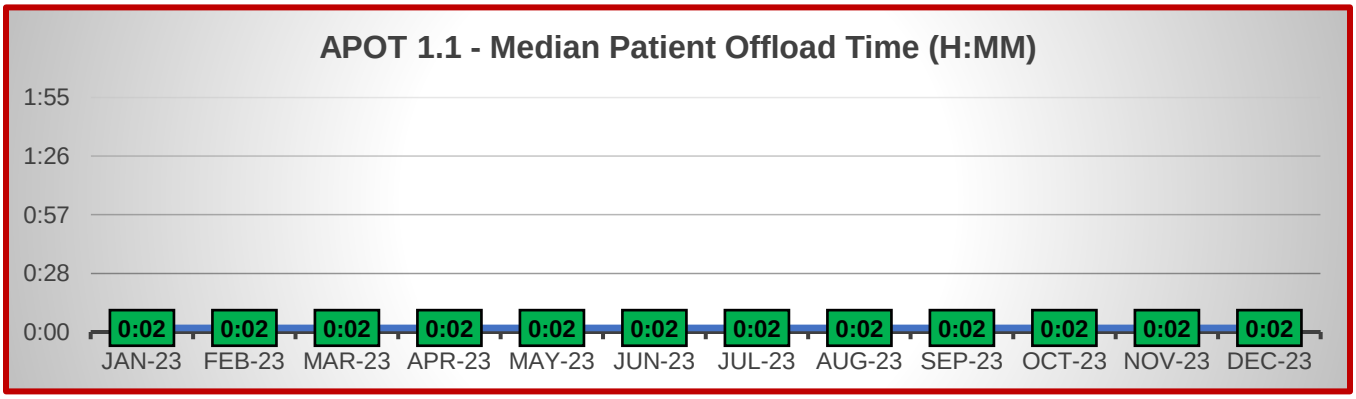


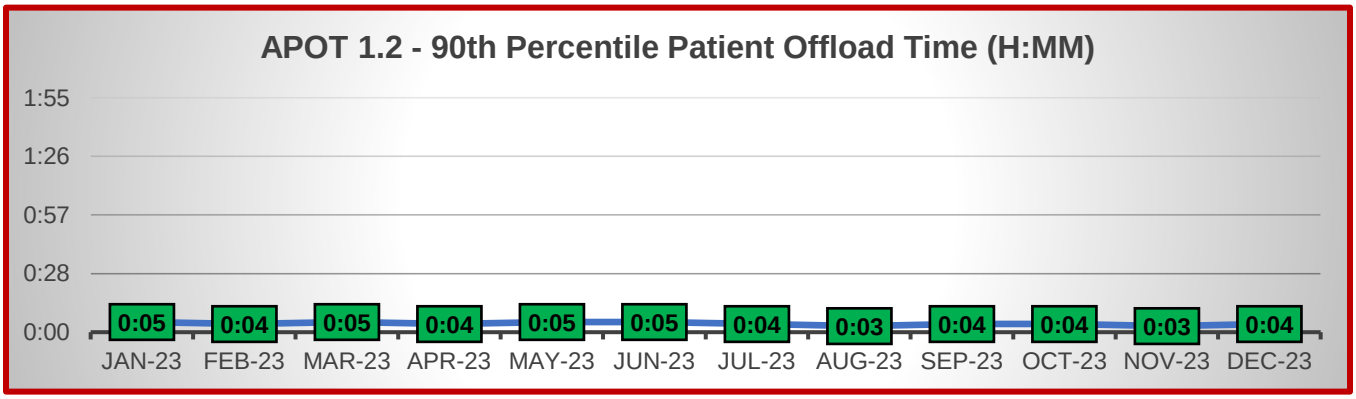


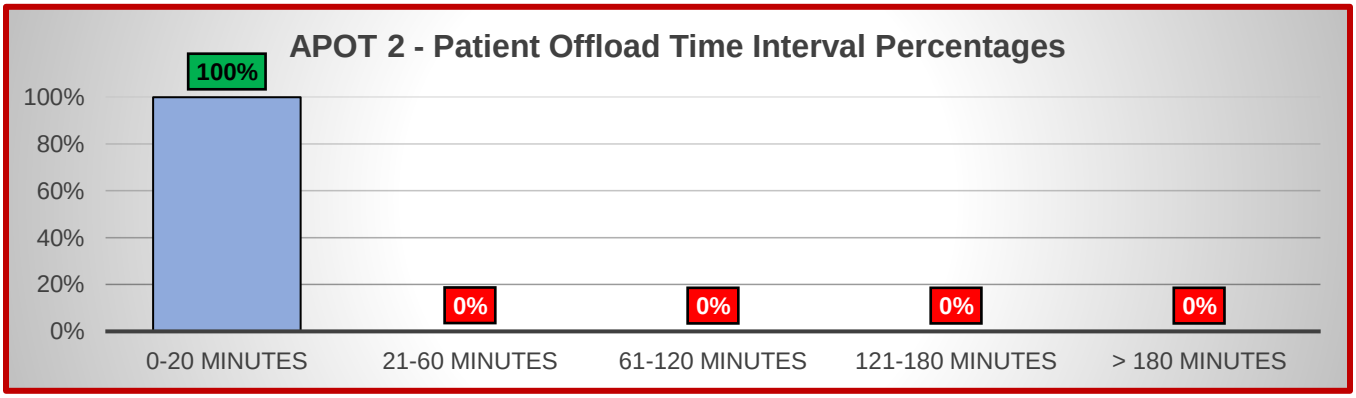


Fairchild Medical Center APOT

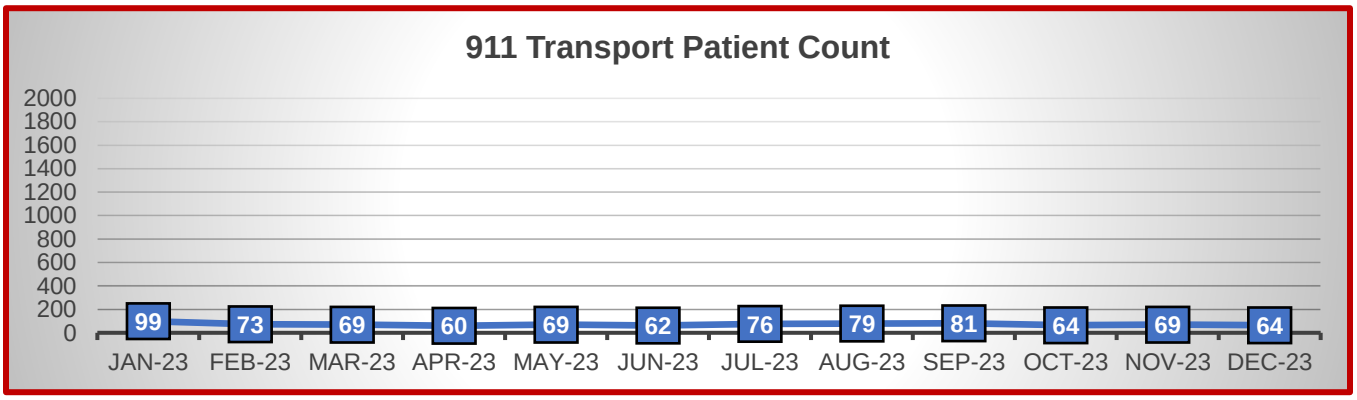


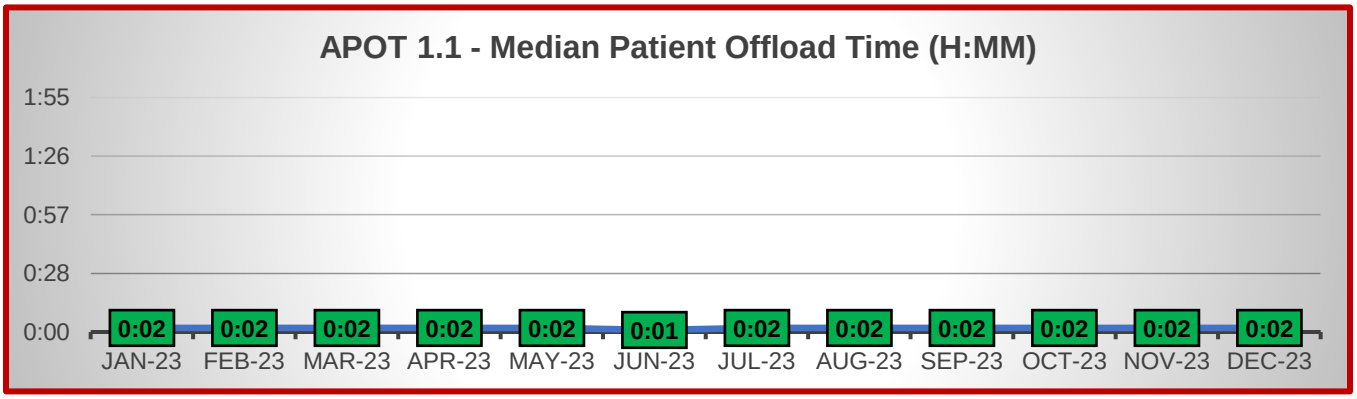


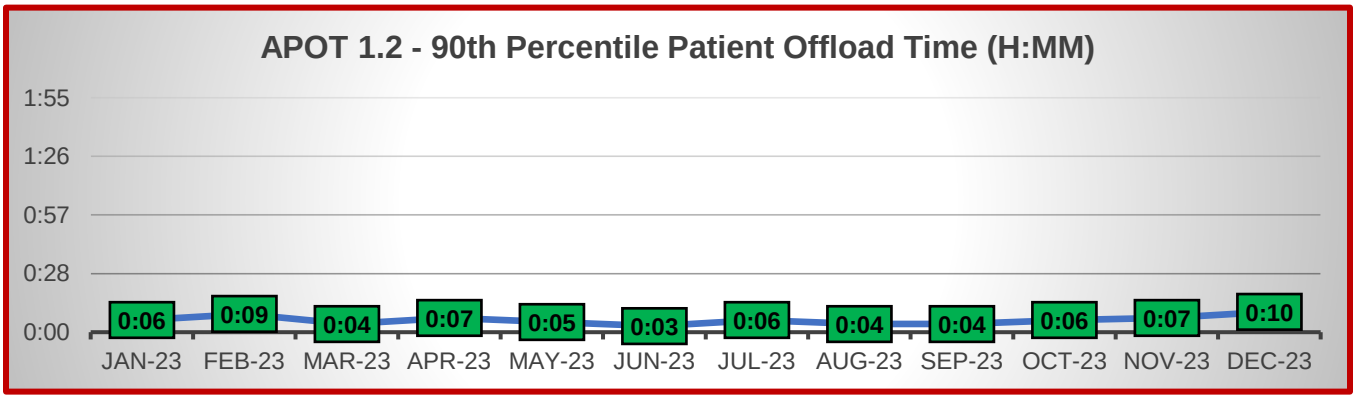


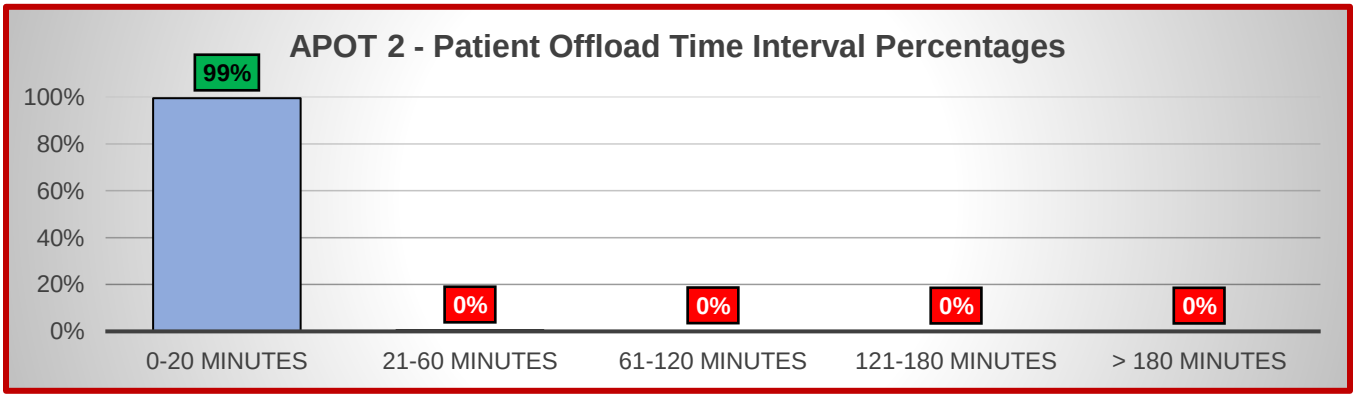


Glenn Medical Center APOT

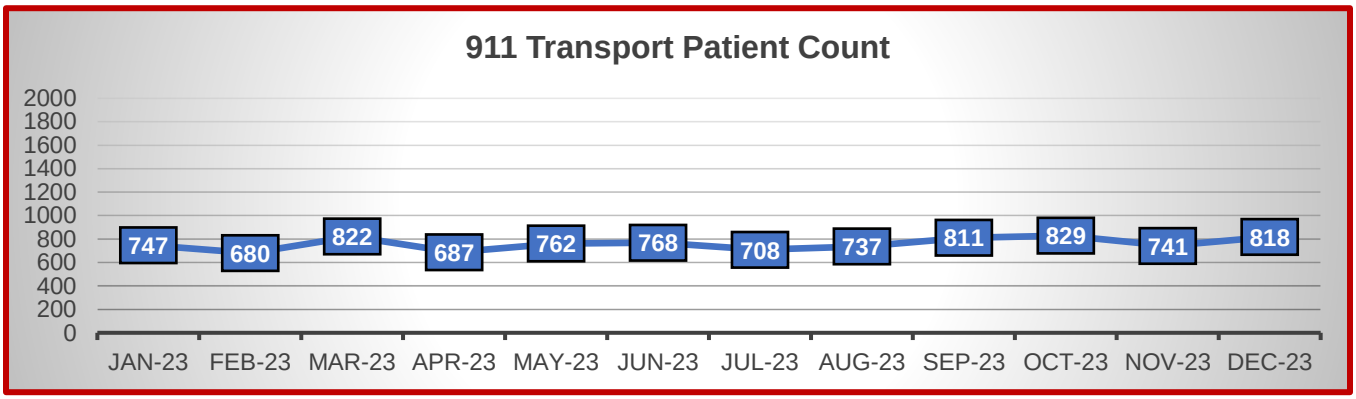


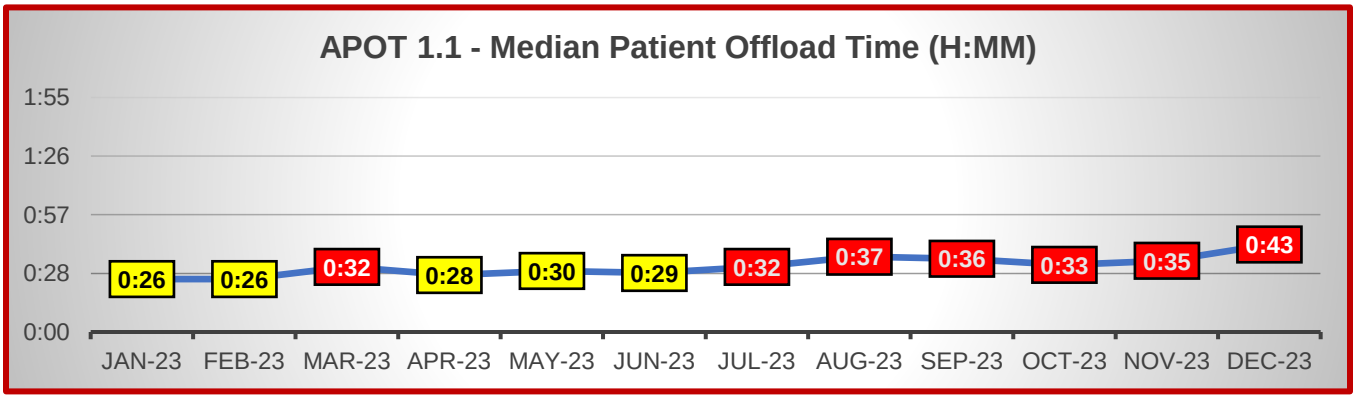


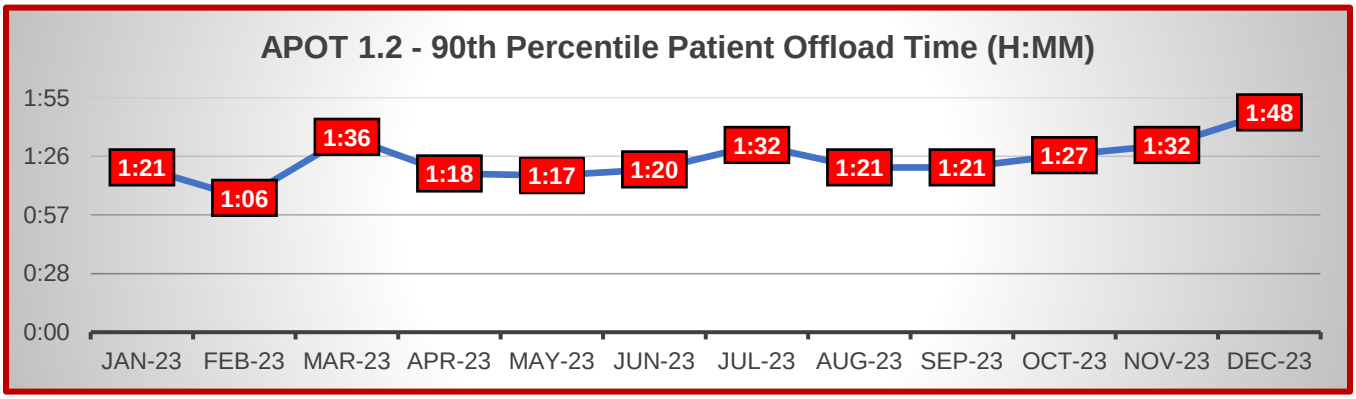


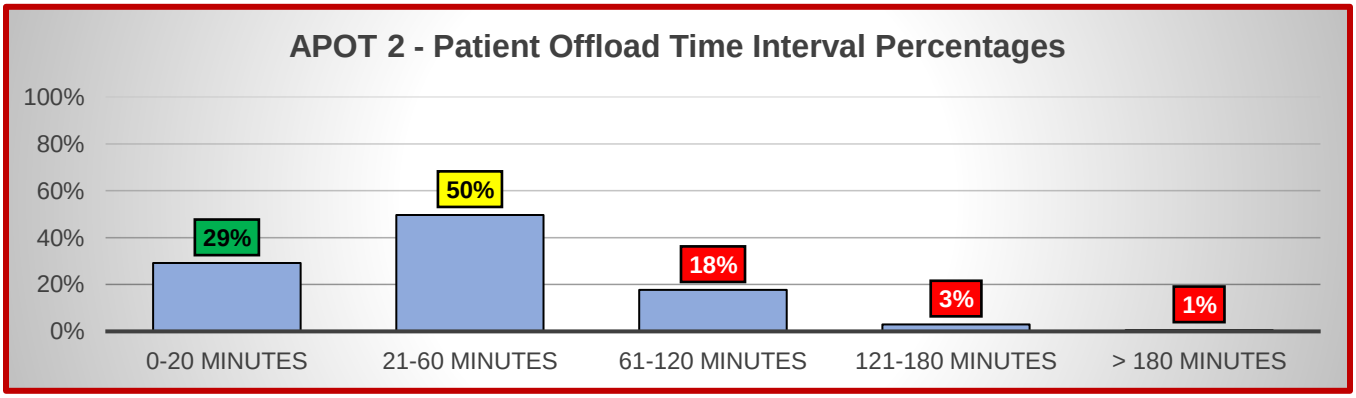


Kaiser Roseville Medical Center APOT

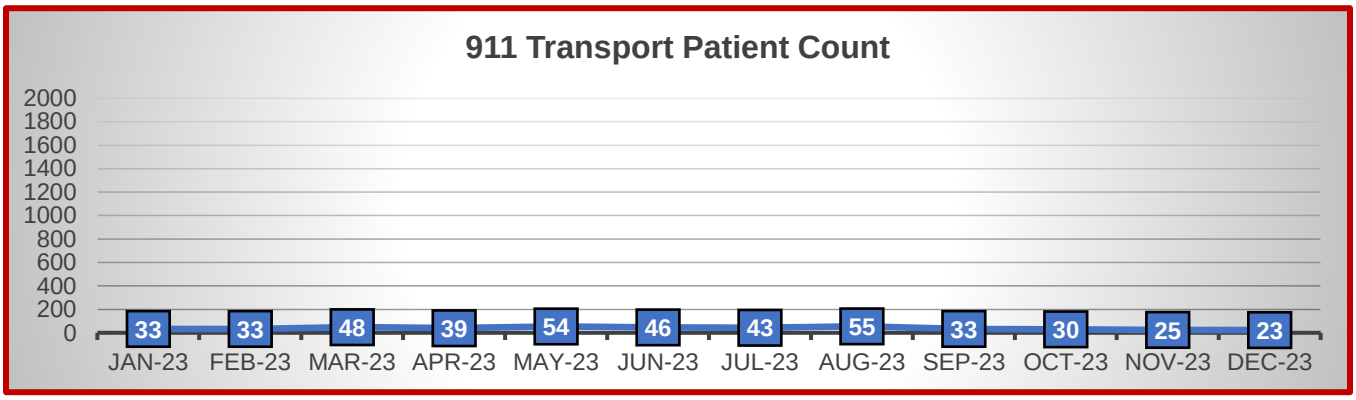


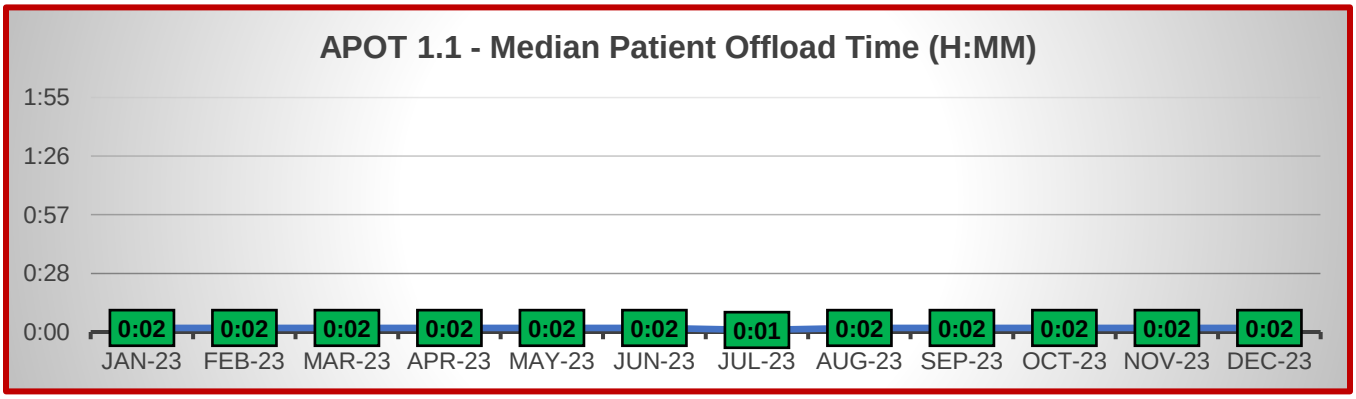


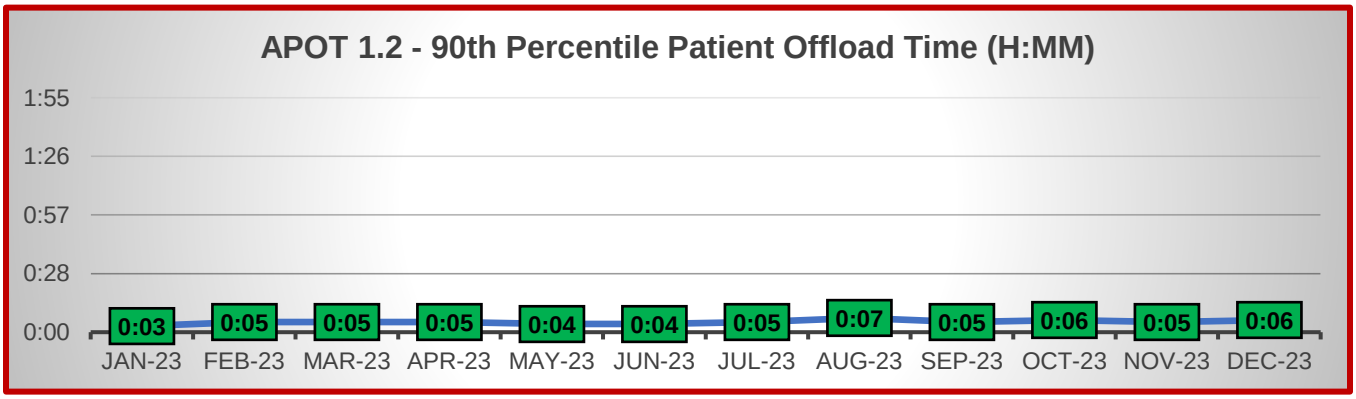


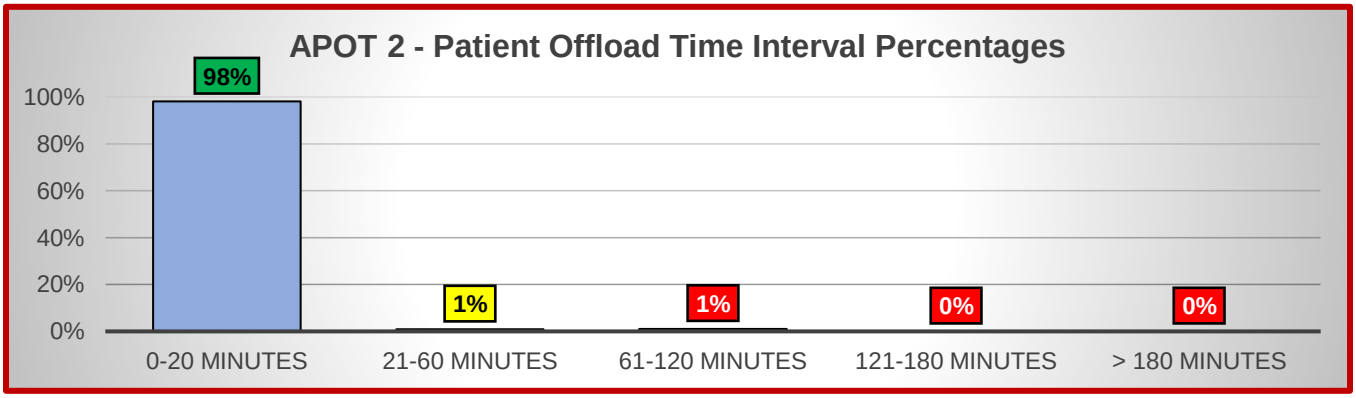


Mayers Memorial Hospital APOT

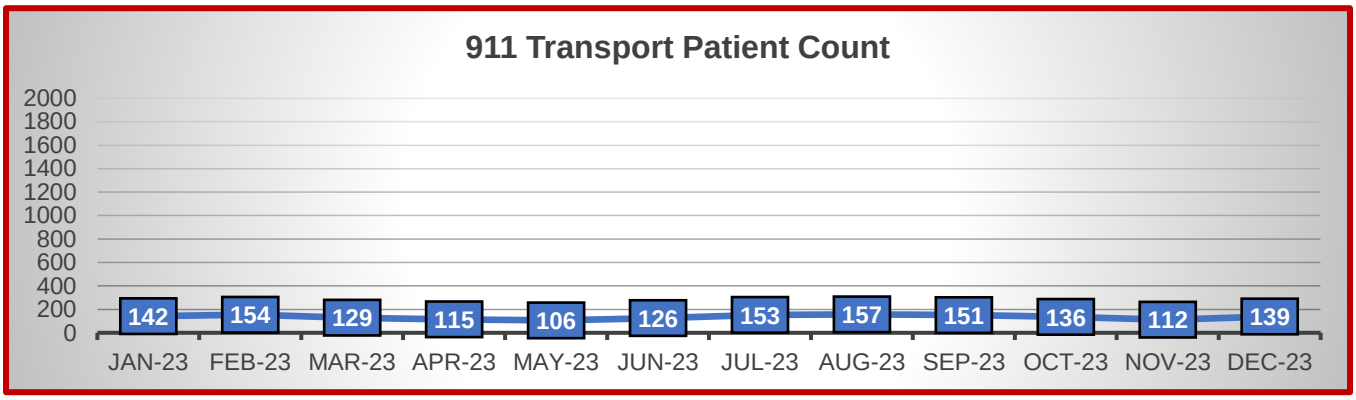


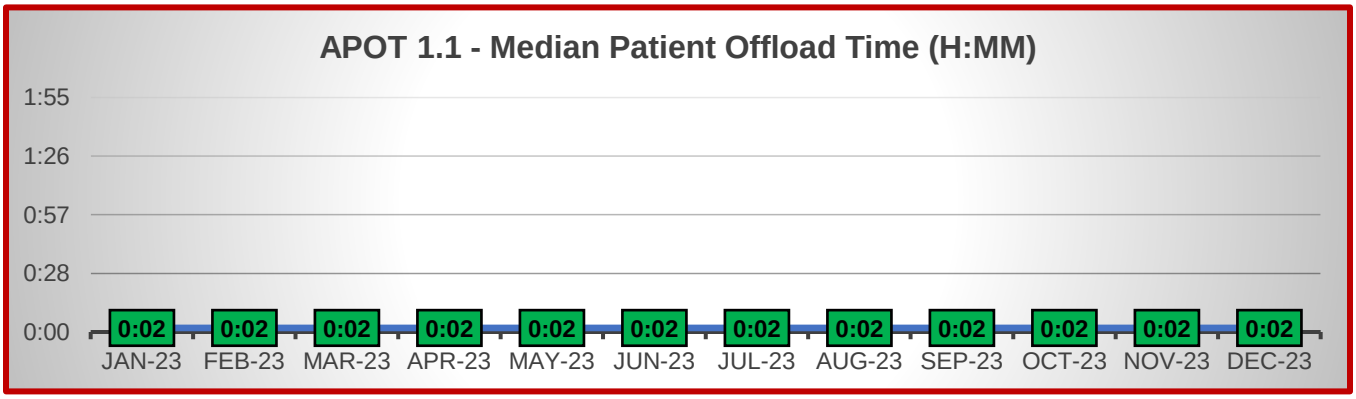


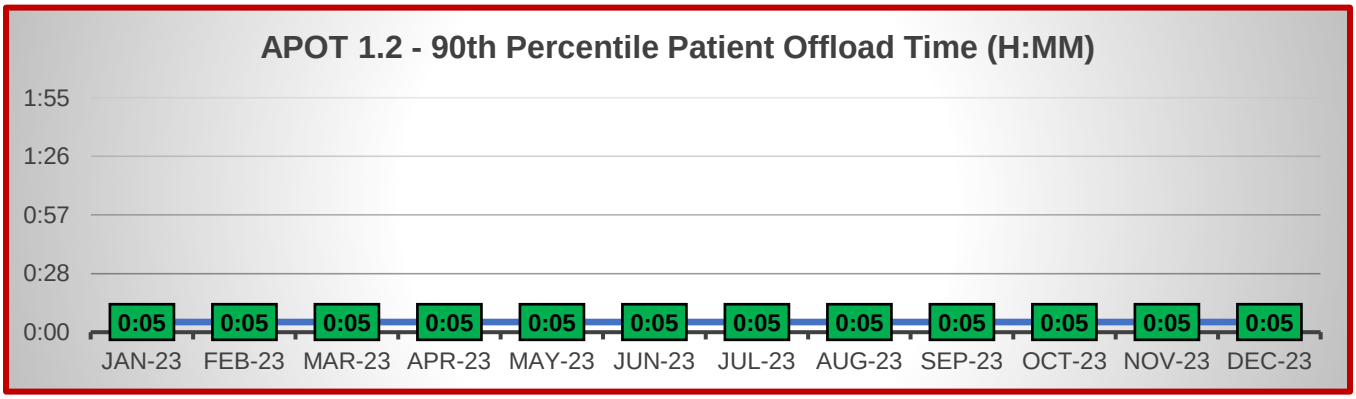


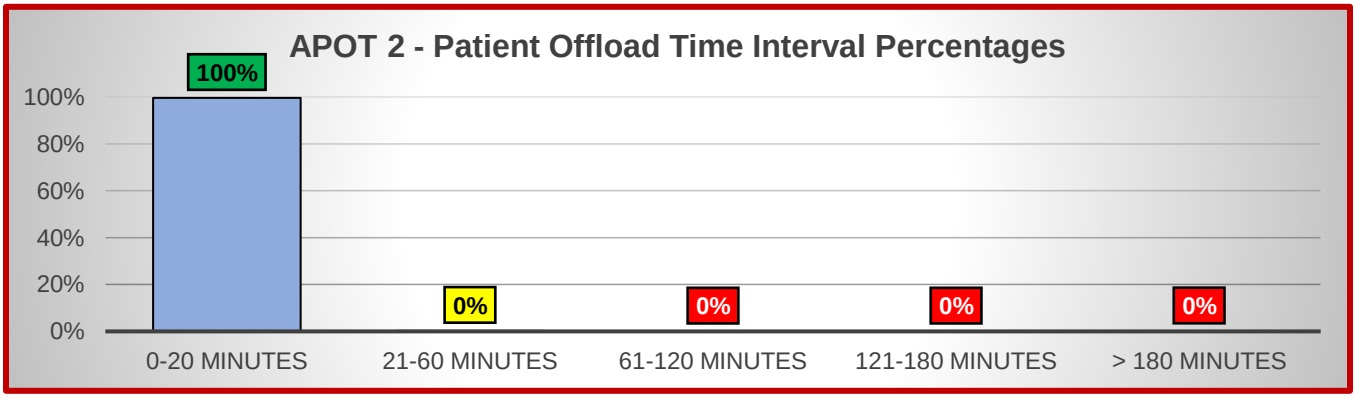


Mercy Mt. Shasta Medical Center APOT

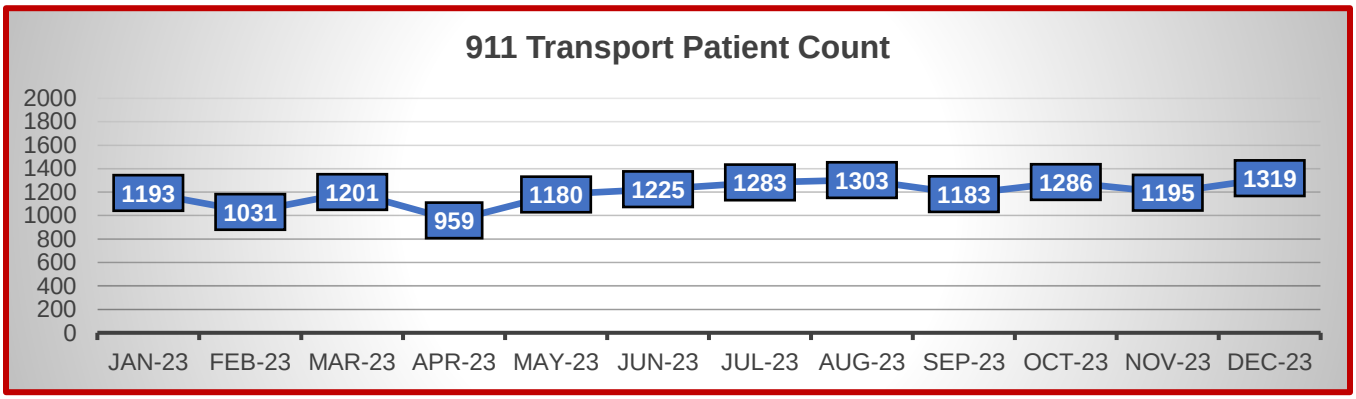


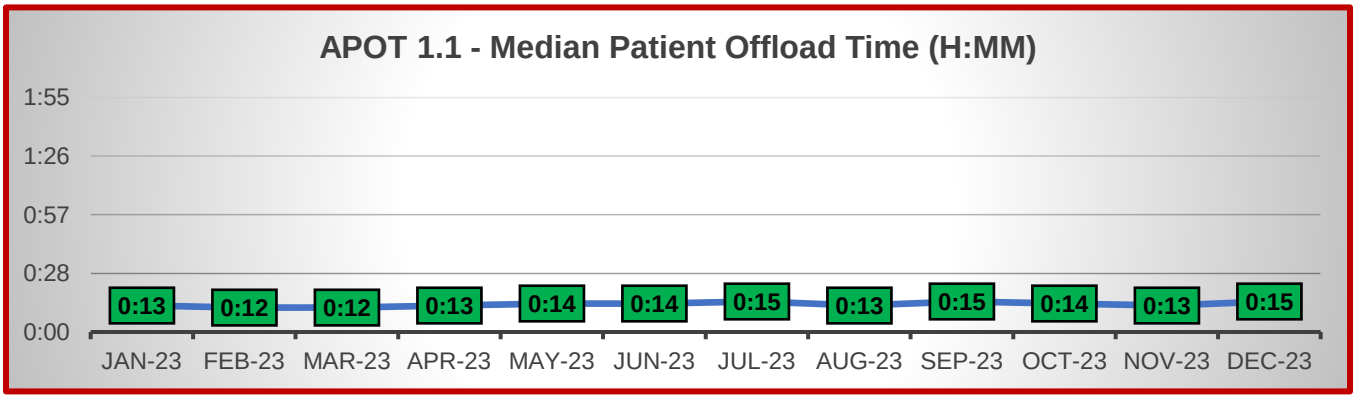


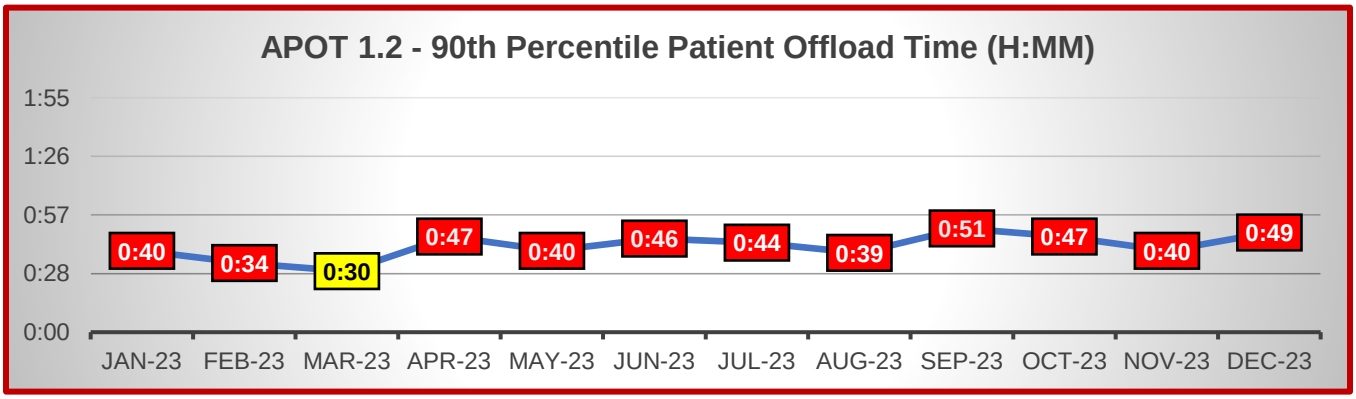


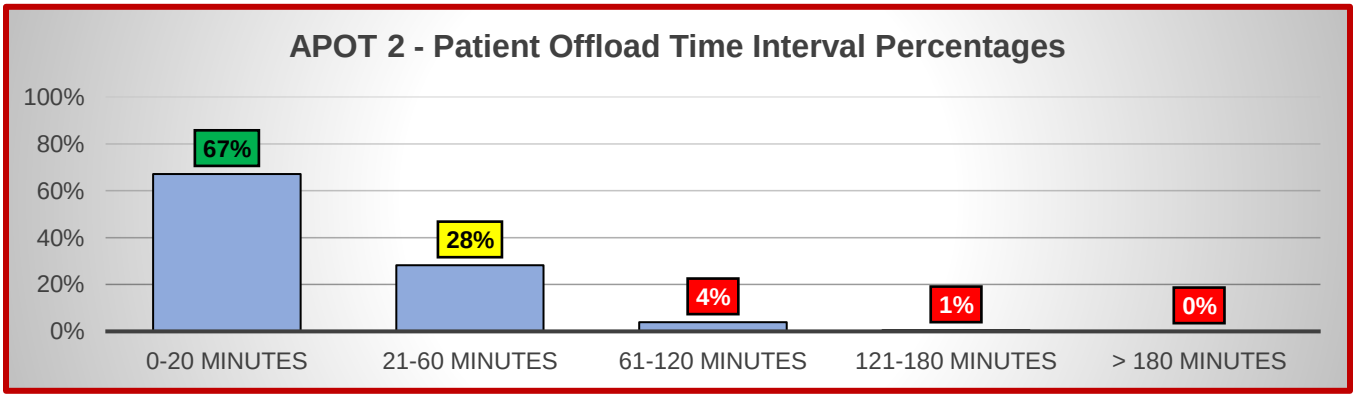


Mercy Medical Center Redding APOT

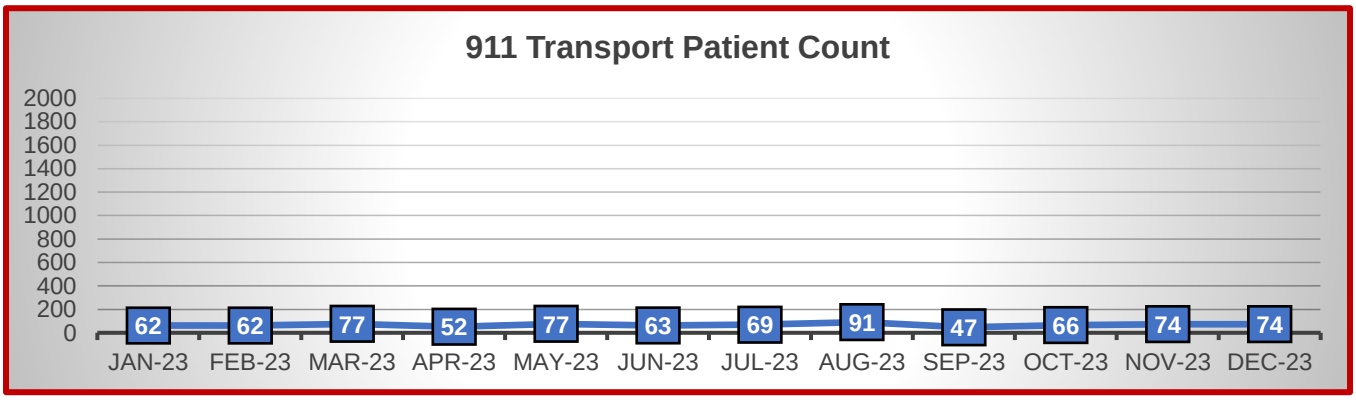


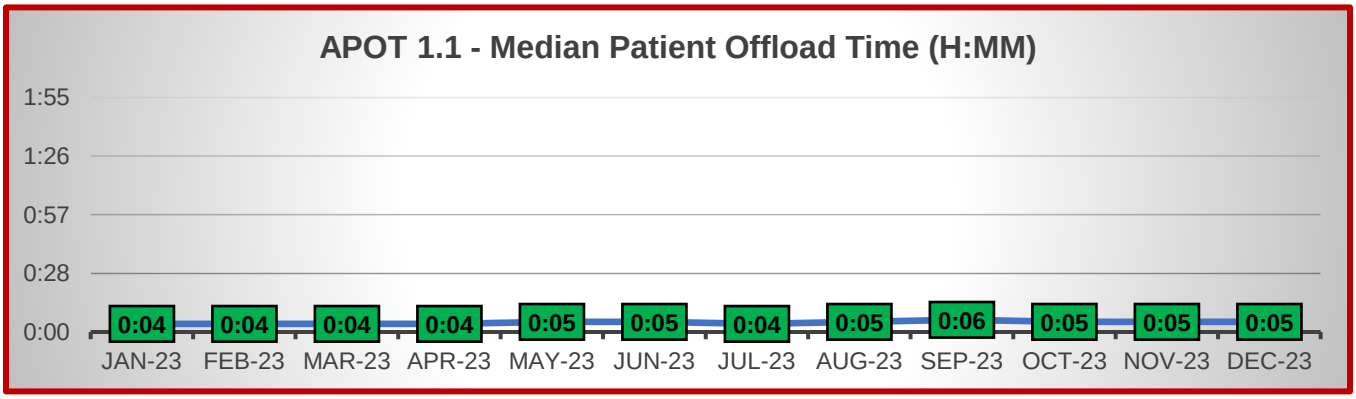


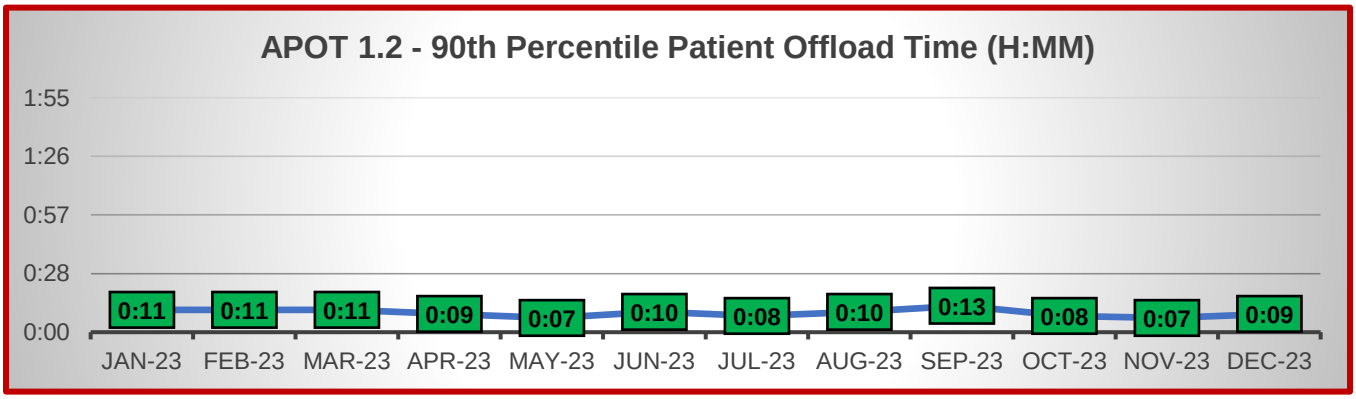


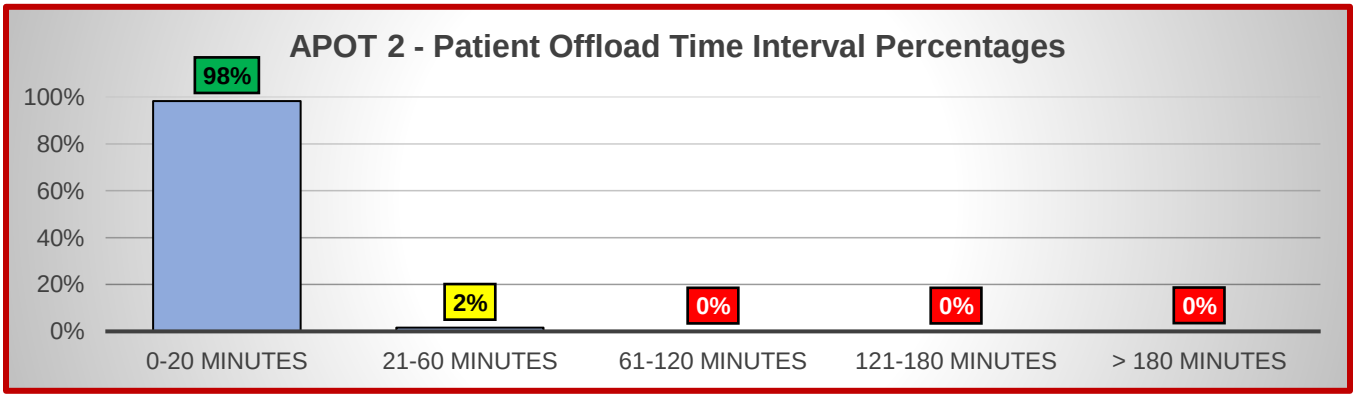


Orchard Hospital APOT

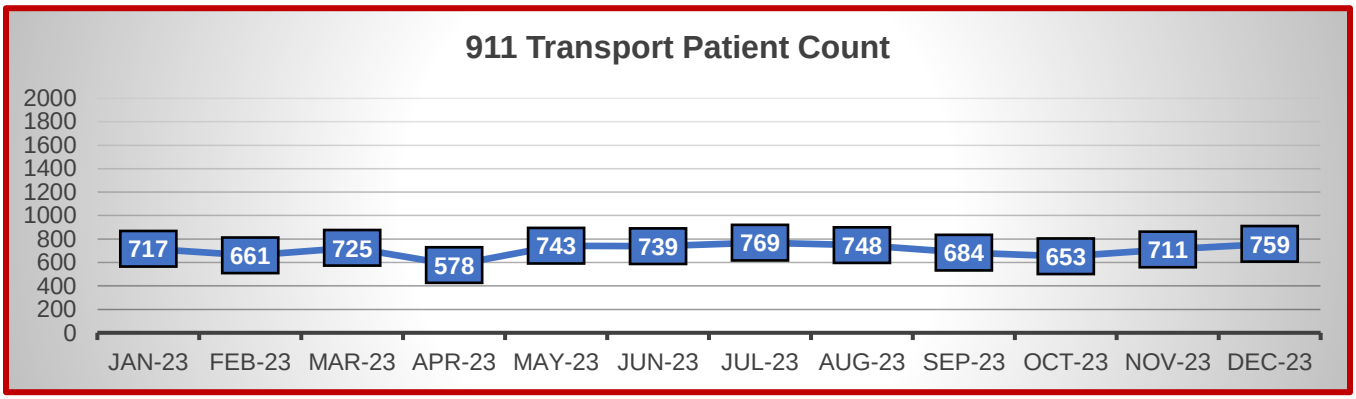


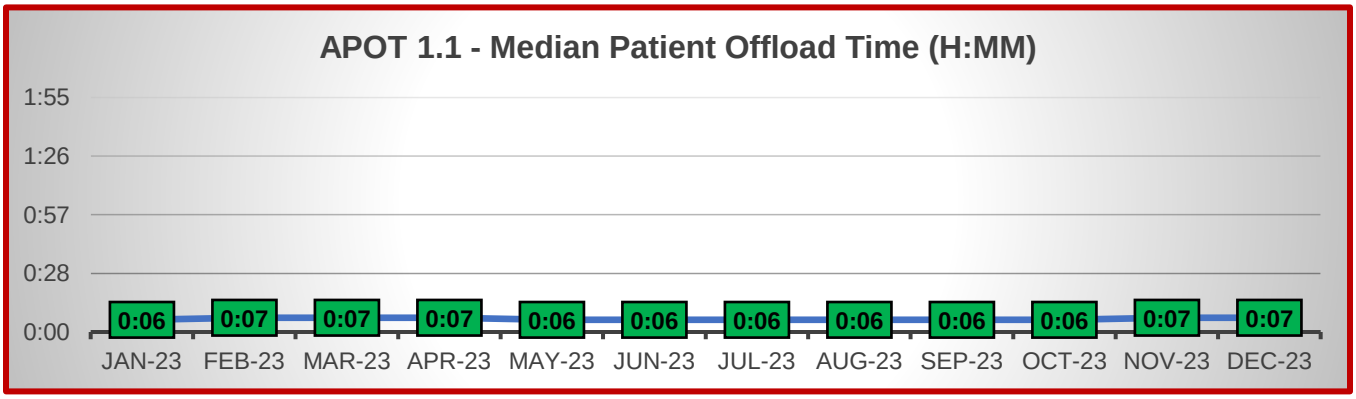


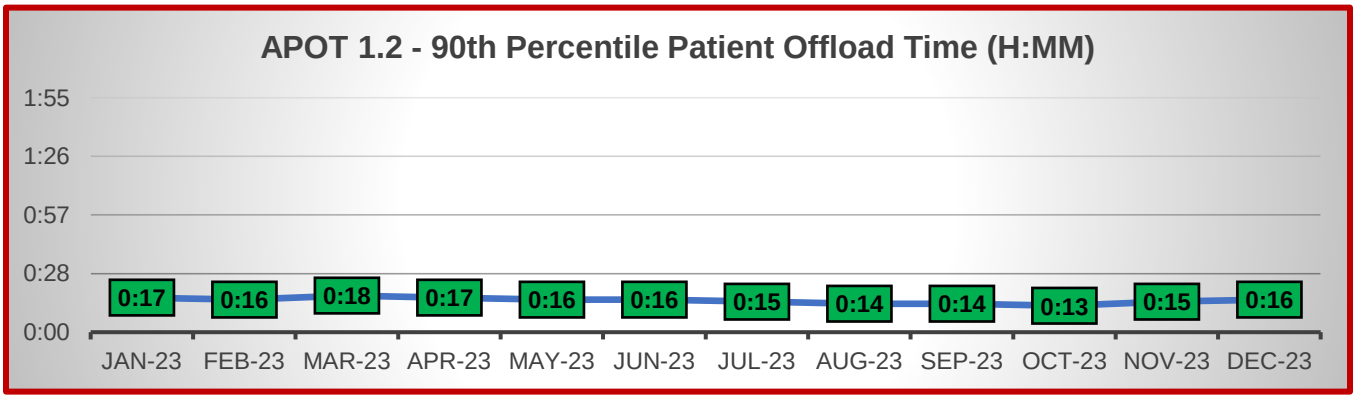


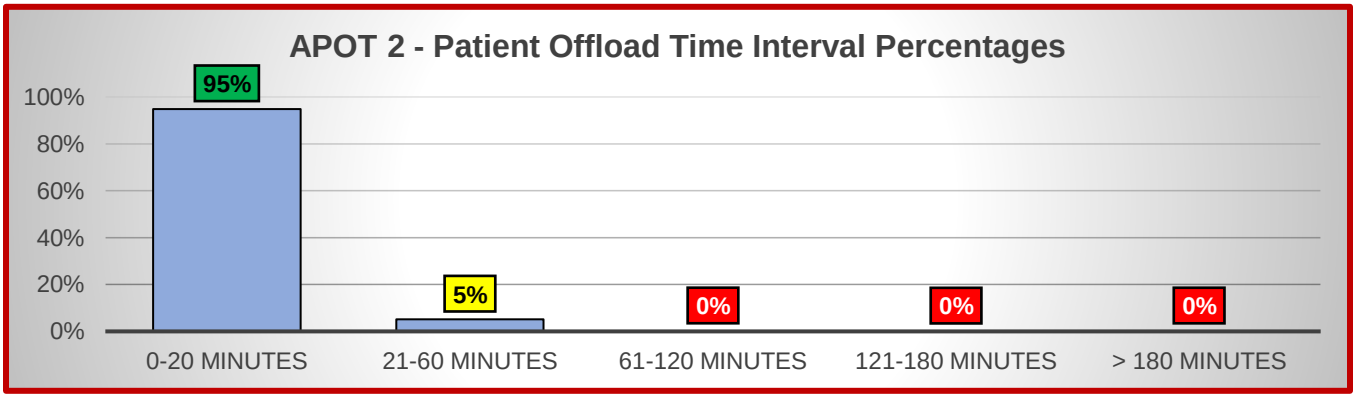


Oroville Hospital APOT

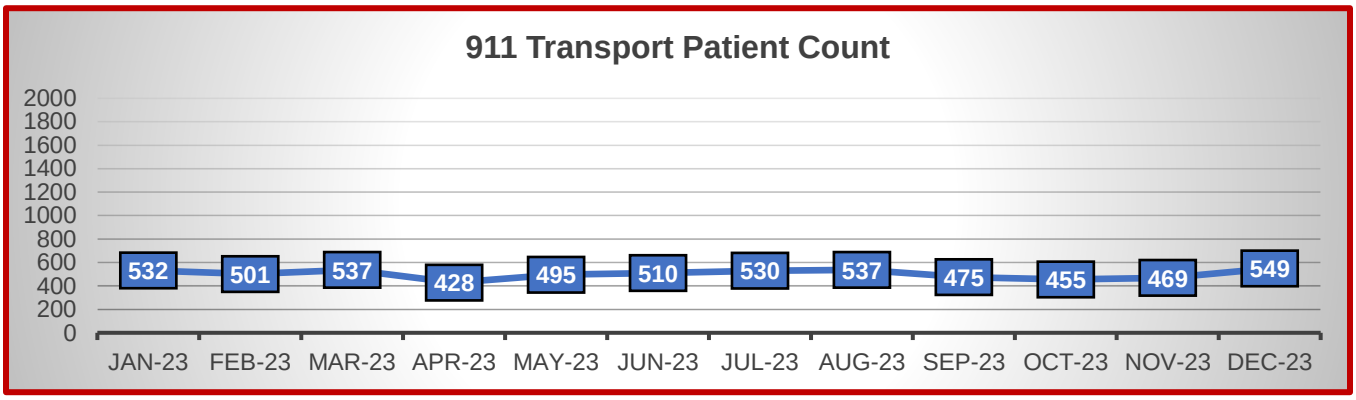


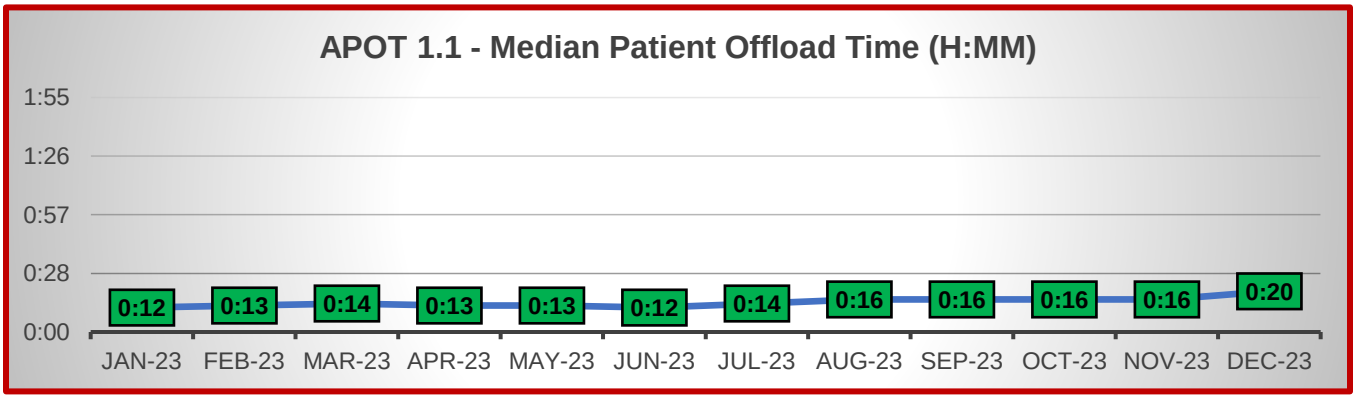


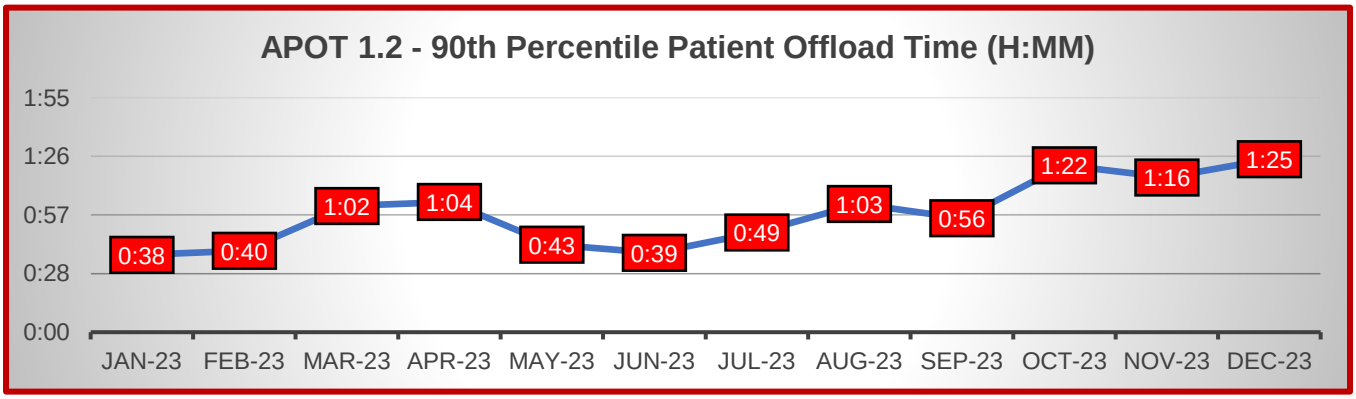


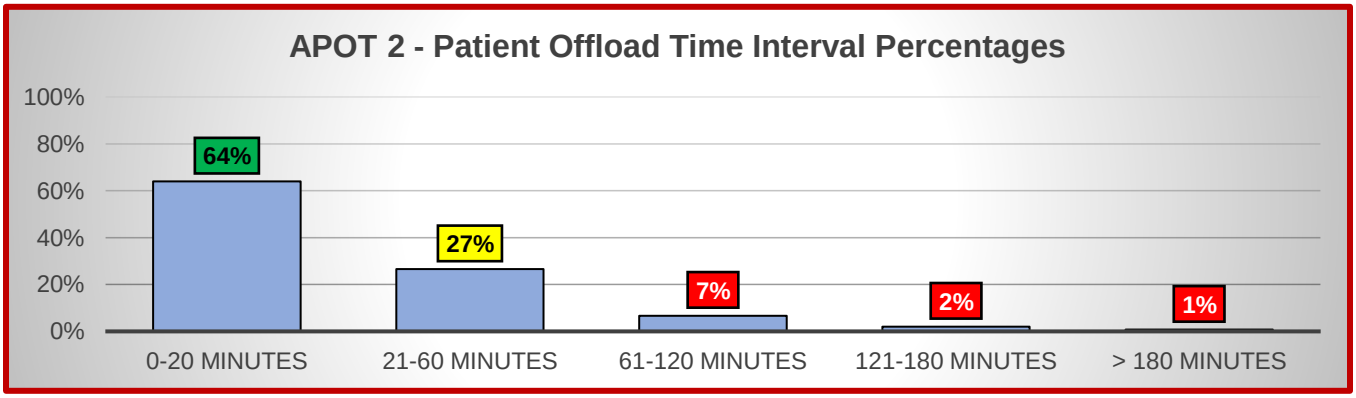


Shasta Regional Medical Center APOT

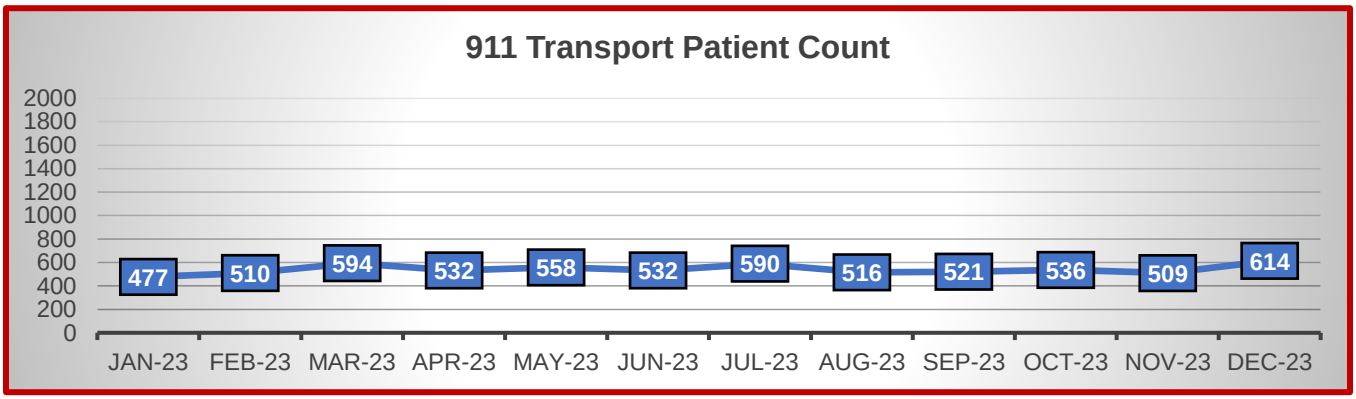


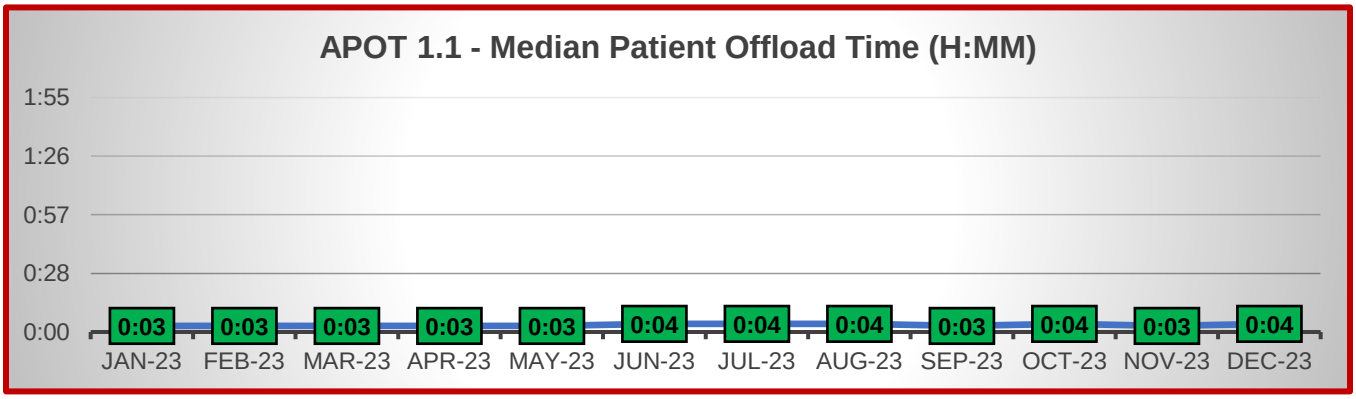


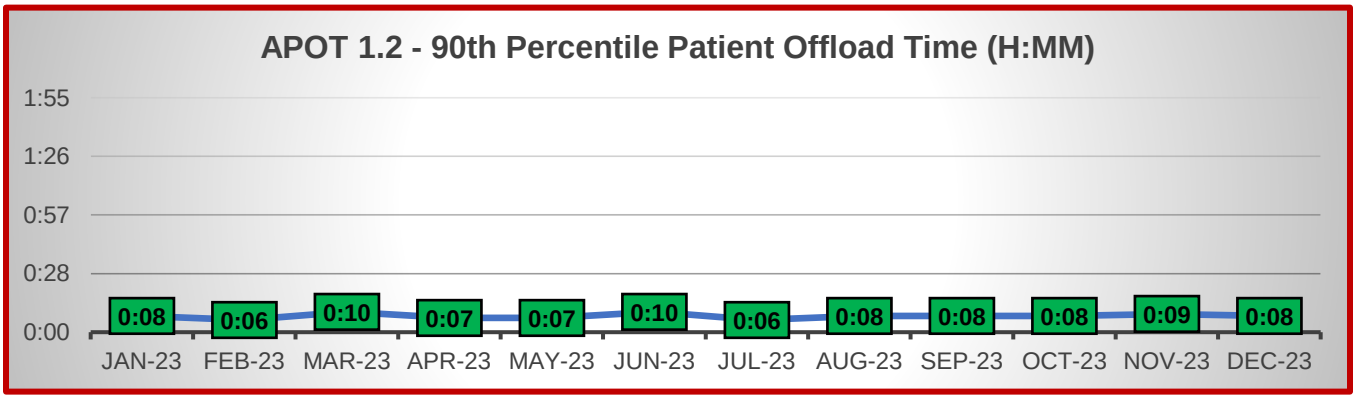


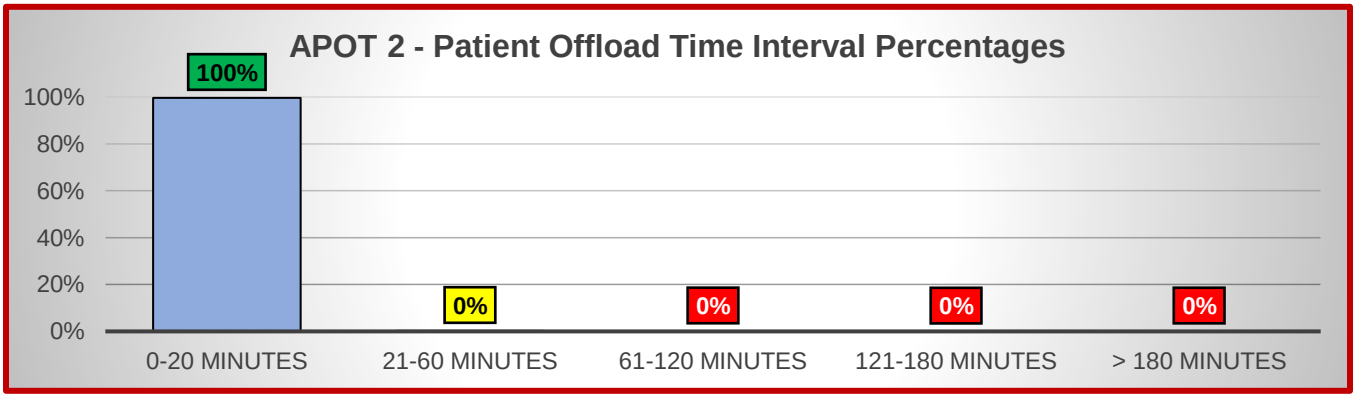


Sierra Nevada Memorial Hospital APOT









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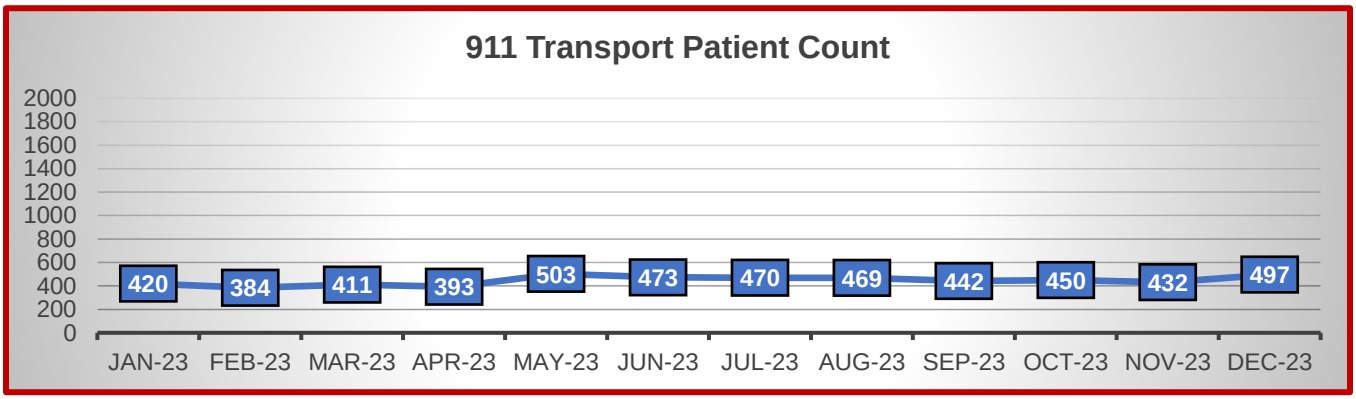

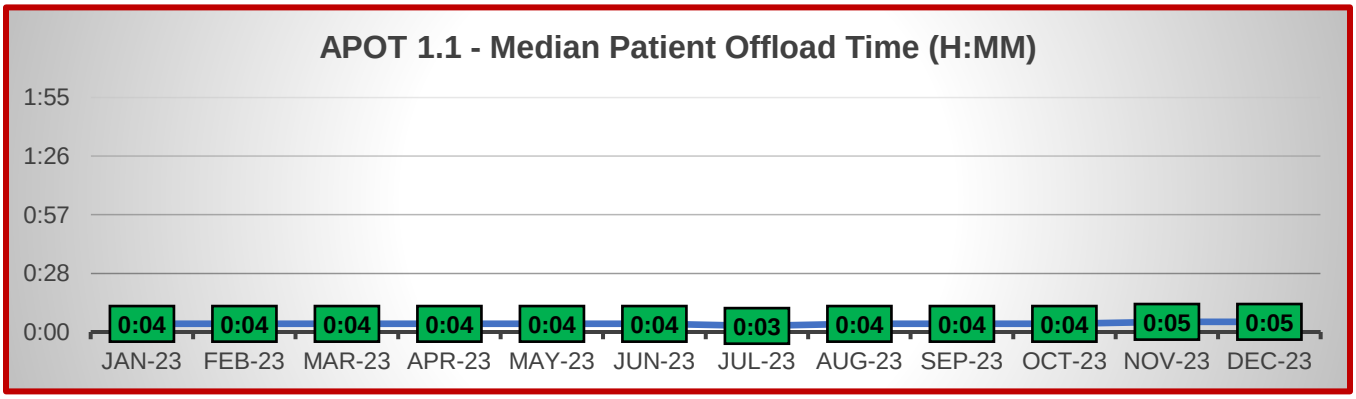

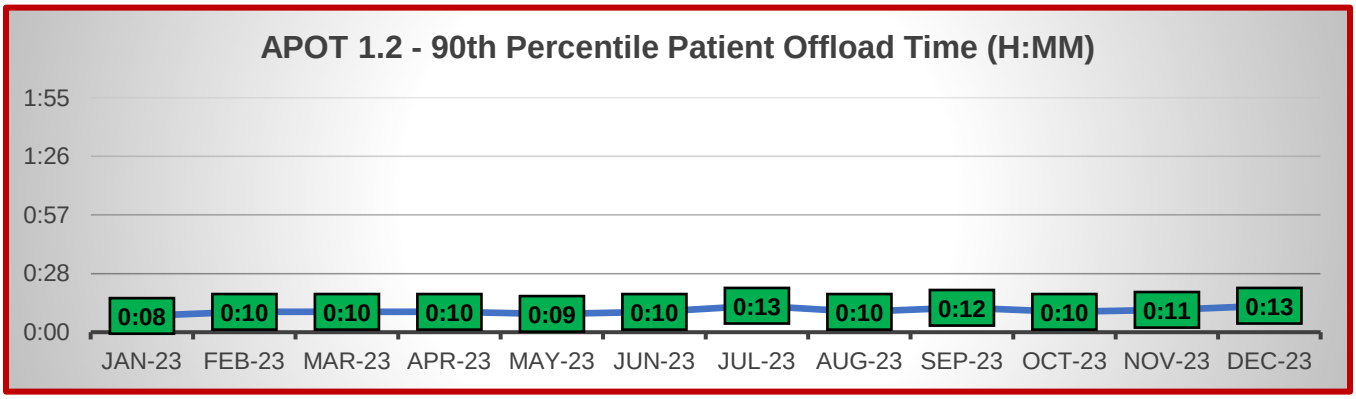

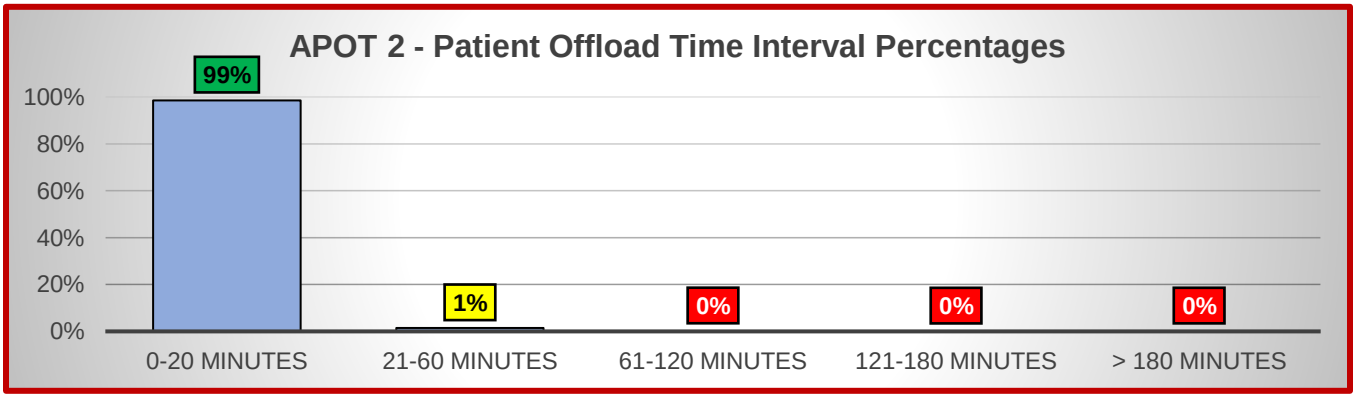

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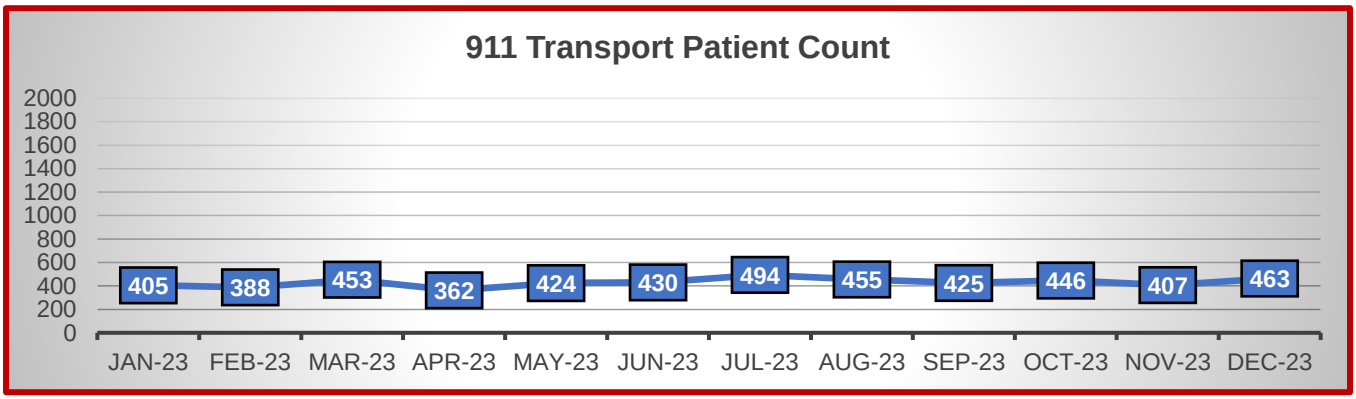
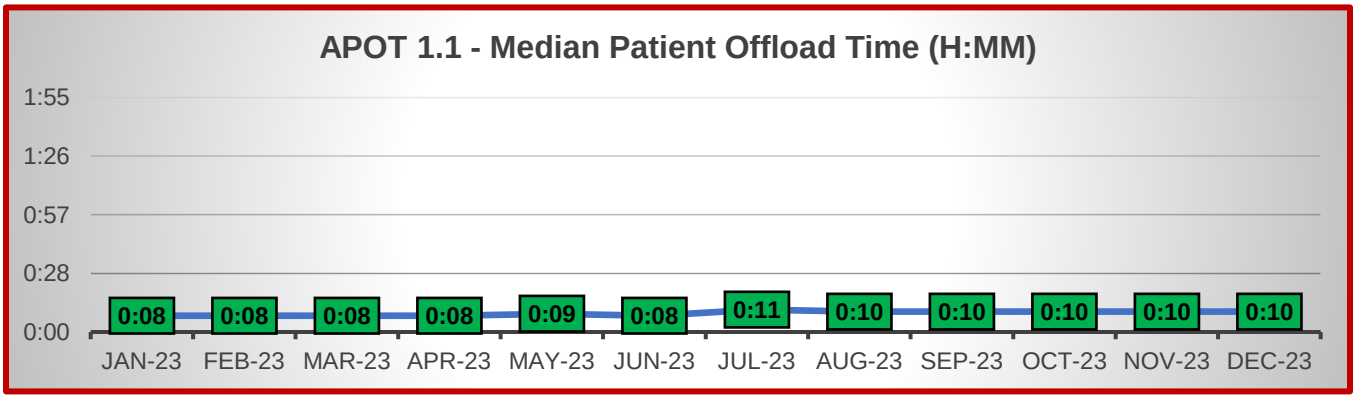
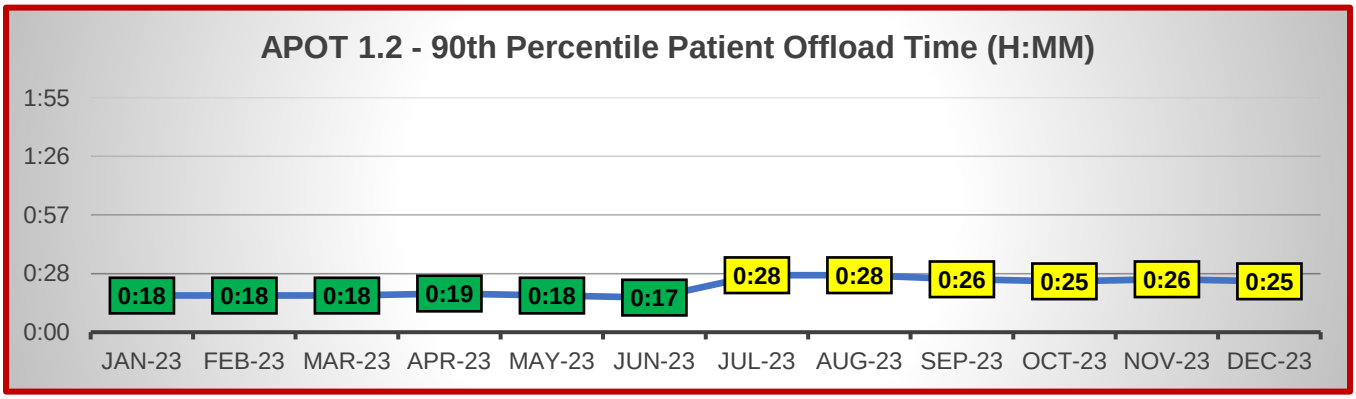
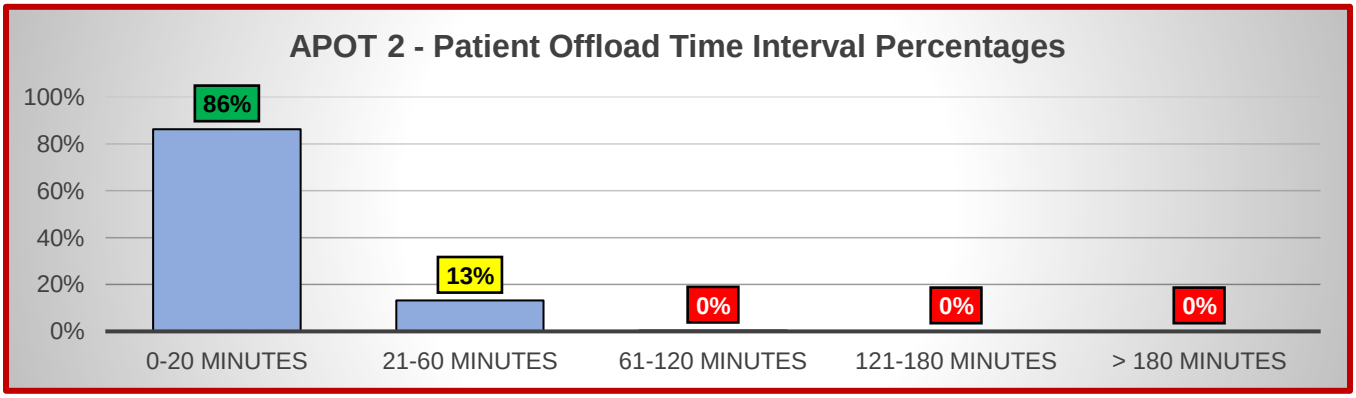
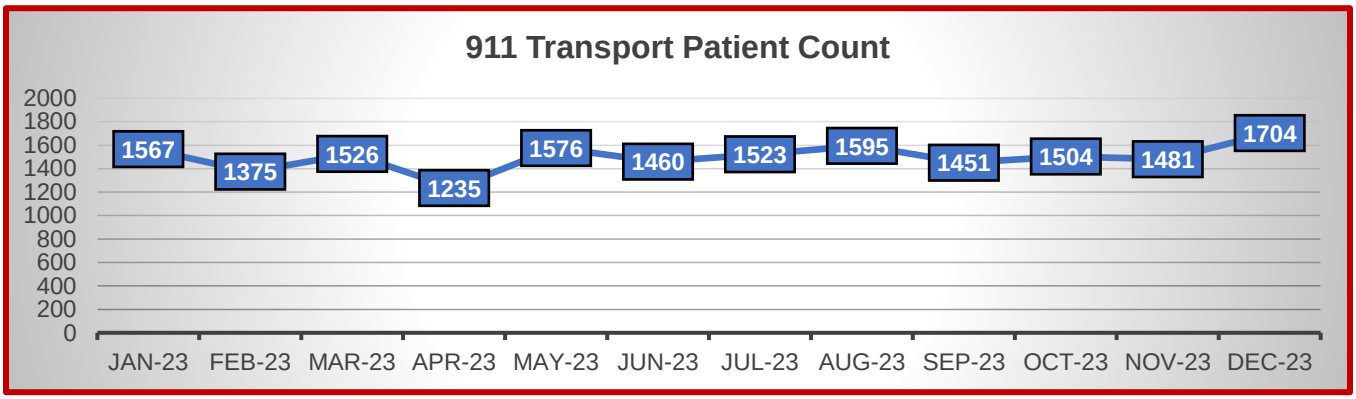


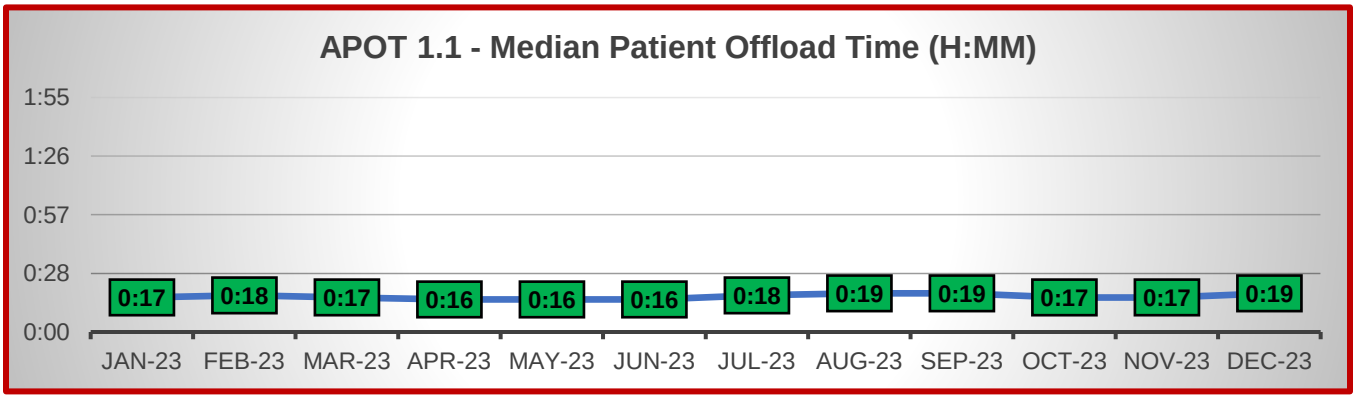


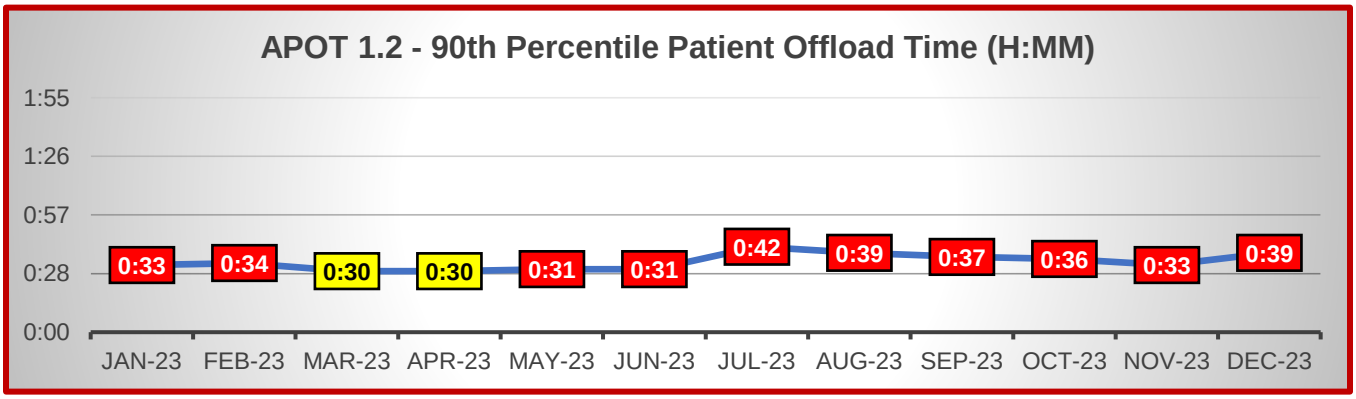


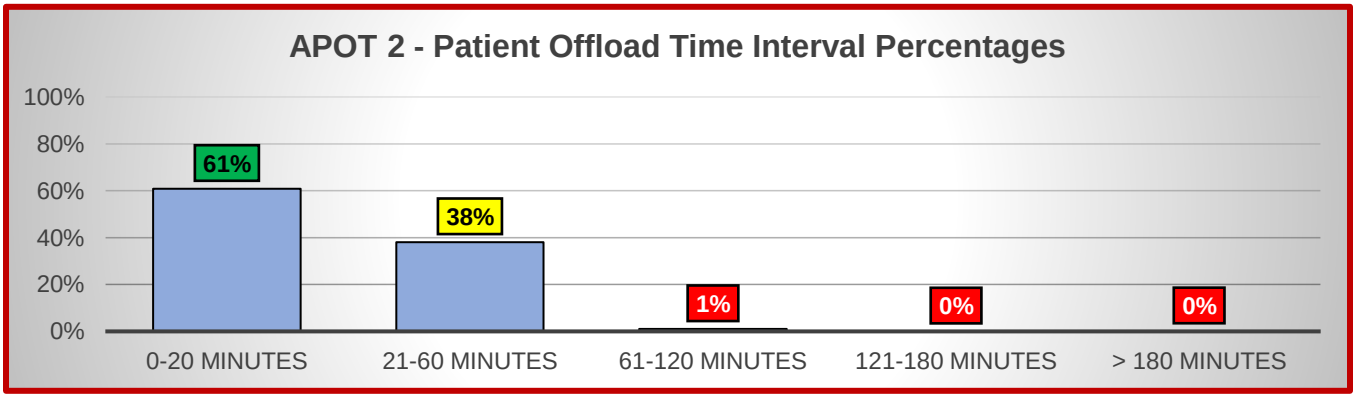


Sutter Roseville Medical Center APOT

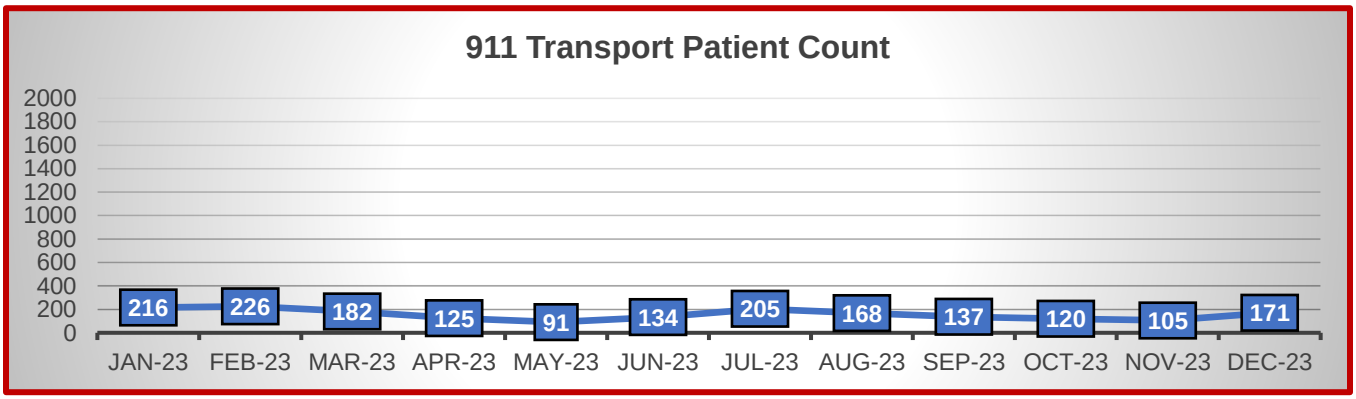


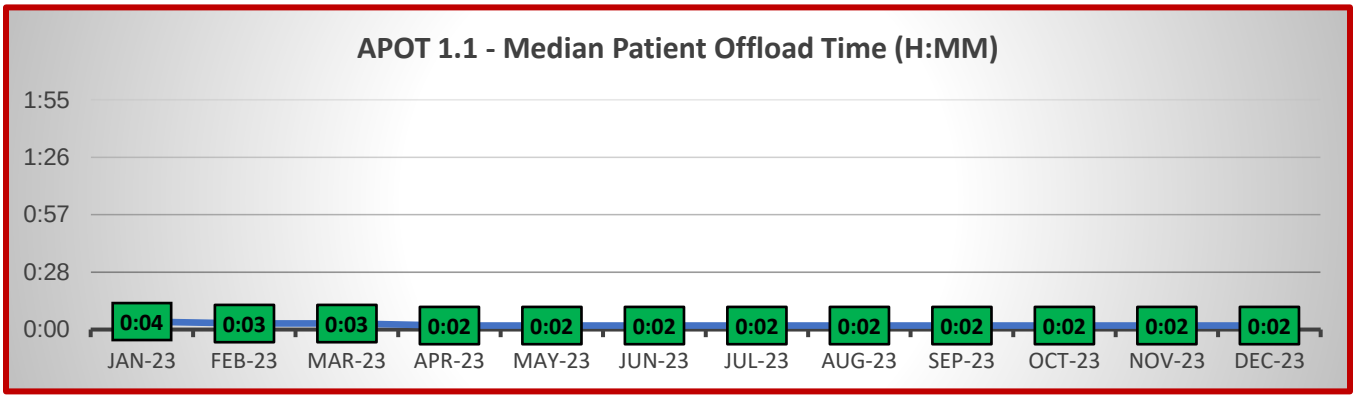


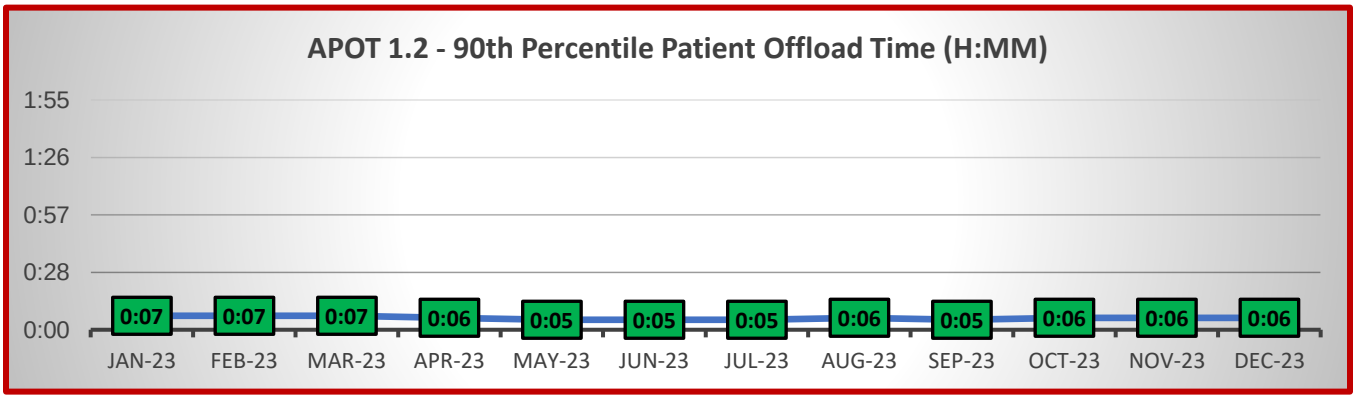


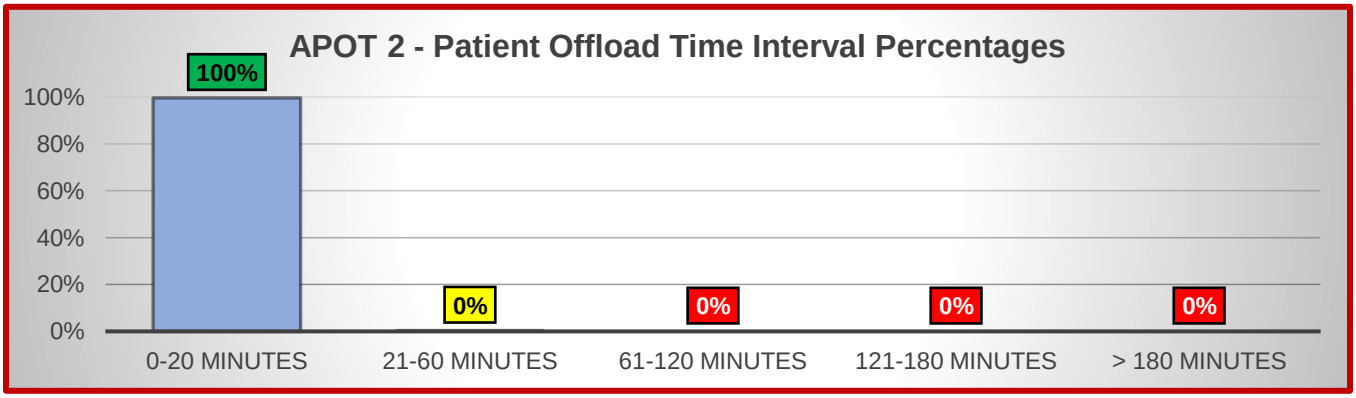


Tahoe Forest Hospital APOT









S-SV EMS 2023
LMS Training Modules &
Annual Infrequent Skills Materials

Sierra – Sacramento Valley Emergency Medical Services Agency

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John Poland, Paramedic

Medical Director
Troy M. Falck, MD, FACEP, FAAEM

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The S-SV EMS Agency maintains an online learning management system (LMS) for EMS continuing education (CE) courses. As of the date of this annual EMSQIP update, the following courses have been developed and are currently available for EMS personnel to complete online:

- S-SV EMS Annual Regional Training Module Course
- MCI & Disaster Response
- PSFA Naloxone Administration
- BLS Naloxone Administration, Epinephrine Administration & Glucometer Utilization
- Know Your System, Own Your System BLS 911 Training
- S-SV EMS Policy Manual Update #73 Video
- MICN Training Course

Additional courses are developed/published through our online LMS throughout the year. Links to our LMS courses can be located on the Education/Training page of the S-SV EMS Agency website: https://www.ssvems.com/education/.

Sierra – Sacramento Valley EMS Agency Program Policy			
ALS/LALS Annual Infrequently Used Skills Verification & Regional Training Module			
	Effective: 12/01/2021	Next Review: 11/2024	**1110**
	Approval: Troy M. Falck, MD – Medical Director		SIGNATURE ON FILE
	Approval: Victoria Pinette – Executive Director		SIGNATURE ON FILE

PURPOSE:

A. To identify medical procedures (skills) utilized infrequently by ALS/LALS personnel in the prehospital setting, and provide a standardized method for annual evaluation of all S-SV EMS certified AEMT's and accredited paramedic's ability to safely, efficiently and adequately perform them.

B. To establish a standardized method of ensuring that appropriate education and training is provided to all ALS/LALS prehospital personnel in the S-SV EMS region on a regularly scheduled basis.

AUTHORITY:

A. HSC, Division 2.5, § 1797.214.

B. CCR, Title 22, Division 9, § 100107, 100128, 100147, 100165, 100169, & Chapter 12

DEFINITIONS

A. **Infrequently Used Skills –** Medical procedures that are performed rarely by ALS/LALS personnel in the prehospital setting and/or that may result in serious complications when performed incorrectly.

B. **Regional Training Module –** A standardized training module developed by S-SV EMS in conjunction with the S-SV EMS Regional Quality Improvement Committee.

POLICY:

A. Prehospital service provider agencies shall verify that every S-SV EMS certified AEMT and accredited paramedic affiliated with their organization has successfully performed all of the skills listed in the applicable Infrequently Used Skills Annual Verification Tracking Sheet (1110-A or 1110-B) a minimum of once during every 12-month period. Under special circumstances, an extension to the 12-month requirement may be approved by S-SV EMS upon request.

B. All infrequently used skills shall be verified by successful performance in a structured training environment, utilizing the S-SV EMS approved infrequently used skills verification checklists (1110-C through 1110-L). A copy of the completed applicable Infrequently Used Skills Annual Verification Tracking Sheet (1110-A or 1110-B) shall be maintained in the employee's file for a period of not less than four (4) years, and shall be made available for review by S-SV EMS representatives upon request.

C. Skills competency verification shall be conducted by one of the following:

   1. Service provider's CQI coordinator or their designee.

   2. Service provider's medical director.

   3. Base/modified base hospital prehospital coordinator or their designee.

D. Regional training modules will be developed and distributed by S-SV EMS on an annual basis. All ALS/LALS service provider agencies are required to deliver these training modules and ensure that their affiliated AEMT and paramedic personnel complete this training no later than the end of the current calendar year. BLS personnel are encouraged to complete this training as appropriate, but it is not a mandatory requirement.

E. Any AEMT or paramedic who is determined to not have current skills verification and/or regional training module completion documentation on file shall not be allowed to function as an AEMT or paramedic in the S-SV EMS region until they complete the required skills verification and/or regional training module.

	AEMT Infrequently Used Skills Annual Verification Tracking Sheet	1110-A

AEMT Name:	Calendar Year:
AEMT Certification #:	Service Provider:

Instructions: LALS prehospital service providers shall verify that each S-SV EMS certified AEMT affiliated with their organization has successfully performed all of the applicable skills listed on this sheet, a minimum of once every 12 months (note: verification is not required for skills not currently being utilized by the prehospital service provider). Under special circumstances, an extension to this requirement may be approved by S-SV EMS upon request.

All infrequently used skills shall be verified by successful performance in a structured training environment, utilizing the S-SV EMS approved infrequently used skills verification checklists (as indicated below). A copy of this completed tracking sheet shall be maintained in the employee's file for a period of not less than four (4) years, and be made available for review by S-SV EMS representatives upon request. The individual infrequently used skills verification checklists are not required to be maintained.
Skills competency verification shall be conducted by one of the following:

- Service provider's CQI coordinator or their designee.
- Service provider's medical director.
- Base/modified base hospital prehospital coordinator or their designee.

Description	Verification Date	Evaluator Initials
1. Adult i-gel Airway Device Skills Verification Checklist (1110-D-1)		
2. Pediatric i-gel Airway Device Skills Verification Checklist (1110-D-2)		
3. King Airway Device (1110-E)		
4. Adult Cardioversion/Defibrillation (1110-H) – **AEMT II ONLY**		
5. Pediatric Cardioversion/Defibrillation (1110-I) – **AEMT II ONLY**		
6. Intraosseous Infusion (1110-K)		
7. Multiple Casualty Incident (MCI) (1110-L)		
8. Regional Training Module		

	Paramedic Infrequently Used Skills Annual Verification Tracking Sheet	**1110-B**

Paramedic Name:	Calendar Year:
Paramedic License #:	Service Provider:

Instructions: ALS prehospital service providers shall verify that each S-SV EMS accredited paramedic affiliated with their organization has successfully performed all of the applicable skills listed on this sheet, a minimum of once every 12 months (note: verification is not required for skills not currently being utilized by the prehospital service provider). Under special circumstances, an extension to this requirement may be approved by S-SV EMS upon request.

All infrequently used skills shall be verified by successful performance in a structured training environment, utilizing the S-SV EMS approved infrequently used skills verification checklists (as indicated below). A copy of this completed tracking sheet shall be maintained in the employee's file for a period of not less than four (4) years, and be made available for review by S-SV EMS representatives upon request. The individual infrequently used skills verification checklists are not required to be maintained.
Skills competency verification shall be conducted by one of the following:

- Service provider's CQI coordinator or their designee.
- Service provider's medical director.
- Base/modified base hospital prehospital coordinator or their designee.

Description	Verification Date	Evaluator Initials
1. Adult Oral Endotracheal Intubation (1110-C)		
2. Adult i-gel Airway Device Skills Verification Checklist (1110-D-1)		
3. Pediatric i-gel Airway Device Skills Verification Checklist (1110-D-2)		
4. King Airway Device (1110-E)		
5. Needle Cricothyrotomy (1110-F)		
6. Needle Chest Decompression (1110-G)		
7. Adult Cardioversion/Defibrillation (1110-H)		
8. Pediatric Cardioversion/Defibrillation (1110-I)		
9. Transcutaneous Cardiac Pacing (1110-J)		
10. Intraosseous Infusion (1110-K)		
11. Multiple Casualty Incident (MCI) (1110-L)		
12. Regional Training Module		

	Infrequently Used Skills Verification Checklist **Adult Oral Intubation**	**1110-C**

Name:	Date:
Provider Agency:	Evaluator:

Objective: Describe the indications for adult oral intubation and demonstrate the ability to proficiently perform the procedure.

Equipment: Appropriate PPE, adult intubation manikin, laryngoscope handle, adult laryngoscope blades, adult endotracheal tubes, malleable stylet, flex guide ETT introducer, 10 mL syringe, tape or tube holder, stethoscope, oropharyngeal airway (OPA), bag-valve mask (BVM), nasal cannula (NC), non-rebreather mask (NRM), suction device, ETCO2 monitoring equipment, 2% lidocaine.

Performance Criteria: The paramedic will be required to adequately describe the indications for adult oral intubation and proficiently perform the procedure on a manikin.

Step	Description	Does	Does Not
1	Verbalizes/demonstrates use of appropriate PPE		
2	Verbalizes indications for adult oral intubation • Cardiac arrest • Respiratory arrest or severe compromise • Sustained altered mental status with GCS ≤8 (relative indication) • Impending airway edema in the setting of respiratory tract burn or anaphylaxis (relative indication)		
3	Verbalizes the following procedures that should be utilized based on patient condition and circumstances: • If possible, pre-oxygenate with high flow O_2 via NRM or BVM as appropriate for three (3) minutes • Apply high flow NC (10 – 15 L/min) in addition to NRM or BVM to augment pre-oxygenation • Position patient in a semi-recumbent or reverse trendelenburg position if possible • Continue utilizing passive oxygenation via NC during intubation attempts • Perform jaw thrust to maintain pharyngeal patency and apply airway		
4	Prepares equipment for procedure • Ensures suction device is available and working • Ensures flex guide ETT introducer is available • Selects proper size ET tube and checks cuff for patency • Inserts stylet so end is not protruding past end of endotracheal tube • Selects appropriate laryngoscope blade, attaches to handle and checks light		
5	Places patient's head in sniffing position		
6	Instructs other rescuer to stop ventilations and removes OPA (if in place)		
7	May consider cricoid pressure or external laryngeal manipulation (ELM)		

	Infrequently Used Skills Verification Checklist Adult Oral Intubation	1110-C

Step	Description	Does	Does Not
8	Inserts blade into mouth with a right to left sweeping motion while displacing tongue		
9	Applies upward lifting action with laryngoscope without using teeth as a fulcrum		
10	Visualizes glottic opening		
11	Inserts ET tube from right pharynx, passing tube through the glottic opening (intubation attempt should take no longer than 30 seconds)		
12	Removes laryngoscope		
13	Inflates cuff with sufficient volume of air and disconnects syringe		
14	Attaches BVM to ET tube and ventilates at appropriate rate and volume		
15	Confirms airway patency with physical assessment (chest rise, auscultation over the epigastrium and bilaterally over each lung), and waveform capnography ETCO2 monitoring equipment		
16	Properly secures ET tube using tape or commercial tube holder		
17	Reevaluates tube placement after each patient movement		
18	Demonstrates proper use of the flex guide ETT introducer for difficult intubations		

	Infrequently Used Skills Verification Checklist **Adult i-gel Airway Device**	**1110-D (1)**

Name:	Date:
Provider Agency:	Evaluator:

Objective: Describe the indications/contraindications for utilization of an adult i-gel airway device and demonstrate the ability to proficiently perform the procedure.

Equipment: Appropriate PPE, adult airway manikin, oropharyngeal airway (OPA), appropriate sized i-gel device, water soluble lubricant, tape or i-gel airway support strap, stethoscope, bag valve mask (BVM), nasal cannula (NC), non-rebreather mask (NRM), suction device, waveform capnography ETCO2 monitoring equipment.

Performance Criteria: The individual is required to describe the indications/contraindications for placement of an adult i-gel device and proficiently perform the procedure on an adult airway manikin.

Step	Description	Does	Does Not
1	Verbalizes/demonstrates use of appropriate PPE		
2	Verbalizes selection of appropriate i-gel device based on patient size: • Size 3 – i-gel small adult device (30-60kg) • Size 4 – i-gel medium adult device (50-90kg) • Size 5 – i-gel large adult device (90+kg)		
3	Verbalizes i-gel device indications: • Patients in need of advanced airway protection and/or unable to be adequately ventilated with a BVM when orotracheal intubation is unavailable or unsuccessful • Patients in need of rapid advanced airway control when orotracheal intubation is anticipated to be difficult or likely to interrupt continuous chest compressions		
4	Verbalizes i-gel device contraindications: • Intact gag reflex • Caustic ingestion • Unresolved complete airway obstruction • Trismus or limited ability to open the mouth and insert the device (relative) • Oral trauma (relative) • Distorted anatomy that prohibits proper device placement (relative)		
5	Verbalizes the procedures that should be utilized prior to placement of an i-gel device as patient condition and circumstances permit: • If possible, pre-oxygenate with high flow O_2 via NRM or BVM as appropriate for three (3) minutes • Apply high flow NC (10 – 15 L/min) in addition to NRM or BVM to augment pre-oxygenation • Position patient in a semi-recumbent or reverse trendelenburg position if possible • Continue utilizing passive oxygenation via NC during i-gel device placement		

Step	Description	Does	Does Not
6	Opens the package and removes the protective cradle containing the i-gel device		
7	Removes i-gel device from the protective cradle and transfers it to the palm of the same hand, supporting the device between the thumb and index finger		
8	Places a small amount of a water-based lubricant onto the middle of the smooth surface of the protective cradle		
9	Grasps i-gel device with the opposite (free) hand along the integral bite block and lubricates the back, sides and front of the cuff with a thin layer of lubricant		
10	Inspects i-gel device to confirm there are no foreign bodies of lubricant obstructing the distal opening		
11	Places i-gel device back into the protective cradle in preparation for insertion		
12	Removes i-gel device from the protective cradle and grasps the lubricated device firmly along the integrated bite block		
13	Positions i-gel device so that the cuff outlet is facing towards the chin of the patient		
14	Instructs other rescuer to stop ventilations and removes OPA		
15	Places patient's head in the 'sniffing' position and gently presses down on the chin		
16	Introduces the leading soft tip of the i-gel device into the patient's mouth in a direction towards the hard palate		
17	Glides the i-gel device downwards and backwards along the hard palate with a continuous but gentle push until a definitive resistance is felt: • The teeth should be resting on the integral bite block • Sometimes the 'give-way' is felt before the end point resistance is met – It is important to continue to insert the device until a definitive resistance is felt • Once definitive resistance is met and the teeth are located on the integral bite block, do not repeatedly push the device down or apply excessive force during insertion		
18	Attaches a BVM to the i-gel device and ventilates at appropriate rate and volume		
19	Confirms i-gel device patency with physical assessment (chest rise, auscultation over the epigastrium and bilaterally over each lung), and appropriate ETCO2 monitoring methods based on available equipment		
20	Properly secures i-gel device using tape or airway support strap		
21	Re-evaluates i-gel device placement after each patient movement or upon transfer of care to other prehospital or hospital personnel		

	Infrequently Used Skills Verification Checklist **Pediatric i-gel Airway Device**	**1110-D (2)**

Name:	Date:
Provider Agency:	Evaluator:

Objective: Describe the indications/contraindications for utilization of a pediatric i-gel airway device and demonstrate the ability to proficiently perform the procedure.

Equipment: Appropriate PPE, pediatric airway manikin, oropharyngeal airway (OPA), appropriate sized i-gel device, water soluble lubricant, tape or i-gel airway support strap, stethoscope, bag valve mask (BVM), nasal cannula (NC), non-rebreather mask (NRM), suction device, waveform capnography ETCO2 monitoring equipment.

Performance Criteria: The individual is required to describe the indications/contraindications for placement of a pediatric i-gel device and proficiently perform the procedure on a pediatric airway manikin.

Step	Description	Does	Does Not
1	Verbalizes/demonstrates use of appropriate PPE		
2	Verbalizes selection of appropriate i-gel device based on patient size: • Size 1.0 – i-gel neonate device (2-5kg) • Size 1.5 – i-gel infant device (5-12kg) • Size 2.0 – i-gel small pediatric device (10-25+kg) • Size 2.5 – i-gel large pediatric device (25-35 kg)		
3	Verbalizes i-gel device indications: • Pediatric patients in need of advanced airway protection or unable to be adequately ventilated with a BVM.		
4	Verbalizes i-gel device contraindications: • Intact gag reflex • Caustic ingestion • Unresolved complete airway obstruction • Trismus or limited ability to open the mouth and insert the device (relative) • Oral trauma (relative) • Distorted anatomy that prohibits proper device placement (relative)		
5	Verbalizes the procedures that should be utilized prior to placement of an i-gel device as patient condition and circumstances permit: • If possible, pre-oxygenate with high flow O_2 via NRM or BVM as appropriate for three (3) minutes • Apply high flow NC (10 – 15 L/min) in addition to NRM or BVM to augment pre-oxygenation • Position patient in a semi-recumbent or reverse trendelenburg position if possible • Continue utilizing passive oxygenation via NC during i-gel device placement		
6	Opens the package and removes the cage pack containing the i-gel device		

	Infrequently Used Skills Verification Checklist Pediatric i-gel Airway Device	1110-D (2)

Step	Description	Does	Does Not
7	Opens the cage pack and transfers i-gel device into the lid of the cage		
8	Places a small amount of a water-based lubricant onto the middle of the smooth surface of the cage pack		
9	Grasps i-gel device along the integral bite block and lubricates the back, sides and front of the cuff with a thin layer of lubricant		
10	Inspects i-gel device to confirm there are no foreign bodies of lubricant obstructing the distal opening		
11	Places i-gel device back into the cage pack in preparation for insertion		
12	Removes i-gel device from the cage pack and grasps the lubricated device firmly along the integrated bite block		
13	Positions i-gel device so that the cuff outlet is facing towards the chin of the patient		
14	Instructs other rescuer to stop ventilations and removes OPA		
15	Places patient's head in the 'sniffing' position and gently presses down on the chin		
16	Introduces the leading soft tip of the i-gel device into the patient's mouth in a direction towards the hard palate		
17	Glides the i-gel device downwards and backwards along the hard palate with a continuous but gentle push until a definitive resistance is felt: • The teeth should be resting on the integral bite block • Sometimes the 'give-way' is felt before the end point resistance is met – It is important to continue to insert the device until a definitive resistance is felt • Once definitive resistance is met and the teeth are located on the integral bite block, do not repeatedly push the device down or apply excessive force during insertion		
18	Attaches a BVM to the i-gel device and ventilates at appropriate rate and volume		
19	Confirms i-gel device patency with physical assessment (chest rise, auscultation over the epigastrium and bilaterally over each lung), and appropriate ETCO2 monitoring methods based on available equipment		
20	Properly secures i-gel device using tape or airway support strap		
21	Re-evaluates i-gel device placement after each patient movement or upon transfer of care to other prehospital or hospital personnel		

	Infrequently Used Skills Verification Checklist King Airway Device	**1110-E**

Name:	Date:
Provider Agency:	Evaluator:

Objective: Describe the indications for King Airway Device utilization and demonstrate the ability to proficiently perform the procedure.

Equipment: Appropriate PPE, adult intubation manikin, King Airway Device, appropriate syringe, tape or tube holder, stethoscope, oropharyngeal airway (OPA), bag-valve mask (BVM), nasal cannula (NC), non-rebreather mask (NRM), suction device, ETCO2 monitoring equipment, 2% lidocaine (if applicable).

Performance Criteria: The AEMT, paramedic or optional skills approved EMT will be required to adequately describe the indications for King Airway Device utilization and proficiently perform the procedure on a manikin.

Step	Description	Does	Does Not
1	Verbalizes/demonstrates use of appropriate PPE		
2	Verbalizes proper King LT-D size based on patient size • Size 3 – Between 4 and 5 feet tall • Size 4 – Between 5 and 6 feet tall • Size 5 – Over 6 feet tall		
3	Verbalizes indications for King LT-D utilization • Cardiac arrest • Respiratory arrest or severe compromise and unable to adequately ventilate with BVM • Sustained altered mental status with GCS ≤8 (relative indication) • Impending airway edema in the setting of respiratory tract burn or anaphylaxis (relative indication)		
4	Verbalizes contraindications for King LT-D utilization • Patients under four (4) feet tall • Responsive patient with an intact gag reflex • Patients with known esophageal disease • Patients who have ingested a caustic substance		
5	Verbalizes the following procedures that should be utilized based on patient condition and circumstances: • If possible, pre-oxygenate with high flow O_2 via NRM or BVM as appropriate for three (3) minutes • Apply high flow NC (10 – 15 L/min) in addition to NRM or BVM to augment pre-oxygenation • Position patient in a semi-recumbent or reverse trendelenburg position if possible • Continue utilizing passive oxygenation via NC during King LT-D placement attempts		

	Infrequently Used Skills Verification Checklist King Airway Device	1110-E

Step	Description	Does	Does Not
6	Verbalizes the following procedure for suspected head/brain injury patients **(not applicable to optional skills approved EMT personnel)**: • Consider administration of prophylactic lidocaine (1.5mg/kg IV/IO) three (3) minutes prior to intubation whenever possible		
7	Prepares equipment for procedure • Ensures suction device is available and working • Selects proper King LT-D size for patient and checks cuff patency • Lubricates distal end of tube with water soluble jelly		
8	Positions head in neutral or slightly flexed position		
9	Performs tongue-jaw lift		
10	Inserts device into mouth with blue stripe near corner of mouth		
11	Advances tip behind the base of the tongue while rotating device back to midline with blue stripe facing chin of patient		
12	Advances device without undue force until base of connector is aligned with teeth or gums		
13	Inflates cuff with appropriate volume of air		
14	Attaches BVM to airway and while ventilating patient, gently withdraws device until ventilation is easy and free flowing		
15	Adjusts cuff inflation if needed to obtain device seal		
16	Confirms airway patency with physical assessment (chest rise, auscultation over the epigastrium and bilaterally over each lung), and appropriate ETCO2 monitoring methods based on available equipment		
17	Properly secures device using tape or commercial tube holder		

	Infrequently Used Skills Verification Checklist **Needle Cricothyrotomy**	**1110-F**

Name:	Date:
Provider Agency:	Evaluator:

Objective: Describe the indications/contraindications for needle cricothyrotomy and demonstrate the ability to proficiently perform the procedure.

Equipment: Appropriate PPE, cricothyrotomy manikin, antiseptic agent, tape, 10 ml syringe, 12ga or 14ga over-the-needle catheter and jet insufflation device or ENK Oxygen Flow Modulator, or Rusch QuickTrach® Emergency Needle Cricothyrotomy Kit and BVM.

Performance Criteria: The individual will be required to describe the indications/contraindications for needle cricothyrotomy and proficiently perform the procedure on a cricothyrotomy manikin.

Step	Description	Does	Does Not
1	Verbalizes/demonstrates use of appropriate PPE		

2	Verbalizes indications for needle cricothyrotomy:
	• Inability to maintain the airway with standard airway procedures. Typically involves patients with one or more of the following:
	  ○ Airway obstruction by uncontrolled bleeding into the oral cavity and/or vomiting
	  ○ Severe maxillofacial trauma – blunt, penetrating, or associated with mandibular fracture
	  ○ Laryngeal foreign body that cannot be removed expeditiously
	  ○ Swelling of upper airway structures
	  ○ Infection (e.g., epiglottitis, Ludwig's angina)
	  ○ Allergic reaction or hereditary angioedema
	  ○ Chemical or thermal burns to the epiglottis and upper airway		

3	Verbalizes contraindications for needle cricothyrotomy: • Age < 3 years or estimated weight <15 kg • Ability to maintain airway utilizing less invasive procedures • Conscious patient • Moving ambulance • Midline neck hematoma or massive subcutaneous emphysema		
4	Selects appropriate size catheter/device for patient size		

5	Assembles and checks the equipment:
	• If using jet inflation device/ENK Oxygen Flow Modulator:
	  ○ Attaches 10 ml syringe to 12/14ga catheter
	  ○ Connects jet insufflation device/ENK Oxygen Flow Modulator to high flow oxygen source
	• If using the QuickTrach Cricothyrotomy Kit, device comes pre-assembled with syringe attached		

6	Stabilizes larynx with thumb and forefinger and locates cricoid membrane		

	Infrequently Used Skills Verification Checklist Needle Cricothyrotomy	1110-F

Step	Description	Does	Does Not
7	Inserts catheter/device: • If using a 12/14 gauge catheter with jet insufflation device/ENK Oxygen Flow Modulator, inserts needle downward through the midline of the cricoid membrane at a 45^0 – 60^0 angle toward the carina while applying negative pressure to the syringe • If using the QuickTrach Cricothyrotomy Kit, punctures cricoid membrane at a 90^0 angle		
8	Verifies needle has entered the trachea by aspirating air into syringe		
9	Advances catheter/cannula: • If using a 12/14 gauge catheter with jet insufflation device/ENK Oxygen Flow Modulator, advances catheter over the needle towards the carina • If using the QuickTrach Cricothyrotomy Kit: o Changes angle of insertion to 45^0 and advances to the level of the stopper o Removes stopper (does not advance device with needle still attached) o Slides plastic cannula into the trachea until flange rests on the neck		
10	Removes and properly disposes needle and syringe		
11	Secures catheter/cannula		
12	Provides Ventilation: • If using Jet insufflation device/ENK Oxygen Flow Modulator, attaches oxygen supply tubing to catheter and provides ventilation using appropriate inspiratory to expiratory ratio (seconds): o Jet insufflation device ratio – 1:4 o ENK Oxygen Flow Modulator ratio – 4:6 • If using the QuickTrach Cricothyrotomy Kit, attaches BVM to connecting tube and provides ventilation at appropriate rate		
13	Verifies proper placement by the observance of chest rise and fall (jet insufflation device and QuickTrach Cricothyrotomy Kit only), auscultation of lung sounds and the absence of subcutaneous emphysema		

	Infrequently Used Skills Verification Checklist **Needle Thoracostomy**	**1110-G**

Name:	Date:
Provider Agency:	Evaluator:

Objective: Describe the indications/contraindications for needle thoracostomy and demonstrate the ability to proficiently perform the procedure.

Equipment: Appropriate PPE, thoracostomy manikin or simulated chest, Minimum 14ga x 3.25" catheter designed for needle decompression, stethoscope, stopcock or one way valve, tape, antiseptic agent, tape.

Performance Criteria: The individual will be required to describe the indications/contraindications for needle thoracostomy and proficiently perform the procedure on a manikin or simulated chest.

Step	Description	Does	Does Not
1	Verbalizes/demonstrates use of appropriate PPE		

2	Verbalizes indications for needle thoracostomy (either of the following):
	• Suspected tension pneumothorax with absent or diminished breath sounds and at least one of the following:
	  ○ Combined hypotension (SBP <90) and SpO2 <94%
	  ○ Penetrating injury to the thorax
	• Traumatic cardiac arrest with suspected tension pneumothorax		

3	Verbalizes minimum catheter size required for procedure (14 ga x 3.25")		
4	Verbalizes that only two (2) attempts are allowed on affected side(s) without base/ modified base hospital contact		
5	Verbalizes/identifies approved needle thoracostomy sites (any of the following): • Mid-clavicular line in the 2nd intercostal space • Mid-axillary line in the 4th or 5th intercostal space (above anatomic nipple line) • Anterior axillary line in the 5th intercostal space (above anatomic nipple line)		
6	Prepares site using aseptic technique		
7	Removes end cap from catheter and attaches empty 10 mL syringe		
8	Inserts needle with syringe attached into skin at a 90° angle just over the superior border of the rib		
9	Advances catheter until air is freely aspirated		
10	If using a 3.25" length catheter, advances catheter over the needle until catheter hub rests against the skin		
11	Removes syringe and needle and leaves catheter in place		
12	Attaches stopcock or one-way valve and secures catheter/tubing		
13	Rechecks breath sounds and closely monitors patient status		

	Infrequently Used Skills Verification Checklist **Adult Cardioversion/Defibrillation**	**1110-H**

Name:	Date:
Provider Agency:	Evaluator:
Objective: Describe/recognize the indications for synchronized cardioversion and defibrillation on an adult patient and proficiently perform both procedures.	
Equipment: Appropriate PPE, adult defibrillation manikin, cardiac rhythm simulator, monitor/defibrillator, adult defibrillation paddles with conductive medium or adult defibrillation electrodes.	
Performance Criteria: The AEMT II or paramedic will be required to adequately describe/recognize the indications for synchronized cardioversion and defibrillation on an adult patient and proficiently perform both procedures on a manikin.	

Step	Description	Does	Does Not
1	Verbalizes/demonstrates use of appropriate PPE		

2	Verbalizes indications for synchronized cardioversion
	• Persistent tachycardia causing any of the following:
	  ○ Hypotension
	  ○ Acutely altered mental status
	  ○ Signs of shock
	  ○ Ischemic chest discomfort
	  ○ Acute Heart Failure		

3	Recognizes rhythm on the monitor requiring cardioversion		
4	Verbalizes consideration of pre-cardioversion sedation (one of the following): • Midazolam: 5mg IV/IO • Morphine: 2 – 5 mg IV/IO • Fentanyl: 25 – 50 mcg IV/IO		
5	Correctly applies hands free defibrillation electrodes or conductive medium		
6	Ensures that ‘SYNC’ button on the monitor is selected and that the synchronization indicators are active on the QRS complex		
7	Selects appropriate initial cardioversion dose: • Narrow regular: 50 – 100 J • Narrow irregular: 120 – 200 J • Wide regular: 100 J		
8	Charges defibrillator		
9	If using paddles, places them on appropriate landmarks with firm pressure		
10	Verbally states “CLEAR” and visually checks that other rescuers are clear		
11	Delivers cardioversion by holding down the ‘SHOCK’ button until the defibrillator discharges		
12	Reassesses and properly identifies cardiac rhythm on the monitor		

	Infrequently Used Skills Verification Checklist Adult Cardioversion/Defibrillation	1110-H

Step	Description	Does	Does Not
13	Repeats cardioversion steps at least one time, increasing dose in a stepwise fashion for subsequent attempts		
*****AEMT II or paramedic is advised that patient has become pulseless and apneic*****			
14	Recognizes rhythm on the monitor requiring defibrillation		
15	Reassess patient to confirm absence of pulses		
16	Turns off 'SYNC' button and selects appropriate defibrillation dose based on manufacturer recommendation (200 j if unknown)		
17	Charges defibrillator		
18	If using paddles, places them on appropriate landmarks with firm pressure		
19	Verbally states "CLEAR" and visually checks that other rescuers are clear		
20	Delivers defibrillation		
21	Initiates CPR x 2 minutes		
22	Reassesses patient and cardiac rhythm confirming patient remains pulseless and in a rhythm requiring defibrillation		
23	Repeats defibrillation steps at least one time utilizing the appropriate subsequent dose based on manufacturer recommendation		

	Infrequently Used Skills Verification Checklist **Pediatric Cardioversion/Defibrillation**	**1110-I**

Name:	Date:
Provider Agency:	Evaluator:

Objective: Describe/recognize the indications for synchronized cardioversion and defibrillation on a pediatric patient and proficiently perform both procedures.

Equipment: Appropriate PPE, pediatric defibrillation manikin, length based pediatric resuscitation tape, cardiac rhythm simulator, monitor/defibrillator, pediatric defibrillation paddles with conductive medium or pediatric defibrillation electrodes.

Performance Criteria: The AEMT II or paramedic will be required to adequately describe/recognize the indications for synchronized cardioversion and defibrillation on a pediatric patient and proficiently perform both procedures on a manikin.

Step	Description	Does	Does Not
1	Verbalizes/demonstrates use of appropriate PPE		

2	Verbalizes indications for synchronized cardioversion
	• Probable SVT or VT with cardiopulmonary compromise including:
	  ○ Hypotension
	  ○ Acutely altered mental status
	  ○ Signs of shock		

3	Verbalizes that pediatric cardioversion is a base/modified base hospital order		
4	Recognizes rhythm on the monitor requiring cardioversion		
5	Correctly applies hands free defibrillation electrodes or conductive medium		
6	Ensures that ‘SYNC’ button on the monitor is selected and that the synchronization indicators are active on the QRS complex		
7	Selects appropriate initial cardioversion dose: • 0.5 – 1 J/kg (calculated using length based pediatric resuscitation tape)		
8	Charges defibrillator		
9	If using paddles, places them on appropriate landmarks with firm pressure		
10	Verbally states “CLEAR” and visually checks that other rescuers are clear		
11	Delivers cardioversion by holding down the ‘SHOCK’ button until the defibrillator discharges		
12	Re-assesses and properly identifies cardiac rhythm on the monitor		
13	Repeats cardioversion steps at least one time, increasing dose • 2 J/kg (calculated using length based pediatric resuscitation tape)		

	Infrequently Used Skills Verification Checklist Pediatric Cardioversion/Defibrillation	1110-I

Step	Description	Does	Does Not
*****AEMT II or paramedic is advised that patient has become pulseless and apneic*****			
14	Recognizes rhythm on the monitor requiring defibrillation		
15	Reassess patient to confirm absence of pulses		
16	Turns off 'SYNC' button and selects appropriate initial defibrillation dose • 2 J/kg (calculated using length based pediatric resuscitation tape)		
17	Charges defibrillator		
18	If using paddles, places them on appropriate landmarks with firm pressure		
19	Verbally states "CLEAR" and visually checks that other rescuers are clear		
20	Delivers defibrillation		
21	Initiates CPR x 2 minutes		
22	Reassesses patient and cardiac rhythm confirming patient remains pulseless and in a rhythm requiring defibrillation		
23	Repeats defibrillation steps at least one time utilizing the appropriate subsequent dose • 4 J/kg (calculated using length based pediatric resuscitation tape)		

	Infrequently Used Skills Verification Checklist **Transcutaneous Cardiac Pacing**	**1110-J**

Name:	Date:
Provider Agency:	Evaluator:

Objective: Describe the indications for transcutaneous cardiac pacing and demonstrate the ability to proficiently perform the procedure.

Equipment: Appropriate PPE, adult manikin, cardiac monitor with pacing capabilities, cardiac rhythm simulator, EKG and pacing electrodes, appropriate skin prep items (razor, 4x4's, etc.).

Performance Criteria: The paramedic will be required to adequately describe the indications for transcutaneous cardiac pacing and proficiently perform the procedure on a manikin.

Step	Description	Does	Does Not
1	States/demonstrates use of appropriate PPE		

2	States indications for transcutaneous cardiac pacing
	• Persistent bradycardia causing any of the following:
	  ○ Hypotension
	  ○ Acutely altered mental status
	  ○ Signs of shock
	  ○ Ischemic chest discomfort
	  ○ Acute Heart Failure
	• Atropine ineffective or not indicated
	• Verbalizes that pediatric transcutaneous pacing is a base/modified base hospital order		

3	Recognizes rhythm on the monitor requiring transcutaneous cardiac pacing		
4	Explains procedure to patient/family and informs that discomfort may occur as a result of nerve stimulation or muscle contraction		
5	Verbalizes consideration of sedation (one of the following): • Midazolam: 2 – 5 mg IV/IO • Morphine: 2 – 5 mg IV/IO • Fentanyl: 25 – 50 mcg IV/IO		
6	Properly places EKG electrodes on patient's chest, far enough away from pacing electrodes to ensure a clear signal – ensures EKG electrodes remain attached during pacing therapy		
7	Properly places pacing electrodes on patient's chest		
8	Selects pacing mode on the cardiac monitor		
9	Selects initial pacing rate of 60/min		
10	Sets initial current at 10 mA and increases by 10 mA increments while assessing for mechanical capture		

Step	Description	Does	Does Not
11	Describes confirmation of pacing capture • Recognizes electrical capture on the EKG • Recognizes mechanical capture by evaluation of patient cardiac output, pulses, increased BP and improved circulatory status		
12	Once pacing is initiated (mechanical capture), properly adjusts rate based on patient's clinical response (60 – 70/min)		
13	Monitor's/re-evaluates patient as needed and increases current as necessary to maintain mechanical capture		

	Infrequently Used Skills Verification Checklist **Intraosseous (IO) Infusion**	**1110-K**

Name:	Date:
Provider Agency:	Evaluator:

Objective: Describe the indications/contraindications for powered IO device utilization and demonstrate the ability to proficiently perform the procedure.

Equipment: Appropriate PPE, IO manikin, S-SV EMS approved powered IO device/needle, needle securing supplies, antiseptic agent, 10 mL syringe, flush solution or prefilled syringe, IV extension set, IV administration set, IV solution, blood pressure cuff or pressure bag, 2% lidocaine.

Performance Criteria: The AEMT (pediatric only) or paramedic (pediatric and adult patients) will be required to adequately describe the indications/contraindications for powered IO device utilization and proficiently perform the procedure on an IO manikin.

Step	Description	Does	Does Not
1	Verbalizes/demonstrates use of appropriate PPE		

2	Verbalizes indications for IO infusion
	• Weight ≥3 kg and unable to achieve IV access rapidly (within 60 – 90 seconds) in a patient with one or more of the following:
	  ○ Cardiac arrest
	  ○ Hemodynamic instability (SBP <90 and signs of shock)
	  ○ Imminent respiratory failure
	  ○ Status epilepticus with prolonged seizure activity <10 minutes
	  ○ Toxic conditions requiring immediate IV access for antidote		

3	Verbalizes contraindications for IO infusion (any of the following) • Fracture or suspected vascular compromise in targeted bone • Excessive tissue or absence of adequate anatomic landmarks • Infection at area of insertion site • Previous significant orthopedic procedure at site (e.g., prosthetic limb) • IO access in targeted bone within past 48 hours		
4	Verbalizes/selects appropriate adult IO site (paramedic only) • Proximal Tibia: Approximately 3 cm (2 finger widths) below the patella and approximately 2 cm (1 finger width) medial, along the flat aspect of the tibia • Distal Tibia: Approximately 3 cm (2 finger widths) proximal to the most prominent aspect of the medial malleolus • Humerus: On the most prominent aspect of the greater tubercle, 1 – 2 cm above the surgical neck		
5	Verbalizes/selects appropriate pediatric IO site (AEMT & paramedic) • Proximal Tibia: Just below patella, approximately 1 cm (1 finger width) and slightly medial, approximately 1 cm along the flat aspect of the tibia • Distal Tibia: approximately 1-2 cm (1 finger width) proximal to the most prominent aspect of the medial malleolus • Distal Femur: Just proximal to the patella (maximum 1 cm) and approximately 1 – 2 cm medial to midline		

Step	Description	Does	Does Not
6	Prepares equipment for procedure • Primes extension set with normal saline (if patient unresponsive to pain) or 2% lidocaine (if patient responsive to pain) • Assembles IV bag, IV tubing and pressure infuser • Fills 10 mL syringe with normal saline flush solution (or uses prefilled syringe) • Assembles 2% lidocaine if necessary (patients responsive to pain) • Selects appropriate size needle or device (based on manufacturer) • Attaches needle to driver (based on manufacturer)		
7	Preps IO site using aseptic technique		
8	Inserts IO needle according to manufacturer specific instructions		
9	Stabilizes needle, removes stylet from catheter and places in sharps container		
10	If using manufacturer supplied stabilizer device, place prior to attaching extension set (or at appropriate time per manufacturer instructions)		
11	Attaches primed extension set to IO catheter		
12	Secure IO needle per manufacturer instructions		

13	For patients unresponsive to pain
	• Administers rapid flush of 10 mL of normal saline
	For patients responsive to pain:
	• Slowly administers 2% lidocaine over 120 seconds
	  ○ Adult – 40 mg
	  ○ Pediatric – 0.5 mg/kg (maximum 40 mg)
	• Allows lidocaine to dwell in IO space 60 seconds
	• Administers rapid flush of 10 mL of normal saline
	• Slowly administers a subsequent ½ dose of 2% lidocaine over 60 seconds
	  ○ Adult – 20 mg
	  ○ Pediatric – ½ the initial dose (maximum 20 mg)		

14	Connects fluids to extension set using IV tubing and administers fluid by applying pressure to the fluid bag if necessary to achieve desired rate		
15	Dresses site and secures tubing		
16	Checks administration rate and IO site for infiltration		

	Multiple Casualty Incident (MCI) Response Procedures Checklist	1110-L

Name:	Date:
Provider Agency:	Evaluator:
Objective: Describe/demonstrate the procedures for managing EMS aspects of an MCI.	
Equipment: MCI identification vests, S-SV EMS approved triage tags, S-SV EMS MCI Checklist and Medical Branch Organizational Chart (837-A), S-SV EMS Prehospital Patient Tracking Worksheet (837-B).	
Performance Criteria: Prehospital personnel will be required to adequately describe/demonstrate the criteria for declaring an MCI, the procedures for managing an MCI and the appropriate utilization of triage tags. Performance criteria may be assessed through instructor led training, or by participation in a tabletop or full scale MCI exercise.	

Step	Description	Does	Does Not

1	Verbalizes MCI definition/criteria:
	• An incident which requires more emergency medical resources to adequately deal with victims than those available during routine responses, including an incident that meets any of the following criteria:
	  ○ Five (5) or more IMMEDIATE and/or DELAYED patients, or
	  ○ Ten (10) or more MINOR patients, irrespective of the number of IMMEDIATE and/or DELAYED patients, or
	  ○ At the discretion of prehospital or hospital providers		

2	Describes the roles/functions of the Control Facility (CF), the requirement/ importance of early CF notification/utilization (including a pre-alert when possible), and identifies the appropriate CF to notify/utilize based on the incident location: • Enloe Medical Center – Butte, Colusa & Glenn counties • Rideout Regional Medical Center – Sutter & Yuba counties • Sutter Roseville Medical Center – Western slope of Nevada & Placer counties • Tahoe Forest Hospital – Tahoe & eastern slope of Nevada & Placer counties • Mercy Medical Center Redding – Shasta, Siskiyou & Tehama counties		
3	Verbalizes/demonstrates the most appropriate method of CF communication during an MCI (telephone, radio – including channel, etc.) based on local procedures		
4	Verbalizes/demonstrates requirement to check in with or establish Incident Command (IC) and/or Medical Command upon arrival at scene		
5	Verbalizes/demonstrates required roles/functions during an MCI (Triage, Treatment & Transportation), and describes a basic understanding of these roles/functions		
6	Describes/demonstrates MCI identification vest utilization		
7	Describes/demonstrates the ordering process for additional transport/medical resources (all additional resources must be ordered through the IC)		
8	Demonstrates appropriate utilization of triage tags and verbalizes/demonstrates the use of triage tags on all patients prior to transport		

Step	Description	Does	Does Not
9	Describes/demonstrates triage procedures/considerations: • Initial triage should take no longer than 30 – 60 seconds per patient • Treatment prior to triage of all patients shall be restricted to airway establishment and hemorrhage control, to include the use of tourniquets and/or hemostatic dressings • CPR generally should not be initiated unless an overabundance of ALS personnel, equipment, transport units, and immediate receiving facilities exist • Any patient who has a tourniquet or hemostatic dressing applied to control hemorrhage shall be deemed an 'IMMEDIATE' regardless of the START triage algorithm • Patients placed in spinal motion restriction and/or unaccompanied pediatric patients must be categorized as 'DELAYED' at a minimum, as these patients require an ED room/bed upon arrival at the receiving hospital		
10	**(OPTIONAL)** – Describes/demonstrates appropriate utilization of a colored ribbon patient triage system if utilized by the EMS provider		
11	Describes/demonstrates appropriate CF communication requirements/procedures: • The Patient Transportation Unit Leader/Medical Communications Coordinator will contact the CF and provide patient information and total number of transport resources available • Patient information provided to the CF will be limited to age, gender, triage category, triage tag number, primary injury type and any special considerations (pregnancy, burns, etc.) • The Patient Transportation Unit Leader/Medical Communications Coordinator will work collaboratively with the CF to ensure appropriate patient distribution based on patient conditions and available transportation resources		
12	Describes/demonstrates appropriate utilization of the S-SV EMS Prehospital Patient Tracking Worksheet (837-B)		
13	Describes/demonstrates notification of the CF when all patients have been transported and the incident has ended		