A DIVISION OF
HEALTH CARE SERVICES
AGENCY

San Joaquin County
Emergency Medical Services Agency

http://www.sjgov.org/ems

Mailing Address
PO Box 220
French Camp, CA 95231

Health Care Services Complex
Benton Hall
505 W. Service Rd.
French Camp, CA 95231

Phone Number
(209) 468-6818

EMS Liaison Committee
Thursday, April 15, 2021 at 0900 hours

Online via Teams

Microsoft Teams meeting

Join on your computer or mobile app

Click here to join the meeting

Or call in (audio only)

+1 209-645-4071

Phone Conference ID: 810 519 160#

A G E N D A

1. Welcome - Call to Order

2. EMS Administrator's Report (no attachment)

3. Staffing and Training
   A. Training/PAO/PSR/EMR
      i. Verbal Report – Christine Tualla/Matthew Esposito
   B. Online certification management process April 15, 2021
      i. Verbal Report – Christine Tualla

4. Response and Transport
   A. Emergency Ambulance Service Performance
      i. Staff Report – Tina Shahani
   B. Firstwatch AMR/MDA migration – RFPD and ECA next
      i. Verbal Report – Tina Shahani
   C. Lucas 3.1 roll out / training dates
      i. Staff Report – Matthew Esposito

5. Disaster Medical
   A. MHOAC Logistics
      i. Staff Report – Matthew Esposito
   B. 2020-21 COVID-19 Supplemental Grant
      i. Staff Report – Phil Cook
   C. Disaster Healthcare Volunteer COVID-19
      i. Staff Report – Phil Cook

6. Hospital and Prehospital Care Service Provider
   A. Stroke

i. Staff Report – Jeff Costa

B. STEMI
   i. Staff Report – Jeff Costa

C. Trauma
   i. Staff Report – Amanda Petroske

7. Round Table

8. Next Meeting – TBD

Participants will be muted upon entry. Please use the chat or raise hand function to participate or ask questions throughout the meeting. If you plan to use the call in option outside the Microsoft Teams application, please submit questions or comments in advance. A full agenda packet may be viewed or downloaded from the EMS Agency's website at www.sjgov.org/ems.

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DATE: April 15, 2021

TO: EMS Liaison Committee

PREPARED BY: Tina Shahani, EMS Analyst

SUBJECT: Report on Emergency Ambulance Service Performance

RECOMMENDED ACTION:

Receive information on emergency ambulance performance for American Medical Response (AMR), Manteca District Ambulance (MDA), Escalon Community Ambulance (ECA) and Ripon Consolidated Fire District (RCFD).

FISCAL IMPACT:

The 2019-2020 San Joaquin County EMS Agency budget emergency ambulance monitoring and permit fees totaling $804,506 to offset the cost associated with monitoring compliance and evaluating performance.

Emergency and non-emergency ambulance service providers operate without subsidies from San Joaquin County. San Joaquin County sets the allowable billing rates for emergency ambulance service through a competitively awarded performance agreement to AMR and by non-competitively awarded performance agreements with MDA, ECA, and RCFD. Non-emergency ambulance service rates are unregulated and may be established by each non-emergency ambulance service provider based on market conditions.

DISCUSSION:

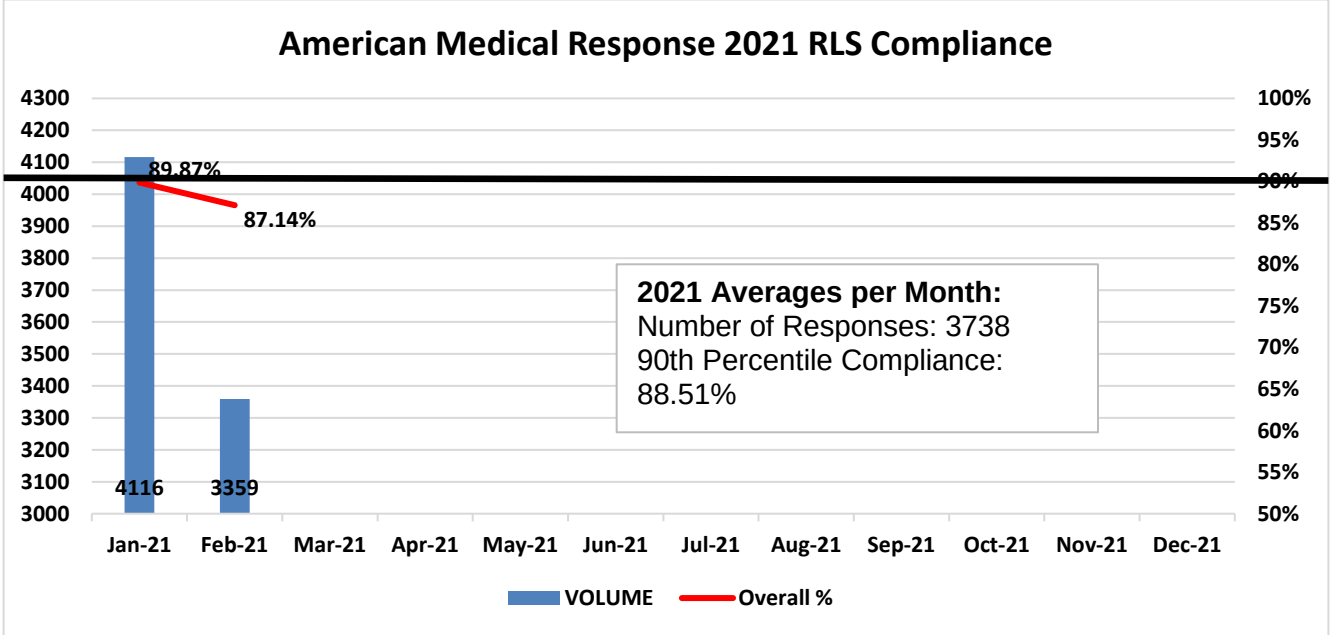
SJCEMSA publishes bi-monthly reports on the exclusive emergency ambulance provider service contract compliance for AMR, MDA, ECA, and RCFD. These reports primarily focus on service provider response time performance and other related measures included in their respective ambulance service contracts. Copies of these performance reports are available on the SJCEMSA's website at:

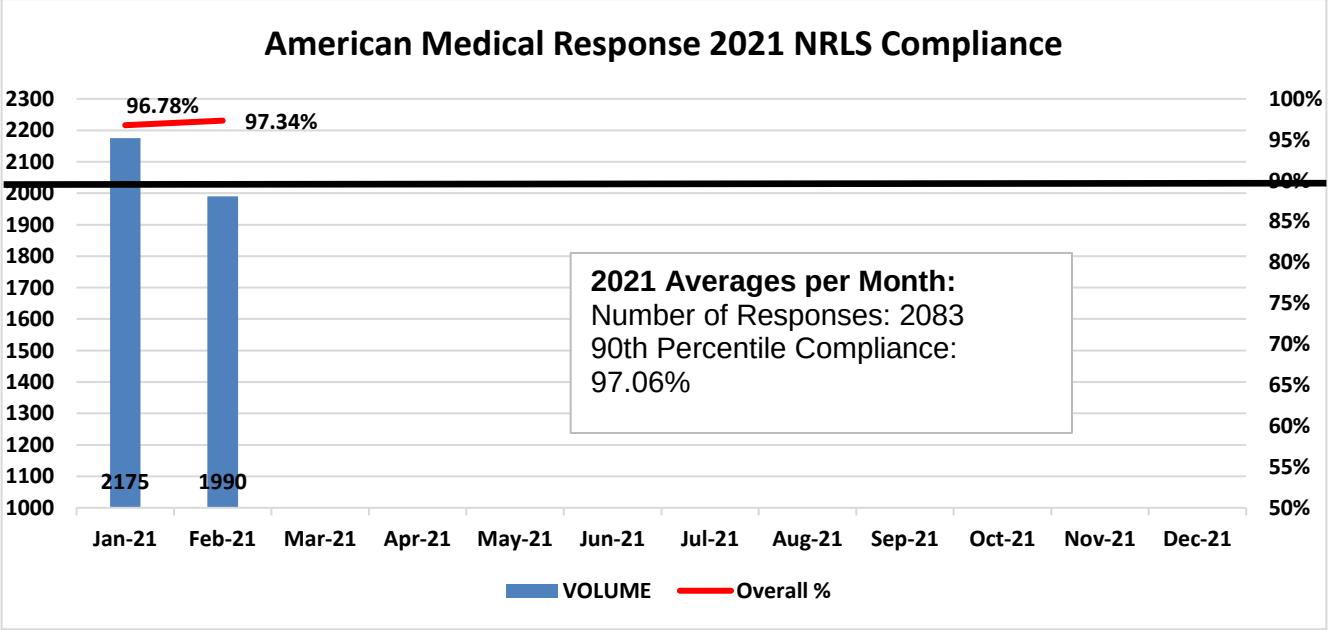
https://www.sjgov.org/ems/transportationcompliancereports.htm.

Compliance Review by Provider:

A summary analysis of the prehospital performance for each ALS ambulance provider during the first two months of 2021 is shown below.

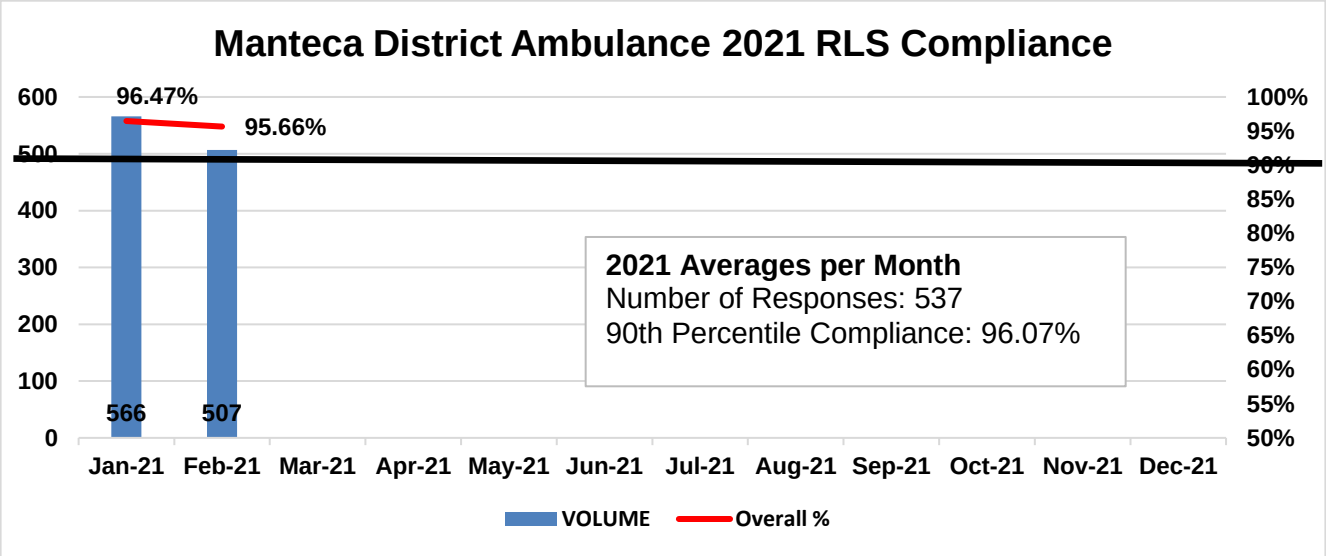
AMR

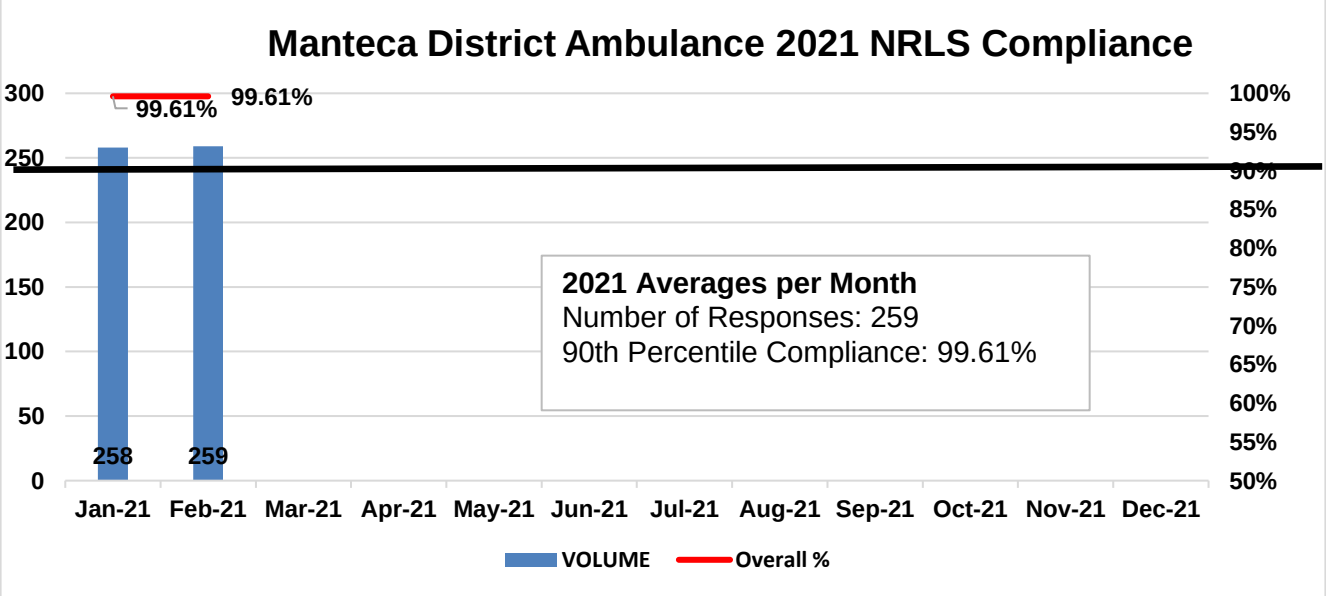




AMR's combined RLS and NRLS call volume for January thru February 2021 is 11,640 with an overall compliance of 91.60%. The call volume for ALS-IFT and CCT-IFT was 116 and 18 respectively during this time period.

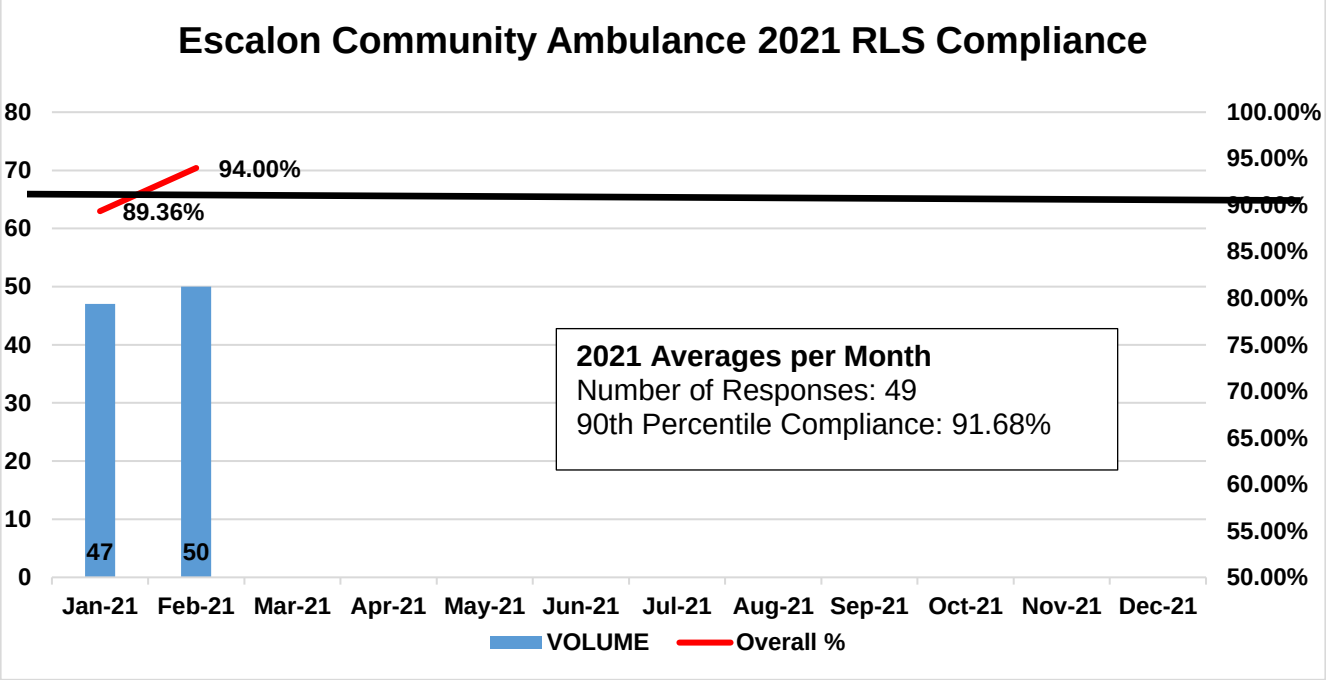
MDA



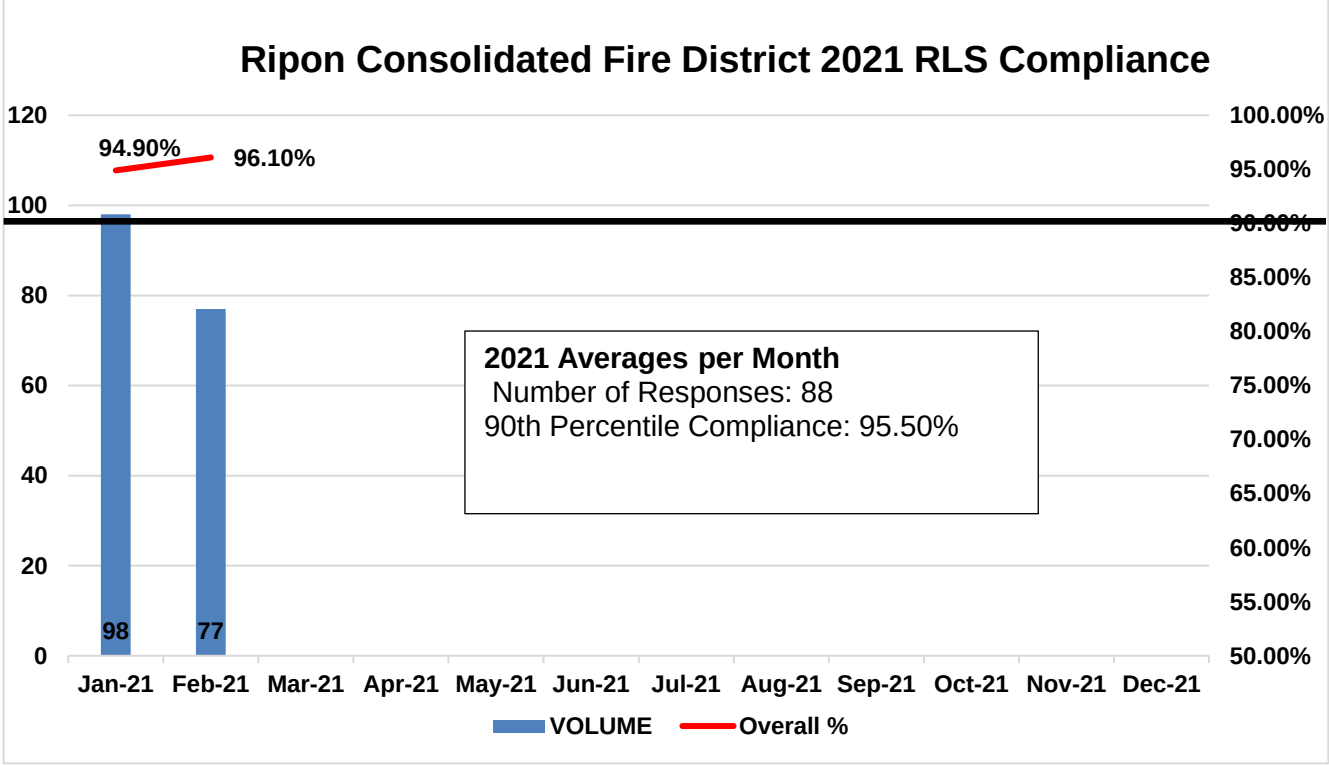


MDA's combined RLS and NRLS call volume for January thru February 2021 was 1,590 with an overall compliance of 97.23%.

Escalon Community Ambulance



Ripon Consolidated Fire District



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DATE: April 15, 2021

TO: EMS Liaison Committee

PREPARED BY: Matthew R. Esposito, MS, MICP
EMS Pre-Hospital Care Coordinator

SUBJECT: Lucas 3.1 Mechanical CPR device.

RECOMMENDED ACTION:

Purchased and issuance of 47 mechanical CPR devices to be placed on all first out non-transport first response vehicle in San Joaquin County.

2021-2023 FISCAL IMPACT:

Initial:
- County- $662,161.38
- Servicer Provider- None

Annual:
- County- None
- Servicer Provider- $500.00 to $1500.00 per device per year after 2023

DISCUSSION:

Mechanical CPR devices have become accessible and reliable when compared to pneumatic CPR devices from earlier generations. In 2020, during the COVID -19 pandemic, the San Joaquin County EMS agency (SJCEMSA) recognized an opportunity to not only improve our cardiac arrest management but also provide an opportunity to take EMS personnel out of harm's way.

Figure 1

Earlier Devices

Early CPR deices (see fig. 1) were primarily pneumatic (air powered) or circumferential (wrap around) and often caused injury with no significant increase in cardiac arrest survivability. In one such study circumferential CPR devices were noted to cause potentially fatal liver lacerations[1] or lung punctures. The study noted

[1] Kurtis Poole, 1. K. (2018). Mechanical CPR: Who? When? How? *NCBI*.

that these potential injuries could be secondary to squeezing the entire chest to cause blood flow through the heart. Several companies including *Stryker Corporation* developed piston style mechanical CPR devices (see fig. 2) that have a single point of contact on the sternum. This single point of contact allows the CPR device to compress the heart without unnecessarily squeezing the entire thorax. Although piston style CPR devices have less risk for injury, studies[2] are inconclusive on their impact to patent survivability.

Figure 2

Safety and risk

While current patient survivability studies are inconclusive, CPR devices may decrease first responder's potential for injury related to performing CPR. CPR in the prehospital setting can be a physically demanding procedure, often occurring hunched over on the floor and in tight spaces. Additionally, to give patients the highest chance for survival, CPR can go on for 30 minutes or longer. These situations can lead to knee and back injuries. Mechanical CPR devices, when placed after initial rounds of manual CPR, take the prehospital care provider off the floor and the device performs the labors task of CPR.

Less exposed

SJCEMSA looked into methods of limiting provider's exposure to possibly infected COVID -19 patients. Even while in full PPE, performing CPR is done in very close contact with patients. During each chest compression air is forced out of the lungs and onto nearby rescuers. Mechanical CPR devices provide an opportunity for an EMT or paramedic to initiate CPR, set up the CPR machine, and step back far enough to decrease their exposure to potential harmful airborne disease.

Rudolph W Koster, 1. L. (2017). Safety of mechanical chest compression devices AutoPulse and LUCAS in cardiac arrest: a randomized clinical trial for non-inferiority. *NCIB*, Et.al .

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TO: EMS Liaison Committee

PREPARED BY: Matthew R. Esposito, MS, MICP
EMS Pre-Hospital Care Coordinator

SUBJECT: Medical Health Operational Area Logistics Report

RECOMMENDED ACTION:

Receive information on the processing of material by the Medical Health Operational Area Logistics Section in support of the response to the COVID-19 pandemic.

FISCAL IMPACT:

Significant cost savings estimated in the millions of dollars for San Joaquin County Healthcare Coalition members including acute care hospitals, skilled nursing and residential care facilities, medical and dental clinics, individual medical and dental practitioners, ambulance services, fire departments, and others.

DISCUSSION:

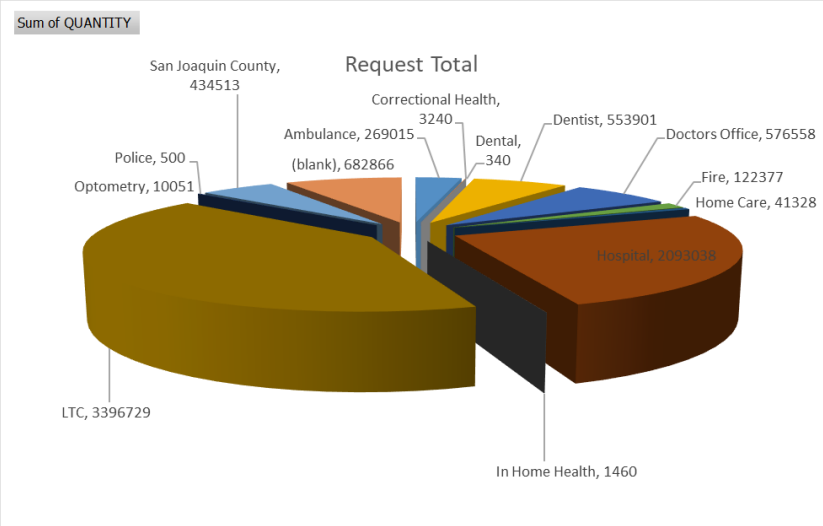
On February 6, 2020, the San Joaquin County Emergency Medical Services Agency enacted the Medical Health Operational Area Coordination (MHOAC) Logistics Branch, in response to the COVID-19 pandemic. Operating with the initial objective of suppling personal protective equipment (PPE) such as N95 masks, surgical masks and isolation gowns, to hospitals, fire departments, ambulance providers and long-term

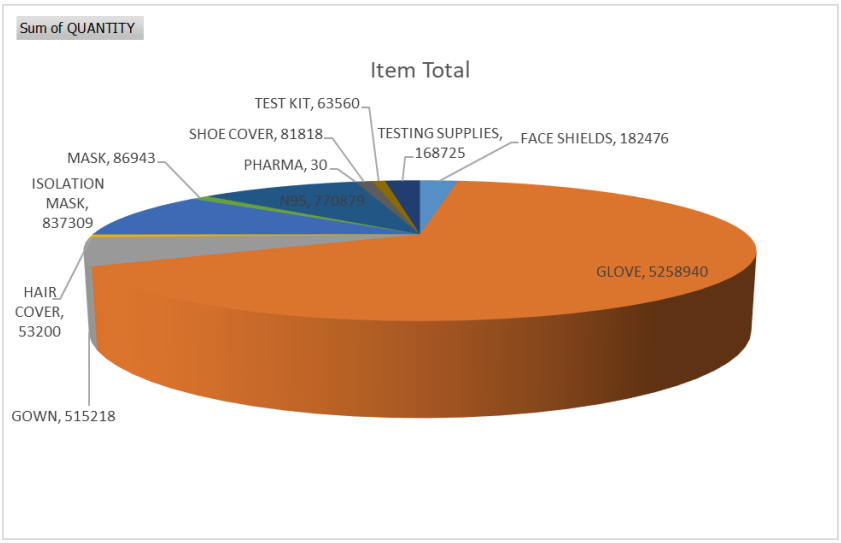
Row Labels	Sum of QUANTITY
Ambulance	236195
Dental	340
Dentist	309847
Doctors Office	336371
Fire	98555
Home Care	8679
Hospital	1295595
In Home Health	620
LTC	2064408
Optometry	6531
Police	500
San Joaquin County	225490
(blank)	1560
Grand Total	**4584691**

Row Labels	Sum of QUANTITY
FACE SHIELDS	180276
FILTER	170
GLOVE	5037140
HAIR COVER	53200
ISOLATION MASK	804059
MASK	86943
N95	760399
PHARMA	30
SANITIZER	28463
SHOE COVER	81818
TEST KIT	53080
TESTING SUPPLIES	168725
Grand Total	**7254303**

care facilities. The objectives quickly advanced to providing hospital beds, pharmaceuticals and laboratory testing supplies as well as supplying PPE to doctors' offices, dentists, clinics and law enforcement. To date, the EMS Logistics Branch has processed over nearly 4.6 million items. The Logistics Branch has also expanded from a staff of one person, Disaster Medical Health Specialist, Phil Cook, to at one point a staff of 12 San Joaquin County employees from various departments such as Public Works, Human Services Agency and Probation.

As the pandemic continues, the need for PPE remains as supply chains still have extended delays and allocations.





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DATE: April 15, 2021

TO: EMS Liaison Committee

PREPARED BY: Phillip Cook
Disaster Medical Health Specialist

SUBJECT: 2020-21 HPP COVID-19 Supplemental Grant

RECOMMENDED ACTION:

Provide an overview of the 2020-21 HPP COVID-19 Supplemental Grant

FISCAL IMPACT:

$151,713.00

DISCUSSION:

I. OVERVIEW

In response to the COVID-19 pandemic, Congress appropriated emergency supplemental funding to support the urgent preparedness and response needs of local healthcare coalitions.

The San Joaquin County Emergency Medical Services Agency, in coordination with hospital executives, used the funds to expand acute care hospital capacity for high acuity patients by procuring 10 Philips MP5 IntelliVue patient monitors, with accessories. The monitors will be forward deployed to the hospitals listed below.

Hospital	Monitor(s)
Adventist Health Lodi Memorial	2
Dameron Hospital	1
Doctor's Hospital of Manteca	1
San Joaquin General Hospital	3
St. Joseph's Medical Center	3

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DATE: April 15, 2021

TO: EMS Liaison Committee

PREPARED BY: Phillip Cook
Disaster Medical Health Specialist

SUBJECT: Disaster Healthcare Volunteer COVID-19 Deployments

RECOMMENDED ACTION:

Provide an overview of volunteer deployments in support COVID-19 mass vaccination efforts

FISCAL IMPACT:

Estimated $60,000 in volunteer labor

DISCUSSION:

I. OVERVIEW

The San Joaquin County Emergency Medical Services Agency serves as the administrator for the San Joaquin County Unit of the California Disaster Healthcare Volunteers (DHV). The San Joaquin County Unit currently has 644 volunteers, consisting of 501 healthcare professionals and 143 non-healthcare professionals.

Since March 10, 2021, 80 volunteers have been deployed to a total of 15 mass vaccination events hosted in Lockeford, Stockton, and Tracy. To date, volunteers have donated over 611 hours in support of the countywide mass vaccination efforts.

References:

https://www.sjgov.org/ems/pdf/emsa_dhvbrochure.pdf
https://www.sjgov.org/ems/emergencypreparedness.htm#californiaMedicalVolunteers
https://www.healthcarevolunteers.ca.gov/

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DATE: April 15, 2021

TO: EMS Liaison Committee

PREPARED BY: Jeffrey Costa, RN
EMS Critical Care Coordinator

SUBJECT: Stroke System of Care Update

RECOMMENDED ACTION:

Receive information on the stroke system of care in San Joaquin County.

FISCAL IMPACT:

The San Joaquin County EMS Agency (SJCEMSA) receives $26,075 per year from each designated stroke center to offset the costs associated with stroke system planning, implementation, and evaluation.

DISCUSSION:

In 2018, the SJCEMSA designated all seven San Joaquin County hospitals as primary stroke centers following successful completion of a process that included site surveys and ratification of written agreements.

The SJCEMSA implemented a standardized data collection and reporting process that is consistent with the U.S. Centers for Disease Control and Prevention, Paul Coverdell National Acute Stroke Program and the American Heart Association's Get with the Guidelines. Reported data follows suspected stroke patients from the time the ambulance arrives on-scene to the time the patient receives a discharge diagnosis or is transferred to a facility that provides a higher level of care.

American Stroke Association Standards

According to the annual data for 2020, the San Joaquin County stroke system already performs at a level expected in a more mature system. The American Stroke Association (ASA) publishes, *Recommendations for the Establishment of Stroke Systems of Care: A*

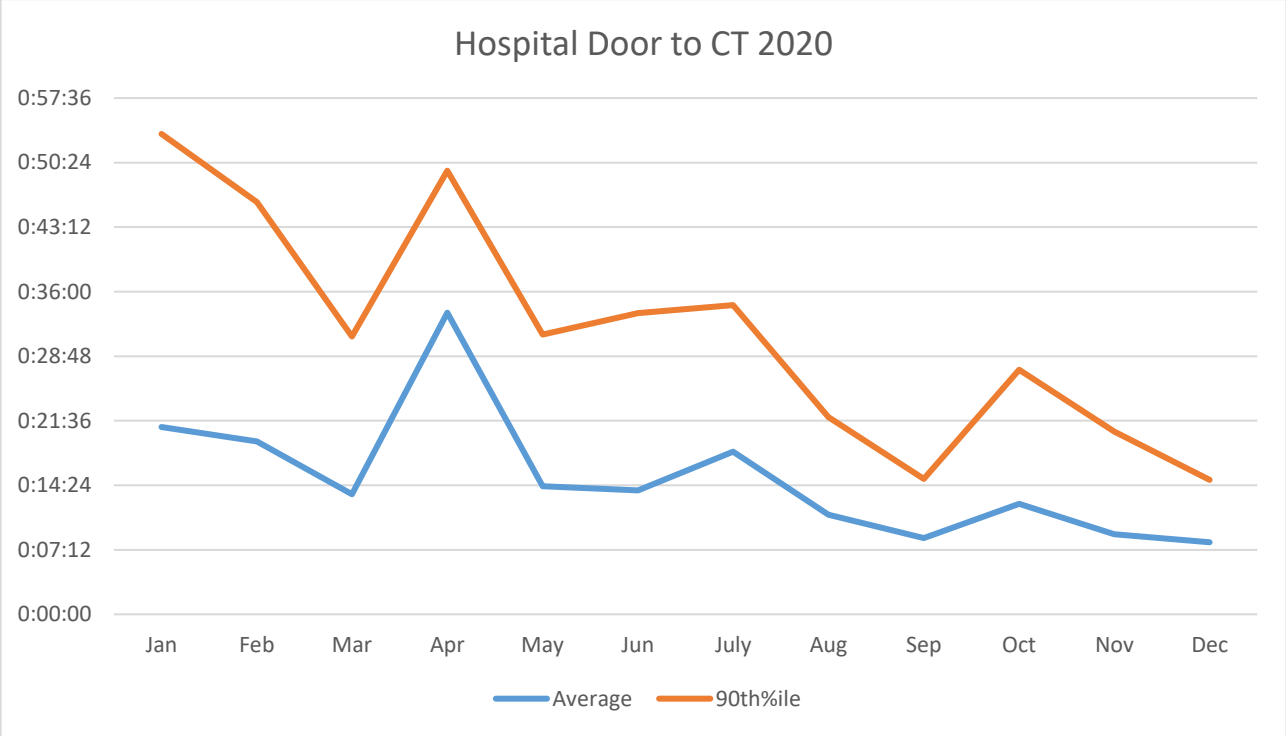
2019 Update[1]*,* providing both goals and standard for stroke systems. San Joaquin County has met and exceeded many of the current goals for 2019 per the ASA. For example, ASA's recommended elapsed on scene time with a suspected stroke patient is less than 15 minutes. During the year 2020 the elapsed on scene time of suspected stroke patients in San Joaquin County averaged **10:21** minutes. During the year 2020, EMS personnel provided "pre-alerts" to primary stroke centers in San Joaquin County **75.6**% of the time.

Other suggestions to improve stroke systems from ASA include the use of prehospital stroke severity assessment tools and the importance of early stroke team activation. ASA specifically states that, "In prehospital patients who screen positive for suspected stroke, a standard prehospital stroke severity assessment tool (such as Rapid Arterial Occlusion Evaluation, etc.) should be used to facilitate triage." In addition, ASA emphasized that, "Early stroke team activation, CT angiography performed in <30 minutes, and cloud image sharing may reduce door in-door out time and facilitate rapid treatment. Future efforts should be aimed at supporting the widespread implementation of rapid advanced imaging to detect LVO in appropriately selected patients." The SJCEMSA implemented a severity scale (Rapid Arterial Occlusion Evaluation or RACE) and has integrated its use into early notification and rapid imaging upon arrival at PSCs.

During the year 2020, data provided to SJCEMSA by the primary stroke centers in San Joaquin County indicates that PSCs received a total of 504 patients from EMS with a final diagnosis of stroke. Of these, 302 were prehospital patients transported by ambulance.

[1] Opeolu et al.. (2019, July). Recommendations for the Establishment of Stroke Systems of Care: A 2019 Update. *American Heart Association, 50(7), 187-210. Retrieved July 1, 2019, from https://www. Ahajournals.org/doi/10.1161/STR.00000000000173.*

Chart 1
The chart below represents the time from EMS arrival at hospital to initiation of CT exam during the year 2020.



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DATE: April 15, 2021

TO: EMS Liaison Committee

PREPARED BY: Jeff Costa, RN
EMS Critical Care Coordinator

SUBJECT: STEMI System Report

RECOMMENDED ACTION:

Receive information on the ST elevated myocardial infarction (STEMI) System in San Joaquin County.

FISCAL IMPACT:

The San Joaquin County EMS Agency (SJCEMSA) receives $26,075 per year from each designated STEMI center to offset the costs associated with STEMI system planning, implementation, and evaluation.

DISCUSSION:

Cardiac Catheterization Laboratories (or Cath Lab) Team Skills Practice & Survivability:
During the year of 2020 a total of 267 patients were identified as having a suspected ST elevation myocardial infarction needing specialized cardiac care and were treated at St Joseph's Medical Center (SJMC) or Dameron Hospital Association (DHA). Of these patients, 248 (**92.8**%) were discharged alive. A total of 71 of these critically ill patients received percutaneous interventions (PCI) in the Cardiac Cath labs of either SJMC or DHA of which 68 (**95.7**%) were discharged alive.

Data Collection:
The ability of SJCEMSA to evaluate the STEMI system relies upon data measuring the performance of prehospital and hospital timeliness. Such data includes quality indicators as seen below which are used as a means to measure the effectiveness of the STEMI system in San Joaquin County.

Prehospital Quality Indicators include measurement of the following:

1. Accurate and complete documentation
2. Time spent on-scene
3. Time between First Medical Contact[1] (FMC) to the first EKG
4. Time between identification of a STEMI (EKG) and notification of SRC
5. Timely and correct notification of SRCs for patients identified as having STEMI
6. Efficacy of ECG transmission
7. Time from FMC to Balloon[2] at SRC
8. Time between FMC and patient arrival to SRC

In-Hospital Quality Indicators include measurement of the following:

1. Timeliness of in-hospital STEMI alert in response to prehospital STEMI alert
2. Efficacy of prehospital STEMI identification method (e.g. percentage of false positives)
3. Timeliness of prehospital alert and ED arrival to cath lab/balloon times

Data Analysis:
The data in this report is derived from a review of patient care reports and in-hospital care at each SRC. The focus of this process is appropriate STEMI documentation, 12-lead ECG interpretation and application, and whether timely and correct notification of SRCs for patients identified as having STEMI has occurred.

The focus of data collected for this report is on those cases in which patients are transported by ambulance that were identified as meeting criteria of having a STEMI. Also included are cases in which patients are not identified in the prehospital setting as having STEMI, but who evolve to meeting STEMI criteria after arrival at the SRC.

Transmission of ECGs from the Prehospital Setting:
Paramedics are required to transmit ECGs to the SRC for suspected STEMI patients as soon as possible. ECGs were transmitted to SRCs as part of the prehospital STEMI alert process on average forty-nine percent (**49.4**%) of the time during the year 2020. Compared to the last quarter of 2019, (the average transmission percentage was 82.7%), compliance with the requirement to transmit ECGs has decreased. A continued effort is needed to improve the transmission rates of ECGs on STEMI patients.

First Medical Contact (FMC) to Balloon Times
Chart 1 shows the elapsed time from FMC to Balloon in the hospital cardiac cath lab. This data only includes those cases in which a STEMI alert was initiated in the prehospital setting, excluding all evolving subsequent STEMIs and return of spontaneous circulation (ROSC) patients. As shown in the charts below, SJCEMSA's STEMI system consistently meets or exceeds the ACC/AHA $\leq$ ninety (90) minute the FMC to Balloon time interval minimum standard with an average time of **83** minutes during 2020.

[1] First Medical Contact is the time of face to face contact between STEMI patient and first caregiver.
[2] Balloon refers to reperfusion of blood flow during a Percutaneous Intervention.

Chart 1

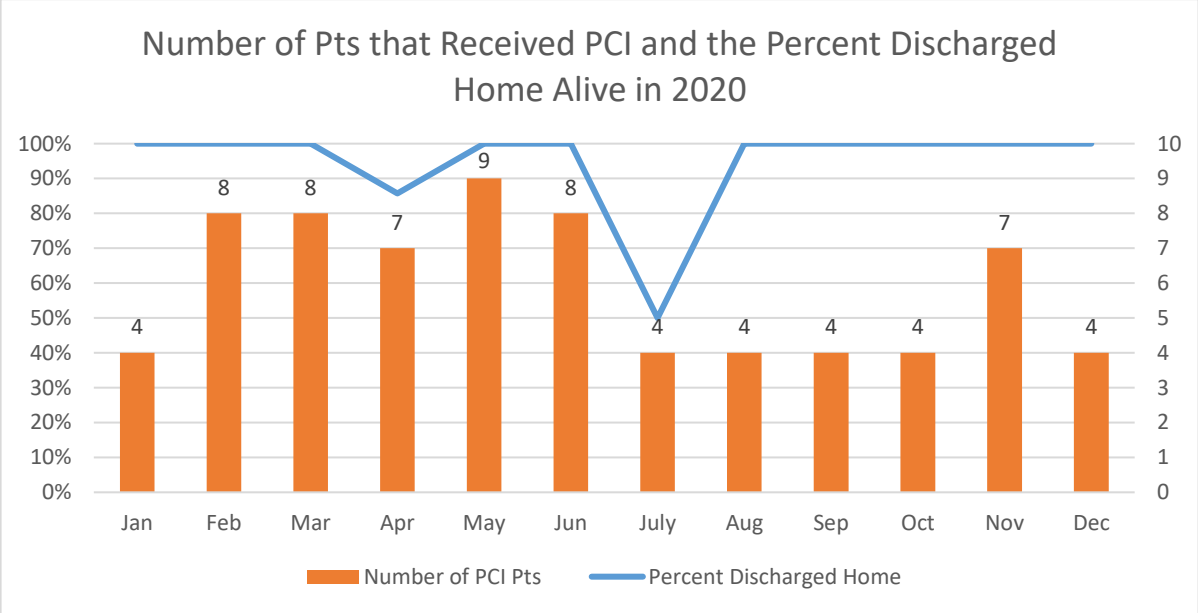
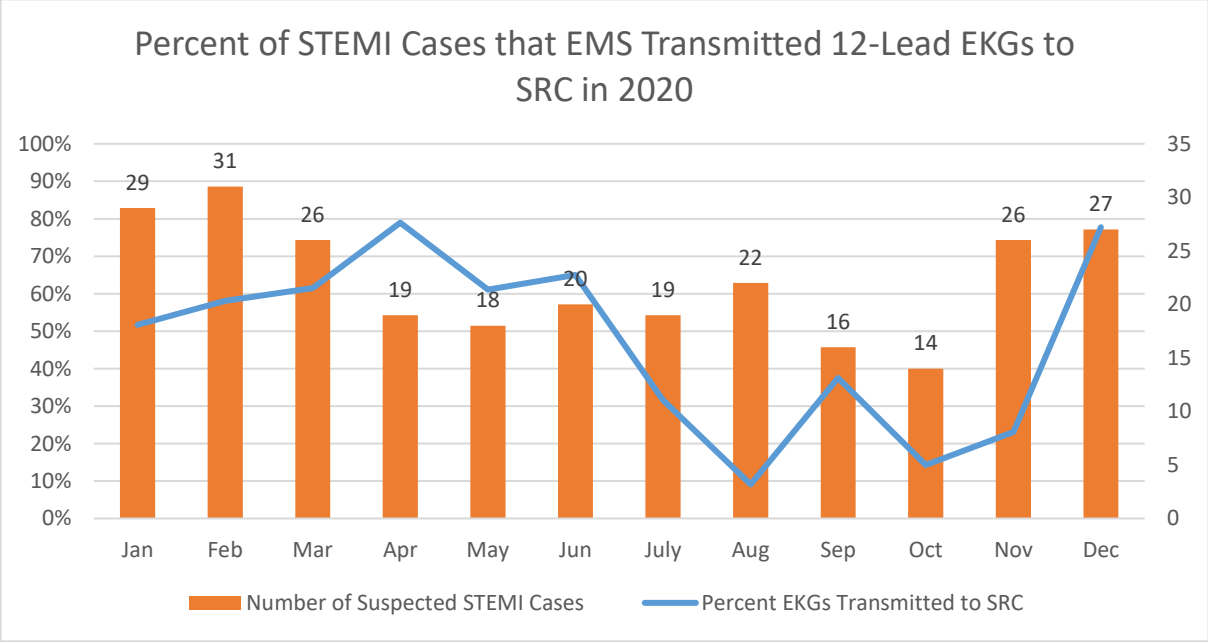


Chart 2



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DATE: April 15, 2021

TO: EMS Liaison Committee

PREPARED BY: Amanda Petroske, EMS Trauma Coordinator

SUBJECT: Trauma System Report

RECOMMENDED ACTION

Receive information on the Trauma System of San Joaquin County.

FISCAL IMPACT

State law allows local EMS agencies to recoup the costs associated with the development of a trauma system plan and ongoing monitoring of the trauma system in the fees charged for designating trauma centers. The trauma center monitoring fee totals $254,347 and will offset the costs associated with monitoring the trauma center contract, legal fees, and a site team verification of San Joaquin General Hospital (SJGH) by the American College of Surgeons (ACS) Committee on Trauma. Revenue from the trauma center designation fee is included in the approved 2020-21 EMS budget.

DISCUSSION

Trauma Center Verification:

SJGH was initially designated as a Level III Trauma Center by the San Joaquin County EMS Agency (SJCEMSA) in August 2013. SJGH was verified as a Level III Trauma Center by the American College of Surgeons (ACS) Committee on Trauma (COT) in June 2018.

Effective April 1, 2021 SJGH has been designated as a Level II Trauma Center by SJCEMSA. ACS-COT will be returning to SJGH later this year to conduct a Level II Trauma Center site survey for verification. SJGH remains San Joaquin County's only trauma receiving hospital.

Verified trauma centers must meet ACS-COT essential criteria ensuring trauma care capability and institutional performance, as outlined by ACS-COT's "Resources for Optimal Care of the Injured Patient". The ACS-COT's verification program does not designate trauma centers. Rather, the program provides confirmation that a trauma center has demonstrated its

commitment to providing the highest quality trauma care for all injured patients. SJCEMSA is responsible for the designation of trauma centers.

SJGH Trauma Process Improvement and Patient Safety Program:

The SJGH Trauma Services Department holds monthly meetings of its multidisciplinary Trauma Process Improvement and Patient Safety (PIPS) Committee. The objective of a trauma PIPS program is to improve patient outcomes, eliminate problems, and reduce variation in patient care. All trauma centers are expected to systematically and critically scrutinize their trauma care using performance measurements as a means to validate and improve patient care and provide clinicians with the tools to remain competent with current medical best practice. While there is no precise prescription for a PIPS program, such programs must demonstrate a continuous process of monitoring, evaluating, and improving the performance of the trauma program. As part of its PIPS program, SJGH collects and evaluates information related to trauma activations and follows each trauma patient through their hospitalization and disposition.

In addition to PIPS, the SJGH Trauma Department participates in quarterly Trauma Audit Committee (TAC) meetings which integrates with regional trauma system performance efforts.

The charts below show a summary of the data regularly evaluated by the SJGH Trauma PIPS Committee.

SJCEMSA's Trauma Registry Data:

Major Trauma Patients Received by SJGH	**2019**	**2020**
Total Major Trauma Activations	3580	3813
Pediatric Activations	251	189
Pediatrics Transferred out	28	29
Burn Activations	67	58
Burn Transferred out	25	22
Mechanism of Injury	**2019**	**2020**
Gunshot Wound (GSW)	237	242
Stabbing	158	153
Motorcycle Collision	185	183
Motor Vehicle Collision	1210	1158
Assault	149	156
Fall	1041	1045
Pedestrian struck by auto	270	167