

**County of Santa Clara
Emergency Medical Services System**



Emergency Medical Care Committee (EMCC)
700 Empey Way
San Jose, CA 95128
408.794.0600 voice | www.sccemsagency.org
www.facebook.com/SantaClaraCountyEMS

EMERGENCY MEDICAL CARE COMMITTEE (EMCC)

**Thursday, August 20, 2020
2:00 pm – 4:00 pm**

**** By Virtual Teleconference Only ****

All reports and supporting material are available for review on the Santa Clara County EMS Agency website at www.sccemsagency.org and in the EMS Agency's offices at least one week prior to the meeting. (📄 Indicates supporting documentation attached. 📄 Indicates committee action required).

Purpose of the Emergency Medical Care Committee (EMCC)

The purpose of the Emergency Medical Care Committee (EMCC) as specified in the California Health and Safety Code Section 1797.274 and 1797.276 is to review the operations of each of the following at least annually:

1. Ambulance services operating within the county.
2. Emergency medical care offered within the county, including programs for training large numbers of people in cardiopulmonary resuscitation and lifesaving first aid techniques.
3. First aid practices in the county.

The EMCC shall convene to provide the Santa Clara County EMS Agency with its observations and recommendations relative to its review of the items above in addition to providing feedback related to the EMS System Strategic Plan, policy, education and training, quality improvement, public access, and EMS system operations.

The EMCC will also make recommendations related to the use of EMS Trust Fund for the funding of Category C: Stakeholder Projects consistent with *Santa Clara County Prehospital Care Policy EMS Reference #812 Trust Fund Guide and Application*.

Recommendations made by the EMCC, in the form of meeting minutes, will be provided to the Health Advisory Commission by the Chair and will be published to the EMS Agency website, and available for public review.

AGENDA

1. **Call to Order / Roll Call of Voting Members** 📄 📝
Kenneth Horowitz, Chair and Health Advisory Commissioner
2. **Introductions and Announcements**
Kenneth Horowitz, Chair and Health Advisory Commissioner
3. **Public Comment**
Kenneth Horowitz, Chair and Health Advisory Commissioner

This portion of the meeting is reserved for persons desiring to address the EMS Committee on a Committee-related matter not on the agenda. Speakers are limited to two (2) minutes. The law does not permit Committee action or extended discussion on any items not on the agenda except under special circumstances. Statements that require a response may be placed on the agenda for the next regular meeting of the Committee.

Consent Items 📝

Introduction of Items Scheduled for Consent

Patricia Natividad, Sr. Management Analyst

Items 4 - 9 may be accepted as one motion. Item 4 – 9 is for informational purposes.

4. **Approval of February 20, 2020 Meeting Minutes** 📄 (Page 5)
5. **Items Approved by the Board of Supervisors and/or Board Committees** 📄 (Page 12)
Copies of Board and Board Committee approved reports are provided for reference and information purposes.
6. **Santa Clara County Exclusive Operating Area Report** 📄 (Page 147)
7. **Non-911 Ambulance Services Report** 📄 (Page 150)
8. **HHS Facilities Report** 📄 (Page 151)
9. **Receive report on Palo Alto Exclusive Operating Area** 📄 (Page 152)

Regular Items

10. Health Advisory Commission and Items Referred by the Commission to the EMCC

Receive verbal report from Kenneth Horowitz, Chair and Health Advisory Commissioner

11. EMS System Initiatives: Personnel

- A. Receive report on EMT Certification, Paramedic Accreditation, and Credentialing  **(Page 177)**
Isaac Quevedo, EMS Specialist
- B. Receive report on EMS Investigations and Enforcement  **(Page 178)**
Daniel Franklin, EMS Specialist
- C. Receive report on Medical Volunteers for Disaster Response Program  **(Page 179)** *Michael Cabano, EMS Specialist*

12. EMS System Initiatives: Equipment and Supplies

- A. Receive report  **(Page 181)**
Jason Weed, EMS Specialist

13. EMS System Initiatives: Data Systems

- A. Receive report  **(Page 182)**
Michael Clark, EMS Specialist

14. EMS System Initiatives: Clinical Care and Patient Outcome

- A. Receive report from EMS Agency Medical Director  **(Page 184)**
Dr. Ken Miller, EMS Medical Director
- B. Receive report on Emergency Medical Dispatch Quality Improvement  **(Page 194)** *Dr. Ken Miller, EMS Medical Director*
- C. Receive report on Specialty Center Quality Improvement  **(Page 198)**
Falko Schoeneweiss, Specialty Programs Nurse Coordinator
- D. Receive report on Prehospital Patient Care Quality Improvement  **(Page 200)**
John Sampson, EMS Specialist
- E. Receive report on Prehospital Care Policy Revision Activities  **(Page 204)** *David Sullivan, EMS Specialist*

15. EMS System Initiatives: Skills Maintenance/Competency

- A. Receive report  **(Page 205)**
Daniel Peck, EMS Specialist

16. EMS System Initiatives: Public Education

- A. Receive report  **(Page 206)**
Daniel Peck, EMS Specialist

17. EMS System Initiatives: Transportation/Facilities

- A. Receive report on Bypass  **(Page 207)**
Jackie Lowther, EMS Director
- B. Receive report on APOT  **(Page 210)**
Jackie Lowther, EMS Director

18. EMS System Initiatives: Preparedness

- A. Receive report on Disaster and Significant events  **(Page 213)**
Michael Cabano, EMS Specialist

19. Future schedule of EMCC Meetings

Jackie Lowther, EMS Director

20. EMS Trust Fund Status Report  (Page 214)

Jackie Lowther, EMS Director

21. EMCC Member Requests for Future Agenda Items / Announcements

Kenneth Horowitz, Chair and Health Advisory Commissioner

Voting and non-voting members may request items for inclusion in future agendas or present announcements not requiring EMCC action.

22. EMS Stakeholder Requests for Future Agenda Items / Announcements

Kenneth Horowitz, Chair and Health Advisory Commissioner

Members of the public or EMS System may request items for inclusion in future agenda or present announcements not requiring EMCC action.

23. Next Meeting and Adjourn

Kenneth Horowitz, Chair and Health Advisory Commissioner

November 19, 2020 from 2:00-4:00 pm at Virtual Teleconference

Emergency Medical Care Committee
Valley Specialty Center, 751 S. Bascom Avenue
February 20, 2020 at 2:00pm
Meeting Minutes

Item	Discussion	Action
1. Call to Order/Roll Call	Meeting called to order at 2:05 P.M. by Chair Elinor Stetson	Meeting called to order
2. Introductions and Announcements	No new introductions or announcements	
3. Public Comment	No public comment request submitted.	
<u>Consent Items</u> 4. Approval of November 14, 2019 Meeting Minutes 5. Items approved by the Board of Supervisors and/or Board Committees 6. EMS Trust Fund status Report 7. Santa Clara County Exclusive Operating Area Report 8. Non-911 Ambulance Services Report 9. HHS Facilities Report	Motion to approve consent items 4-9 by Jackie Lowther Second by Geoffrey Blackshire.	Motion Approved.
10. Health Advisory Commission Updates	Nothing to report.	
11. EMS System Initiates: Personnel A. Receive report on EMT Certification, Paramedic Accreditation, and Credentialing	A. SJFD is in process of renewal/accreditation for their Paramedics. The EMS Agency has completed 50% of the 300-350 applications that have been submitted by SJFD. <ul style="list-style-type: none"> - CA State passed a law in 2019 that every local LEMSA must report which applicants had an initial application denied. The report that will be sent to the State EMSA will include a spreadsheet with criminal 	

Item	Discussion	Action
<p>B. Receive report on EMS Investigations and Enforcement (Daniel Peck)</p> <p>C. Receive report on Medical Volunteers for Disaster Response Program (Michael Cabano)</p>	<p>background, gender, age, and race. The report is due to the State EMSA by July 2020.</p> <p>B. Enforcement & Investigations- No Information to report, refer to written report page 92</p> <p>C. MVDR enrollment has been reassessed from 414 members down to 85 members. Disaster Health Volunteers (DHV) from 346 members down to 50. Total of 135 members active.</p>	
<p>12. EMS System Initiatives: Equipment and Supplies (Jason Weed) (Page 93)</p>	<p>The Field Treatment Site Trailer (FTS) restock supplies will begin to be delivered in January of 2020.</p> <ul style="list-style-type: none"> - DMSU 125 and 126 each received 2 new AED that were purchased through the Heart Start program. 	<p>Once the EMS agency has the restock all the hospitals and fire stations with an FTS will be notified, restock will be delivered and replaced.</p>
<p>13. EMS System Initiatives: Data Systems (Michael Clark) (Page 96)</p>	<p>PCR Data Systems update January 2020 Contractor Ted Farr is enhancing the new PCR system.</p> <ul style="list-style-type: none"> - Providers are still adjusting to the new PCR system. - Chris Duncan reported on the overall improvement of incident numbers & QA functions due to the implementation of the new PCR System. - Please refer to report (page 96) 	<p>SCC EMS Agency will continue to work with providers and any issues arising from the implementation on the new PCR System.</p>

Item	Discussion	Action
<p>14. EMS System Initiatives: Clinical Care and Patient Outcomes.</p> <p>A. Report from EMS Agency Medical Director (Dr. Miller)</p> <p>B. Specialty Center Quality Improvement, EMS Agency Medical Director (Dr. Miller)</p> <p>C. Prehospital Patient Care Quality (John Sampson)</p> <p>D. Prehospital Care Policy Revision Activities (David Sullivan)</p>	<p>A. Dr. Miller provided Coronavirus update regarding providers using the proper PPE when dealing with a potential exposure.</p> <ul style="list-style-type: none"> - Ask patient if they have recently traveled and if they have cough or fever. - Exposure to Coronavirus will require for staff to quarantine for 14 days. - Please refer to report on (Page 98). <p>B. Specialty Center Quality Improvements.</p> <ul style="list-style-type: none"> - IFT protocol triage at main jail transports update. - Please refer to report on (Page 98). <p>C. Prehospital Care Policy.</p> <ul style="list-style-type: none"> - On January 1st, 2020 Tranexamic Acid or TXA was added to the Traumatic Hemorrhage Control protocol (700-M17). No Usages as of the 1st of the year. - Intubation update, County Ambulance's QI team has developed a robust QI evaluation and training process. They have deployed this last month and experienced very promising results. Allied agencies have started to reach out to county ambulance to deploy the same process. - Please refer to report on (Page 99). <p>D. 27 new policies/protocols went live on January 1, 2020.</p> <ul style="list-style-type: none"> - Please refer to report on (Page 100). 	<p>Usage of TXA will continue to be monitored with 100% patient care report review by the EMS Agency.</p> <p>Intubation Data will be provided at the next committee meeting.</p>

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Item	Discussion	Action
<p>E. Emergency Medical Dispatch Quality Improvement (Christopher Duncan)</p> <p>15. EMS System Initiatives: Skills Maintenance/Competency (Daniel Franklin)</p> <p>16. EMS System Initiatives: Public Education (Daniel Franklin)</p> <p>17. EMS System Initiatives: Transportation/Facilities (Jackie Lowther)</p> <p>A. Receive report on Bypass</p> <p>B. Receive report on APOT</p>	<p>A. Refer to 14A of Dr. Miller's update.</p> <p>Daniel Franklin presented on the EMS Exam Pass, Fail, and DNR. Paramedics had a higher passing rate on the 1st attempt than EMT's in 2020 so far.</p> <p>February is campaign month for public education and the L.I.F.E. files.</p> <ul style="list-style-type: none"> - 60,000 files have been distributed so far. - March is campaign month for Alert SCC - April is campaign month for Pool Safety/Stroke which is available in Spanish English and Vietnamese. <p>Hospital Bypass was at 57 hours in December.</p> <ul style="list-style-type: none"> - Hospitals did a fantastic job with supervision and ringing down Duty Chiefs. - Please refer to report on (Page 101). <p>Ambulance Patient Off Load time averaged 19 mins 55 secs as of January 2020. Comparable to sister counties.</p>	<p>30,000 L.I.F.E. Files are on order.</p>

Item	Discussion	Action
<p>18. EMS System Initiatives: Preparedness (Michael Cabano)</p> <p>A. Receive report on Disaster and Significant events</p>	<p>Narcan Programs with Law Enforcement Agencies had the following administrations with SCC.</p> <ul style="list-style-type: none"> - In 2018 there were 3 administrations of Narcan. - In 2019 there were 13 administrations of Narcan. - In 2020 there were 4 administrations of Narcan. <p>On December 4, 2019, a Strike Team was sent to San Benito County as a mutual aid response for a level 3 activation due to the Coronavirus.</p>	<p>No updates in reference to the Public Safety Narcan Program.</p> <p>The following significant events have occurred that were mitigated without significant impact to the EMS System.</p>
<p>19. EMS Trust Fund (Patricia Natividad)</p> <p>20. Future EMCC Meetings (Jackie Lowther)</p>	<p>Trust Fund approvals have been made except for portable radios requested by Mountain View Fire Department which was denied.</p> <p>Fire Chief Diaz of Mountain View Fire addressed the committee and would like them to reconsider the denial of the portable radios for Mountain View Fire Department.</p> <p>Spring and Fall meetings have been suggested</p> <p>Motion was made by Jeff Cole to have EMCC Semi Annually. Second by Joshua Markowitz.</p>	<p>Fire Chief Diaz request will be discussed by the Committee and will report back next meeting.</p> <p>Motion Approved.</p>

Item	Discussion	Action
21. Behavioral Health Department Presentation (Toni Tullys)	Behavioral Health would like to recognize the Behavioral Crisis Program created by Dr. Miller and in partnership with Gilroy Fire Department. The pilot program has been a huge success.	
22. EMCC Member Requests for Future Agenda Items / Announcements	No requests or announcements mentioned.	None
23. EMS Stakeholder Requests for Future Agenda Items/Announcements	No requests or announcements mentioned.	None
24. Next Meeting	May 21, 2020 from 2:00-4:00 pm at Valley Specialty Center Room BQ160 751 South Bascom Avenue. San Jose, CA 95128	Meeting adjourned at 3:27 P.M.

Item	Discussion	Action
<p>VOTING MEMBERS PRESENT:</p> <p>Joshua E. Markowitz, MD, Specialty Care Physician Leif Juliussen, Public Sector Paramedic/EMT Douglas Petrick, County EOA Ambulance Provider Dan Bobier, Private Ambulance Service Executive Officer Robert Jonsen, Law Enforcement Executive Officer Kent Steffens, City Manger</p>	<p>Voting Alternates PRESENT:</p> <p>Elinor Stetson, EMCC Chair Trisha Adcock, County Communications Jeff Cole, Fire Service Executive Officer Irene Chavez, Hospital Council</p>	
<p>EMS STAFF PRESENT:</p> <p>Jackie Lowther, EMS Director Dr. Ken Miller, EMS Medical Director Michael Cabano, EMS Specialist Michael Clark, EMS Specialist Chris Duncan, ESM Specialist Jason Weed, EMS Specialist John Blain, EMS Specialist Daniel Peck, EMS Specialist Daniel Franklin, EMS Specialist David Sullivan, EMS Specialist John Sampson, EMS Specialist Patricia Natividad, Sr. Management Analyst Benito Cortes, Office Specialist III</p>	<p>Others in Attendance:</p> <p>Randy Hooks Jesus Guerrero Michael Spain Chris Harper Jesse Winnen Peter D’Souza Mikayla Rosario Juan Diaz</p>	<p>Minutes respectfully submitted by Benito Cortes, OS III, EMS Agency.</p>

Attachments, presentations and documents can be found at: www.sccemsagency.org

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Date: July 29, 2020

To: Santa Clara County EMS Committee Members

From: Patricia Natividad
Senior Management Analyst

Subject: Summary of Approved or Pending Board of Supervisors and Health and Hospital Committee Items

Summary of Health and Hospital Committee Approved Items:

Director's Report, County of Santa Clara Health System – January 22, 2020

The Health and Hospital Committee has requested the Deputy County Executive/Director of County of Santa Clara Health System present monthly reports regarding emerging issues and items of interest to the public and to the Committee. The Committee also requested verbal as well as written updates on operations for the departments comprising the Health System. Emergency Medical Services and Behavioral Health Services Department written updates are provided as attachments this month.

The Emergency Medical Services Department Monthly Update report is attached.

Director's Report, County of Santa Clara Health System – February 19, 2020

The Health and Hospital Committee has requested the Deputy County Executive/Director of County of Santa Clara Health System present monthly reports regarding emerging issues and items of interest to the public and to the Committee. The Committee also requested verbal as well as written updates on operations for the departments comprising the Health System. The Emergency Medical Services and Public Health Department updates are provided as attachments, as is a report on Whole Person Care.

The Emergency Medical Services Department Monthly Update report is attached.

EMS 2022 Ambulance Services RFP Process & EMS Update Director's Report, County of Santa Clara Health System – March 18, 2020

During the June 4, 2019 meeting of the Board of Supervisors, Agenda Item 29 entitled “Approve Seventh Amendment to Agreement with Rural/Metro of California relating to providing 911 emergency paramedic and ambulance services” was discussed. Supervisor Chavez requested that the EMS Agency provide a work plan for how a Request for Proposal would be structured in the future that would create multiple options including a public option. The attached report provides an update on this request.

In addition, the report provides the department monthly update for March 2020.

EMS Trust Fund Report – March 18, 2020

Receive report from Emergency Medical Services (EMS) Agency relating to the EMS Trust Fund.

The Emergency Medical Services (EMS) Agency receives revenue from liquidated damages, which are fines and penalties paid by Rural/Metro (the contracted 9-1-1 ambulance provider) and first responder non-performance penalties. These revenues are deposited to the EMS Trust Fund and are intended to fund projects that provide a countywide benefit and enhance the services provided in the Santa Clara County EMS System. The EMS Trust Fund balance as of July 1, 2019 was \$14 million. Based on projected revenues and expenditures, the estimated Trust Fund balance as of June 30, 2020 would be \$12.2 million. Attachment A shows the FY20 Trust Fund status and balance as of June 30, 2020. The recommended spending plan for FY21 totals \$1,824,208 and maintains \$11,110,028 in the strategic reserve.

FY21 estimated revenue for liquidated damages was based on straight-line projection if contracted EMS providers fail to meet response time and other agreement obligations (i.e., vehicle failure, use of non-Exclusive Operating Area ambulance providers). Revenues continue to decrease as the contracted 9-1-1 ambulance provider and first responder agencies continue to meet response times, thus decreasing penalties and revenues.

The complete legislative file, update and spending plan report are attached.

Director's Report, County of Santa Clara Health System – April 29, 2020

The Health and Hospital Committee has requested the Deputy County Executive/Director of County of Santa Clara Health System present monthly reports regarding emerging issues and items of interest to the public and to the Committee. The Committee also requested verbal as well as written updates on operations for the departments comprising the Health System. Emergency Medical Services and Behavioral Health Services Department written updates are provided as attachments this month.

The Emergency Medical Services Department Monthly Update report is attached.

EMS Trust Fund Report – April 29, 2020

Receive report from Emergency Medical Services (EMS) Agency relating to the EMS Trust Fund. There are no fiscal implications associated with this report. The modifications to the EMS Trust Fund Spending Plan will be included in the Fiscal Year (FY) 2020-21 Recommended Budget.

The EMS Trust Fund Spending Plan was presented to the Health and Hospital Committee on March 18, 2020 and is being modified to include funding for five existing positions. The total cost of the positions is \$1,003,455. The attached Exhibit B represents the Revised EMS Trust Fund Spending Plan. The EMS Trust Fund balance as of July 1, 2019 was \$14,002,103. Based on projected revenues and expenditures, the Trust Fund balance is estimated to be \$12,180,486 by June 30, 2020. These projections are shown in the attached Exhibit A, FY20 EMS Trust Fund Status.

The complete legislative file, update and spending plan report are attached.

Director's Report, County of Santa Clara Health System – May 26, 2020

The Health and Hospital Committee has requested the Deputy County Executive/Director of County of Santa Clara Health System present monthly reports regarding emerging issues and items of interest to the public and to the Committee. The Committee also requested verbal as well as written updates on operations for the departments comprising the Health System. Emergency Medical Services and Behavioral Health Services Department written updates are provided as attachments this month.

The Emergency Medical Services Department Monthly Update report is attached.

Director's Report, County of Santa Clara Health System – June 24, 2020

The Health and Hospital Committee has requested the Deputy County Executive/Director of County of Santa Clara Health System present monthly reports regarding emerging issues and items of interest to the public and to the Committee. The Committee also requested verbal as well as written updates on operations for the departments comprising the Health System. Emergency Medical Services and Behavioral Health Services Department written updates are provided as attachments this month.

The Emergency Medical Services Department Monthly Update report is attached.

Summary of Board of Supervisors Approved Items:

Emergency Medical Services Week – May 12, 2020

Adopt Proclamation declaring the week of May 17-23, 2020 as “Emergency Medical Services Week” in Santa Clara County. (Emergency Medical Services).

The complete legislative file and resolution are attached.

Re-Entry Network Committee Approved Items:

Gilroy Fire Emergency Medical Technician-Paramedics Pilot Project – February 19, 2020 (Postponed from October 9, 2019)

Receive report from the Office of the County Executive relating to the implementation of a Gilroy Fire Emergency Medical Technician-Paramedics pilot project.

In 2014 the California Emergency Medical Services Authority (EMSA) and the Office of Statewide Health Planning and Development (OSHPD) began a series of projects under the OSHPD Health Workforce Pilot Project Program (HWPP) that allowed approved EMS systems in California to evaluate, treat and transport selected patients to healthcare destinations other than acute care hospital emergency departments as otherwise required by Title 22 of the California Health and Safety Code. The significance of these pilot projects is better integration of EMS systems into the greater healthcare system. Each pilot project site has specific protocols that include patient safety monitoring and local institutional review board approval under local medical oversight.

In 2017 OSHPD announced an interest in expanding the EMS HWPP Program to include new pilot project sites. Through existing Santa Clara County EMS data, the EMS Agency identified the frequency of Welfare and Institutions Code 5150 holds on 911 EMS responses in South County. The EMS Agency partnered with the Gilroy Fire Department and the Gilroy Police Department to develop a paramedic assessment protocol that would allow 911 EMS to transport selected patients on a 5150 hold directly to Emergency Psychiatric Services (EPS) or patients with uncomplicated alcohol intoxication (not on a 5150 hold) to the Mission Street Sobering Center (MSSC). Those patients assessed to require a medical screening examination or having a medical or trauma emergency coexistent with the behavioral crisis or alcohol intoxication would be transported to an acute care hospital emergency department. The pilot project proposal and protocol were approved by EMSA and OSHPD, education on the protocol and supporting science was conducted with the Gilroy Fire Department by the EMS Agency and patient engagement in the project began on April 23, 2018.

Data collection includes patient presentation and evaluation as documented in the prehospital electronic Patient Care Report but also includes patient demographic data as well as length of

stay, any secondary emergency department transfer, discharge diagnosis (from EPS), and discharge disposition. Early data from the Pilot Project for the first 179 patients is presented in the attachment. Ultimately the Pilot Project will characterize the 911 EMS patients with a law enforcement-placement 5150 hold and inform EMS system configuration and behavioral health referral practices to provide behavioral crisis intervention and perhaps reduce the need for field placement of 5150 holds. Presentation and legislative file are attached.

County of Santa Clara Emergency Medical Services System



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To: Health and Hospital Committee
From: Jackie Lowther, Director Emergency Medical Services
Subject: Emergency Medical Services Department Monthly Update
Date: January 22, 2020

Through this memo, the Emergency Medical Services (EMS) Agency provides its monthly update to the Health and Hospital Committee (HHC).

EMS 2022

During the June 4, 2019 Board meeting (Item 29), Supervisor Chavez requested that the EMS Agency provide a work plan for how a future Request for Proposal would be structured to create multiple options including a public option for 911 emergency paramedic and ambulance services. The group had its third meeting on December 5, 2019. The minutes from that meeting follow:

- Welcome
- Reviewed meeting minutes from September 25, 2019.
- Dr. Miller introduced the speaker, Dr. David Goldstein, Medical Director and Interim Director from Contra Costa County.
- Key points from Dr. Goldstein's presentation:
 - 9-1-1 Transport – AMR does 90% of transports, San Ramon Valley Fire and Moraga Orinda Fire provide 10% of the service.
 - RFP went out, Fire was the only one that responded, AMR didn't respond nor any other provider.
 - Contra Costa does all of AMR billing.

Board of Supervisors: Mike Wasserman, Cindy Chavez, Dave Cortese, Susan Ellenberg, S. Joseph Simitian
County Executive: Jeffrey V. Smith

- AMR charges per unit hours.
- A response fee was approved, Fire can bill regardless of transport.
- A few of the challenges:
 - The complexity of billing therefore hired a third party to help with it.
 - Having the same representatives under the Board of Supervisors and the Fire Board.
 - Fire department was unfamiliar with the transport policies.
- Operational standpoint not much has changed, consolidated the dispatch centers.
- Continue to work on improving communication between the Local EMS Agency (LEMSA) and AMR.
- Fire Chiefs have their own Medical Director.
- Contra Costa County is mostly BLS, part of the County is rural therefore response times are longer.
- Healthcare political changes happened dramatically which also affected the private and public hospitals. Discussion took place, including fees and revenue.

Members Present:

Miguel Marquez, COO
 Jackie Lowther, EMS Director
 Dr. Ken Miller, EMS Medical Director
 John Blain, EMS Specialist
 Andrew Zawoyski, Director office of Contracting Management
 Wesley Dodd, County Counsel
 Heather Plamondon, County Communication Director
 Robert Sapien, Fire Chief, City of San Jose
 Jo Coffaro, Regional Vice President, Hospital Council
 Robert Jonsen, Chief of Police
 Harjot Sangha, Assistant to the City Manager, City of Morgan Hill
 Ramona Aguilar, Executive Assistant to Jackie Lowther
 Dr. David Goldstein, Contra Costa, Medical Director

Members Absent:

Jim Wyatt, Division Chief, Gilroy Fire
 Deane Wiley, Behavioral Health Services, Deputy Director

Meeting adjourned at 2:30pm

Board of Supervisors: Mike Wasserman, Cindy Chavez, Dave Cortese, Susan Ellenberg, S. Joseph Simitian
 County Executive: Jeffrey V. Smith

First Responder Compliance

2019 performance data.

The First Responders are not required to submit their data until the last day of the previous month, therefore this report will be a month behind. All first responders have exceeded their on-time compliance requirements.

CODE 3 Response	19-Apr	19-May	19-Jun	19-Jul	19-Aug	19-Sep	19-Oct	19-Nov
Gilroy, City of	95.70%	97.74%	96.92%	95.97%	97.22%	98.49%	96.49%	96.08%
Milpitas, City of	98.72%	96.21%	96.59%	97.43%	96.46%	95.52%	96.41%	96.81%
Morgan Hill, City of	95.83%	95.02%	96.65%	96.98%	96.46%	97.26%	95.83%	98.10%
Mountain View, City of	97.96%	97.82%	97.38%	99.37%	97.20%	99.09%	98.14%	99.26%
San Jose, City of	91.98%	91.52%	91.62%	90.87%	91.50%	92.20%	91.54%	91.19%
Santa Clara, City of	99.43%	99.71%	100.00%	99.41%	99.69%	99.71%	99.70%	99.40%
Santa Clara County Central FPD	97.64%	96.96%	96.50%	97.83%	97.18%	96.46%	99.13%	96.21%
South Santa Clara County FPD	93.65%	92.96%	90.35%	91.54%	96.99%	95.12%	91.04%	94.44%
Sunnyvale, City of	98.07%	97.50%	96.96%	96.32%	96.29%	96.87%	96.03%	98.59%

Patient Care Record Update

Consistent with Santa Clara County Emergency Medical Services Prehospital Care Policy# 109: Policy Development and Implementation, the EMS Agency regularly updates policies and protocols. On January 1, 2020, twenty-eight (28) policies were updated, replaced or introduced by the County of Santa Clara EMS Agency. The most complex of these is Policy #500, Electronic Patient Care Record (ePCR)

Documentation. The purpose of this policy is to establish minimum standard criteria for the completion and submission of ePCR that is consistent with the applicable Federal, State and County standards and requirements.

The EMS Agency is required to submit patient care data to the California EMS Information System (CEMSIS). The process starts with each patient contact being documented on a PCR by the treating crew member. This is the case for both the fire department first responders, as well as the transport providers. If the patient is transported to an emergency department, the PCR is then shared with that facility through a system called the “hospital hub.” The current model of sharing with the facility is by a combined file of the first responder PCR and the transport PCR.

Once the PCRs have been marked as completed by the author, components of the raw data are then shared with CEMSIS. During the data exchange with CEMSIS, the PCR's data is screened for compliance with the State's standards. If the PCR meets the standards, it is then accepted. If the PCR does not meet the standards, it is rejected, and the PCR is flagged within the County's data system. The flagged PCRs are then returned to the authoring crew to be updated.

Some of the issues noticed in the failed submissions were a result of miss-mapping of data elements, while others were crew omissions. The EMS Agency has been addressing both items and has increased the validation rules utilized within our local PCR system to better assist users in knowing the required data elements. Over the next 12 months, our goal will be 100% of all 911 PCRs being submitted to the State's CEMSIS system.

Contract Ambulance Performance

At the November 13, 2019 Health and Hospital Committee (HHC) meeting, there was significant discussion regarding a preliminary report of a decrease in response time compliance under the terms of the Seventh Amendment by Rural/Metro of California, Inc. ("Rural/Metro"), a subsidiary of American Medical Response, beginning in August 2019. Chairperson Simitian and Vice Chairperson Ellenberg requested that Emergency Medical Services (EMS) report back to HHC with more information as to the reason(s) for the apparent decrease and whether the matter raises any patient care concerns regarding emergency transport services within the EMS system.

Following the November 13, 2019 HHC meeting and continuing through early January of this year, EMS engaged in an extensive investigation into Rural/Metro's performance under the current contract. As a result of that investigation, EMS has concluded the following:

1. There has been no material change in the actual performance of Rural/Metro with respect to 911 ambulance arrivals within the period in question. This response time issue, therefore, is one that arises from the new methodology proposed by Rural/Metro and included in the Seventh Amendment to the contract rather than a patient care concern.
2. The reported decrease in Rural/Metro's response time percentages was attributable to: a) the technical limitations of the system used to generate projected ambulance response times for cancelled calls, and b) the incorporation

of inaccurate projected response times into the calculation of overall response time percentages.

A detailed explanation of each of these conclusions is provided below:

I. THERE HAS BEEN NO MATERIAL CHANGE IN ACTUAL PERFORMANCE OF RURAL/METRO WITH RESPECT TO 911 AMBULANCE ARRIVALS WITHIN THE PERIOD IN QUESTION.

Since the last HHC meeting, EMS has independently verified using two different methodologies that there has been no significant change in Rural/Metro's performance when comparing response times from July 2019 through November 2019 to those prior to enactment of the Seventh Amendment. As part of its investigation, EMS examined the raw data from the Computer Aided Dispatch (CAD) system to determine the 911 ambulance notification-to-on-scene intervals for both Code 2 and Code 3 emergency calls. These intervals reflect the response times that patients actually experience within the EMS system independent of the response time calculation methodology provided in the current Rural/Metro contract. This data showed no significant change in response time performance in the 5-month period before and the 5-month period after the implementation of the Seventh Amendment. It also showed that Rural/Metro's performance, both before and after implementation of the Seventh Amendment, met the response time requirements for Code 2 and Code 3 calls specified in [EMS Policy #651](#).

EMS has also previously reported an increase in total ambulance unit hours beginning in August 2019, but EMS has not yet been able to identify a corresponding change in notification-to-on-scene intervals. However, a number of factors influence these data, such as fluctuations in call volume or patient offload times that may increase the need for unit hours without affecting response time performance. EMS is continuing to monitor both the unit hours and notification-to-on-scene intervals to identify any future increases that may be realized.

Based upon this analysis, EMS has concluded that Rural/Metro's response times last Fall do not raise concerns about the quality of the ambulance provider's performance or about patient experience within the EMS system. Instead, EMS has concluded that the issue giving rise to the differences in reported response times versus actual notification-to-on-scene intervals is strictly a contractual one.

II. THE DECREASE IN RURAL/METRO’S RESPONSE TIME PERCENTAGES IS ATTRIBUTABLE TO A CHANGE IN THE METHODOLOGY FOR CALCULATING RESPONSE TIMES OF CANCELLED CALLS

EMS has determined that the apparent decrease in Rural/Metro’s reported response times is attributable to two related factors:

- A. The Seventh Amendment modified the methodology to calculate how the “cancellation en route responses” should be determined to be “on time” or “late,” to take into account the “projected remaining drive time” for ambulances that were not already late at the moment of cancellation; and
- B. The method of capturing the projected remaining drive times, as proposed by Rural/Metro and as set forth in the Seventh Amendment, is not sensitive enough, technologically speaking, to implement the new cancellation provision in the manner intended under the contract.

This conclusion is supported by the direct correlation between implementation of the new methodology for calculating response times for cancelled en route responses and the immediate and substantial increase in the “late” en route cancelled responses. Furthermore, when cancelled calls are not factored into the response time calculation, Rural/Metro’s response times rise to levels that are consistent with its performance prior to enactment of the Seventh Amendment.

Prior to execution of the Seventh Amendment, “non-late cancelled en route” responses were excluded from the compliance calculation process and cancelled en route calls were counted as “late” only if they were beyond the response time requirement at the time of cancellation. This prior methodology was used because the moment of cancellation data point would not always accurately reflect an ambulance remaining response time and could skew overall percentages unless the ambulance was already running late at the point of cancellation.

During negotiation of the terms of the Seventh Amendment, Rural/Metro insisted upon a change to the method for calculating “cancelled en route” response times. Rural/Metro argued that the existing methodology should be revised because Rural/Metro was not given credit for on-time cancelled responses but was penalized for late-cancelled responses.

Under the new methodology, an ambulance's "projected remaining drive time" data is captured at the point of cancellation using an existing third-party software system called MARVLIS (Mobile Area Routing and Vehicle Location Information System). Under this methodology, Rural/Metro is supposed to receive credit for an on-time response if MARVLIS projects an arrival to the scene within the required response time window. But if MARVLIS projects arrival to the scene beyond the required response time, the cancelled call is counted as late.

The MARVLIS ambulance tracking system is widely used by ambulance providers around the State to provide location data to ambulance providers, dispatchers and EMS agencies for the purposes of assessing demand and adequacy of deployment within an EMS operating area. However, the MARVLIS system was not developed for the purpose of providing real-time location data for calculating response time compliance, as envisioned by the Seventh Amendment, and, furthermore, EMS is unaware of any such system available on the market.

The MARVLIS location data is not captured in real-time. Instead, there is a latency in location updates that may affect the accuracy of response time projections while an ambulance is en route. While this lag time in receiving location updates is slight enough that it does not materially affect system-wide monitoring for demand and deployment activities, it is not precise enough for the extremely time-sensitive purpose of determining compliance with contractual response-time requirements, which may come down to a difference of minutes or even seconds. Accordingly, EMS intends to amend the contract to modify the methodology used to calculate response times for cancelled calls to more accurately reflect response time performance and any changes to that performance.

County of Santa Clara Emergency Medical Services System



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To: Health and Hospital Committee
From: Jackie Lowther, Director Emergency Medical Service
Subject: Emergency Medical Services Department Monthly Update
Date: February 19, 2020

Through this memo, the Emergency Medical Services (EMS) Agency provides its monthly update to the Health and Hospital Committee (HHC).

EMS 2022

During the June 4, 2019 Board of Supervisors meeting (Item 29), Supervisor Chavez requested that the EMS Agency provide a work plan for how a future Request for Proposal would be structured to create multiple options including a public option for 911 emergency paramedic and ambulance services. The group had its fourth meeting on January 10, 2019. A summary from that meeting follows:

- Welcome
- Minutes from December 5th will be emailed to the group.
- PowerPoint presentation from the September 5, 2019 meeting *The 911 EMS Response; Today Then Tomorrow* was discussed.
 - Acuity determination Emergency Medical Dispatch (EMD) – how will it be done in the future? Will not be doing EMD over text.
 - Discussed levels of Advanced Life Support (ALS)/Basic Life Support (BLS) – First Response done by Fire Service, responds within 4-6 minutes, can do assessment and has ability to cancel ambulance response.
 - ALS and BLS alternative would improve Public Safety; currently there are no alternate destinations available for behavioral health patients.
 - Discussion ensued concerning the parameters of an RFP and the current philosophy of the Emergency Services Authority (EMSA). To be discussed further in February meeting.
 - Policies discussed that could facilitate additional services, such as Behavioral Health.
 - Suggestion made to review financial implications for providers.

Board of Supervisors: Mike Wasserman, Cindy Chavez, Dave Cortese, Susan Ellenberg, S. Joseph Simitian
County Executive: Jeffrey V. Smith

- Patient centric EMS system moving forward while exploring how to move forward.
- Discussion continued about Santa Clara County remaining non-exclusive with multiple providers.
- Behavioral Health requested written questions to allow time to review with the team and have the appropriate responses before the next meeting.
- RFP timeline will be brought to next meeting.
- Additional work to be done offline to keep process moving.

Members Present:

Miguel Marquez, COO
 Jackie Lowther, EMS Director
 Dr. Ken Miller, EMS Medical Director
 John Blain, EMS Specialist
 Andrew Zawoyski, Director office of Contracting Management
 Wesley Dodd, County Counsel
 Heather Plamondon, County Communication Director
 Robert Sapien, Fire Chief, City of San Jose
 Jim Wyatt, Division Chief, Gilroy Fire
 Jo Coffaro, Regional Vice President, Hospital Council
 Robert Jonsen, Chief of Police, City of Palo Alto
 Harjot Sangha, Assistant to the City Manager, City of Morgan Hill
 Ramona Aguilar, Executive Assistant to Jackie Lowther
 Toni Tullys, Behavioral Health Services Department, Director

Members Absent: None

CONTRACT AMBULANCE PERFORMANCE

Over the last several months, the EMS Agency has engaged in an extensive investigation into Rural/Metro’s performance under the current contract. As a result of that investigation, EMS concluded there has been no material change in the actual performance of Rural/Metro with respect to 911 ambulance arrivals. The response time issue, therefore, was one that arose from the methodology proposed by Rural/Metro and included in the Seventh Amendment to the contract rather than a patient care concern. EMS intends to amend the current contract to modify the methodology used to calculate response times for cancelled calls to more accurately reflect response time performance and any changes to that performance. Rural/Metro has agreed to work with the EMS Agency to make the necessary changes.

Board of Supervisors: Mike Wasserman, Cindy Chavez, Dave Cortese, Susan Ellenberg, S. Joseph Simitian
 County Executive: Jeffrey V. Smith

First Responder Compliance

Compliance is measured by several key performance indicators that include: response time requirements based on population density; designated response areas; type of response priority (RLS: red lights & siren or Non-RLS: non-red lights & siren); total number of responses; total number of late responses; and total number of responses exempted (removed) from compliance calculations. Compliance is achieved when ninety (90.00) percent or more of the responses meet the specified response time requirement in each response priority within each designated response area. The chart below provides the requested-on time response by zone by month (for the period July-Dec 2019). The first responders have made or exceeded their response time requirements for the last eighteen (18) months.

2019 Performance Data July - Dec

CODE 3 Response	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 19
Gilroy, City of	95.97%	97.22%	98.49%	96.49%	96.08%	97.28%
Milpitas, City of	97.43%	96.46%	95.52%	96.41%	96.81%	96.97%
Morgan Hill, City of	96.98%	96.46%	97.26%	95.83%	98.10%	97.65%
Mountain View, City of	99.37%	97.20%	99.09%	98.14%	99.26%	97.80%
San Jose, City of	90.87%	91.49%	92.20%	91.54%	91.19%	91.67%
Santa Clara, City of	99.41%	99.69%	99.71%	99.70%	99.40%	98.77%
Santa Clara County Central FPD	97.83%	97.18%	96.46%	99.13%	96.21%	96.09%
South Santa Clara County FPD	91.54%	96.99%	95.12%	91.04%	94.44%	94.50%
Sunnyvale, City of	96.32%	96.29%	96.87%	96.03%	98.59%	95.63%

First responders report their compliance the last day of each month following their reported response in order to reconcile all possible late responses; therefore December data is included for this report.

County of Santa Clara
Santa Clara Valley Health & Hospital System
Emergency Medical Services



100776

DATE: March 18, 2020
TO: Health and Hospital Committee
FROM: Jackie Lowther, EMS Director
SUBJECT: EMS 2022 Ambulance Services RFP Process & EMS Updates

RECOMMENDED ACTION

Receive report from Emergency Medical Services (EMS) Agency relating to the EMS 2022 Ambulance Services Request For Proposals process, including Stroke System and EMS monthly updates.

FISCAL IMPLICATIONS

There are no fiscal implications associated with receiving this report as it is an informational item only.

REASONS FOR RECOMMENDATION

During the June 4, 2019 meeting of the Board of Supervisors, Agenda Item 29 entitled “Approve Seventh Amendment to Agreement with Rural/Metro of California relating to providing 911 emergency paramedic and ambulance services” was discussed. Supervisor Chavez requested that the EMS Agency provide a work plan for how a Request for Proposal would be structured in the future that would create multiple options including a public option.

EMS 2022 - Ambulance Services RFP Process

The EMS Agency convened an introductory meeting on June 27, 2019 with the Chief Operating Officer of the County, EMS Director, EMS Medical Director, Procurement and County Counsel. At this meeting it was determined to structure a stakeholder group to navigate options available to the county.

Mission of the EMS 2022 Stakeholder Group:

- Explore and define the options and structure of the EMS system in Santa Clara County after the current non-exclusive 911 EMS ambulance transport agreement ends in 2022.
- Analyze means of financing the future EMS system given those options and structure; include feasibility, sustainability as well as applicability to demographics.

- Recommend decision-making regarding continuing nonexclusive 911 EMS ambulance transport after 2022 or to conduct a competitive bid for 911 EMS ambulance transport and other EMS functions.
- Report group progress to the Health and Hospital Committee (HHC) and Board of Supervisors (BOS) and report non-exclusive 911 EMS ambulance transport system performance characteristics at intervals specified by HHC and the BOS after implementation on July 1, 2019.

The working group has completed five meetings which began with an overview of the current system and the impact of various members of group. Structured discussions surrounded the phases of a 911 EMS response including: initiation-911, configuring the response, response, on-scene, patient disposition, and data/quality. This information was covered for the group to gain understanding of the entire system as well as to focus on the importance of keeping the system patient/client centered. Through these meetings, the following discussions took place.

The Medical Director from Contra Costa EMS explained to the group how the Alliance model is structured, which is a unique emergency ambulance service delivery model. The LEMSA (Local EMS Agency), Fire and ambulance resources work collaboratively with the goal of efficient use of emergency resources. Contra Costa County Fire Protection District assumed Emergency Ambulance Services for Exclusive Operating Areas (EOAs) covering West, Central and East County. The Contra Costa County Fire Protection District is responsible for the subcontracting performance provided by American Medical Response (AMR).

Advanced Life Support and Basic Life Support alternatives were discussed, meaning a two-tiered EMS system. Two working groups were established: one to work on the development of the Scope of Work for an RFP and the other to research the feasibility of a non-exclusive system with multiple providers.

Review of current guidance from the Emergency Medical Services Authority was discussed pertaining to the competitive process for exclusive operating areas according to the Health and Safety Code (HSC), Section 1797.224. In accordance with Section 1797.224 of HSC competitive processes must be submitted for approval by the EMS Authority. EMSA is responsible for the coordination and integration of all state activities regarding EMS. LEMSAs are charged with planning, implementing, and evaluating a county-level EMS system in accordance with the EMS Act's requirements.

A brief overview of reimbursements from Medicare, Medicaid and insurance companies was discussed. Emergency Triage, Treat and Transport (ET3) Model was also reviewed. ET3 is a voluntary, five-year payment model that could provide greater flexibility to ambulance care

teams to address emergency health care needs of Medicare Fee-for-Service (FFS) beneficiaries following a 911 call. Under the ET3 model, the Centers for Medicare & Medicaid Services (CMS) will pay participating ambulance suppliers and providers to: 1) transport an individual to a hospital emergency department (ED) or other destination covered under the regulations, 2) transport to an alternative destination partner (such as a primary care doctor's office or an urgent care clinic) or 3) provide treatment in place with a qualified health care partner, either on the scene or connected using telehealth. This option helps beneficiaries obtain the care they require and enables ambulances to work more efficiently. For ET3 to be utilized in Santa Clara County, AB 1544, *Community Paramedicine or Triage to Alternate Destination Act* will have to pass the Senate.

The EMS Agency leadership will be meeting with the new State EMS Authority leadership later in March to discuss the current status of Santa Clara County's Emergency Medical Services and possible options.

The next working group meeting will be March 20, 2020.

STROKE SYSTEM UPDATE

During its October 31, 2019 meeting, the Health and Hospital Committee requested that an update from the Emergency Medical Services Agency be provided to insure policies and procedures for Stroke care are being followed. Under the current Stroke policy, if suspected stroke patients have all four (4) findings on G.F.A.S.T stroke screening the patient is transported to a Comprehensive Stroke Center regardless of symptom onset timeframe. If patient has three (3) or fewer findings on G.F.A.S.T stroke screening and/or a last seen well time of greater than six (6) hours, the patient is transported to the closest Stroke Center (Comprehensive or Primary).

In collaboration with stroke center coordinators the EMS Agency created a template for unified stroke center patient outcome data reporting. The stroke centers are building out their individual templates for export. Once those are completed the exports will be tested with third quarter 2019 data, the most recent quarter for which complete data will be available. One of the key patient outcome indicators is the modified Rankin scale which reflects global neurological function. That indicator is assessed 90 days after hospital discharge, therefore the most complete data for export will be one quarter behind the reporting quarter.

Data will be provided to the Stroke Foundation when available.

EMS MONTHLY UPDATE

CONTRACT AMBULANCE PERFORMANCE

Over the last several months, the EMS Agency has engaged in an extensive review into Rural/Metro's performance under the current contract. As a result of that review, EMS concluded there has been no material change in the actual performance of Rural/Metro with

respect to 911 ambulance arrivals. The response time issue, therefore, was one that arose from the methodology proposed by Rural/Metro and included in the Seventh Amendment to the contract rather than a patient care concern.

EMS intends to amend the current contract to modify the methodology used to calculate response times for cancelled calls to more accurately reflect response time performance and any changes to that performance. Rural/Metro is working with the EMS Agency to make the necessary changes. These changes should be complete by April 2020. The chart below provides the Code 3 Response time compliance percentages using the original methodology:

Original Methodology	Aug 19	Sep 19	Oct 19	Nov 19	Dec 19	Jan 20
EOA Overall / Code 3	91.91%	91.52%	91.51%	91.48%	90.78%	91.59%
Zone 1 / Code 3	90.25%	89.82%	89.20%	90.04%	91.37%	90.09%
Zone 2 / Code 3	92.45%	91.03%	92.69%	91.66%	90.16%	92.99%
Zone 3 / Code 3	93.04%	91.06%	91.56%	91.93%	91.09%	90.59%
Zone 4 / Code 3	91.15%	92.65%	91.76%	91.06%	90.09%	92.63%
Zone 5 / Code 3	92.51%	93.74%	92.21%	93.77%	92.78%	91.36%

FIRST RESPONDER COMPLIANCE

Compliance is measured by several key performance indicators that include: response time requirements based on population density; designated response areas; type of response priority (RLS: red lights & siren or Non-RLS: non-red lights & siren); total number of responses; total number of late responses; and total number of responses exempted (removed) from compliance calculations. Compliance is achieved when ninety (90.00) percent or more of the responses meet the specified response time requirement in each response priority within each designated response area. The chart below provides the requested-on time response by zone by month (for the period July 2019- February 2020). The first responders have made or exceeded their response time requirements for the last eighteen (18) months.

CODE 3 Response	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 19	Jan 20
Gilroy, City of	95.97%	97.22%	98.49%	96.49%	96.08%	97.28%	94.60%
Milpitas, City of	97.43%	96.46%	95.52%	96.41%	96.81%	96.97%	98.05%
Morgan Hill, City of	96.98%	96.46%	97.26%	95.83%	98.10%	97.65%	96.14%
Mountain View, City of	99.37%	97.20%	99.09%	98.14%	99.26%	97.80%	98.02%
San Jose, City of	90.87%	91.49%	92.20%	91.54%	91.19%	91.67%	91.77%
Santa Clara, City of	99.41%	99.69%	99.71%	99.70%	99.40%	98.77%	99.72%
Santa Clara County Central FPD	97.83%	97.18%	96.46%	99.13%	96.21%	96.09%	95.99%
South Santa Clara County FPD	91.54%	96.99%	95.12%	91.04%	94.44%	94.50%	93.69%
Sunnyvale, City of	96.32%	96.29%	96.87%	96.03%	98.59%	95.63%	97.87%

CHILD IMPACT

The recommended action will have no/neutral impact on children and youth.

SENIOR IMPACT

The recommended action will have no/neutral impact on seniors.

SUSTAINABILITY IMPLICATIONS

The recommended action will have no/neutral sustainability implications.

BACKGROUND

The State Emergency Medical Services Authority and California Health and Safety Code recommend that Exclusive Operating Area agreements be competitively bid every ten years. In the event Santa Clara County chooses to operate under an Exclusive Operating Area, the EMS Agency will propose to go out to bid before the end of the existing Rural Metro agreement.

Rural Metro began providing 911 Emergency Ambulance Transportation Services to the County in 2011 when they secured exclusive rights to provide these services to the Santa Clara Exclusive Operating Area. The current contract with Rural Metro will expire in June 2022.

This report provides status on the EMS 2022 Ambulance Services RFP process, a Stroke System update and an EMS monthly update.

CONSEQUENCES OF NEGATIVE ACTION

The HHC would not receive the requested report.

County of Santa Clara
Santa Clara Valley Health & Hospital System
Emergency Medical Services



100663

DATE: March 18, 2020
TO: Health and Hospital Committee
FROM: Jackie Lowther, EMS Director
SUBJECT: EMS Trust Fund Report

RECOMMENDED ACTION

Receive report from Emergency Medical Services (EMS) Agency relating to the EMS Trust Fund.

FISCAL IMPLICATIONS

The Emergency Medical Services (EMS) Agency receives revenue from liquidated damages, which are fines and penalties paid by Rural/Metro (the contracted 9-1-1 ambulance provider) and first responder non-performance penalties. These revenues are deposited to the EMS Trust Fund and are intended to fund projects that provide a countywide benefit and enhance the services provided in the Santa Clara County EMS System.

The EMS Trust Fund balance as of July 1, 2019 was \$14 million. Based on projected revenues and expenditures, the estimated Trust Fund balance as of June 30, 2020 would be \$12.2 million. Attachment A shows the FY20 Trust Fund status and balance as of June 30, 2020.

The recommended spending plan for FY21 totals \$1,824,208 and maintains \$11,110,028 in the strategic reserve.

FY21 estimated revenue for liquidated damages was based on straight-line projection if contracted EMS providers fail to meet response time and other agreement obligations (i.e., vehicle failure, use of non-Exclusive Operating Area ambulance providers). Revenues continue to decrease as the contracted 9-1-1 ambulance provider and first responder agencies continue to meet response times, thus decreasing penalties and revenues.

REASONS FOR RECOMMENDATION

In 2000, the Board of Supervisors created the EMS Trust Fund and required that the EMS Agency provide an annual report on the EMS Trust Fund's status. This annual report provides information on the activities and projected balance of the EMS Trust Fund by the

end of FY20, and recommendations for expenditures for FY21. Once approved by the Board of Supervisors, the expenditures for the FY21 EMS Trust Fund would be incorporated into the FY21 budget.

FY21 EMS Trust Fund Proposed Spending Plan

Attachment B shows the FY21 EMS Trust Fund projected balance and spending plan. A summary of the proposed spending plan for FY21 is as follows:

Category A: EMS System/Strategic Reserve - \$11,110,028

The amount placed into the EMS System Reserve is intended for significant strategic or long-range projects that benefit the EMS System, as approved by the Board of Supervisors. If approved, the total Category A balance (savings) will be \$11,110,028. These funds could be used in the event the EMS system experiences an unanticipated financial burden, extraordinary increase of cost of service, supplies or a material decrease in system-wide reimbursement.

In the past, Category A funds were used to make payments to the fire departments and to the County that resulted from financial proceedings by the contracted ambulance company and for consultant services.

Category B: EMS System Support - Training, Education & Recognition - \$230,000

All Category B items are routine and requested each year. Allocation of funding areas will focus on EMS training, information to the public and training/exercises that relate to the Measures of Success, annual department-wide measures related to strategic planning and multi-departmental collaboration to address system-wide opportunities and challenges. Amounts budgeted may be transferred between any line item identified below.

(1) EMS System Information to the Public: \$50,000

Authorized expenditures in this category would be allocated to promote improvements made to the County EMS System and to inform the public about injury prevention, safety and cardiac survivability activities. This may include community forums, video production, written materials, and other forms of media.

(2) Training: \$135,000

Authorized expenditures in this category would be allocated to provide training and training resources for EMS System providers. Courses include Ambulance Strike Team, prehospital education, Six Sigma training, Hazardous Materials—First Responder Operations, and Annual EMS Update.

(3) Exercises: \$35,000

Authorized expenditures in this category would be allocated to design, conduct and evaluate exercises to assess EMS System capabilities. These include Mass Casualty Incident Plan, Standard Dispatch Orders, Ambulance Strike Team operations, and disaster medical operations.

(4) EMS Provider Recognition and EMS Week: \$10,000

Authorized expenditures in this category would be allocated for EMS System Stakeholders and organizational recognition including plaques and awards, t-shirts during EMS Week and throughout the year. This amount is unchanged since FY18.

Category C: Benefits to EMS System Users - \$350,000

Authorized expenditures in this category are intended to assist EMS System Stakeholders with one-time and/or short-term projects that: (1) provide a countywide benefit and that (2) enhance the services provided in the Santa Clara County EMS System. Stakeholders will be solicited to submit proposals in the Summer 2020. Proposals will be reviewed and selected by the Trust Fund Advisory Group. All projects selected for funding may be started Fall 2020 and must be completed by June 30, 2021.

Category D: EMS System Strategic Initiatives - \$1,244,208

Expenditures in this category are intended to support strategic initiatives of the EMS System.

(1) EMS Strategic Plan Implementation: \$150,000

Funding would assist in the implementation of various projects contained within the EMS System and EMS Agency Strategic Plans which may include, but are not limited to, consultants, service agreements and development of various tools and resources. Key focus areas include frequent users of EMS services, emergency medical dispatch and quality improvement initiatives.

(2) Payment of Service to Rural/Metro: \$350,000

Costs associated with the provisions of the Fifth and Sixth Amendment to the Agreement between the County and Rural/Metro. Costs are related to training and programs that support the EMS system previously supported by Rural/Metro. This includes programs such as First Watch, Target Solutions, 12-Lead Transmission, Image Trend, and GPS Logic.

(3) EMS Data System Costs: \$300,000

This funding would support the annual cost of maintaining the EMS System Data Hub that collects information from all ambulance services and public safety answering points (dispatch centers).

(4) EMResource: \$38,000

EMResource is a hospital emergency department and EMS resource tracking system. This system provides real time status of emergency department availabilities/bypass as well as the status of multiple EMS related resources such as field treatment trailers, radio caches and disaster support units. This system is used 24/7/365 by EMS personnel and dispatch centers within Santa Clara County.

EMResource has been utilized by the Santa Clara County EMS system, and all of its providers for the last several years. This solution has been integrated within other vital EMS solutions such as our computer aided dispatch (CAD) system as well as our surrounding counties' emergency department Bypass systems. The system is

essential, and without it, EMS would lose a vital component of the everyday 9-1-1 response system.

In previous years, EMResource was fully funded through the federal Hospital Preparedness Program (HPP) grant. The program's emphasis shifted from the traditional hospital-based capabilities to a broader focus on the healthcare coalitions. As a result of the shift in the program's focus, funding was reduced and redirected towards increasing hospital capabilities. EMResource is a vital tool for redundant communications within the EMS System but it accounts for approximately half of the total dollars allocated to hospitals for preparedness. It is recommended that due to the federal funding decrease, the EMS Agency and Public Health Department split the annual cost. The total yearly cost is \$76,000, of which half will remain funded with the HPP grant, the other half from the EMS Trust Fund.

(5) EMS Strategic Initiatives Coordinator: \$220,123

Continue ongoing funding of 1.0 FTE EMS Specialist to coordinate strategic initiative-related projects. This position was added in FY14 to support various projects associated with the EMS System and EMS Agency Strategic Plans.

(6) EMS Building Lease Costs: \$186,085

Continue ongoing funding to cover the annual lease costs for the EMS agency at 700 Empey Way, San Jose. This will be an ongoing expense that would be prioritized for utilizing the EMS Trust Fund on an ongoing basis.

The Category D Spending Plan eliminates appropriation for the Stroke Public Awareness Campaign, \$25,000, and First Watch Solutions, \$375,000.

The Stroke Public Awareness campaign was a one-time funding request from the Stroke Care System Quality Improvement Committee for the purpose of a public awareness campaign over the course of the current fiscal year. The funding was allocated to provide funds for a series of campaigns aimed at increasing awareness of utilizing 911 services. The EMS Agency is currently working with the Stroke Awareness on the project. Any additional required projects would be funded by the individual Hospital Stroke Centers in the future.

The First Watch Solutions project was a one-time funding request for the purpose of First Watch Solutions. An agreement for December 1, 2019 through November 30, 2024 will be covered with the existing funding from FY20. There will be no additional need for funding until after the five years.

CHILD IMPACT

The recommended action will have no/neutral impact on children and youth.

SENIOR IMPACT

The recommended action will have no/neutral impact on seniors.

SUSTAINABILITY IMPLICATIONS

The recommended action will have no/neutral sustainability implications.

BACKGROUND

On April 13, 2011, the Health and Hospital Committee reviewed the EMS Trust Fund Strategic Funding Plan. On April 26, 2011, that plan was authorized by the Board of Supervisors. This Strategic Funding Plan created four categories to which EMS Trust Fund revenue would be assigned. The categories, and their intended use, are summarized below:

Category A: EMS System Reserve Investment

Each year, at least 20% of the EMS Trust Fund revenue is generated in the previous fiscal year. This revenue is retained and used for significant and long-term strategic projects that benefit the EMS System, as approved by the Board of Supervisors. These funds could also be used should the EMS System experience an unanticipated financial burden, such as extraordinary increase of cost of service or supplies, or a material decrease in system-wide third-party payer reimbursement.

Category B: EMS System Support-Training, Education and Recognition

Funding authorized in this category would be primarily used for annual training, education, exercises, an annual EMS conference, and recognitions. Funds would be used in the following subcategories:

- EMS System Information to the Public
- Training (which is not funded by grants or other sources)
- Exercises (which are not funded by grants or other sources)
- EMS Provider and committee member recognition, and EMS Week

Category C: Benefits to EMS System Providers

Projects in this category are requested from County of Santa Clara (County) EMS System Stakeholders, such as fire departments, County Communications, ambulance services, dispatch centers, and the EMS Agency. Projects in this category would continue to focus on one-time or shorter-term focused projects that benefit EMS System providers.

For Category C expenditures, the EMS Trust Fund Advisory Group, a subcommittee of the Emergency Medical Care Committee (EMCC), reviews proposals and makes recommendations to the EMS Agency for funding. After review by EMS Agency staff, the EMS Director includes recommended projects in the annual EMS Trust Fund budget proposal to the Board of Supervisors.

Category D: EMS System Strategic Initiatives

Projects in this category emphasize the development of initiatives that strategically advance the County EMS System, often in the longer term. Projects in this category may take more than one fiscal year and involve numerous parties.

CONSEQUENCES OF NEGATIVE ACTION

The Committee would not receive the information requested and the proposed FY21 EMS Trust Fund spending request could be delayed.

ATTACHMENTS:

- Attachment A FY20 EMS Trust Fund Status (PDF)
- Attachment B FY21 Balance and Spending Plan (PDF)

FY20 EMS Trust Fund Status

Trust Fund Balance as of July 1, 2019		\$ 14,002,103	A
Revenues:			
FY19- Rural Metro liquidated damages, May to June 19		\$ 62,750	
Interests		\$ 76,547	
Total Revenues		\$ 139,297	B
Expenditures:			
<u>Category B: EMS System Support</u>			
EMS System Public Information	\$ -		
Training	18,189		
Exercises	-		
EMS Provider Recognition	-	\$ 18,189	
<u>Category C: Stakeholder Requests</u>			
Benefits to EMS System Providers	\$ -		
Data Project Funding for Fire Departments (EMCC)	-	\$ -	
<u>Category D: Strategic Initiatives</u>			
EMS System Strategic Plan Implementation	\$ 39,175		
Rollover - AED for Sheriff	(7,143)		
Stroke Awareness Campaign	-		
Rural Metro Amendment 5 & 6 Programs	-		
EMS Data System Costs	23,210		
Emergency Management Resource System	75,784		
First Watch Solutions	-		
EMS Strategic Initiatives Coordinator	128,251		
EMS Lease Cost	106,577	\$ 365,855	
Total Expenditures (for July 2019 to January 2020)		\$ 384,044	C
Trust Fund Balance as of January 31, 2020 (A+B-C)=D		\$ 13,757,356	D
Projections- February thru June 2020			
Revenues:			
FY20- Rural Metro liquidated damages July to April 20		\$ 383,000	
First Responder Fees FY19 Q3-Q4, FY20 Q1-Q2		\$ 308,000	
Total Projected Revenues		\$ 691,000	E
Expenditures:			
<u>Category B: EMS System Support</u>			
EMS System Public Information	\$ 50,000		
Training	116,811		
Exercises	35,000		
EMS Provider Recognition	10,000	\$ 211,811	
<u>Category C: Stakeholder Requests</u>			
Benefits to EMS System Providers	\$ 350,000		
Data Project Funding for Fire Departments (EMCC) - Rollover	669,047	\$ 1,019,047	
<u>Category D: Strategic Initiatives</u>			
EMS System Strategic Plan Implementation	\$ 60,825		
Rollover - AED for Sheriff	14,286		
Stroke Awareness Campaign	25,000		
Rural Metro Amendment 5 & 6 Programs	350,000		
EMS Data System Costs	276,790		
Emergency Management Resource System	-		
First Watch Solutions	170,000		
EMS Stategic Initiatives Coordinator	65,712		
EMS Lease Cost (based on FY20 FAF budget)	74,400	\$ 1,037,012	
Total Projected Expenditures		\$ 2,267,870	F
Projected Trust Fund Balance as of June 30, 2020 (D+E-F)=G		\$ 12,180,486	G

FY21 EMS Trust Fund Projected Balance and Spending Plan

Projected Fund Balance as of July 1, 2020	\$ 12,180,486	A
Projected Revenues:		
Rural Metro Liquidated damages (maintains FY20 Est.)	\$ 445,750	
First Responder Fees (maintains FY20 Est.)	308,000	
Interest		
Total FY21 Projected Revenues	\$ 753,750	B
Proposed Expenditures:		
<u>Category B: EMS System Support</u>		
EMS System Public Information	\$ 50,000	
Training	135,000	
Exercises	35,000	
EMS Provider Recognition	10,000	
Sub-total	\$ 230,000	
<u>Category C: Stakeholder Requests</u>		
Benefits to EMS System Users	\$ 350,000	
<u>Category D: Strategic Initiatives</u>		
EMS System Strategic Plan Implementation	\$ 150,000	
Rural Metro Amendment 5 & 6 Programs	350,000	
EMS Data System Costs	300,000	
Emergency Management Resource System	38,000	
EMS Strategic Initiatives Coordinator	220,123	
EMS Lease Cost (FY20 FAF budget)	186,085	
Sub-total	\$ 1,244,208	
Total FY21 Proposed Expenditures	\$ 1,824,208	C
Category A: EMS Strategic Reserves: (Funds to be held in Trust Fund) (A+B-C=D)	\$ 11,110,028	D
Total Projected Fund Balance (excluding Reserves) as of June 30, 2021 (A+B-C-D=E)	\$ 0	E

**County of Santa Clara
Emergency Medical Services System**



Emergency Medical Services Agency
700 Empey Way
San Jose, CA 95128
408.885.4250 voice 408.885.3538 fax
www.sccemsagency.org

To: Health and Hospital Committee
From: Jackie Lowther, Director Emergency Medical Services
Subject: Emergency Medical Services Department Monthly Update
Date: April 29, 2020

Through this memo, the Emergency Medical Services (EMS) Agency provides its monthly update to the Health and Hospital Committee (HHC).

CONTRACT AMBULANCE PERFORMANCE

Over the last several months, the EMS Agency has engaged in an extensive review into Rural/Metro’s performance under the current contract. It was determined that the response time issue was one that arose from the methodology proposed by Rural/Metro included in the Seventh Amendment to the contract. Rural/Metro is working with the EMS Agency to make the necessary changes to the methodology used to calculate response times for cancelled calls to more accurately reflect response time performance and any changes to that performance. These changes should be complete by early May 2020. The chart below provides the Code 3 Response time compliance percentages using the original methodology from August 2019 – March 2020:

Original Methodology	19-Aug	19-Sep	19-Oct	19-Nov	19-Dec	20-Jan	20-Feb	20-Mar
EOA Overall / Code 3	91.91%	91.52%	91.51%	91.48%	90.78%	91.59%	92.38%	93.54%
Zone 1 / Code 3	90.25%	89.82%	89.20%	90.04%	91.37%	90.09%	91.70%	93.61%
Zone 2 / Code 3	92.45%	91.03%	92.69%	91.66%	90.16%	92.99%	93.47%	93.41%
Zone 3 / Code 3	93.04%	91.06%	91.56%	91.93%	91.09%	90.59%	92.63%	93.88%
Zone 4 / Code 3	91.15%	92.65%	91.76%	91.06%	90.09%	92.63%	92.19%	93.88%
Zone 5 / Code 3	92.51%	93.74%	92.21%	93.77%	92.78%	91.36%	90.97%	90.95%

The daily average ambulance responses and patients transported for the month of March 2020 were 319 and 211 respectively, compared to 353 and 247 for March 2019.

FIRST RESPONDER COMPLIANCE

Compliance is measured by several key performance indicators that include: response time requirements based on population density; designated response areas; type of response priority (RLS: red lights & siren or Non-RLS: non-red lights & siren); total number of responses; total number of late responses; and total number of responses exempted (removed) from compliance calculations. Compliance is achieved when ninety (90.00) percent or more of the responses meet the specified response time requirement in each response priority within each designated response area. The chart below provides the requested-on time response by zone by month (for the period September 2019 - March 2020). The first responders have made or exceeded their response time requirements for the last eighteen (18) months.

CODE 3 Response	19-Sep	19-Oct	19-Nov	19-Dec	20-Jan	20-Feb	20-Mar
Gilroy, City of	98.49%	96.49%	96.08%	97.28%	94.60%	95.83%	92.46%
Milpitas, City of	95.52%	96.41%	96.81%	96.97%	98.05%	94.84%	96.25%
Morgan Hill, City of	97.26%	95.83%	98.10%	97.65%	96.14%	96.00%	97.37%
Mountain View, City of	99.09%	98.14%	99.26%	97.80%	98.02%	98.65%	98.66%
San Jose, City of	92.20%	91.54%	91.19%	91.67%	91.77%	91.76%	90.96%
Santa Clara, City of	99.71%	99.70%	99.40%	98.77%	99.72%	99.41%	99.69%
Santa Clara County Central FPD	96.46%	99.13%	96.21%	96.09%	95.99%	96.75%	97.08%
South Santa Clara County FPD	95.12%	91.04%	94.44%	94.50%	93.69%	96.70%	98.17%
Sunnyvale, City of	96.87%	96.03%	98.59%	95.63%	97.87%	98.01%	96.63%

STROKE SYSTEM UPDATE

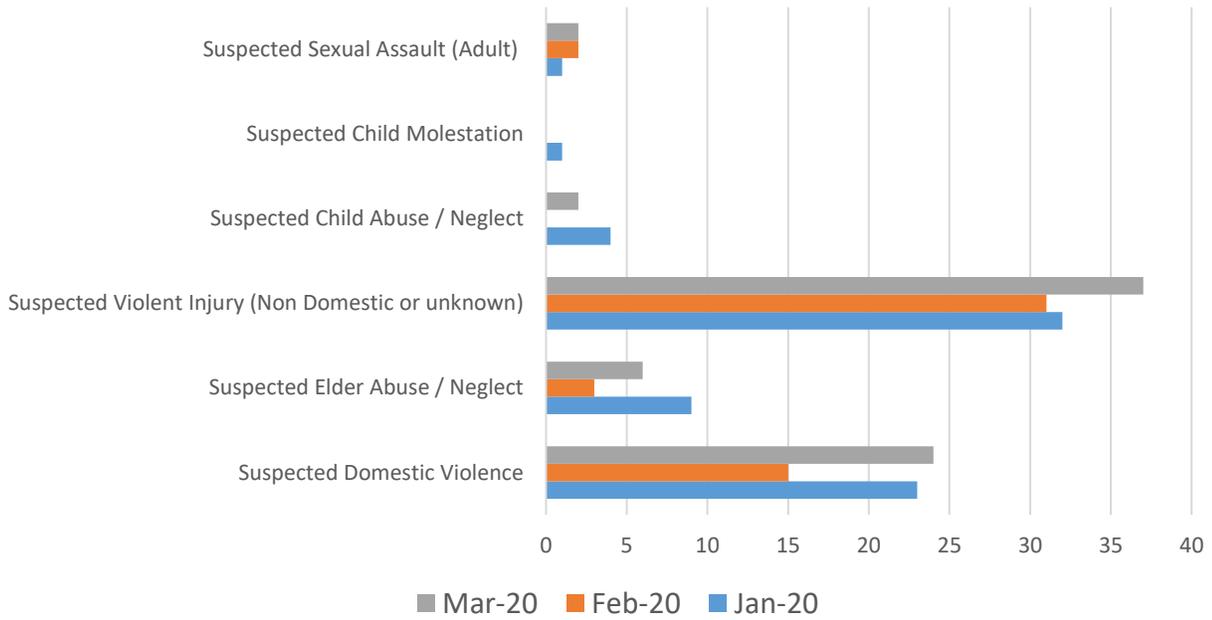
In collaboration with stroke center coordinators, the EMS Agency created a template for unified stroke center patient outcome data reporting. The stroke centers are building out their individual templates for export. Once those are completed, the exports will be tested with third quarter (Q3) 2019 data, the most recent quarter for which complete data will be available. One of the key patient outcome indicators is the modified Rankin scale which reflects global neurological function. That indicator is assessed 90 days after hospital discharge, therefore the most complete data for export will be one quarter behind the reporting quarter. Data will be available for stakeholders by April 30, 2020, including required demographics.

ABUSE AND NEGLECT

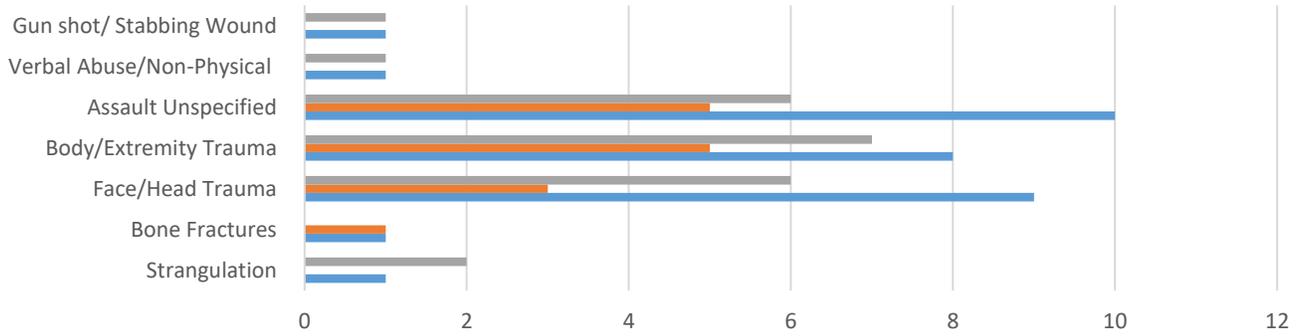
During the discussion of the Seventh Amendment to Agreement with Rural/Metro relating to ambulance services (agenda item 29) at the June 4, 2019 Board of Supervisors meeting, Supervisor Chavez requested that the EMS Agency provide a report relating to Sexual Assault Response Team (SART) protocols, a sexual assault tracking mechanism for emergency medical services responders, SART training timelines for all first responders countywide, and updates regarding communication between the SART and Emergency Medical Services. This is an interim report on the project. The EMS Agency team meet with Santa Clara Valley Medical Center Leadership on June 20, 2019, August 19, 2019 and September 19, 2019 regarding SART protocols, tracking and training. In addition to SART, the EMS Agency also wanted to focus on all mandatory reportable events required by first responders. Training/documentation were presented on October 1, 2019 to all 911 and non-911 responder Program Managers, who in turn were responsible for training all system providers by December 31, 2019.

The documentation module was implemented January 1, 2020. Each 911 patient is assessed for signs and symptoms of abuse. The providers collect necessary data regarding suspected patient abuse, neglect or domestic violence. The data will be linked to values of “Cause of Injury” accidental injury “hit, struck, other” by another person, asphyxiation – mechanical suffocation, injury from blunt object (assault), stabbing/cut/laceration (assault), firearm injury, maltreatment/abuse, sexual abuse. Santa Clara is the only county in California that is doing this screening. The EMS Agency began to receive data in February 2020; this report evaluates the overall data in Santa Clara County, and further analysis of any patterns and trends throughout the county will continue.

Q1 2020 Provider Suspected Abuse or Neglect



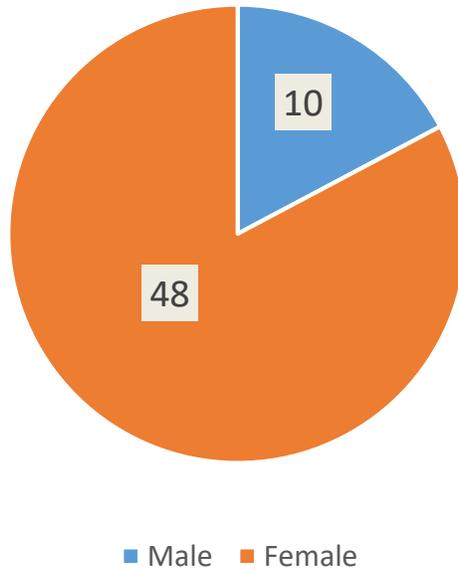
Q1 2020 Domestic Violence By Injury



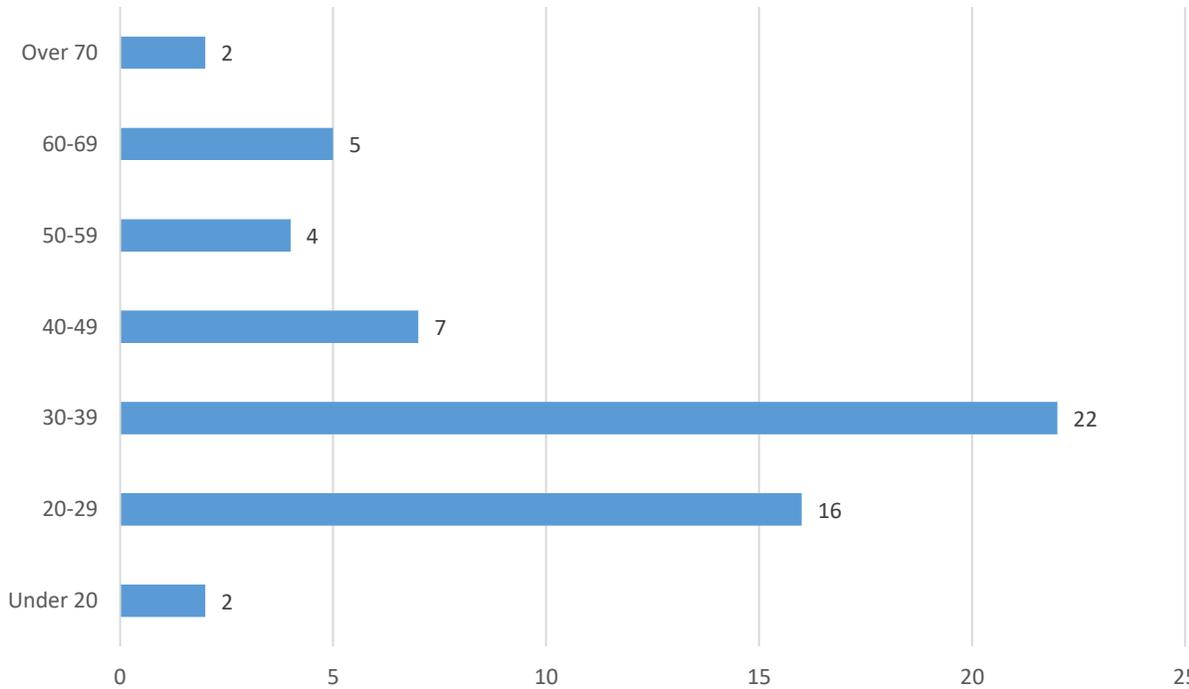
	Strangulation	Bone Fractures	Face/Head Trauma	Body/Extremity Trauma	Assault Unspecified	Verbal Abuse/Non-Physical	Gun shot/ Stabbing Wound
■ Mar-20	2	0	6	7	6	1	1
■ Feb-20	0	1	3	5	5	0	0
■ Jan-20	1	1	9	8	10	1	1

■ Mar-20 ■ Feb-20 ■ Jan-20

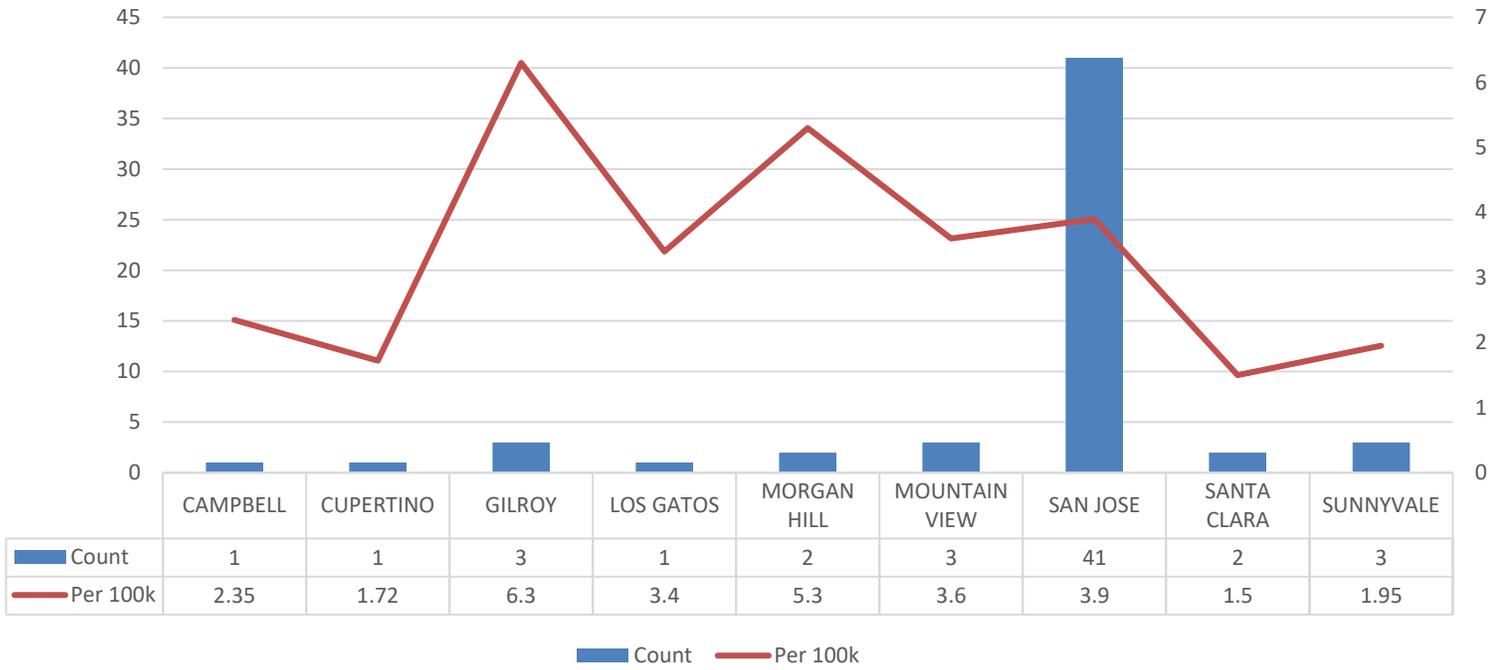
Q1 2020 Domestic Violence Victims By Gender



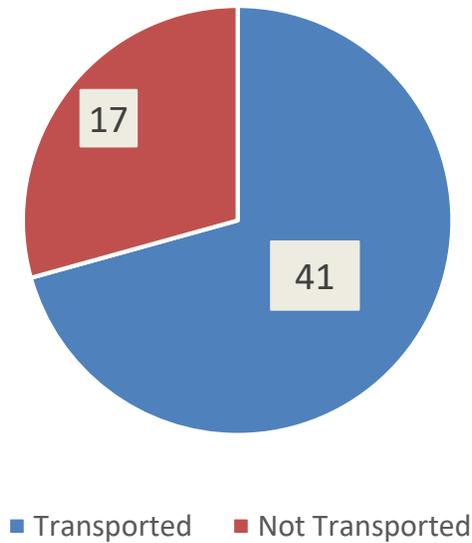
Q1 2020 Domestic Violence Victims by Age



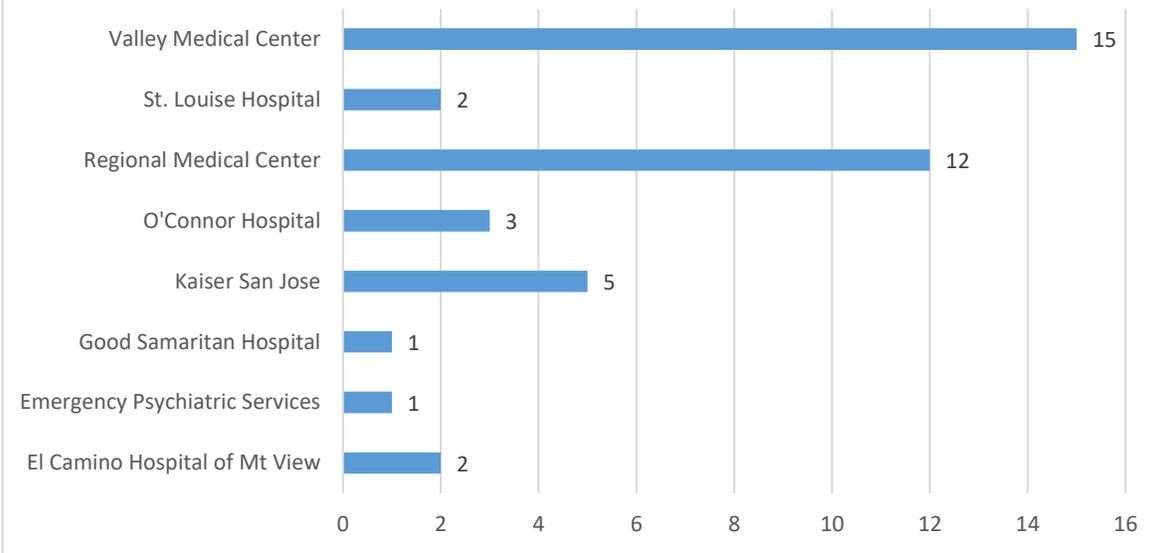
Q1 2020 Suspected Domestic Violence per Population (100K)



Q1 2020 Domestic Violence Victims Transported vs Not Transported



Q1 2020 Domestic Violence Victim Hospital Distribution



County of Santa Clara
Santa Clara Valley Health & Hospital System
Emergency Medical Services



101188

DATE: April 29, 2020
TO: Health and Hospital Committee
FROM: Jackie Lowther, EMS Director
SUBJECT: EMS Trust Fund Report

RECOMMENDED ACTION

Receive report from Emergency Medical Services (EMS) Agency relating to a revision to the EMS Trust Fund Spending Plan.

FISCAL IMPLICATIONS

There are no fiscal implications associated with this report. The modifications to the EMS Trust Fund Spending Plan will be included in the Fiscal Year (FY) 2020-21 Recommended Budget.

The EMS Trust Fund Spending Plan was presented to the Health and Hospital Committee on March 18, 2020 and is being modified to include funding for five existing positions. The total cost of the positions is \$1,003,455. The attached Exhibit B represents the Revised EMS Trust Fund Spending Plan.

The EMS Trust Fund balance as of July 1, 2019 was \$14,002,103. Based on projected revenues and expenditures, the Trust Fund balance is estimated to be \$12,180,486 by June 30, 2020. These projections are shown in the attached Exhibit A, FY20 EMS Trust Fund Status.

REASONS FOR RECOMMENDATION

In 2000, the Board of Supervisors created the EMS Trust Fund and required that the EMS Agency provide an annual report on the EMS Trust Fund's status. The annual report is intended to provide information on the activities and projected balance of the EMS Trust Fund by the end of the fiscal year, and recommendations for expenditures for the upcoming fiscal year. Once approved by the Board of Supervisors, the expenditures for the EMS Trust Fund are incorporated into the upcoming fiscal year's budget.

On March 18, 2020, the department presented to the Committee its annual report and recommendations for expenditures for FY 2020-21. This revised report modifies the proposed EMS Trust Fund Spending Plan outlined in the department's March 2020 report.

The modification to the proposed FY 2020-21 EMS Trust Fund Spending Plan is intended as a temporary budget balancing measure to reduce the General Fund subsidy in the department and reduce the demand on County general fund by using available trust funds.

FY21 EMS Trust Fund Proposed Spending Plan

Attachment B shows the FY 2020-21 EMS Trust Fund projected balance and revised spending plan. Categories A and D are revised as follow:

Category A: EMS System/Strategic Reserve - \$10,106,573

The amount placed into the EMS System Reserve is intended for significant strategic or long-range projects that benefit the EMS System, as approved by the Board of Supervisors. If approved, the total Category A balance (savings) will be \$10,106,573. These funds could be used in the event the EMS system experiences an unanticipated financial burden, extraordinary increase of cost of service, supplies or a material decrease in system-wide reimbursement.

In the past, Category A funds were used to make payments to the fire departments and to the County that resulted from financial proceedings by the contracted ambulance company and for consultant services.

Category D: EMS System Strategic Initiatives - \$2,247,663

Expenditures in this category are intended to support strategic initiatives of the EMS System. The total spending plan is being increased by \$1,003,455, to fund existing positions as follows: 1.0 EMS Medical Director, 1.0 Senior Epidemiologist, 1.0 Emergency Medical Services Specialist, 1.0 Administrative Assistant, and 1.0 Office Specialist III.

These are all full-time positions in the department. Positions cover duties ranging from EMS medical system oversight, analytical epidemiologic activities, disaster medical response, and routine administrative responsibilities.

CHILD IMPACT

The recommended action will have no/neutral impact on children and youth.

SENIOR IMPACT

The recommended action will have no/neutral impact on seniors.

SUSTAINABILITY IMPLICATIONS

The recommended action will have no/neutral sustainability implications.

CONSEQUENCES OF NEGATIVE ACTION

The Committee would not receive the revision to the proposed FY 2020-21 EMS Trust Fund Spending Plan.

ATTACHMENTS:

- Exhibit A_FY20 EMS Trust Fund Status (PDF)
- Exhibit B_FY21 Revised EMS Trust Fund Spending Plan(PDF)

FY20 EMS Trust Fund Status
Fund 0363 CC 9854

Trust Fund Balance as of July 1, 2019		\$ 14,002,103	A
Revenues:			
FY19- Rural Metro liquidated damages, May to June 19		\$ 62,750	
Interests		\$ 76,547	
Total Revenues		\$ 139,297	B
Expenditures:			
<u>Category B: EMS System Support</u>			
EMS System Public Information	\$ -		
Training	18,189		
Exercises	-		
EMS Provider Recognition	-	\$ 18,189	
<u>Category C: Stakeholder Requests</u>			
Benefits to EMS System Providers	\$ -		
Data Project Funding for Fire Departments (EMCC)	-	\$ -	
<u>Category D: Strategic Initiatives</u>			
EMS System Strategic Plan Implementation	\$ 39,175		
Rollover - AED for Sheriff	(7,143)		
Stroke Awareness Campaign	-		
Rural Metro Amendment 5 & 6 Programs	-		
EMS Data System Costs	23,210		
Emergency Management Resource System	75,784		
First Watch Solutions	-		
EMS Strategic Initiatives Coordinator	128,251		
EMS Lease Cost	106,577	\$ 365,855	
Total Expenditures (for July 2019 to January 2020)		\$ 384,044	C
Trust Fund Balance as of January 31, 2020 (A+B-C)=D		\$ 13,757,356	D
Projections- February thru June 2020			
Revenues:			
FY20- Rural Metro liquidated damages July to April 20		\$ 383,000	
First Responder Fees FY19 Q3-Q4, FY20 Q1-Q2		\$ 308,000	
Total Projected Revenues		\$ 691,000	E
Expenditures:			
<u>Category B: EMS System Support</u>			
EMS System Public Information	\$ 50,000		
Training	116,811		
Exercises	35,000		
EMS Provider Recognition	10,000	\$ 211,811	
<u>Category C: Stakeholder Requests</u>			
Benefits to EMS System Providers	\$ 350,000		
Data Project Funding for Fire Departments (EMCC) - Rollover	669,047	\$ 1,019,047	
<u>Category D: Strategic Initiatives</u>			
EMS System Strategic Plan Implementation	\$ 60,825		
Rollover - AED for Sheriff	14,286		
Stroke Awareness Campaign	25,000		
Rural Metro Amendment 5 & 6 Programs	350,000		
EMS Data System Costs	276,790		
Emergency Management Resource System	-		
First Watch Solutions	170,000		
EMS Stategic Initiatives Coordinator	65,712		
EMS Lease Cost (based on FY20 FAF budget)	74,400	\$ 1,037,012	
Total Projected Expenditures		\$ 2,267,870	F
Projected Trust Fund Balance as of June 30, 2020 (D+E-F)=G		\$ 12,180,486	G

FY21 EMS Trust Fund Projected Balance and Spending Plan - Revised

Fund 0363 CC 9854

Projected Fund Balance as of July 1, 2020		\$ 12,180,486	A
Projected Revenues:			
Rural Metro Liquidated damages (maintains FY20 Est.)		\$ 445,750	
First Responder Fees (maintains FY20 Est.)		308,000	
Interest			
Total FY21 Projected Revenues		\$ 753,750	B
Proposed Expenditures:			
<u>Category B: EMS System Support</u>			
	Cost Center		
EMS System Public Information	2934	\$ 50,000	
Training	2934	135,000	
Exercises	2934	35,000	
EMS Provider Recognition	2934	10,000	
Sub-total		\$ 230,000	
<u>Category C: Stakeholder Requests</u>			
Benefits to EMS System Providers	2802	\$ 350,000	
<u>Category D: Strategic Initiatives</u>			
EMS System Strategic Plan Implementation	2802	\$ 150,000	
Rural Metro Amendment 5 & 6 Programs	2802	350,000	
EMS Data System Costs	2802	300,000	
Emergency Management Resource System	2802	38,000	
EMS Strategic Initiatives Coordinator	2934	220,123	
EMS Management and Support Staff, 5.0 FTE	2934	1,003,455	
EMS Lease Cost (FY21 FAF budget)	2934	186,085	
Sub-total		\$ 2,247,663	
Total FY21 Proposed Expenditures		\$ 2,827,663	C
Reserves: (Funds to be held in Trust Fund) (A+B-C=D)		\$ 10,106,573	D
Total Projected Fund Balance (excluding Reserves) as of June 30, 2021 (A+B-C-D=E)		\$ -	E

**County of Santa Clara
Emergency Medical Services System**



Emergency Medical Services Agency
700 Empey Way
San Jose, CA 95128
408.885.4250 voice 408.885.3538 fax
www.sccemsagency.org

To: Health and Hospital Committee
From: Jackie Lowther, Director Emergency Medical Services
Subject: Emergency Medical Services Department Monthly Update
Date: May 26, 2020

Through this memo, the Emergency Medical Services (EMS) Agency provides its monthly update to the Health and Hospital Committee (HHC).

CONTRACT AMBULANCE PERFORMANCE

Over the last several months, Rural/Metro has met all their response time standards using the original methodology used, from the original agreement from July 1, 2011, to calculate response times for cancelled calls. The chart below provides the Code 3 Response time compliance percentages using the original methodology and covers the period from January 2020 – April 2020:

Emergency Ambulance Performance	Jan 20	Feb 20	Mar 20	Apr 20
Overall / Code 3	90.41%	91.50%	93.73%	95.12%
Zone 1 / Code 3	89.07%	91.07%	92.86%	95.08%
Zone 2 / Code 3	91.56%	92.14%	93.84%	94.47%
Zone 3 / Code 3	89.34%	91.73%	94.16%	96.06%
Zone 4 / Code 3	91.56%	91.30%	94.26%	94.80%
Zone 5 / Code 3	90.28%	90.73%	91.51%	94.25%

RESPONSE AND TRANSPORT COMPARISONS

Since March 16, 2020, Santa Clara County has seen a continual decrease in EMS volume as can be seen in the volume numbers below:

	19-Sep	19-Oct	19-Nov	19-Dec	20-Jan	20-Feb	20-Mar	20-Apr
Total Code 3 Responses	6,992	7,562	7,097	7,536	7,456	7,200	7,178	5,848
Total Code 2 Responses	2,919	2,964	2,883	2,926	3,034	2,904	2,735	2,368
Total Responses	9,911	10,526	9,980	10,462	10,490	10,104	9,913	8,216
Total Event Transports	6,496	6,961	6,525	6,953	6,993	6,642	6,057	4,802
Total Patients Transported	6,751	7,216	6,802	7,237	7,290	6,967	6,295	5,008
Average Daily Patients Transported	225	233	227	233	235	240	203	167
Transport Percentage	66%	66%	65%	66%	67%	66%	61%	58%
Non-Transport Rate/Percentage	34%	34%	35%	34%	33%	34%	39%	42%
Average Daily Responses	330	340	333	337	350	348	320	274
Average Daily Code 3 Responses	233	244	237	243	249	248	232	195
Average Daily Code 2 Responses	97	96	96	94	101	100	88	79

FIRST RESPONDER COMPLIANCE

Compliance is measured by several key performance indicators that include: response time requirements based on population density; designated response areas; type of response priority (RLS: red lights & siren or Non-RLS: non-red lights & siren); total number of responses; total number of late responses; and total number of responses exempted (removed) from compliance calculations. Compliance is achieved when ninety (90.00) percent or more of the responses meet the specified response time requirement in each response priority within each designated response area. The chart below provides the requested-on time response by zone by month (for the period January 2020 - April 2020). The first responders have made or exceeded their response time requirements for the last twenty-two (22) months.

CODE 3 Response	Jan 20	Feb 20	Mar 20
Gilroy, City of	94.60%	95.83%	96.35%
Milpitas, City of	98.05%	94.84%	96.25%
Morgan Hill, City of	96.14%	96.00%	97.37%
Mountain View, City of	98.02%	98.65%	98.66%
San Jose, City of	91.77%	91.76%	90.96%
Santa Clara, City of	99.72%	99.41%	99.69%
Santa Clara County Central FPD	95.99%	96.75%	97.08%
South Santa Clara County FPD	93.69%	96.70%	98.17%
Sunnyvale, City of	97.87%	98.01%	96.63%

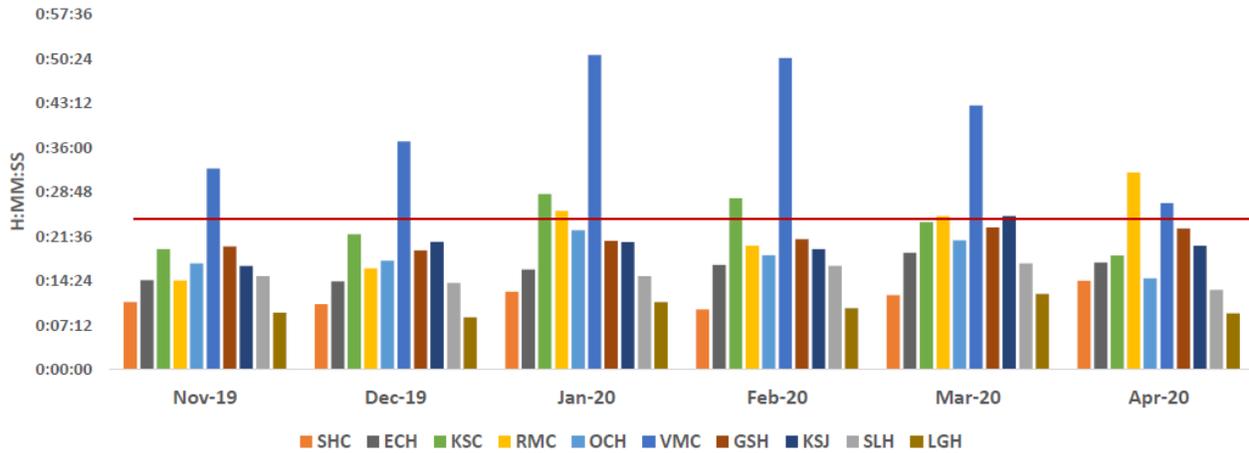
AMBULANCE PATIENT OFFLOAD TIME (APOT)

The role hospitals play in assuring that 9-1-1 ambulances are available for the next 9-1-1 call is critical. Ambulance offload delay, the time it takes to transfer a patient to an Emergency Department stretcher for the Emergency Department staff to assume responsibility for the care of the patient, may have more impact on ambulance turnaround time than ambulance bypass. Ambulance patient offload times (APOT) are calculated for all hospitals that receive patients in Santa Clara County. In 2015, the Health and Safety Code 1797.120 required the California Emergency Medical Services Authority to develop a standard methodology for calculation of, and reporting by, a Local EMS Agency of ambulance patient offload time. The EMS Agency has placed significant effort into working with hospital administrators focusing on the time it takes to get ambulances back into service once they have arrived in the Emergency Departments. Decreases in offload delays should improve the time patients receive definitive care, better pain control and antibiotics when needed.

All hospitals providing 911 service have worked diligently on facilitating timely return of ambulances to the system, however the cold weather and increases in respiratory illness cause hospital emergency room delays and higher call volumes. It is important to note that hospital inpatient volumes increase substantially during the winter months. Each hospital is required to have an EMS Agency approved patient volume management plan that utilizes the guidelines established by The Joint Commission as a minimum standard per Policy #603. To date, all hospitals have submitted plans and have put all those plans into place over the last two months.

The expectation is that nine (9) out of ten (10) patients are transferred to the care of hospital staff within 25 minutes of ambulance arrival. Considerable improvement has been seen throughout the County in ambulance patient offload time over the last year. Current data demonstrates that most have met Santa Clara County's benchmarks over the last six months. The county's benchmark of 25 minutes was met 93.5% of the time in April. Comparatively, 89.8% of EMS transports were offloaded within the state's benchmark of 20 minutes. Sentinel events, which are patients held before being offloaded greater than 60 minutes, totaled 66 patients for the month of April.

Ambulance Patient Offload Time (APOT) - 90th Percentile



	SHC	ECH	KSC	RMC	OCH	VMC	GSH	KSJ	SLH	LGH
Nov-19	0:10:56	0:14:28	0:19:31	0:14:24	0:17:12	0:32:35	0:19:55	0:16:47	0:15:04	0:09:09
Dec-19	0:10:34	0:14:17	0:21:55	0:16:24	0:17:36	0:36:57	0:19:16	0:20:40	0:14:01	0:08:27
Jan-20	0:12:37	0:16:11	0:28:25	0:25:43	0:22:34	0:50:57	0:20:49	0:20:38	0:15:04	0:10:56
Feb-20	0:09:44	0:16:55	0:27:46	0:20:01	0:18:32	0:50:27	0:21:07	0:19:28	0:16:45	0:09:55
Mar-20	0:12:03	0:18:55	0:23:52	0:24:51	0:20:54	0:42:46	0:22:59	0:24:51	0:17:09	0:12:14
Apr-20	0:14:21	0:17:18	0:18:29	0:31:55	0:14:45	0:26:57	0:22:50	0:20:02	0:12:53	0:09:06

SHC Stanford
 ECH El Camino Mt. View
 KSC Kaiser Santa Clara
 RMC Regional Medical Center
 OCH O'Connor Hospital

VMC Valley Medical Center
 GSH Good Samaritan Hospital
 KSJ Kaiser San Jose
 SLH Saint Louise Hospital
 LGH El Camino Los Gatos

HOSPITAL BYPASS

Bypass is a management process that diverts ambulances to the next closest facility. This may be used temporarily by local hospitals when the patient load exceeds emergency department or specialty center resources.

Facility bypass should be a last resort and utilized only when emergency department/specialty center resources continue to be overwhelmed after internal procedures to manage the situation have been implemented. The Santa Clara County EMS system saw a steady transport volume over the period from November 2019 to February 2020 when volume took an approximate 20% decline. EMS Policy #603 states that each hospital shall request no more than thirty-six hours of 911 system bypass within a calendar month. April depicts the lowest bypass in several years. The average number of

patients transported per day for April was 167, significantly down from April 2019 at 228 per day. Specialty services bypass for the last three (3) months remained low. The EMS Agency monitors the use of Hospital Bypass on a continuous basis and works closely with each hospital's Emergency Department management as well as Hospital Administrations to address surge times.

Report for Time Period: April 2020

Table 1: Number of Patients Transported to Hospital ED from 9-1-1 System*

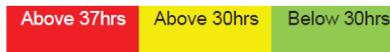
Hospital (Diversion Zone)	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	Total
Stanford (North)	497	513	535	458	407	284	2,694
El Camino - Mt. View (North)	770	864	765	758	651	487	4,295
Kaiser - Santa Clara (North)	723	774	727	762	626	504	4,116
VMC (Central)	1,245	1,324	1,340	1,277	1,179	1,098	7,463
O'Connor (Central)	587	636	719	660	613	420	3,635
Good Samaritan (Central)	789	824	780	733	703	516	4,345
Regional - San Jose (South)	1,262	1,295	1,344	1,300	1,207	980	7,388
Kaiser - San Jose (South)	688	731	711	692	635	460	3,917
Saint Louise (South)	362	342	395	359	338	292	2,088
El Camino - Los Gatos (N/A)	115	111	116	113	130	80	665
VA - Palo Alto (N/A)	74	74	86	72	67	45	418
Total	7,112	7,488	7,518	7,184	6,556	5,166	41,024

Source: Santa Clara County Communications & Palo Alto Fire Department

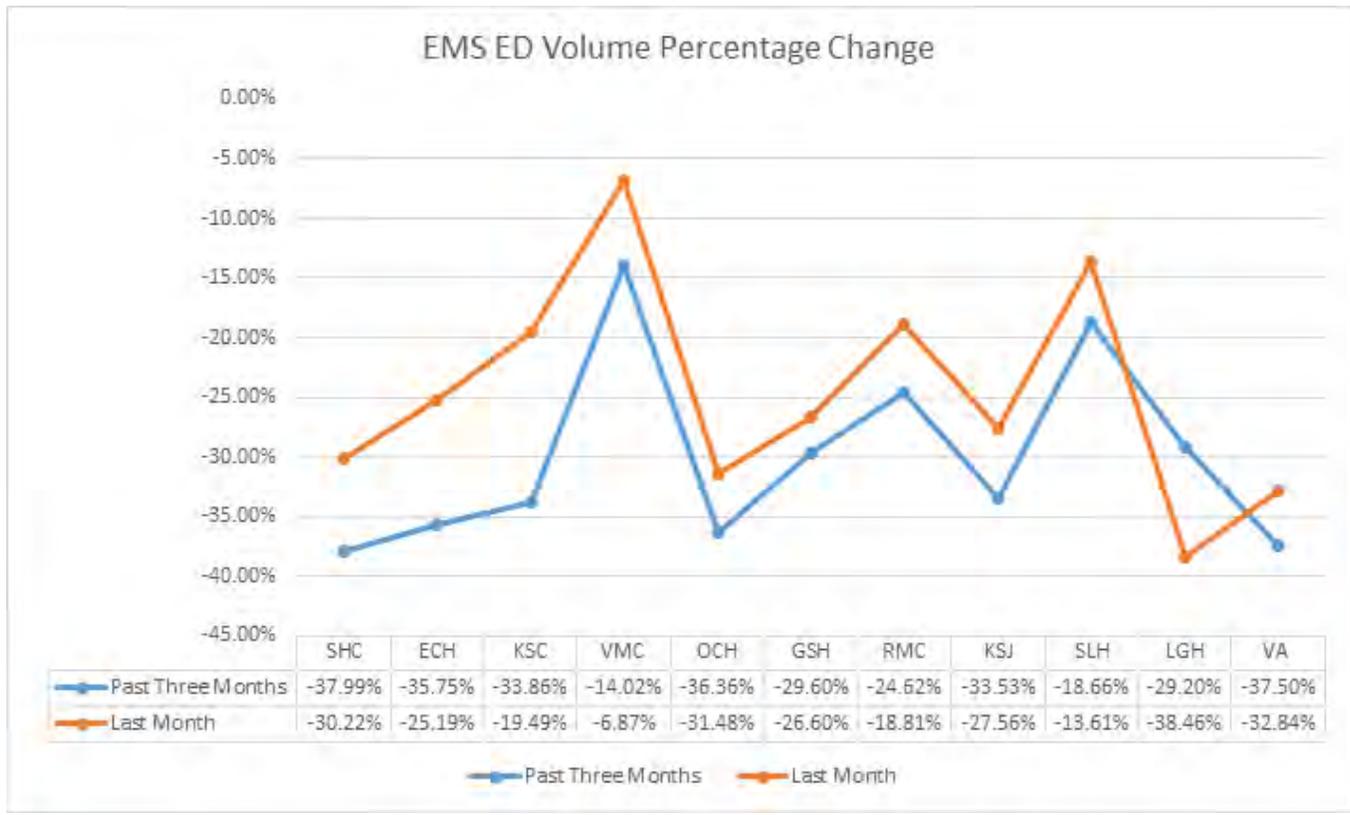
Table 3: Total Monthly Hours of Emergency Department on "AMBULANCE" Bypass

Hospital (Diversion Zone)	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	Total
Stanford (North)	0.00	2.01	0.00	0.00	0.00	0.00	2.01
El Camino - Mt. View (North)	2.01	7.02	13.02	17.03	10.02	0.00	49.10
Kaiser - Santa Clara (North)	1.00	13.03	28.05	13.02	6.02	0.00	61.12
VMC (Central)	13.48	27.80	44.30	37.91	26.05	4.01	153.55
O'Connor (Central)	0.00	0.92	8.02	2.01	1.00	0.00	11.95
Good Samaritan (Central)	0.00	2.01	9.03	5.33	0.51	2.00	18.88
Regional - San Jose (South)	0.00	1.00	7.48	0.00	1.00	1.17	10.65
Kaiser - San Jose (South)	0.00	0.00	2.00	2.00	8.04	0.00	12.04
Saint Louise (South)	9.99	4.04	6.30	3.01	2.20	0.00	25.54
El Camino - Los Gatos (N/A)	0.00	0.00	0.00	0.00	2.01	0.00	2.01
Total	26.48	57.83	118.20	80.31	56.85	7.18	346.85

Color Legend for ED Ambulance Bypass Only



The graph below demonstrates the most significant decreases in volume for each hospital



SHC Stanford

ECH El Camino Mt. View

KSC Kaiser Santa Clara

RMC Regional Medical Center

OCH O'Connor Hospital

VMC Valley Medical Center

GSH Good Samaritan Hospital

KSJ Kaiser San Jose

SLH Saint Louise Hospital

LGH El Camino Los Gatos

**County of Santa Clara
Emergency Medical Services System**



Emergency Medical Services Agency
700 Empey Way
San Jose, CA 95128
408.885.4250 voice 408.885.3538 fax
www.sccemsagency.org

To: Health and Hospital Committee
From: Jackie Lowther, Director Emergency Medical Services
Subject: Emergency Medical Services Department Monthly Update
Date: June 24, 2020

Through this memo, the Emergency Medical Services (EMS) Agency provides its monthly update to the Health and Hospital Committee (HHC).

CONTRACT AMBULANCE PERFORMANCE

Over the last several months, Rural/Metro has met all their response time standards using the original methodology from the original agreement from July 1, 2011, to calculate response times for cancelled calls. The chart below provides the Code 3 Response time compliance percentages using the original methodology and covers the period from January 2020 – May 2020:

Emergency Ambulance CODE 3 Performance	Jan 20	Feb 20	Mar 20	Apr 20	May 20
Overall / Code 3	90.41%	91.50%	93.73%	95.12%	92.92%
Zone 1 / Code 3	89.07%	91.07%	92.86%	95.08%	92.88%
Zone 2 / Code 3	91.56%	92.14%	93.84%	94.47%	93.33%
Zone 3 / Code 3	89.34%	91.73%	94.16%	96.06%	92.72%
Zone 4 / Code 3	91.56%	91.30%	94.26%	94.80%	93.03%
Zone 5 / Code 3	90.28%	90.73%	91.51%	94.25%	92.33%

RESPONSE AND TRANSPORT COMPARISONS

Since March 16, 2020, Santa Clara County has seen a continual decrease in EMS volume, however, those numbers rise in May as can be seen in the numbers below:

	Jan 20	Feb 20	Mar 20	Apr 20	May 20
Total Code 3 Responses	7,456	7,200	7,178	5,858	6,554
Total Code 2 Responses	3,034	2,904	2,735	2,368	2,544
Total Responses	10,490	10,104	9,913	8,236	9,096
Total Event Transports	6,993	6,642	6,057	4,817	5,712
Total Patients Transported	7,290	6,967	6,295	5,024	5,974
Average Daily Patients Transported	235	240	203	167	193
Transport Percentage	67%	66%	61%	58%	63%
Non-Transport Rate/Percentage	33%	34%	39%	42%	37%
Average Daily Responses	350	348	320	275	293
Average Daily Code 3 Responses	249	248	232	195	211
Average Daily Code 2 Responses	101	100	88	79	82

FIRST RESPONDER COMPLIANCE

Compliance is measured by several key performance indicators that include: response time requirements based on population density; designated response areas; type of response priority (RLS: red lights & siren or Non-RLS: non-red lights & siren); total number of responses; total number of late responses; and total number of responses exempted (removed) from compliance calculations. Compliance is achieved when ninety (90.00) percent or more of the responses meet the specified response time requirement in each response priority within each designated response area. The chart below provides the requested-on time response by zone by month (for the period January 2020 - May 2020). The first responders have made or exceeded their response time requirements for the last twenty-three (23) months.

First Responder CODE 3 Performance	Jan 20	Feb 20	Mar 20	Apr 20	May 20
Gilroy, City of	94.60%	95.83%	96.35%	94.10%	94.53%
Milpitas, City of	98.05%	94.84%	96.25%	98.36%	93.86%
Morgan Hill, City of	96.14%	96.00%	97.37%	95.19%	96.61%
Mountain View, City of	98.02%	98.65%	98.66%	98.65%	98.31%
San Jose, City of	91.77%	91.76%	90.96%	91.45%	92.39%
Santa Clara, City of	99.72%	99.41%	99.69%	100.00%	100.00%
Santa Clara County Central FPD	95.99%	96.75%	97.08%	97.16%	96.29%
South Santa Clara County FPD	93.69%	96.70%	98.17%	95.24%	95.41%
Sunnyvale, City of	97.87%	98.01%	96.63%	98.11%	96.52%

QUALITY IMPROVEMENT

The Emergency Medical Services Agency pre-hospital Quality Improvement (QI) program is responsible for ensuring every patient who enters the emergency medical system receives the same standard of care, whether the patient calls 9-1-1 or is transported between care facilities by one of the county's private ambulance providers. The Quality Improvement program ensures these standards through various mechanisms including authoring of prehospital treatment protocols, collection and analysis of data from the prehospital system in Santa Clara County, dissemination of that data to stakeholders, and chairing various quality improvement committees throughout the county. Through these mechanisms, the standard of care set by prehospital treatment protocols is continuously measured. Areas of deficiency are identified in real time and through protocol changes or system-wide education, and they are addressed and improved.

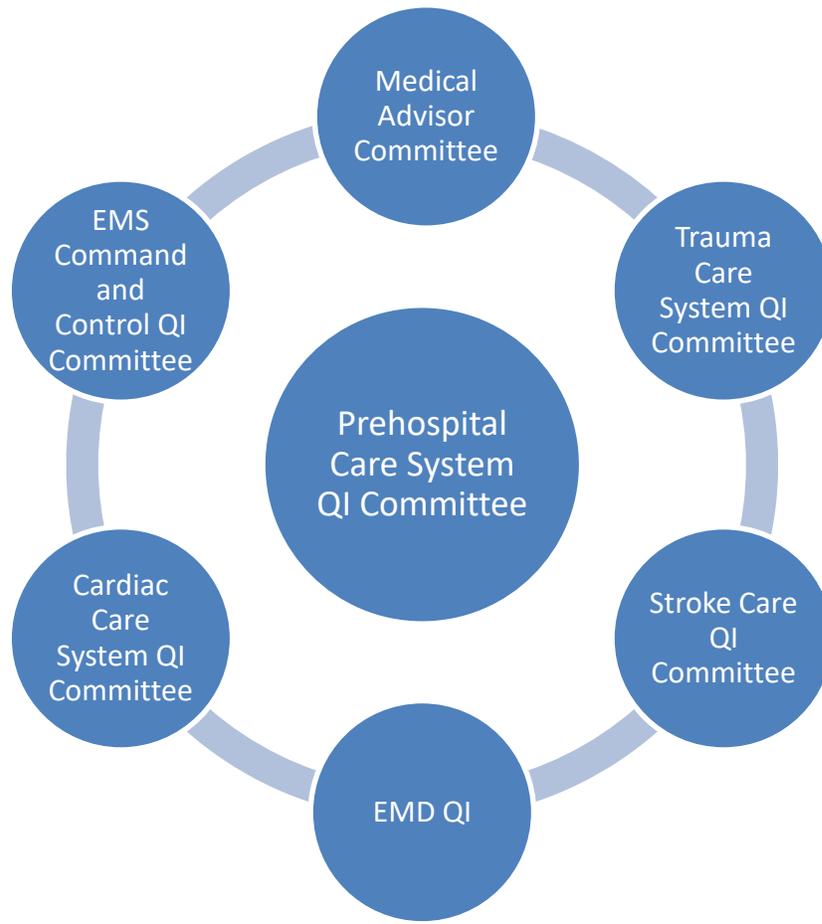
Continuous improvement is a system wide focus. Deficiencies and improvements are worked on through the Quality Improvement committees along with every individual stakeholder's quality improvement department. Solutions identified by the quality improvement committees will then be worked into the prehospital treatment protocols during scheduled revisions. The process of ensuring the standard of care will start over, thus completing the circle of quality improvement.

In addition to managing the quality improvement process, the EMS Agency's Quality Improvement program also participates in state sanctioned pilot programs and local trial studies. Participation in such studies ensures that the care delivered to our community is on the cutting edge of science and industry standards.

Continuous data is collected and analyzed for these studies and compared against analyzed data from previous methods or devices used to ensure that the Paramedics and Emergency Medical Technicians servicing the county have the best tools and methods to care for their patients.

Committees that Influence and Direct Quality Improvement

The following committees play a crucial role in the development and refinement of clinical care and clinical practice within the EMS system. Data is presented within the QI committees to inform the prehospital providers and stakeholders on the quality performance of each respective medical specialty service. The QI committees are as follows:



The Medical Advisors Committee (MAC):

This committee advises the EMS medical director on the development and improvement of prehospital medical policies and protocols. Membership of the committee consists of the base hospital medical director; physician representative from hospital emergency department in the county; the medical director or his/her representative from each prehospital provider agency in the county; EMS coordinators of each prehospital provider agency; and EMS Agency specialist/quality improvement coordinator.

Trauma Care System Quality Improvement Committee (TCSQIC):

This committee includes members from the Trauma Executive Committee as well as multidisciplinary members of trauma centers, emergency care providers and medical specialties such as neurosurgery and orthopedics. The TCSQIC is the medical care review committee, as well as an advisory group for trauma system issues.

Stroke Care System Quality Improvement Committee (SCSQIC):

This committee is a multidisciplinary committee composed of stroke medical directors, primary stroke center coordinators, EMS medical director, and

other system stakeholders, as required. Major responsibilities include monitoring stroke system performance and recommendations for system improvement.

Cardiac Care System Quality Improvement Committee (CCSQIC):

This is a multidisciplinary committee comprised of STEMI center medical directors, STEMI center program managers, EMS medical director, the base hospital physician liaison, the base hospital nurse coordinator, representatives of medical control advisory committee, and other system stakeholders, as needed. The major responsibilities of this committee include monitoring the STEMI system performance, as well as recommendations for system improvement.

EMS Command and Control Quality Improvement Committee (ECCQIC):

This committee addresses the operational aspects of EMS response and mitigation including incident review, planning for events, MVDR (Medical Volunteers Disaster Response)/disaster medical services, and provider agency operational reports. This committee is open to Santa Clara County EMS system providers only.

Emergency Medical Dispatch Quality Improvement Committee

This committee concentrates on addressing Emergency Medical Dispatching protocols and the use of Medical Priority Dispatch System (MPDS). The Committee is comprised of EMD Dispatcher Quality Coordinators, Communication Center Managers and Medical Advisors, EMS Medical Director, Dispatchers, EMS Program Managers from each provider agency, and is facilitated by EMS Agency QI Coordinators

Measures of Success

MEASURE 1 TITLE	Cardiac Arrest-Return of Spontaneous Circulation (ROSC)
DESCRIPTION	The Emergency Medical Services Agency will improve prehospital clinical practices in cardiopulmonary resuscitation and monitor the effects on patient outcome. By providing high performance CPR, the department’s stakeholders will increase the frequency of the “Return of Spontaneous Circulation” (ROSC). ROSC is the return of a palpable pulse in a patient following cardiopulmonary arrest. Several patient factors will influence ROSC along with the changes in cardiac arrest management. It is anticipated that there will be an overall improvement in ROSC with the implementation of high-performance CPR, the magnitude of which will vary based upon patient factors.

FREQUENCY OF DATA COLLECTION	Monthly
MEASURE 2 TITLE	Lower Ambulance Cancellation Rate
STATUS	Sunset/Retire
DESCRIPTION	The Department seeks to reduce the 911 ambulance cancellation rate by 3 percent by the end of June 2020. Reducing unnecessary ambulance dispatches could increase the total number of available ambulances for life threatening emergencies. The percentage of incidents will be recorded monthly to compare previous year's incidents during respective months.
FREQUENCY OF DATA COLLECTION	Monthly
MEASURE 3 TITLE	Lower Ambulance Patient Offload Time
STATUS	Continue
DESCRIPTION	The Department will reduce current ambulance patient offload time in all hospitals to 25 minutes or less (measured at the 90th percentile) by December 2020. This will improve the customer experience, the efficient allocation of resources and timely access to EMS services. On a monthly basis, the Department will determine the 90th percentile for all ambulance offload times in the County measuring time from the ambulance arrival at the hospital until the hospital assumes care.
FREQUENCY OF DATA COLLECTION	Monthly
MEASURE 4 TITLE	Electronic Patient Care Record Documentation
STATUS	Continue
DESCRIPTION	Conduct education for all EMS system field providers on the appropriate way to complete a patient care record (PCF) for when medical assessments and/or medical care has been performed within the 911 system. For all 911 patients a patient care record will be submitted with a Validation Score of at least 80 (of 100) points.
FREQUENCY OF DATA COLLECTION	Monthly
MEASURE 5 TITLE	Timely Submission of PCRs for Time Sensitive Injuries
STATUS	New
DESCRIPTION	Decrease the time elapsed between collected patient information on the 911 scene to the submission of patient care reports (PCR) to the transported hospital for time sensitive injures, such as: Stroke, STEMI or Trauma. Comparing the average of time interval from when a 911 ambulance crew arrived at the patient's side and the time the chart was first posted to the database, to the average scene time of patients suffering from time sensitive injuries. This comparison will demonstrate an overall depiction of how well

	the system performs at delivering the most charts of the most critical patient types.
FREQUENCY OF DATA COLLECTION	Monthly
MEASURE 6 TITLE	Trauma Scene Time Reduction
STATUS	New
DESCRIPTION	In order to discourage an increase in prehospital scene times, the EMS Agency will be tracking and reviewing trauma scene times. This will be accomplished by creating reports in ImageTrend that display incidents with scene times over 15 minutes for major trauma victims. The EMS Agency will then review the corresponding Patient Care Records and look for reasonable explanations for delays. If none can be found, then communication will occur with the crew members and the Program Manager to educate and prevent future delays. The goal is to lower average trauma scene.
FREQUENCY OF DATA COLLECTION	Monthly

OUTCOME/RESULTS	FY2016 Actual	FY2017 Actual	FY2018 Actual	FY2019 Actual	FY2020 Anticipated	FY2021 Projected
Cardiac Arrest-Return of Spontaneous Circulation (ROSC)	33%	35%	35%	32%	37%	38%
Reduce ambulance patient offload time to 25 minutes	45.32 mins.	38.27 mins.	34.45 mins.	24.53 mins.	25 mins.	24 mins.
Increase patient care record submission validation score	N/A	N/A	93%	93%	94%	94%
Timely Submission of ePCRs for Time Sensitive Injuries	N/A	N/A	N/A	Avg Scene Time + 172 mins.	Avg Scene Time + 20 mins.	Avg Scene Time + 10 mins.
Trauma Scene Time Reduction	N/A	N/A	N/A	N/A	18.19 mins.	15 mins.

Sunset/Retire

% of Prehospital Providers Trained	N/A	0%	3.86%	99.5%		
Reduce ambulance non-transport rate by 3% year-over-year	35%	36%	35%	34%		

The EMS Agency sought to reduce the 911 cancellation rate by 3 percent by the end of 2020 to increase the total number of available ambulances for life threatening emergencies. After working on this measure for four years without success, it has been determined that in order to achieve any success considerable system changes would be required, such as multi-level response; therefore, the EMS Agency is going to sunset this measure. In addition, EMS Agency does not currently have control over situations where ambulances are sent when there is not a patient and Medical Priority Dispatch cannot be performed.

In 2018, the EMS Agency selected a Measure of Success to conduct training for all EMS Providers in high performance CPR; providers delivering coordinated, effective high-quality CPR. This measure was a subset of EMS Measure #1: Cardiac Arrest-Return of Spontaneous Circulation (ROSC). This portion of the measure has been met with 100 percent of all providers trained during the 2019 EMS Update and throughout the year. Even though this measure has been met, the EMS Agency continues to monitor the effectiveness of this skill for the increase in the “Return of Spontaneous Circulation” (ROSC). ROSC is the return of a palpable pulse in a patient following cardiopulmonary arrest. It is anticipated that there will be an overall improvement in ROSC with the implementation of high-performance CPR.

County of Santa Clara
Santa Clara Valley Health & Hospital System
Emergency Medical Services



101204

DATE: May 12, 2020
TO: Board of Supervisors
FROM: Jackie Lowther, EMS Director
SUBJECT: Emergency Medical Services Week

RECOMMENDED ACTION

Adopt Proclamation declaring the week of May 17-23, 2020 as "Emergency Medical Services Week" in Santa Clara County. (Emergency Medical Services)

FISCAL IMPLICATIONS

There are no fiscal implications resulting from this action.

REASONS FOR RECOMMENDATION

National Emergency Medical Services Week brings together local communities and medical personnel to publicize safety and honor the dedication of those who provide the day-to-day lifesaving services of medicine's "front line."

CHILD IMPACT

The recommended action will have no/neutral impact on children or youth.

SENIOR IMPACT

The recommended action will have no/neutral impact on seniors.

SUSTAINABILITY IMPLICATIONS

The recommended action will have no/neutral sustainability implications.

BACKGROUND

2020 will mark the 46th annual EMS Week. The theme for 2020 is "Ready Today. Preparing for Tomorrow."

CONSEQUENCES OF NEGATIVE ACTION

Failure to approve this recommendation and proclaim May 17-23, 2020 as “National Emergency Services Week” in Santa Clara County would result in a lost opportunity to recognize the many contributions and lifesaving efforts made by emergency medical professionals.

STEPS FOLLOWING APPROVAL

None needed.

ATTACHMENTS:

- EMS Week 2020 Resolution (PDF)

PROCLAMATION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF SANTA CLARA FOR EMERGENCY MEDICAL SERVICES WEEK

WHEREAS, emergency medical services is an essential service; and

WHEREAS, the members of emergency medical services teams are ready to provide lifesaving care to those in need 24 hours a day, seven days a week; and

WHEREAS, access to quality emergency care dramatically improves the survival and recovery rate of those who experience sudden illness or injury; and

WHEREAS, the emergency medical services system consists of physicians, nurses, emergency medical technicians, paramedics, firefighters, law enforcement officers, dispatchers, medical volunteers, and others; and

WHEREAS, the members of emergency medical services teams, whether career or volunteer, engage in thousands of hours of specialized training and continuing education to enhance their lifesaving skills; and

WHEREAS, the residents of Santa Clara County benefit daily from the knowledge and skills of these highly trained individuals; and,

WHEREAS, it is appropriate to recognize the value and accomplishments of emergency medical services providers by designating Emergency Medical Services Week.

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Adopted: 05/12/2020

NOW, THEREFORE, BE IT RESOLVED by the Board of Supervisors of the County of Santa Clara that the week of May 17-23, 2020 is proclaimed

EMERGENCY MEDICAL SERVICES WEEK

PASSED AND ADOPTED by the Board of Supervisors, the County of Santa Clara, State of California on this 12th Day of May, Two Thousand and Twenty by unanimous vote.

APPROVED AS TO FORM AND LEGALITY:



WESLEY DODD
Deputy County Counsel

County of Santa Clara
Santa Clara Valley Health & Hospital System
Emergency Medical Services



100310

DATE: February 19, 2020

TO: Re-Entry Network

FROM: Kenneth Miller, MD, PHD, EMS Medical Director

SUBJECT: Gilroy Fire Emergency Medical Technician-Paramedics Pilot Project

RECOMMENDED ACTION

Receive report from the Office of the County Executive relating to the implementation of a Gilroy Fire Emergency Medical Technician-Paramedic pilot project. (Held from December 11, 2019, Item No. 6)

FISCAL IMPLICATIONS

The recommended action to receive report has no fiscal impact, as this is an informational report only.

REASONS FOR RECOMMENDATION

This is the fulfillment of a request by Supervisor Chavez, the chair of the Re-Entry Network, for a brief update on the status of the Santa Clara County EMS/Gilroy Fire Department Behavioral Health/Sobering Center Alternate Destination Pilot Project being conducted in the City of Gilroy.

CHILD IMPACT

The recommended action will have no/neutral impact on children and youth.

SENIOR IMPACT

The recommended action will have no/neutral impact on seniors.

SUSTAINABILITY IMPLICATIONS

The recommended action will have no/neutral sustainability implications.

BACKGROUND

In 2014 the California Emergency Medical Services Authority (EMSA) and the Office of Statewide Health Planning and Development (OSHPD) began a series of projects under the OSHPD Health Workforce Pilot Project Program (HWPP) that allowed approved EMS systems in California to evaluate, treat and transport selected patients to healthcare

destinations other than acute care hospital emergency departments as otherwise required by Title 22 of the California Health and Safety Code. The significance of these pilot projects is better integration of EMS systems into the greater healthcare system. Each pilot project site has specific protocols that include patient safety monitoring and local institutional review board approval under local medical oversight.

In 2017 OSHPD announced an interest in expanding the EMS HWPP Program to include new pilot project sites. Through existing Santa Clara County EMS data, the EMS Agency identified the frequency of Welfare and Institutions Code 5150 holds on 911 EMS responses in South County. The EMS Agency partnered with the Gilroy Fire Department and the Gilroy Police Department to develop a paramedic assessment protocol that would allow 911 EMS to transport selected patients on a 5150 hold directly to Emergency Psychiatric Services (EPS) or patients with uncomplicated alcohol intoxication (not on a 5150 hold) to the Mission Street Sobering Center (MSSC). Those patients assessed to require a medical screening examination or having a medical or trauma emergency coexistent with the behavioral crisis or alcohol intoxication would be transported to an acute care hospital emergency department. The pilot project proposal and protocol were approved by EMSA and OSHPD, education on the protocol and supporting science was conducted with the Gilroy Fire Department by the EMS Agency and patient engagement in the project began on April 23, 2018.

Data collection includes patient presentation and evaluation as documented in the prehospital electronic Patient Care Report but also includes patient demographic data as well as length of stay, any secondary emergency department transfer, discharge diagnosis (from EPS), and discharge disposition. Early data from the Pilot Project for the first 179 patients is presented in the attachment.

Ultimately the Pilot Project will characterize the 911 EMS patients with a law enforcement-placement 5150 hold and inform EMS system configuration and behavioral health referral practices to provide behavioral crisis intervention and perhaps reduce the need for field placement of 5150 holds.

CONSEQUENCES OF NEGATIVE ACTION

The Re-Entry Network would not receive the update on the Santa Clara County EMS/Gilroy Fire Department Behavioral Health/Sobering Center Alternate Destination Pilot Project.

ATTACHMENTS:

- EMS RE Presentation 10.09.19 (PDF)
- CACommunityParamedicine_Aug2019 (PDF)



**SANTA CLARA COUNTY EMS
GILROY FIRE DEPARTMENT
BEHAVIORAL HEALTH/SOBERING CENTER
ALTERNATE DESTINATION PILOT PROJECT**

KEN MILLER MD PHD
MEDICAL DIRECTOR
SANTA CLARA COUNTY EMS AGENCY



Brief History

2014

CA EMS Authority (EMSA) & CA Office of Statewide Health Planning and Development (OSHPD) established pilot programs in several EMS systems through the OSHPD Health Workforce Pilot Project (HWPP) Program

- Public health: TB medication administration
- High risk hospital discharge follow up: heart failure, diabetes, multiple chronic conditions
- Alternate destinations: urgent care centers, behavioral health facilities, sobering centers
- Frequent 911 Callers: healthcare referrals and follow ups
- Hospice: 911 calls for hospice patients

2017

EMSA & OSHPD expand HWPP Program to additional sites & EMS systems - • Santa Clara County EMS partnered with the Gilroy Fire Department

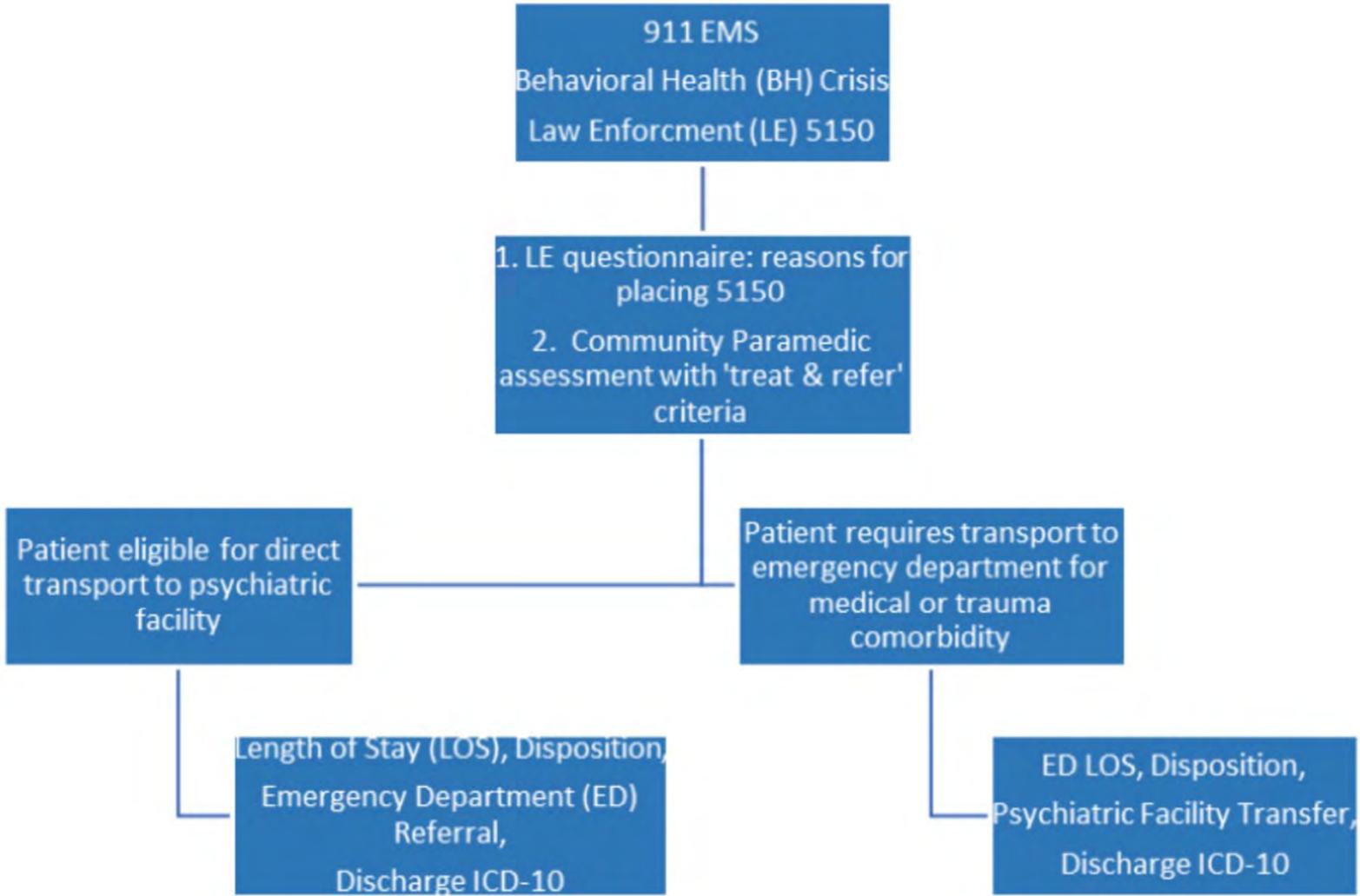
- Alternate destination: behavioral health facility (EPS) & sobering center (MSSC)
- Patient engagement began April 2018
- OSHPD extension of Pilot Project Programs approved (Sept 17, 2019) through November 14, 2020
- Nationwide there are approximately 129 Community Paramedicine programs in 34 states

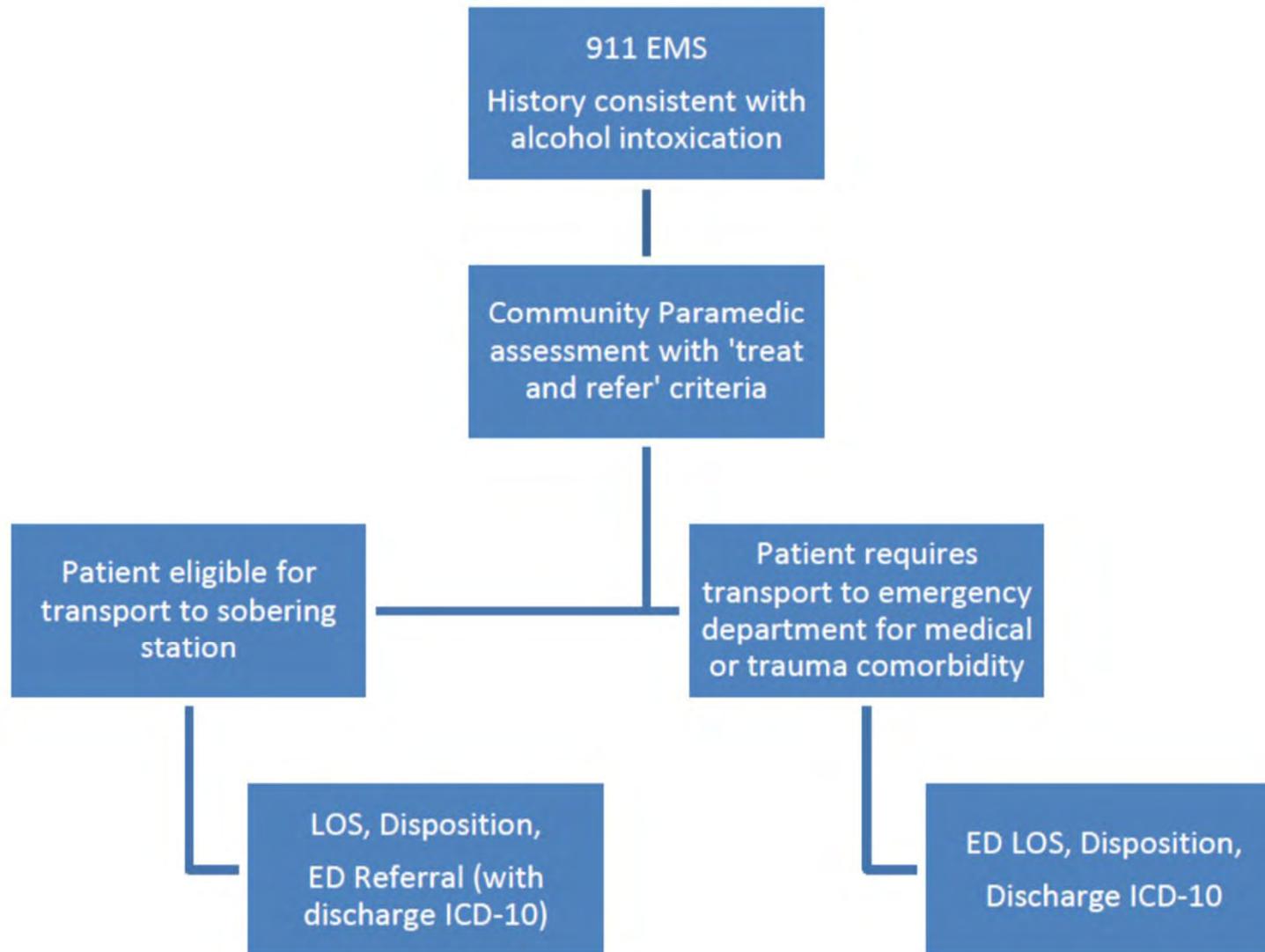
Patient Safety

A defining principle in healthcare

Elements of patient safety in the Pilot Project

- Development of a patient assessment protocol based upon the medical literature and other operating behavioral health/sobering center programs and data
- SCVHHS IRB review of the Pilot Project protocol
- Education of the GFD firefighter/paramedics on behavioral crisis and uncomplicated alcohol intoxication
- 100% case review of electronic patient care reports for patients considered for inclusion in the Pilot Project
- Medical oversight by the SCC EMS Agency
- Immediate follow up on any patient transferred from EPS or MSSC to an emergency department
- Independent evaluator: Philip R. Lee Institute for Health Policy Studies and Healthforce Center at UCSF





Pilot Project Prehospital Assessment Protocol

Patient eligibility for engagement

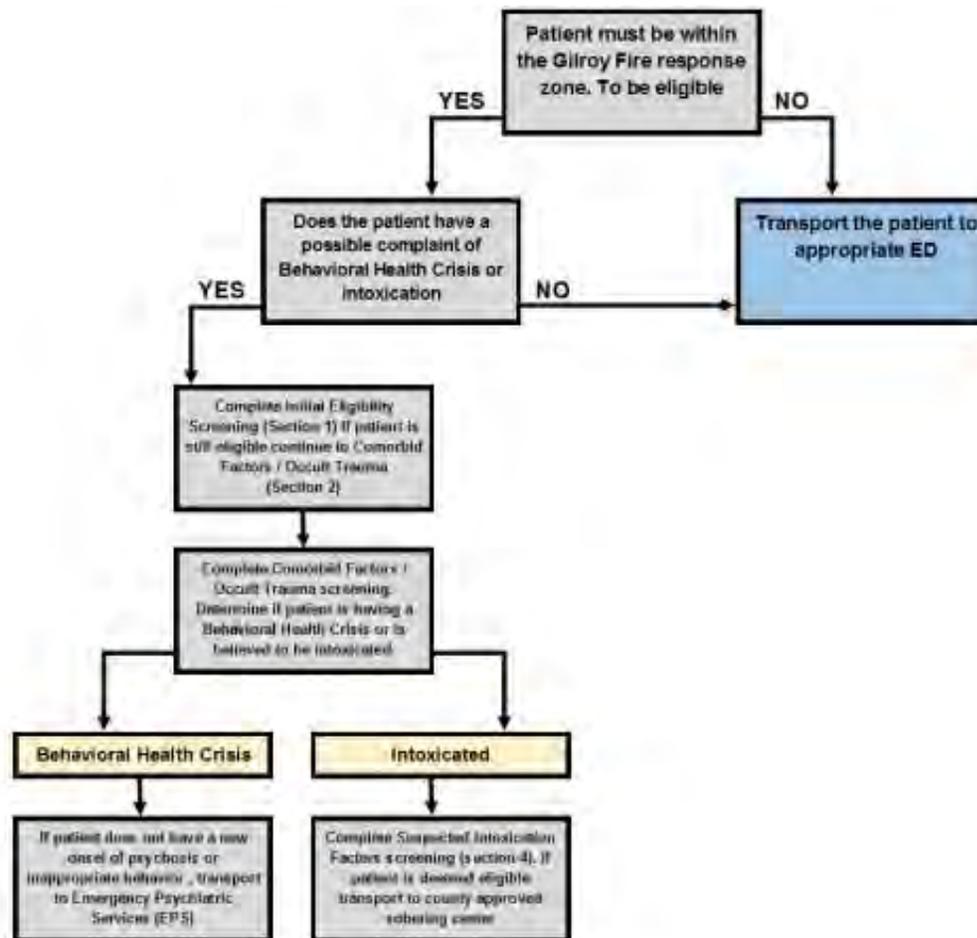
- Vital sign parameters
- Not pregnant
- Comorbid factors and occult trauma

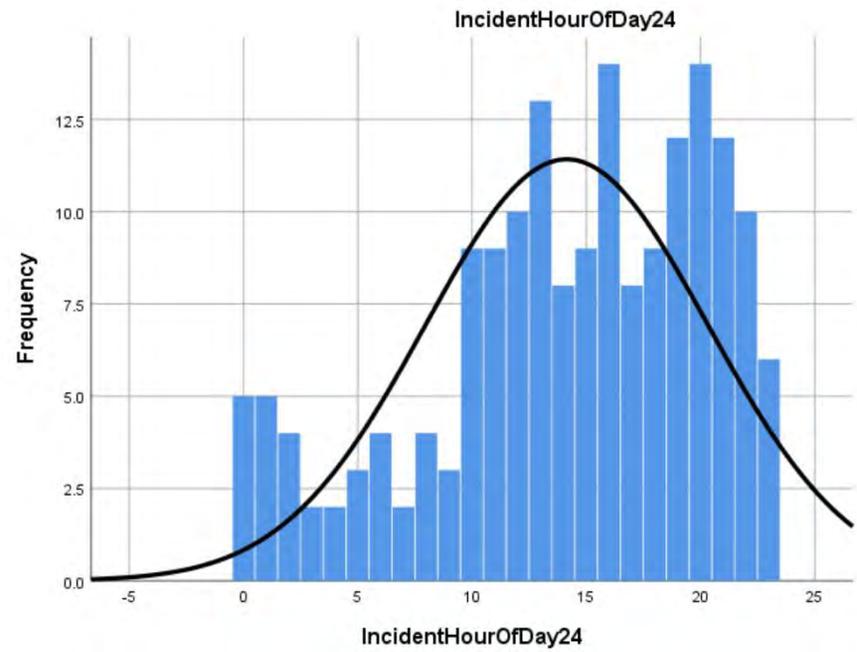
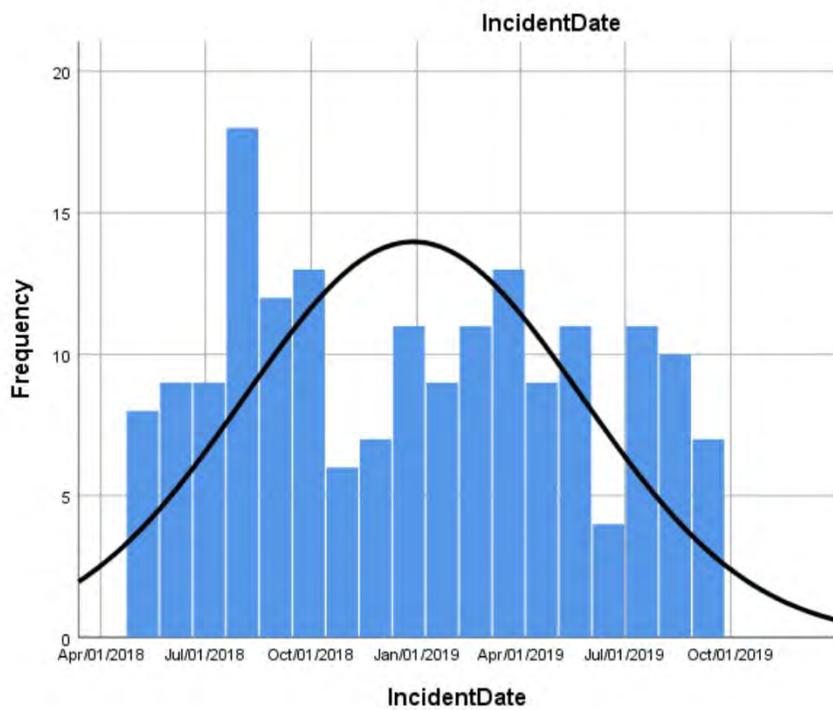
Behavioral Crisis

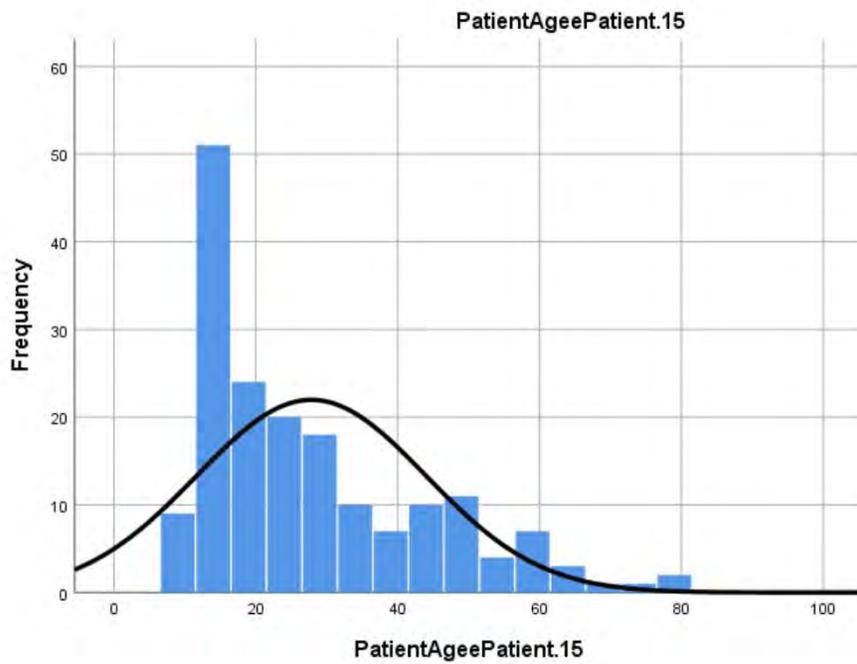
- Law enforcement-placed § 5150
- Medical causes of abnormal behavior/psychosis;
not new onset

Alcohol intoxication

- MSSC entry criteria

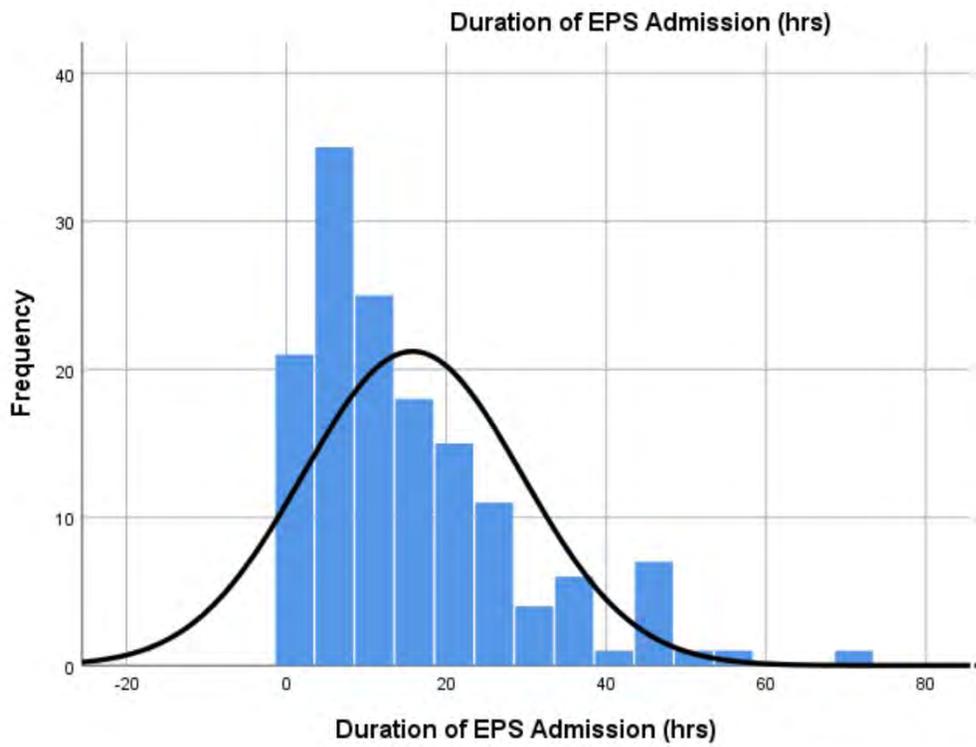






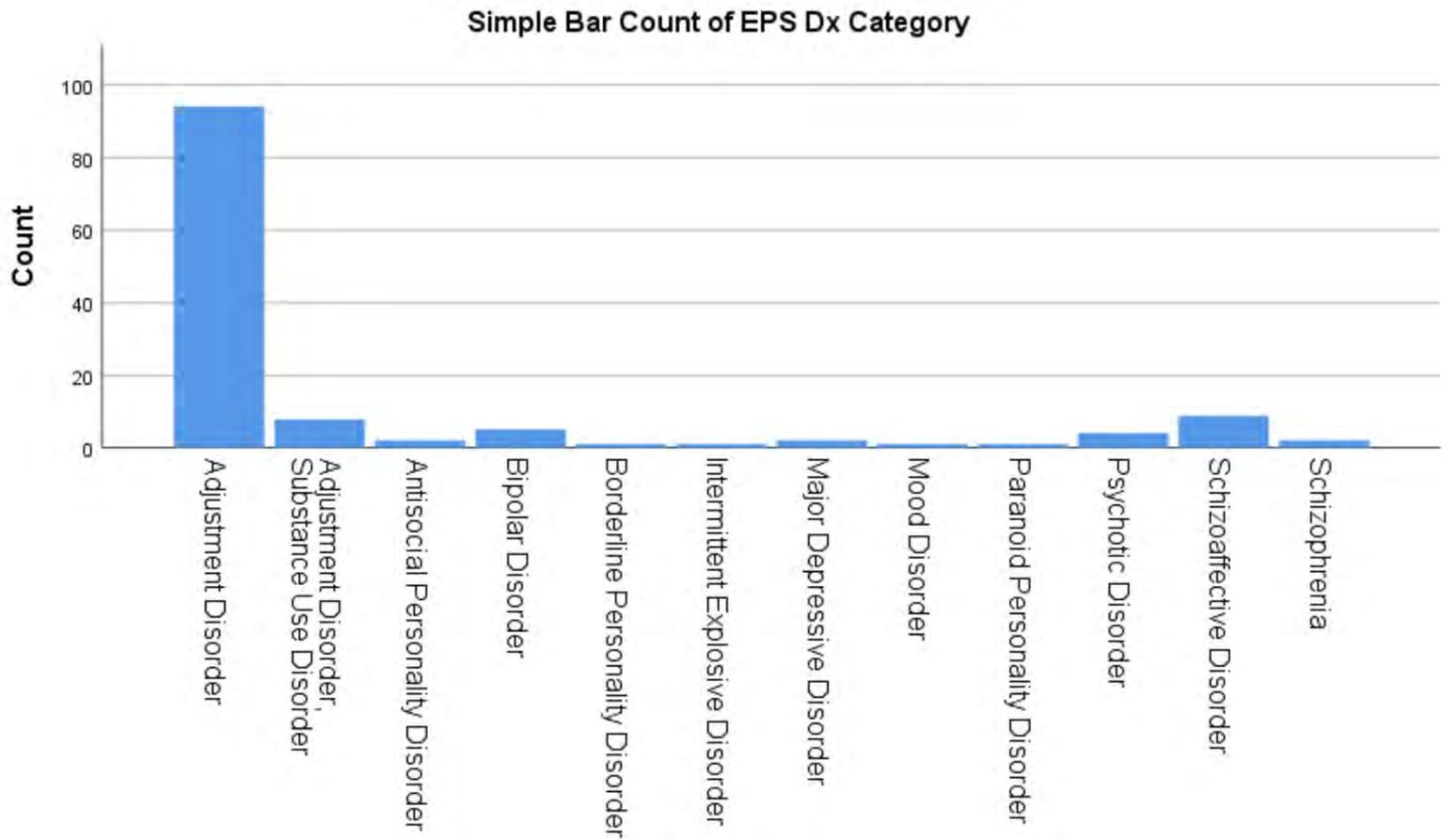
PatientGenderPatient.13

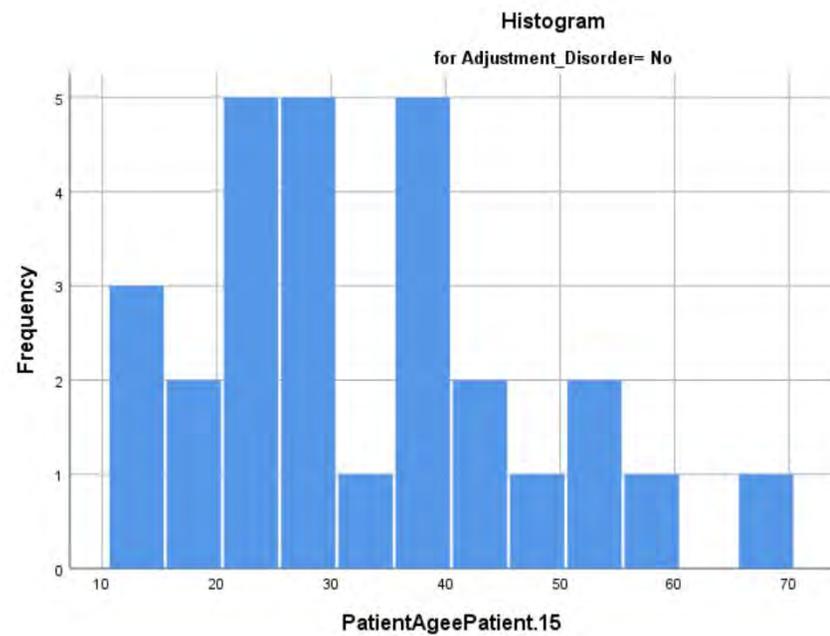
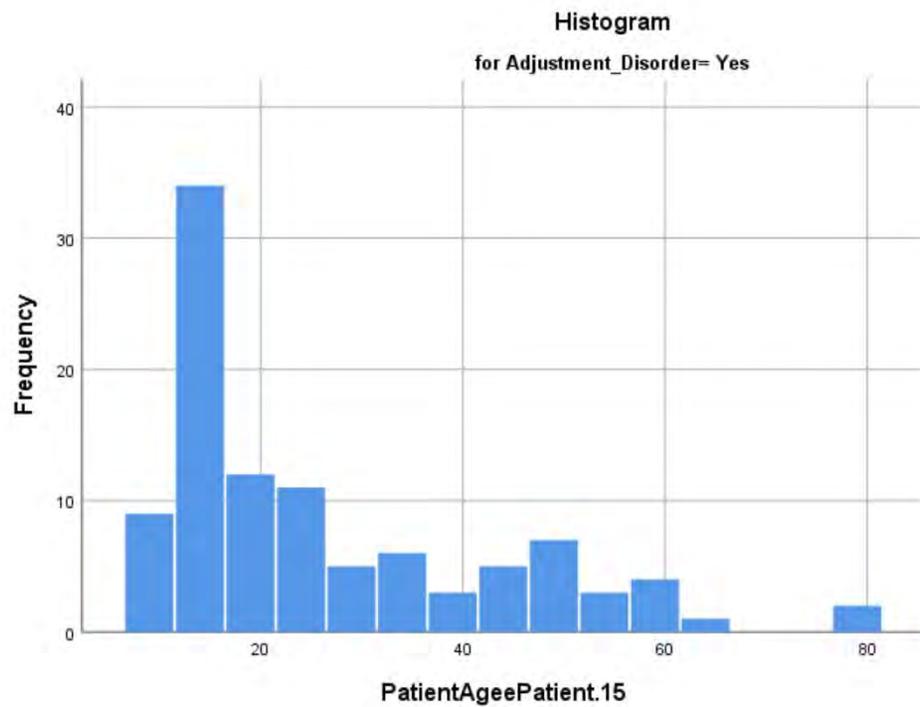
		Frequency	Percent
Valid	Female	79	44.4
	Male	99	55.6
Total		178	100.0

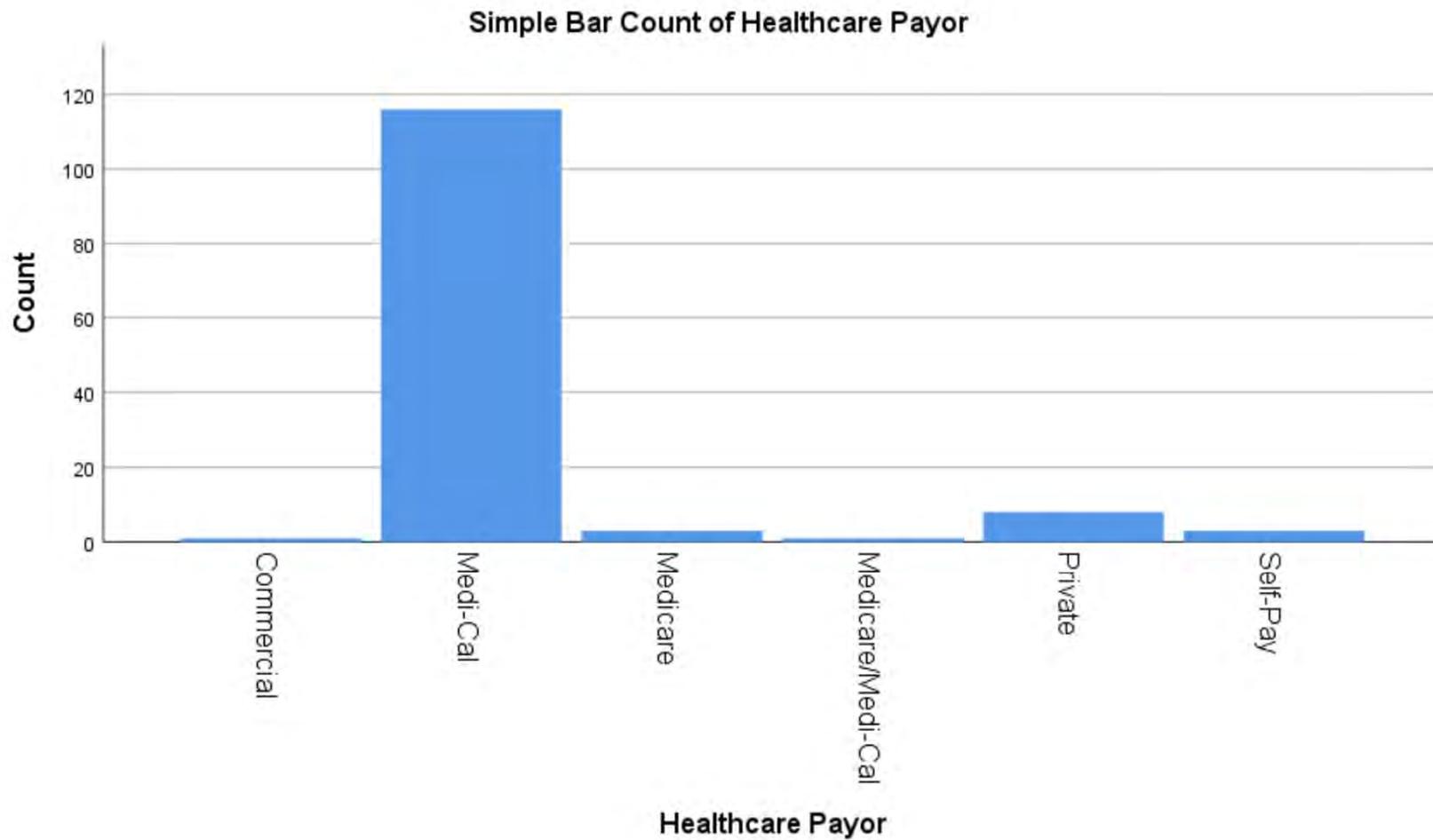


Transferred to VMC ED

		Percent
Valid	No	95.2
	Yes	4.8







Study Observations

Safety

- <5% of patients transferred to an ED
- All for medical screening exams
- No hospital admissions

Axis I/Axis II Diagnoses

- Adjustment Disorder predominant diagnosis (78%)
- Younger patients: Median age 26 years (IQR 19-36)
- Substance Use Disorder (11% in addition to other diagnoses)
- Alcohol median age 59, cannabis median age 20, methamphetamine median age 54

Alternative treatment sites other than acute care hospital emergency departments is feasible

- Alternative solutions to 5150 hold also seems feasible

Attempts at Legislation

CA Legislature 2017 & 2018: Senate & Assembly Bills

- Inclusive of all current Pilot Projects
- Specific to behavioral crisis and sobering center
- Variable stakeholder group support and opposition
- All failed
- Legislation followed by regulations necessary to move pilot projects into broader EMS practice

AB 1544

- Alternate Destination Pilot Projects
- State and local project oversight groups
- Now a 2-year bill and is inactive

Update of Evaluation of California's Community Paramedicine Pilot Program

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Abstract / Overview

Community paramedicine, also known as mobile integrated health (MIH-CP), is an innovative model of care that seeks to improve the effectiveness and efficiency of health care delivery by using specially trained paramedics in partnership with other health care providers to address the needs of local health care systems. In November 2014, the California Office of Statewide Health Planning and Development (OSHPD) approved an application from the California Emergency Medical Services Authority to establish a Health Workforce Pilot Project, which has encompassed 20 projects in 14 communities across California, testing seven different community paramedicine concepts. Fifteen projects are currently enrolling patients. Five of the initial projects have closed for various reasons. One project suspended operations in December 2017 but began enrolling patients again in June 2019. Two new projects launched in June 2019.

The Philip R. Lee Institute for Health Policy Studies and Healthforce Center at UC San Francisco are conducting an independent evaluation of these projects. This report presents findings through March 31, 2019, for projects currently enrolling patients and projects that have closed. The evaluators conclude that Californians benefit from these innovative models of health care that leverage an existing workforce operating at all times under medical control – either directly or by protocols developed by physicians experienced in emergency care. The projects have improved coordination among providers of medical, behavioral health, and social services and reduced preventable ambulance transports, emergency department visits, and hospital readmissions. They have not resulted in any adverse outcomes for patients. This report presents a summary of major findings from the evaluation for policymakers. All data submitted by project sites are reported to OSHPD on a quarterly basis.

Acknowledgements

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Research Report

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The mission of Healthforce Center is to equip health care organizations with the workforce knowledge and leadership skills to effect positive change.

Executive Summary

Community paramedicine, also known as mobile integrated health (MIH-CP), is an innovative model of care that seeks to improve the effectiveness and efficiency of health care delivery by using specially trained paramedics in partnership with other health care providers to address the needs of local health care systems.

On November 14, 2014, the California Office of Statewide Health Planning and Development (OSHPD) approved an application from the California Emergency Medical Services Authority to establish a Health Workforce Pilot Project (HWPP #173) to test multiple community paramedicine concepts. OSHPD has since renewed the HWPP for one-year periods in 2015, 2016, 2017, and 2018. The community paramedicine HWPP has encompassed 20 projects in 14 communities across California, testing seven different community paramedicine concepts. Fifteen projects are currently enrolling patients, including seven projects launched in 2015, one launched in 2017, four launched in 2018, and two launched in 2019. Five of the initial projects have closed for various reasons. One project suspended operations in December 2017, but began enrolling patients again in June 2019.

The HWPP regulations require organizations that sponsor pilot projects to retain an independent evaluator to assess trainee performance, patient acceptance, and cost-effectiveness. The Philip R. Lee Institute for Health Policy Studies and Healthforce Center at UC San Francisco are conducting the evaluation, funded by the California Health Care Foundation.

This report presents a summary of major findings from the evaluation for policymakers. All data submitted by project sites are reported to OSHPD on a quarterly basis. The report presents findings from the time the initial group of pilot projects began enrolling patients (June 2015 to October 2015) through March 2019.

The seven community paramedicine concepts that sites are testing are described below:

1. **Post-Discharge – Short-Term Follow-Up:** Provide short-term, home-based follow-up care to people recently discharged from a hospital due to a chronic condition (e.g., heart failure) to reduce their risk of readmission and improve their ability to manage their condition.
2. **Frequent Emergency Medical Services (EMS) User:** Provide case management services to people who are frequent 911 callers and frequent visitors to emergency departments (EDs) to identify needs that could be met more effectively outside of an ED, and assist patients in accessing primary care, mental health services, substance use disorder treatment, and non-medical services, such as housing, and food.
3. **Directly Observed Therapy for Tuberculosis:** In collaboration with a public health agency, provide directly observed therapy (DOT) to people with tuberculosis (i.e., dispense medications and observe patients taking them) to ensure effective treatment of tuberculosis and prevent its spread.
4. **Hospice:** In response to 911 calls made by or on behalf of hospice patients, collaborate with hospice agency nurses, patients, and family members to treat patients in their homes according to their wishes instead of transporting them to an ED.
5. **Alternate Destination – Mental Health:** In response to 911 calls, offer people who have mental health needs but no acute medical needs transport directly to a mental health crisis center instead of to an ED with subsequent transfer to a mental health facility.
6. **Alternate Destination – Urgent Care:** In response to 911 calls, offer people with low-acuity medical conditions transport to an urgent care center for evaluation by a physician instead of to an ED.
7. **Alternate Destination – Sobering Center:** In response to 911 calls, offer people who are acutely intoxicated but do not have an acute medical or mental health needs transport directly to a sobering center for monitoring instead of to an ED.

Key findings are as follows.

Status of Pilot Projects

- The pilot projects enrolled 6,150 persons through March 31, 2019.
- Thirteen pilot projects were launched from June through October of 2015.
- Four more projects began enrolling patients in 2017 or 2018.
- The City of Los Angeles' Alternate Destination – Mental Health and Alternate Destination – Sobering Center projects began enrolling patients during the last week of June 2019.
- San Diego's Frequent EMS User project suspended operations in December 2017 due to a lack of funding, but relaunched in June 2019.
- Five projects have closed. Two Post-Discharge – Short-Term Follow-Up projects closed due to lack of local resources. The three Alternate Destination – Urgent Care projects closed due to low enrollment.

Post-Discharge – Short-Term Follow-Up

- From June 2015 through March 2019, the five Post-Discharge – Short-term Follow-Up projects have enrolled 1,758 patients. Butte's project had the largest enrollment (1,001 patients), and Alameda's had the smallest (130 patients).
- Four Post-Discharge – Short-term Follow-Up projects (Alameda, San Bernardino-Rialto, Solano, and UCLA) provided at least one home visit to every patient since they were launched in 2015. From July 2015 through October 2017, Butte's project provided a telephone call to every patient and provided a home visit to only a subset of patients. Effective November 2017, Butte changed its protocol to provide at least one home visit to every patient.
- The Post-Discharge – Short-term Follow-Up projects have improved patient safety by performing home visits within a few days of a patient's hospital discharge to ensure that patients understand their discharge instructions, are taking medications as prescribed, have sufficient refills to manage their conditions, have scheduled follow-up visits with their physicians, and are adhering to any dietary restrictions pertinent to management of their condition.
- All five Post-Discharge – Short-term Follow-Up projects have had all-cause 30-day readmission rates for persons with one or more of the chronic conditions they target that are below the partner hospital's historical readmission rate. Butte's heart failure patients were the only group whose all-cause 30-day readmission rate was higher than the historical rate. In response to these findings, Butte changed its protocol in November 2017 to provide at least one home visit to every patient, but its readmission rate for patients with heart failure did not decrease.
- Through March 2019, the five Post-Discharge – Short-term Follow-Up projects avoided potential costs of approximately \$1.3 million, the majority of which (61%) would accrue to Medicare. Participating hospitals also reduced their risk of incurring Medicare penalties for excessive readmissions.

Frequent EMS User

- The City of Alameda and the City of San Diego launched Frequent EMS User pilot projects in 2015. A new Frequent EMS User project sponsored by the San Francisco Fire Department began enrolling patients in September 2018.
- San Diego's Frequent EMS User project did not enroll new patients from December 2016 through May 2019, because the community paramedics working on the project were reassigned to traditional 911 response crews. The project began enrolling new patients again in June 2019.
- The three Frequent EMS User projects have enrolled 260 persons from July 2015 through March 2019.
- The Frequent EMS User projects have achieved large reductions in the number of times enrolled patients called 911 and were transported to an ED.
- Frequent EMS User projects have linked patients to organizations that provide primary care, dental care, mental health services, substance abuse treatment, food, housing assistance, transportation assistance, and other services that can address their needs more effectively than the EMS system.
- The three Frequent EMS User projects have avoided potential costs of approximately \$1 million by reducing 911 calls, ambulance transports, and ED visits. San Diego and San Francisco's projects also potentially reduced the amount of uncompensated care provided by ambulance services and EDs because large percentages of the patients enrolled in these projects were uninsured.

Directly Observed Therapy for Tuberculosis

- The tuberculosis (TB) project enrolled 49 persons from June 2015 through March 2019. Most persons are enrolled for multiple months because treatment for TB typically spans six to nine months.
- Community paramedics dispensed appropriate doses of TB medications, and their TB patients did not experience side effects any more frequently than typically associated with TB treatment.
- Twelve patients were admitted to a hospital in the period during which the project has been in operation, but only one patient was hospitalized for TB. This patient needed intravenous medication to treat TB meningitis, which had been diagnosed prior to enrollment in the program.
- People with TB who received DOT from community paramedics were more likely to receive all doses of TB medication prescribed by the TB clinic physician than people who received DOT from the TB clinic's staff, probably because community paramedics operated throughout the county and were available 24 hours per day, 7 days per week.

Hospice

- The Hospice project enrolled 363 persons between August 2015 and March 2019.
- The Hospice project reduced the likelihood that patients who preferred treatment at home were transported to an ED, which could result in loss of hospice benefits. No patients were denied transport to an ED when it was indicated and consistent with the patient's preference.

- Among hospice patients enrolled in the pilot project, the percentage of 911 calls that resulted in transport to an ED decreased from 80% to 27%.
- The Hospice project avoided potential costs of \$291,841 by reducing ambulance transports and ED visits.

Alternate Destination – Mental Health

- The three Alternate Destination – Mental Health projects enrolled 2,045 persons between September 2015 and March 2019.
- The City of Los Angeles launched an Alternate Destination – Mental Health project in late June 2019 and will be included in subsequent updates to this report.
- Across the three Alternate Destination – Mental Health projects, 28% to 45% of patients screened were transported to the mental health crisis center rather than an ED. In Stanislaus County, an additional 27% could have been transported to the crisis center if the county had more inpatient psychiatric beds or if the crisis center accepted people with private insurance or Medicare.
- Transport of these patients directly to a mental health crisis center has reduced the number of persons in EDs who need only mental health services, which can help reduce ED overcrowding.
- Only 2% of patients enrolled in the three Alternate Destination – Mental Health projects (n = 47) were transferred from the mental health crisis center to an ED within six hours of admission. None of the transfers involved a life-threatening condition, and only four of the patients transferred to an ED were admitted for inpatient medical care.
- In addition to responding to 911 calls regarding mental health emergencies, the community paramedics in Stanislaus County screen “walk-in” clients, who come to the mental health crisis center on their own or who are brought by friends or family, to determine whether they have any medical conditions that might necessitate transport to an ED instead of direct admission to the crisis center.
- Law enforcement officers in Stanislaus County report that having community paramedics available enhances their ability to respond effectively to persons with mental illness.
- The three Alternate Destination – Mental Health projects avoided potential costs of \$2.2 million by reducing the number of 911 calls that resulted in an ED visit and subsequent transport of a patient from an ED to an inpatient psychiatric facility.

Alternate Destination – Urgent Care

- The three Alternate Destination – Urgent Care projects enrolled 48 persons from September 2015 through November 2017.
- One of the Alternate Destination – Urgent Care projects closed in May 2017, and the other two projects closed in November 2017.
- Enrollment in the Alternate Destination – Urgent Care projects was substantially lower than anticipated because fewer 911 calls than expected met the strict inclusion criteria and many calls for eligible patients

occurred at times of the day during which urgent care centers were closed. In addition, clinicians at urgent care centers were reluctant to treat some conditions, such as a dislocated shoulder, that could be treated safely and effectively in that setting.

- Most patients enrolled had a laceration or an isolated closed extremity injury.
- During the time period in which the Alternate Destination – Urgent Care projects enrolled patients, two patients (4%) were transferred from an urgent care center to an ED within six hours of arrival at the urgent care center. Nine patients (19%) were transported to an urgent care center and then rerouted to an ED because clinicians at the urgent care center declined to treat the patient.

Alternate Destination – Sobering Center

- San Francisco's Alternate Destination – Sobering Center project enrolled 1,627 persons from February 2017 through March 2019. Two hundred and thirty-three patients (14%) were treated at the sobering center more than once.
- 97.9% of patients enrolled in the Alternate Destination – Sobering Center project were treated safely and effectively at the sobering center. Only 34 patients (2%) were transferred to an ED within six hours of admission to the sobering center, and only two (0.1%) were rerouted from the sobering center to an ED because registered nurses at the sobering center declined to accept them. Only two patients were admitted to a hospital for inpatient medical care.
- Community paramedics participating in the project provide feedback to paramedics on 911 crews on how to screen acutely intoxicated persons to determine if they are candidates for transfer to the sobering center. They are also collaborating with homeless outreach workers to encourage people who use the sobering center frequently to seek treatment for chronic alcoholism, housing, and other services.
- San Francisco's Alternate Destination – Sobering Center project avoided potential costs of \$551,257 by replacing ED visits with sobering center services. The majority of potential savings accrued to Medi-Cal because the majority of patients enrolled in the project are Medi-Cal beneficiaries.
- The Santa Clara County EMS Agency and the Gilroy Fire Department launched a new Alternate Destination – Sobering Center project in June 2018, but the project had not enrolled any patients as of March 2019.
- The City of Los Angeles launched an Alternate Destination – Mental Health project in late June 2019 and will be included in subsequent updates to this report.

Conclusion

The community paramedicine pilot projects have demonstrated that specially trained paramedics can provide services beyond their traditional and current statutory scope of practice in California. No adverse outcome is attributable to any of these pilot projects. The projects are enhancing patients' well-being by improving the coordination of medical, behavioral health, and social services, and reducing ambulance transports, ED visits, and hospital readmissions. The majority of potential savings associated with these pilot projects accrued to Medicare and Medi-Cal and hospitals that care for Medicare and Medi-Cal beneficiaries because Medicare and Medi-Cal beneficiaries accounted for the largest share of persons enrolled in the pilot projects.

These pilot projects integrate with existing health care resources and utilize the unique skills of paramedics and their availability 24 hours per day, 7 days per week. The pilot projects have not displaced any other health professionals. Instead, they have demonstrated that community paramedics can collaborate with physicians, nurses, behavioral health professionals, and social services workers to fill gaps in the health and social services safety net. The community paramedics operate at all times under medical control – either directly or by protocols developed by physicians experienced in EMS and emergency care.

Research conducted to date indicates that community paramedicine programs are improving the effectiveness and efficiency of the health care system. Findings from this research also suggest that the benefits of community paramedicine programs grow as they mature, solidify partnerships, and find their optimal structure and niche within a community. The evaluation of HWPP #173 yields consistent findings for six of the seven community paramedicine concepts tested. The Post-Discharge – Short-term Follow-Up, Frequent EMS User, Directly Observed Therapy for Tuberculosis, Hospice, Alternate Destination – Mental Health, and Alternate Destination – Sobering Center projects have improved patients' well-being and, in most cases, have potentially increased health care value by yielding potential savings for payers and other parts of the health care system. The seventh concept, Alternate Destination – Urgent Care, shows potential, but further research involving a larger volume of patients transported to urgent care centers with wider ranges of services and expanded hours is needed to draw definitive conclusions.

If California implements community paramedicine on a broader scale, the current EMS system design is well suited to utilize the results of these pilot programs to optimize the design and implementation of proposed programs and to ensure effectiveness and patient safety. The two-tiered system enables cities and counties to design and administer community paramedicine programs to meet local needs, while both local and state oversight and regulation ensure patient safety.

Introduction

Community paramedicine (CP), also known as mobile integrated health (MIH-CP), is an innovative model of care that seeks to improve the effectiveness and efficiency of health care delivery by using specially trained paramedics in partnership with other health care providers to address identified patient needs in local health care systems. Community paramedics receive additional training beyond that required for licensure and provide care outside of their traditional role, which in California is restricted to responding to 911 calls, treating patients at the scene of an emergency, transporting patients to emergency departments (EDs), and inter-facility transfers.¹ They are supervised by physicians and nurses who work for the emergency medical services (EMS) agencies that employ them and by staff of the health care and community service agencies with which their EMS agencies partner. According to a survey conducted by the National Association of Emergency Medical Technicians, in 2017 there were 129 MIH-CP programs in 34 states and the District of Columbia.²

On December 19, 2013, the California Emergency Medical Services Authority (EMSA) submitted an application to the California Office of Statewide Health Planning and Development (OSHPD) for a Health Workforce Pilot Project (HWPP) to evaluate community paramedicine. In 1972, California established the HWPP program (HSC §§ 128125-128195), which was originally called the Health Manpower Pilot Projects program, to enable health care organizations to test and evaluate innovative models of care that utilize health professionals in new roles. An HWPP is necessary to establish community paramedicine initiatives in California because the sections of the Health and Safety Code that govern paramedic scope of practice (HSC §§ 1797.52, 1797.218) limit the settings where paramedics can provide services and the destinations to which they can transport patients. OSHPD approved HWPP #173 on November 14, 2014, for one year and renewed approval for additional one-year periods in 2015, 2016, 2017, and 2018.

The HWPP regulations require organizations that sponsor pilot projects to retain an independent evaluator to assess trainee performance, patient acceptance, and cost-effectiveness. A team of evaluators at the Philip R. Lee Institute for Health Policy Studies and Healthforce Center at UC San Francisco serves as the independent evaluator for HWPP #173. The California Health Care Foundation funds the evaluation.

This report presents a summary of major findings from the evaluation for policymakers. All data submitted by the project sites are reported to OSHPD on a quarterly basis.

Overview of California Community Paramedicine Pilot Projects

The community paramedicine HWPP has encompassed 20 projects in 14 communities across California. Fifteen projects are currently enrolling patients. Five of the original projects have closed. One project suspended operations in December 2017, but relaunched in June 2019. A map that displays the locations of projects that are currently enrolling patients can be found in Appendix A.

This report addresses the 12 projects that were enrolling patients as of March 2019 plus the five projects that have closed and the one that was suspended. It covers all projects from the time they launched through March 2019. Launch dates for individual projects can be found in Table 1 on page 16.

These projects are testing seven different concepts for the practice of community paramedicine:

1. **Post-Discharge – Short-Term Follow-Up:** Provide short-term, home-based follow-up care to people recently discharged from a hospital due to a chronic condition (e.g., heart failure) to reduce their risk of readmission and improve their ability to manage their condition.
2. **Frequent EMS User:** Provide case management services to people who are frequent 911 callers and frequent visitors to EDs to identify needs that could be met more effectively outside of an ED, and assist

patients in accessing primary care mental health services, substance use disorder services, housing, food assistance, and other social services.

3. **Directly Observed Therapy for Tuberculosis:** In collaboration with a public health agency, provide directly observed therapy (DOT) to people with tuberculosis (i.e., dispense medications and observe patients taking them) to ensure effective treatment of tuberculosis and prevent its spread.
4. **Hospice:** In response to 911 calls made by or on behalf of hospice patients, collaborate with hospice agency nurses, patients, and family members to treat patients in their homes according to their wishes instead of transporting them to an ED.
5. **Alternate Destination – Mental Health:** In response to 911 calls, offer people who have mental health needs but no acute medical needs transport directly to a mental health crisis center instead of to an ED with subsequent transfer to a mental health facility.
6. **Alternate Destination – Urgent Care:** In response to 911 calls, offer people with low-acuity medical conditions transport to an urgent care center for evaluation by a physician instead of to an ED.
7. **Alternate Destination – Sobering Center:** In response to 911 calls, offer people who are acutely intoxicated but do not have an acute medical or mental health needs transport directly to a sobering center for monitoring instead of to an ED.

All sites obtained approval from an institutional review board (IRB) and enrolled patients following consent procedures stipulated by the IRB.

Training of Community Paramedics

Paramedics were eligible for training to perform new roles as community paramedics if they had at least four years of experience, volunteered to participate in the pilot, and were sponsored by their local EMS authority. The State of California Community Paramedic Educational Taskforce developed a core curriculum that OSHPD reviewed and approved. The curriculum was adapted from the Paramedic Foundation's National Community Paramedic Curriculum to better align with the standards and requirements of practice in California. The curriculum included 48 hours of didactic, classroom-based instruction and 48 hours of clinical, hands-on training, for a total of 96 hours of instruction. Community paramedic trainees were additionally required to complete 56 hours of study outside the classroom, which included required readings and other assignments. All paramedics who participate in the Post-Discharge – Short-Term Follow-Up, Frequent EMS User, Directly Observed Therapy for Tuberculosis, and Hospice projects and Stanislaus' Alternate Destination – Mental Health project completed this core curriculum.

The site supervisors from Alternate Destination – Urgent Care projects and paramedics recruited to coordinate San Francisco's Alternate Destination – Sobering Center project, Fresno's Alternate Destination – Mental Health project, Gilroy/Santa Clara's Alternate Destination – Mental Health and Alternate Destination – Sobering Center projects, and Los Angeles' Alternate Destination – Mental Health and Alternate Destination – Sobering Center projects were required to complete the core curriculum. At these pilot sites, all other paramedics in the system received training focused on (1) screening patients according to a protocol to determine if they would be eligible to enroll in the pilot, and (2) the procedures for enrolling patients who agree to be transported to a mental health crisis center, a sobering center, or an urgent care center. This approach was pursued because these concepts focus on clinical decision-making in the field regarding where to transport a patient. This is routine practice for paramedics, who must identify which patients to take to specialty care centers, such as stroke and trauma centers, that may not be the closest ED.

The first cohort of community paramedics consisted of 79 paramedics who were enrolled in the core curriculum and site-specific coursework during the first quarter of 2015. Two of the 79 paramedics were unable to complete the training for nonacademic reasons. All of the 77 paramedics who completed the core curriculum passed a written final examination, a simulated patient scenario examination, and an oral examination by the pilot site's medical director. Since then, three sites (Solano, Stanislaus, and Ventura) have trained 12 additional community paramedics to expand their programs or replace paramedics who have left their agencies or were promoted to other positions. San Francisco trained 10 community paramedics prior to the launch of its Alternate Destination – Sobering Center pilot project in February 2017. These same 10 community paramedics serve patients enrolled in San Francisco's Frequent EMS User project, which launched in September 2018. Fresno and Santa Clara each trained 10 community paramedics prior to launching their pilot projects in 2018. The City of Los Angeles Fire Department trained 14 community paramedics prior to launching its two pilot projects in June 2019.

Patient Safety

Multiple procedures to ensure patient safety are incorporated into all levels of the pilot projects. Every project has a project manager; a medical director, who is an emergency medicine physician; and a quality assurance officer, who is most often a registered nurse with specialty in emergency medicine. Community paramedics have real-time access to physicians and registered nurses for consultation. Each project conducts a retrospective review of all patient encounters. In addition, each project has a local steering committee that approves protocols and reviews data on project outcomes. A statewide steering committee has oversight over all the projects and reviews quarterly reports from the sites. Sites are also required to report unusual occurrences to EMSA's project manager. The independent evaluator reviews data provided by sites for the evaluation and raises any concerns about patient safety that emerge from the data reported. Finally, OSHPD staff review the protocols and performance of the pilot sites and raise any patient safety issues they identify.

Funding

Funding for the pilot sites was provided primarily through in-kind services or funds from fire departments or approved operating budgets of private providers of EMS services. Two sites – Orange County's Alternate Destination – Urgent Care project and Solano's post-discharge project – received grants from health care systems that participated in their pilot projects.

Methods

Information presented in this report was obtained from multiple sources. Each of the pilot sites used a standardized, online data collection tool to report data to the independent evaluator on a quarterly basis. Metrics for which data were collected included numbers of people enrolled, characteristics of enrollees, and outcomes of community paramedic services, including patient safety outcomes. Sites also reported information about people who were eligible for their projects but not enrolled.

Estimates of potential savings for payers were derived from data that each site reported on the cost of ambulance transports, and from existing sources of data on the cost of ED visits and inpatient hospital admissions. Appendix B contains details about the methods the evaluation team used to estimate potential savings. It is important to note that the evaluation was not designed to be a cost-effectiveness analysis that compares the costs and effects of community paramedics to other alternatives. With the exception of the Directly Observed Therapy for Tuberculosis concept, the services that community paramedics provide under the pilots differ from services furnished by other health care providers in their communities. Thus, the evaluation team concluded that an analysis of potential savings associated with the projects would be more informative.

The team collected data on the cost of operating the community paramedicine pilot projects. These data were reported in the initial public report and are not included in this update to the public report for two reasons. First, standardizing cost data across sites proved difficult due to differences in how projects were staffed (e.g., full-time community paramedics vs. paramedics who both provide community paramedicine services and respond to 911 calls), the generosity of employee benefits (e.g., pension vs. 401[k] plan), and the allocation of costs for vehicles and medical supplies. Second, the community paramedicine pilot projects are not authorized to bill for the services they provided. All costs for paramedic salaries, benefits, vehicles, and medical supplies are borne by the agencies that operate the pilot projects. Thus, at present payers do not bear any of the costs associated with these projects, although that could change in the future if private payers choose to pay for community paramedicine services or legislation is enacted that authorizes Medi-Cal or Medicare to pay for these services.

Evaluation team members conducted site visits at all project sites except for the two projects in the City of Los Angeles that launched in June 2019. A site visit to these projects will be conducted in fall 2019. The site visits consisted of interviews with EMS agency leaders, project managers, community paramedics, and representatives of hospitals and other partner agencies. The purpose of the site visits is to obtain a better understanding of how the projects operate and to hear the perspectives of multiple stakeholders. The site visits were augmented with conference calls with EMSA's project manager and the site-level project managers. The evaluation team also reviewed minutes of local steering committee meetings and reports that site-level project managers submitted to EMSA's project manager.

This evaluation focuses solely on the community paramedicine pilot projects and does not take into account other changes in health care delivery that may have affected the outcomes observed. This caveat is particularly important for the post-discharge projects. Since Medicare began imposing penalties on hospitals with "excessive" 30-day readmission rates in federal fiscal year 2013,³ hospitals have deployed multiple strategies to reduce readmissions. These strategies include utilizing registered nurses to provide intensive discharge planning, patient education, and telephone support to patients following hospital discharge.³ To the extent that hospitals participating in the post-discharge pilot projects utilize other strategies to reduce readmissions, it is possible that the findings of the evaluation are due to those strategies and not the post-discharge community paramedicine

³Medicare penalizes hospitals that have 30-day readmission rates that exceed the national average adjusted for characteristics of patients who were readmitted and characteristics of the entire population of patients that a hospital serves. Hospitals that exceed this benchmark receive a 3% penalty across all Medicare admissions regardless of whether they resulted in a readmission within 30 days. Boccuti, C., and G. Casillas. Aiming for Fewer Hospital U-Turns: The Medicare Hospital Readmission Reduction Program. Menlo Park, CA: Kaiser Family Foundation, March 2017. <http://files.kff.org/attachment/Issue-Brief-Fewer-Hospital-U-turns-The-Medicare-Hospital-Readmission-Reduction-Program>.

pilot projects. Recent research by the Medicare Payment Advisory Commission (MedPAC) suggests that hospitals nationwide are not responding to the Medicare penalties by treating patients in EDs or admitting them for observation instead of readmitting them for inpatient care, because increases in observation stays and ED visits have been smaller than the decrease in readmissions and have not differed between patients who were recently admitted and patients who were not recently admitted.⁴

Results

The results section begins with a summary of major findings related to all seven community paramedicine concepts. The summary is followed by a discussion of major findings regarding key metrics relevant to individual community paramedicine concepts.

Highlights

- Collectively, the community paramedicine pilot projects enrolled 6,150 people from June 2015 through March 2019.
- The Alternate Destination – Mental Health projects have enrolled the largest number of persons, and the Alternate Destination – Urgent Care projects had the smallest enrollment.
- Two new projects opened in 2019:
 - Los Angeles’ Alternate Destination – Mental Health project
 - Los Angeles’ Alternate Destination – Sobering Center project
- San Diego’s Frequent EMS User project suspended operations in December 2017 but relaunched in June 2019.
- Five projects have closed
- The majority of patients enrolled in the projects were Medicare or Medi-Cal beneficiaries.

General Project Status

Table 1 lists the lead agencies for each pilot project operated under the auspices of HWPP #173, the concept tested, the date on which the project began enrolling patients, and the total number of patients enrolled from the time each project began through March 31, 2019. The longest-running projects, Alameda’s Post-Discharge – Short-Term Follow-Up project and Ventura’s Directly Observed Therapy for Tuberculosis project, began enrolling patients in June 2015. The newest project included in this report, San Francisco’s Frequent EMS User project, began enrolling patients in September 2018. San Diego’s project suspended operations in December 2017 due to lack of funding but was relaunched in June 2019. The City of Los Angeles launched two new projects in June 2019 – an Alternate Destination – Mental Health project and an Alternate Destination - Sobering Center project - that will be discussed in subsequent updates to this report. Five projects have closed for various reasons.

Collectively, the projects enrolled 6,150 people from June 2015 through March 2019. The number of people enrolled per project ranged from a low of two for the City of Carlsbad’s Alternate Destination – Urgent Care project to a high of 1,627 for San Francisco’s Alternate Destination – Sobering Center project. Projects testing the Alternate Destination – Mental Health concept

enrolled the largest number of patients (2,045 patients). The Alternate Destination – Urgent Care projects and the Directly Observed Therapy for Tuberculosis projects enrolled the smallest numbers of patients (48 and 49 patients, respectively).

Table 1. Pilot Sites, Community Paramedicine Concepts, and Enrollment through Third Quarter 2018

Community Paramedicine Concept	Lead Agency	Date Implemented	Total Patients Enrolled
Post-Discharge – Short-Term Follow-Up	Alameda City EMS	June 1, 2015	130
Post-Discharge – Short-Term Follow-Up	Butte County EMS	July 1, 2015*	1,001
Post-Discharge – Short-Term Follow-Up	San Bernardino County and Rialto Fire Depts.	August 13, 2015	228
Post-Discharge – Short-Term Follow-Up	UCLA Center for Prehospital Care	September 1, 2015†	154
Post-Discharge – Short-Term Follow-Up	Medic Ambulance Solano	September 15, 2015	245
All Post-Discharge – Short-Term Follow-Up Projects			1,758
Frequent EMS User	Alameda City EMS	July 1, 2015	80
Frequent EMS User	City of San Diego	October 12, 2015‡	46
Frequent EMS User	San Francisco Fire Dept.	September 12, 2018	134
All Frequent EMS User Projects			260
Directly Observed Therapy for Tuberculosis	Ventura County EMS	June 1, 2015	49
Hospice	Ventura County EMS	August 1, 2015	363
Alternate Destination – Mental Health	Mountain Valley – Stanislaus EMS	September 25, 2015	367
Alternate Destination – Mental Health	Santa Clara County EMS	June 6, 2018	58
Alternate Destination – Mental Health	Central California EMS	July 30, 2018	1,620
All Alternate Dest. – Mental Health Projects			2,045
Alternate Destination – Urgent Care	UCLA Center for Prehospital Care	September 8, 2015§	12
Alternate Destination – Urgent Care	Orange County Fire Chiefs	September 14, 2015	34
Alternate Destination – Urgent Care	Carlsbad Fire Dept.	October 9, 2015	2
All Alternate Dest. – Urgent Care Projects			48
Alternate Destination – Sobering Center	San Francisco Fire Dept.	February 1, 2017	1,627
Alternate Destination – Sobering Center	Santa Clara County EMS	June 6, 2018	0
All Alternate Dest. – Sobering Center Projects			1,627
All Projects			6,150

*Ceased enrolling patients on November 14, 2018.

†Ceased enrolling patients on August 31, 2017.

‡Ceased enrolling new patients in December 2016. Suspended in December 2017. Relunched in June 2019.

§Ceased enrolling patients on May 31, 2017.

||Ceased enrolling patients on November 13, 2017.

Consistent with findings from the original evaluation report, the distribution of patients by health insurance status varied substantially across the 18 projects, in large part due to differences in the characteristics of the patients served. Medicare beneficiaries accounted for the largest percentage of patients enrolled by four of the five post-discharge projects (Alameda, Butte, Solano, and UCLA – Glendale), one of the Frequent EMS User projects (Alameda), and the Hospice project. For one of the post-discharge projects (San Bernardino), Medi-Cal beneficiaries constituted the largest share of enrollees, and Medicare beneficiaries accounted for the second-largest share. Medi-Cal beneficiaries and uninsured persons comprised the majority of patients enrolled in Ventura’s Directly Observed Therapy for Tuberculosis project, San Diego’s and San Francisco’s Frequent EMS User projects, Stanislaus’ and Santa Clara’s Alternate Destination – Mental Health projects, and San Francisco’s Alternate Destination – Sobering Center project. Many of the people whom these projects serve have mental illness, substance use disorders, or other conditions that limit their access to employer-sponsored health insurance. Persons who are dually eligible for Medicare and Medi-Cal are classified as Medicare beneficiaries because Medicare is responsible for paying the majority of costs associated with their hospitalizations, ED visits, and office visits. Table 2 displays these findings in tabular form, and Figure 1 displays them graphically.

Figure 1. Enrollees by Insurance Status through Third Quarter 2018 (n = 6,150)

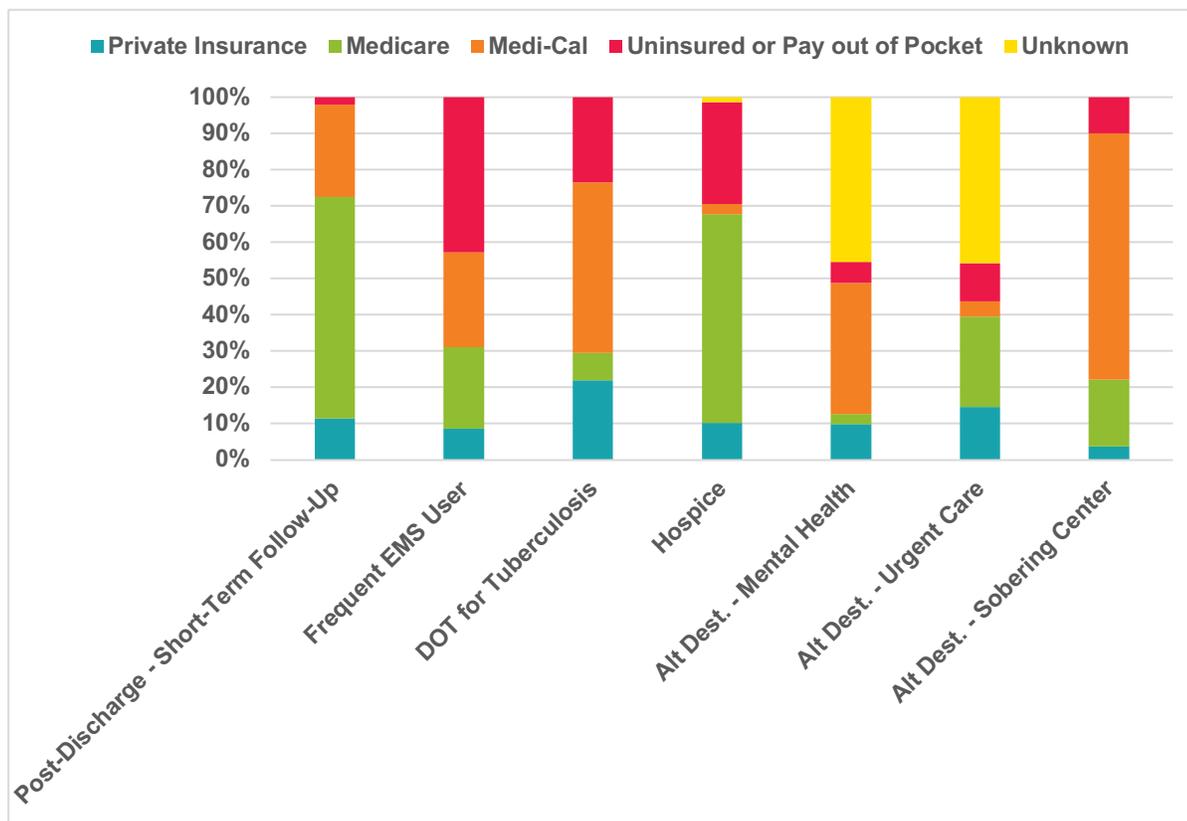


Table 2. Health Insurance Status of Enrolled Patients through First Quarter of 2019 (n = 6,150)

Community Paramedicine Concept	Lead Agency	% Private/ Commercial Insurance	% Medicare	% Medi-Cal	% Uninsured or Pay Out of Pocket	% Unknown	Total Persons Enrolled
Post-Discharge	Alameda City EMS	16%	51%	26%	7%	0%	130
Post-Discharge	Butte County EMS	13%	67%	20%	0%	0%	1001
Post-Discharge	San Bernardino County and Rialto Fire Depts.	8%	39%	46%	7%	0%	225
Post-Discharge	UCLA Center for Prehospital Care	7%	81%	11%	1%	0%	154
Post-Discharge	Medic Ambulance Solano	9%	50%	38%	3%	0%	245
Frequent EMS User	Alameda City EMS	15%	63%	20%	2%	0%	80
Frequent EMS User	City of San Diego	16%	14%	28%	43%	0%	46
Frequent EMS User	San Francisco Fire Dept.	2%	1%	29%	67%	0%	134
Tuberculosis	Ventura County EMS	22%	8%	47%	24%	0%	49
Hospice	Ventura County EMS	10%	58%	3%	0%	29%	363
Alternate Destination – Mental Health	Mountain Valley – Stanislaus EMS	1%	1%	81%	18%	0%	367
Alternate Destination – Mental Health	Santa Clara County EMS	28%	7%	12%	53%	0%	25
Alternate Destination – Mental Health	Central California EMS	11%	3%	27%	1%	57%	1,620
Alternate Destination – Urgent Care	UCLA Center for Prehospital Care	0%	8%	0%	0%	92%	12
Alternate Destination – Urgent Care	Orange County Fire Chiefs	15%	32%	6%	15%	32%	34
Alternate Destination – Urgent Care	Carlsbad Fire Dept.	100%	0%	0%	0%	0%	2
Alternate Destination – Sobering Center	San Francisco Fire Dept.	4%	19%	68%	10%	0%	1,627
Alternate Destination – Sobering Center	Santa Clara County EMS	No patients enrolled					

Post-Discharge, Short-Term Follow-Up

Highlights	Description
<ul style="list-style-type: none"> The Post-Discharge, Short-Term Follow-Up projects enrolled 1,758 persons from June 2015 through March 2019. Two of the post-discharge projects (Butte and UCLA – Glendale) have closed. All of the post-discharge projects reduced the rate of 30-day readmission for any cause for at least one of the diagnoses targeted. The four post-discharge projects that provided at least one home visit to all patients outperformed the project that initially relied primarily on telephone calls. Community paramedics identified 305 patients who needed instruction on how to use their medications correctly. The post-discharge projects potentially avoided \$1.3 million in costs by reducing hospital readmissions; most potential savings would have accrued to Medicare and Medi-Cal. 	<p>The goal of the five Post-Discharge, Short-Term Follow-Up projects is to reduce hospital readmissions for people discharged from a hospital for treatment of a chronic condition. A major impetus for the post-discharge projects is the Medicare Hospital Readmissions Reduction Program, under which Medicare reduces payments to hospitals if they have rates of readmission that are deemed excessive. The projects aim to give patients the tools to manage their conditions more effectively, so that they can avoid readmission. In collaboration with its partner hospital, each project identified one or more chronic condition to address. Once a project enrolls a patient, a telephone call or home visit with a community paramedic is scheduled. During the call or visit, the community paramedic assesses the patient and reviews the patient's discharge instructions per the site's protocols. Some projects also provide home safety inspections during home visits.</p> <p>The post-discharge projects worked with their partner hospitals to determine which conditions to target. UCLA – Glendale and San Bernardino-Rialto enroll only people with heart failure. Butte</p>

enrolled people with heart failure or acute myocardial infarction (AMI), and Solano enrolls people with heart failure or chronic obstructive pulmonary disease. Alameda enrolls people with heart failure, acute myocardial infarction, chronic obstructive pulmonary disease, diabetes, pneumonia, or sepsis.

The post-discharge projects provide short-term assistance during the immediate post-hospital period and do not replace home health care or any other services available to patients. The sites' protocols call for community paramedics to complete phone calls or visits within the first few days of hospital discharge. Some partner hospitals focus on enrolling uninsured persons and Medi-Cal beneficiaries who do not have insurance coverage for home health. In other cases, community paramedics serve a stopgap role by providing calls or home visits while patients wait to obtain home health services. Interviewees at partner hospitals consistently indicated that home health agencies in their communities often cannot schedule a home visit until one week after a patient is discharged from the hospital despite the fact that people are at the greatest risk of readmission during the first week after discharge. When community paramedics learn that a patient is receiving home health services, they coordinate with home health agency staff.

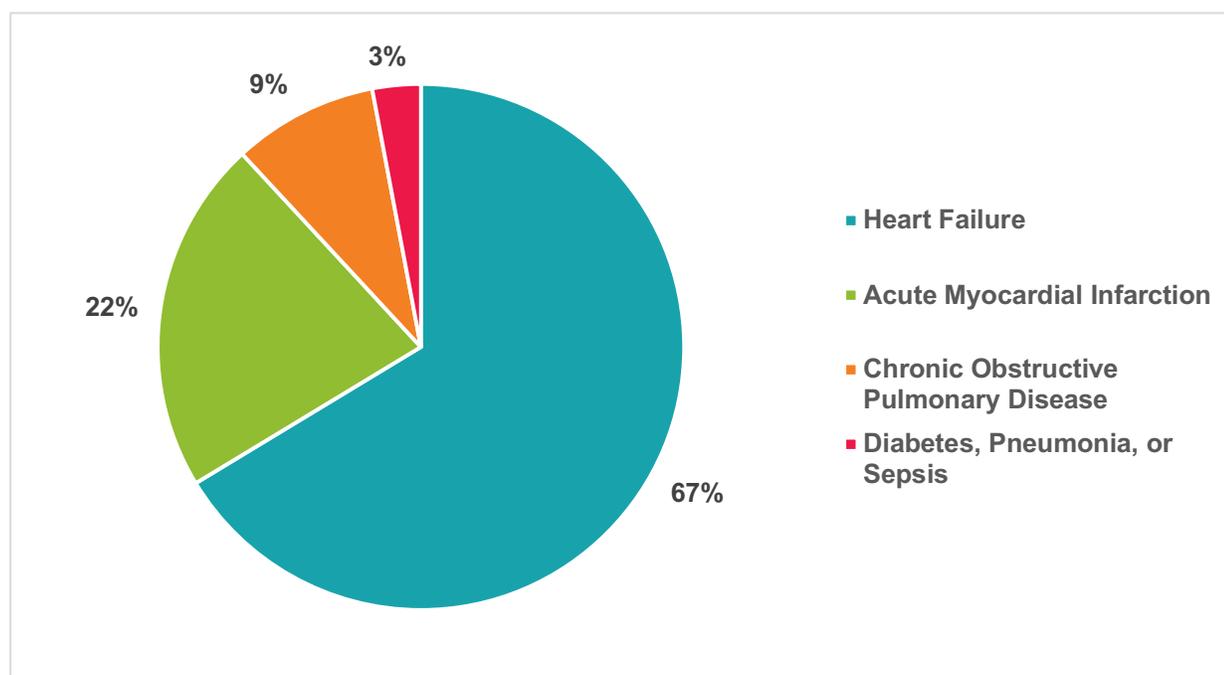
Two projects have had full-time community paramedics (Alameda's project and the now closed UCLA – Glendale project) and three projects have had part-time paramedics (San Bernardino-Rialto, Solano, and the now closed Butte project). Since launching their projects, Alameda, San Bernardino-Rialto, and Solano (and formerly UCLA) have provided at least one home visit to all patients. Initially, Butte's protocol called for paramedics to assess all patients by telephone and to use an algorithm to determine whether the patient needed additional assistance. If a

Butte community paramedic determined that a patient would benefit from a home visit, the community paramedic requested the patient's permission to do so. Butte's protocol changed effective November 2017. Its community paramedics provided at least one home visit to all patients from that time until the project closed in November 2018.

Findings

The post-discharge projects enrolled 1,758 patients between June 2015 and March 2019. Butte had the largest enrollment (1,001 patients), and Alameda had the smallest (130 patients). Across the five projects, 67% of patients enrolled had heart failure, 22% had acute myocardial infarction, 9% had chronic obstructive pulmonary disease, and 3% had pneumonia, diabetes, or sepsis (Figure 2).

Figure 2. Post-Discharge, Short-Term Follow-Up Project Enrollees by Condition through Third Quarter 2018 (n = 1,758)



Safety

The evaluation team found substantial evidence that the post-discharge projects reduced the risk of harm. The most compelling evidence of reduced harm concerns prescription medications. Community paramedics performed medication reconciliation for all patients, which involved examining all prescription drugs in a patient's possession and reconciling them with the instructions given to the patient when he or she was discharged from the hospital. The community paramedics identified 305 instances in which a patient needed additional instructions about how to take his or her medications as directed (17% of patients enrolled). Some patients had multiple prescriptions for the same medication and assumed they were supposed to take all of them. Other patients were discharged from the hospital with only a 30-day supply of medication and did not understand that they needed to obtain refills to control their condition. If a patient had a personal physician, the community paramedic worked with the patient to contact the physician to obtain refills. If a patient did not have a physician, the community paramedic helped the patient find one.

Effectiveness

The post-discharge pilot projects achieved their primary goal of reducing inpatient readmissions within 30 days of discharge. Table 3 shows the historical 30-day readmission rates at the projects' partner hospitals and the 30-day readmission rates of patients enrolled in the post-discharge projects who had heart failure, myocardial infarction, chronic obstructive pulmonary disease, or pneumonia. Patients with diabetes or sepsis are not included because historical data on readmission rates for persons with these diseases were not available; hence 30 patients in Alameda's program are not reflected in the table below. Figure 3 displays the data in a graphical format.

Table 3. Readmissions within 30 Days for Post-Discharge, Short-Term Follow-Up Project Enrollees versus Partner Hospitals' 30-Day Readmission Rates, 2012-2015 (n = 1,758)

Diagnosis	Sponsoring Agency	Number of Patients Enrolled	Number Readmitted	Historical 30-Day Readmission Rate*	% Enrollees Readmitted*
Heart Failure	UCLA	154	10	24.4%	6.5% [†]
	Butte	645	191	22.5%	29.6% [‡]
	Alameda	36	4	23.1%	11.1% [†]
	San Bernardino and Rialto	228	19	23.1%	8.3% [†]
	Solano	111	11	22.1%	9.9% [†]
Acute Myocardial Infarction	Butte	356	37	17.2%	10.4% [†]
	Alameda	9	0	16.8%	0.0% [†]
Chronic Obstructive Pulmonary Disease	Alameda	29	6	19.4%	20.7%
	Solano	134	13	18.9%	9.7% [†]
Pneumonia	Alameda	26	4	20.1%	15.4% [†]

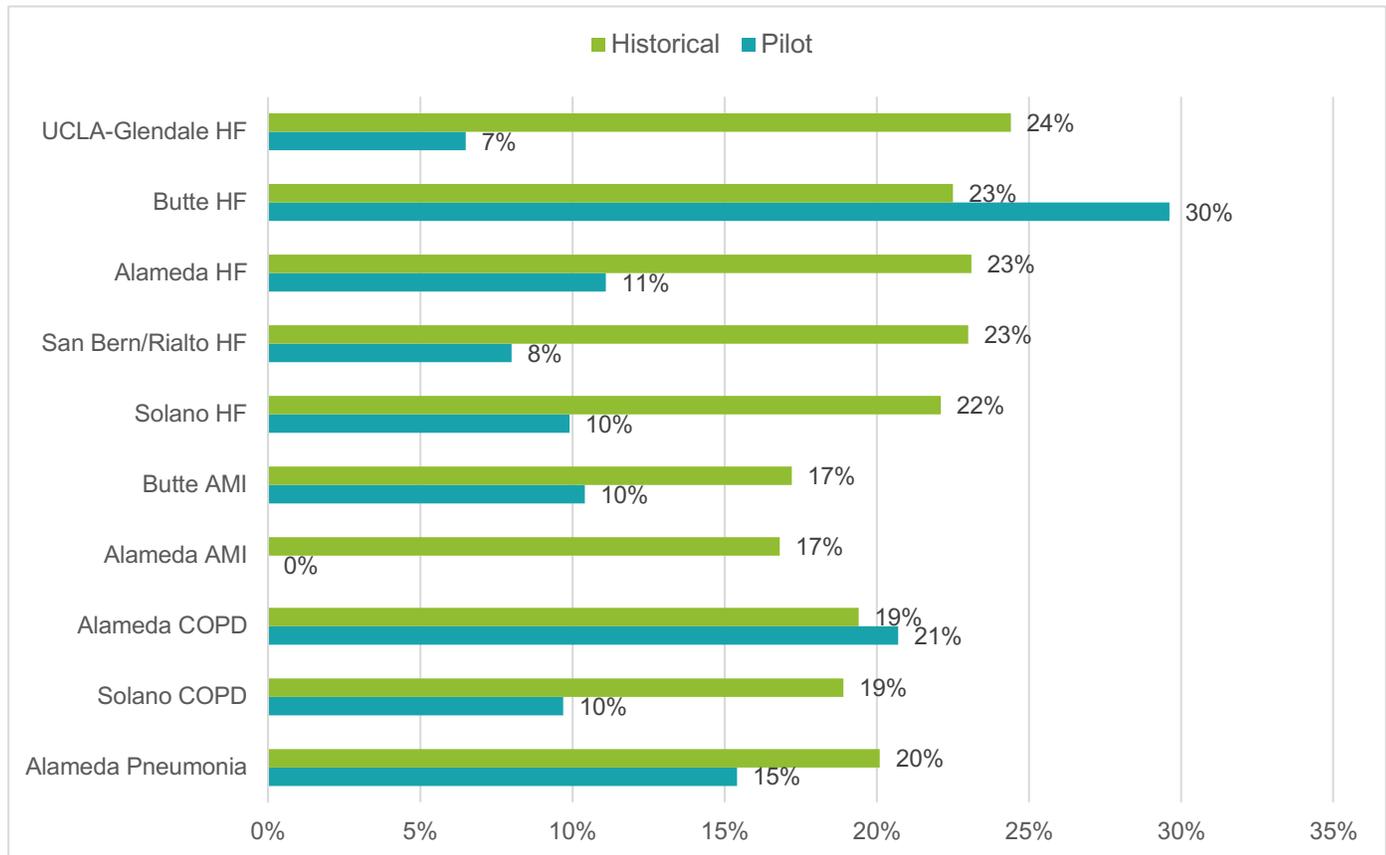
*Includes readmissions for any reason.

[†]30-day readmission rate for enrolled patients was *lower* than the historical 30-day readmission rate and the difference was statistically significant.

[‡]30-day readmission rate for enrolled patients was *higher* than the historical 30-day readmission rate and the difference was statistically significant.

Patients enrolled by all sites had lower rates of 30-day readmission than historical rates for their partner hospitals except Butte's heart failure patients and Alameda's chronic obstructive pulmonary disease patients. The change in Butte's protocol to require at least one home visit for every patient did not reduce its readmission rate for heart failure patients. Prior to the change in Butte's protocol, the project's 30-day all-cause readmission rate for persons with heart failure was 28.4%; following the change, the 30-day all-cause readmission rate for persons with heart failure was 29.6%.

Figure 3. Readmissions within 30 Days for Post-Discharge, Short-Term Follow-Up Project Enrollees versus Partner Hospitals' 30-Day Readmission Rates, 2012-2015 (Cumulative; n = 1,758 Patients)



Another important indicator of the effectiveness of post-discharge projects is referral of patients to providers of other services to improve the patients' well-being. Through March 2019, community paramedics made at least 212 referrals to a wide range of service providers, using manuals of local resources that they prepared as part of their training. These services included primary care physicians, specialist physicians, pharmacists, mental health services, public health departments, home health providers, drug and alcohol treatment programs, senior home safety programs, food assistance agencies, housing assistance providers, transportation assistance agencies, and domestic violence resources. At least one community paramedic helped a patient enroll in Covered California to obtain health insurance. If community paramedics perceived the need as urgent and were concerned that a patient might not follow through on his or her own, they assisted the patient in obtaining services to address the need.

Potential Savings

All of the post-discharge projects have potentially avoided costs for insurers by reducing 30-day all-cause readmissions among the patients they enrolled. Estimates of potential savings are based on differences between rates of readmission among enrolled patients and historical readmission rates obtained from Medicare Hospital Compare, and estimates of the cost of admissions for targeted diagnoses derived from OSHPD's public hospital inpatient discharge dataset. The evaluators estimate that the five post-discharge projects avoided potential costs

of approximately \$1.3 million through March 31, 2019. The amount of potential costs avoided ranged from a low of -\$23,634 for Butte's project to a high of \$489,702 for San Bernardino and Rialto's project (see Table 4). Differences in potential savings across sites reflect differences in the total number of 30-day readmissions avoided and the cost of readmissions, which ranged from \$11,562 for chronic obstructive pulmonary disease to \$26,621 for acute myocardial infarction. Potential savings generated by Alameda's project may have been greater than the estimate reported because savings associated with reductions in admissions for diabetes and sepsis could not be estimated, since Medicare Hospital Compare does not report data on historical rates of readmission for these conditions.

The majority of potential savings associated with the post-discharge projects would have accrued to Medicare because 61% of patients enrolled are Medicare beneficiaries. Potential savings would also have accrued to Medi-Cal because 25% of enrollees are Medi-Cal beneficiaries. Partner hospitals also may have benefitted if reductions in readmissions were sufficient to avert a Medicare penalty for excessive readmissions.

Table 4. Potential Savings for Post-Discharge, Short-Term Follow-Up Projects

	UCLA – Glendale	Butte	Alameda*	San Bernardino and Rialto	Solano
Total Enrollment	154	1,001	130	228	245
Difference in Readmission Rates (percentage points)	-17.9	+1.6	-6.7	-14.8	-10.5
Number of Readmissions Avoided	HF = 28	HF = -46 AMI = 24	HF = 4 AMI = 2 COPD = 0 Pneumonia = 1	HF = 34	HF = 14 COPD = 12
Average Cost of Readmission	HF = \$14,403	HF = \$14,403 AMI = \$26,621	HF = \$14,403 AMI = \$26,621 COPD = \$11,562 Pneumonia = \$14,923	HF = \$14,403	HF = \$14,403 COPD = \$11,562
Total Potential Savings from Readmissions Avoided	\$403,284	-\$23,634	\$125,777	\$489,702	\$340,386
Potential Savings per Enrollee	\$2,619	-\$591	\$968	\$2,148	\$1,389

*Savings estimate does not include 31 Alameda patients who had diabetes or sepsis because Medicare Hospital Compare does not report historical 30-day readmission rates for these conditions.

An important limitation of this analysis is that it does not take into account repeat visits to an ED within 30 days of hospital discharge or use of observation status. If the community paramedicine projects were associated with an increase in repeat ED visits or use of observation status, potential net savings associated with the post-discharge projects would be lower. Effects on ED visits within 30 days were not discussed due to a lack of readily available data on repeat ED visits to partner hospitals by persons who were eligible for the post-discharge projects but not enrolled. Medicare Hospital Compare, the source of historical data on 30-day readmission rates at partner hospitals, does not report rates of ED visits within 30 days of discharge.

The evaluation team did not compare 30-day ED revisit rates for participants to 30-day ED revisit rates reported in studies conducted in other hospitals, because the hospitals included in such studies may have patient populations that differ from those of participating hospitals in ways that could affect our conclusions. We did not attempt to assess the number of patients placed on observation status, because these patients can be difficult to track due to inconsistencies in availability of data on patients placed on observation status and the methods used to identify them.⁴ Furthermore, recent research by the Medicare Payment Advisory Commission (MedPAC) finds that nationwide increases in observation stays and ED visits have been smaller than the decrease in readmissions.⁵ If the hospitals that participated in the post-discharge projects are similar to hospitals nationwide, the reductions in readmissions that we observed are not fully offset by increases in observation stays and ED visits .

Conclusion

The post-discharge projects have demonstrated capability to reduce hospital readmissions within 30 days among persons with the chronic conditions they target. The projects also increased the likelihood that patients will take medications for these conditions as directed, because community paramedics reconciled patients' prescriptions, reviewed the instructions for taking the medications, and assisted patients with medication refills, if needed. Moreover, community paramedics have referred patients to providers of other services that can improve their ability to manage their conditions and their overall well-being. The projects potentially avoided costs, primarily for the Medicare and Medi-Cal programs.

Frequent EMS User

Highlights	Description
<ul style="list-style-type: none"> • The three Frequent EMS User projects enrolled 260 persons between July 2015 and March 2019. • The San Diego project suspended operations in December 2017 due to a lack of funding but relaunched in June 2019. • San Francisco launched a new Frequent EMS User project in September 2018. • The projects potentially avoided costs of \$1 million by reducing ambulance transports and ED visits. A substantial share of potential savings accrued to ambulance transport agencies and hospitals because a large percentage of patients were uninsured. 	<p>The three Frequent EMS User projects enroll people who call 911 and/or who have ED visits frequently and whose use of emergency services is not routinely warranted by their medical condition. The goal of these projects is to reduce frequent EMS users’ dependence on EMS agencies and EDs for care. Community paramedics assess patients’ physical, psychological, and social needs and provide individualized case management to link them with providers of nonemergency services. Patients remain enrolled in the projects until community paramedics believe that the patients no longer need the project’s services. Criteria for determining that a patient no longer needs services emphasize reaching important individual milestones, such as reduced frequency of 911 calls, obtaining housing, or maintaining sobriety.</p> <p>The City of Alameda’s Frequent EMS User project has enrolled patients since July 2015. San Diego’s project enrolled patients from October 2015 to December 2016 but suspended operations in</p>

December 2017 due to lack of funding. The project began enrolling patients again in June 2019. San Francisco launched its Frequent EMS User pilot project in September 2018.

The Alameda and San Diego projects provide the same intensity of service to all patients they enroll. The types of services and the frequency with which they are delivered vary only due to differences in patients’ needs. San Francisco’s project prioritizes providing services to patients who have the largest numbers of ED visits at the time they are enrolled in the project because the project’s leaders believe focusing on these patients will maximize the project’s ability to reduce 911 calls and improve patients’ outcomes. Community paramedics hold “case conferences” with staff of other agencies to identify and address the needs of these patients, which are often complex. Other patients enrolled in San Francisco’s project receive less intensive services.

Findings

The three Frequent EMS User projects enrolled 260 patients from July 2015 through March 2019. The three projects enroll different populations of frequent EMS users. San Diego’s project primarily enrolled persons with 20 or more ED visits per year. San Francisco’s project enrolls persons who have had more than four ED visits in a single month. Alameda’s project, which serves a city whose population is much smaller than San Diego’s and San Francisco’s populations,⁶ is open to all persons referred by staff of the EMS agency or the partner hospital. San Diego’s and San Francisco’s enrollees were younger than Alameda’s enrollees and were more likely to be uninsured or enrolled in Medi-Cal.

Safety

The evaluation team found no evidence of any harm to patients enrolled in the Frequent EMS User projects. On the contrary, there is substantial evidence that patients benefitted from the projects. The community paramedics visited patients multiple times to assess their physical, psychological, and social needs and assist them in obtaining nonemergency services to meet their needs, as discussed below in the section on effectiveness.

Effectiveness

San Diego's and Alameda's Frequent EMS User projects achieved large reductions in the number of 911 calls and ED visits among enrolled patients. Reductions in 911 calls were highly correlated with reductions in ED visits, because most 911 calls for frequent EMS users result in transport to an ED. Data on 911 calls were examined to estimate the projects' impact on numbers of 911 calls pre- and post-enrollment. Data on 911 calls and ED use during the month of enrollment were not analyzed, to allow time for the intervention to affect patients' utilization.

For San Diego's and Alameda's Frequent EMS User projects, data were analyzed for patients for whom data were available for at least 12 months prior to enrollment and for at least 12 months following enrollment. Among persons enrolled in San Diego's Frequent EMS User project during the time at which the community paramedics were on duty (November 2015 through December 2016) and for whom data are available for 12 months prior to enrollment and 12 months following enrollment ($n = 37$), the total number of 911 calls decreased from 955 to 625, a decrease of 35%. The average number of 911 calls per person decreased from 26 per year to 17 per year, and some enrollees had much larger decreases in 911 calls. Among persons enrolled in Alameda's Frequent EMS User project for whom data are available for 12 months prior to enrollment and 12 months following enrollment ($n = 67$), the total number of 911 calls decreased from 223 to 155, a decrease of 20%. The average number of 911 calls per person decreased from 3 calls per year to 2 calls per year. The difference in impact between the two projects reflects differences between the persons enrolled. San Diego's clients had substantially more 911 calls prior to enrollment than Alameda's clients, so there was greater room for improvement.

For San Francisco's Frequent EMS User project, data the impact of the project on 911 calls are only available for six months following enrollment because the project only began enrolling patients in September 2018. Among patients enrolled in that month ($n = 78$), the total number of 911 calls decreased from 1,539 during the six months prior to enrollment (March 2018 through August 2018) to 1,258 in the six months following the month of enrollment (October 2018 through March 2019), a decrease of 18%. The average number of 911 calls per person over six months decreased from 20 calls to 16 calls.

The Frequent EMS User projects also succeeded in linking patients to services that address the needs that led them to use the EMS system frequently. During their first visits with patients, community paramedics in Alameda and San Diego reported making 60 referrals to medical care providers, mental health providers, drug and alcohol treatment programs, food assistance programs, housing assistance programs, transportation assistance programs, domestic violence resources, and other social services. They may have made additional referrals during subsequent visits because some patients were not interested in referrals initially. In addition, community paramedics in San Diego transported patients to these types of providers on 50 occasions to ensure that they obtained services. In some cases, community paramedics collaborated with staff of multiple service providers to go beyond routine care to meet patients' complex needs.⁷ Community paramedics in San Francisco and Alameda also transport patients to non-ED service providers, including homeless shelters, a sobering center, and medical, dental, and mental health providers. In March 2019 alone, San Francisco's community paramedics transported 26 patients (38% of enrolled patients) to non-ED service providers.

Providing assistance with housing is an important component of Frequent EMS User projects because many frequent EMS users are homeless. Among the 46 clients enrolled in San Diego's Frequent EMS User project, 33 patients (72%) were homeless, as were 48 of the 67 people (72%) enrolled in San Francisco's project during the project's first month of operation. Community paramedics are uniquely positioned to assist homeless persons because they are often familiar with them prior to enrollment. They are also mobile and can be dispatched or consulted when one of their enrolled clients contacts 911, and they are familiar with the sites at which homeless persons congregate and can meet clients at any location.

Potential Savings

Among persons enrolled in San Diego's project during the months in which community paramedics were on duty (November 2015 through December 2016) and for whom 12 months of data on 911 calls pre- and post-enrollment were available, the project reduced the number of 911 calls and ED visits by 330, avoiding potential costs of \$551,760 (see Table 5). A substantial percentage of potential savings from the reduction in ED visits would have accrued to ambulance transport providers and hospitals because 43% of San Diego's enrollees were uninsured. From July 2015 through September 2018, Alameda's Frequent EMS User project avoided potential costs of \$91,936. The majority of potential savings by Alameda's project would have accrued to Medicare because the majority of its patients are Medicare beneficiaries.

Among persons enrolled in San Francisco's project during September 2018, the project reduced the number of 911 calls and ED visits by 281, avoiding potential costs of \$379,912. The majority of savings accrued to the City and County of San Francisco because 67% of the patients enrolled during that month were uninsured. Reducing ambulance transports among frequent EMS users who are uninsured benefits the San Francisco Fire Department, which provides the majority of ambulance transports in the city, by reducing the amount of uncompensated transports the Fire Department provides. Some savings also accrue to the City and County's Zuckerberg San Francisco General Hospital because this public hospital provides a substantial share of ED visits for frequent EMS users.

Table 5. Potential Savings Associated with Frequent EMS User Projects

Variable	Amount		
	Alameda	San Diego	San Francisco
Total Enrollment	80	46	134
Number of Enrollees with 12 months or 6 months (San Francisco) of Data on 911 Calls Pre- and Post-Enrollment	67	37	78
Number of Transports and ED Visits Avoided	68	330	281
Average Cost of Ambulance Transport	\$603	\$923	\$603
Average Cost of ED Visit	\$749	\$749	\$749
Potential Savings from Ambulance Transports Avoided	\$41,004	\$304,590	\$169,443
Potential Savings from ED Visits Avoided	50,932	\$247,170	\$210,469
Total Potential Savings	\$91,936	\$551,760	\$379,912
Potential Savings per Patient Enrolled	\$1,372	\$14,912	\$4,871

Conclusion

The Frequent EMS User projects have achieved substantial reductions in 911 calls, transports, and ED visits among the patients they have enrolled, often by linking patients with primary care, behavioral health, food, housing, and social services. These reductions in 911 calls, transports, and ED visits have potentially avoided costs for public health insurance programs (i.e., Medicare and Medi-Cal) and health care providers.

Directly Observed Therapy for Tuberculosis

Highlights
<ul style="list-style-type: none"> • The Directly Observed Therapy for Tuberculosis project enrolled 49 persons between June 2015 and March 2019. • The community paramedics dispensed all but two (0.04%) doses of TB medications prescribed by the TB clinic's physician. • One patient was hospitalized twice for intravenous treatment of TB meningitis that was diagnosed prior to enrollment in the pilot project. Eleven other patients were hospitalized for reasons unrelated to their TB.

Description

Tuberculosis (TB) is a highly contagious disease treated with special antibiotic medications. A physician with expertise in TB treatment determines the number of medications and frequency of dosing. People with TB must take their medication as directed, because stopping treatment too soon or missing doses of medication could lead to development of a drug-resistant strain of TB, which poses a major public health risk to a community.⁸ To ensure that people with TB take their medication as directed, TB treatment clinics often provide directly observed therapy (DOT). Under DOT, a health care worker gives a patient medication, observes the patient taking the medication, and monitors the patient for side effects.

In Ventura County, public health officials asked the county's EMS provider to collaborate with the TB clinic

to provide DOT, because the TB clinic does not have sufficient staff to provide DOT to all TB patients in the county. Ventura covers a large geographic area, and it is not feasible for some patients to travel to the TB clinic for DOT. The TB clinic utilizes community health workers (CHWs) to administer DOT at remote locations, but the CHWs work only Mondays through Fridays and thus do not provide DOT on weekends. In addition, the CHWs are based in Oxnard, where the TB clinic is located, and have to drive as long as 60 minutes to reach some patients. In contrast, the community paramedics are available 24 hours per day, 7 days per week and are stationed throughout the county, so they usually can reach patients within 15 minutes. All TB medications that community paramedics dispense are prescribed by the physician who directs Ventura County's TB clinic. Any adjustments in medication regimens are made in collaboration with the TB physician and the TB clinic's public health nurses.

Findings

Ventura's Directly Observed Therapy for Tuberculosis project enrolled 49 patients through March 2019. Because the management of tuberculosis often spans six to nine months,⁶ the community paramedics usually carry a caseload of patients whom they treat for multiple months. Over the course of the pilot project, the community paramedics' caseload averaged six patients per month.

TB clinic leaders indicated that there were conscious decisions to assign patients to either community paramedics or CHWs based on the likelihood that patients would comply with treatment. They often assigned patients to community paramedics who resisted treatment or who were verbally abusive or sexually inappropriate because paramedics have more experience and training than the CHWs in managing persons with challenging behavior. Community paramedics were also more likely to be assigned homeless persons and other patients who are difficult to locate.

Safety

The evaluation team found no evidence that the TB project harmed patients. Community paramedics dispensed appropriate doses of TB medications, and their TB patients did not experience any greater frequency of side effects or symptoms beyond those typically associated with taking TB medications.

Twelve patients enrolled in the pilot project have been hospitalized. One patient was hospitalized twice for TB meningitis, which had been diagnosed prior to enrollment in the program. The other eleven patients were hospitalized one time for a reason other than their TB diagnosis; one hospitalization was for a scheduled surgical procedure.

Effectiveness

People with TB who received DOT from community paramedics were more likely to receive all doses of TB medication prescribed by the TB clinic physician than people who received DOT from the TB clinic's CHWs. Since the project was launched in June 2015, the community paramedics were unable to dispense only two (0.04%) DOT treatments prescribed by the TB clinic physician (see Table 6). In contrast, the CHWs were unable to dispense 1,000 (7.0%) of prescribed DOT treatments. This difference is due primarily to the availability of community paramedics on nights and weekends. Availability on weekends ensures that patients have DOT seven days per week if needed, and availability in evenings improves compliance among patients who travel outside of Ventura County for work during business hours. Taking all recommended doses of TB medications as prescribed increases the likelihood that a patient will be cured and will not spread TB to others. It also decreases the risk that a patient could develop a drug-resistant strain of TB that would be much harder to treat and to control in the community.

Community paramedics also helped patients address health care needs other than TB. For example, some TB patients also have diabetes, which is associated with worse outcomes of TB treatment, especially if it is not well controlled. One TB patient treated by community paramedics had severely impaired vision and had difficulty filling syringes with the prescribed amount of insulin. The community paramedics found a local pharmacy that would prefill syringes for the patient to ensure that he would receive the correct dose.

Table 6. Instances of Non-Completion of Directly Observed Therapy among Patients Treated by Community Paramedics (Cumulative through First Quarter 2019)

	Community Paramedic Patients	TB Clinic Patients
Number of Times Community Paramedic Could Not Complete Scheduled DOT	2 (0.05%)	1,000 (7.0%)
Reasons Why Patient Did Not Complete Treatment	One patient went out of town without making prior arrangements for the DOT. The other was not home at the scheduled time and did not respond to phone calls in a timely manner.	Most missed doses occur on holidays and weekends, when the TB clinic was closed and CHWs were not available to treat patients outside the clinic.

Potential Savings

There was a small increase in adherence to the prescribed TB medication schedule when community paramedics administered DOT instead of CHWs, but we cannot estimate the effect of increased adherence in this range in the United States. If the project substantially increased adherence among hard-to-reach patients, the project may have increased the number of patients in Ventura treated successfully for TB and, thus, reduced medical and public health expenditures associated with public health investigations to identify, test, and treat close contacts of people who did not complete treatment. The project also reduced the need for CHWs to travel long distances to provide DOT, increasing their availability to complete other tasks.

Conclusion

Community paramedics can safely administer DOT for TB and monitor patients for side effects, under the direction of a physician who specializes in treatment of TB and in collaboration with public health nurses. Due to their unique schedule and mobility, they can achieve a very high rate of adherence to TB treatment, augmenting the resources of the TB clinic and reducing the risk that patients will develop a drug-resistant strain of TB and transmit it to other persons. They can also assist with patients' other social and medical needs that might create barriers to TB treatment.

Hospice

Highlights	Description
<ul style="list-style-type: none"> The Hospice project enrolled 363 persons between August 2015 and March 2019. Community paramedics collaborated successfully with nurses on the staffs of partner hospices to provide care consistent with patients' wishes. The percentage of patients of partner hospices transported to an ED after a 911 call decreased from 80% prior to the pilot project to 27% during the pilot project. The project has potentially avoided costs of \$291,841 by reducing ambulance transports and ED visits. 	<p>The goal of hospice care is to provide medical, psychological, and spiritual support to persons dying from a terminal illness in a patient's home, a residential care facility, a nursing home, or an inpatient hospice facility. Hospice staff members tell hospice patients, their family members, and other caregivers to contact the hospice instead of 911 if they believe there is a medical need or if they become concerned about the patient's comfort. Despite this instruction, some hospice patients and their families call 911 instead of the hospice.</p> <p>The standard response to a 911 call made on behalf of a hospice patient is to transport the patient to an ED, which may be upsetting and uncomfortable for hospice patients. In addition, clinicians in EDs may perform medical interventions that the hospice patient would prefer not to receive and may admit the hospice patient for inpatient</p>

care. In addition, insurers may revoke hospice benefits if the patient receives treatment or hospitalization for his or her terminal illness that is incompatible with the hospice approach of comfort care.

Ventura County's Hospice project seeks to prevent transports that are not consistent with hospice patients' wishes. This is especially important for hospice patients who reside in a residential care or skilled nursing facility. In those facilities, staff may call 911 without discussing the decision with the patient or family members.

In Ventura, if a 911 dispatcher or a first responder on scene determines that a person is under the care of a hospice agency participating in the pilot project, the dispatcher or first responder requests that a community paramedic come to the patient's home, which may be in a private residence, residential care facility, or skilled nursing facility. The community paramedics are supervisors who can respond to hospice calls while other paramedics respond to other 911 calls.

Once on scene, the community paramedic assesses the patient, talks with family members and caregivers, and contacts a registered nurse employed by the hospice agency. The hospice nurse directs the community paramedic regarding what care to provide. Depending on the circumstances, the hospice nurse may ask the community paramedic to wait with the patient, family members, and/or caregivers until the nurse can arrive on scene. The hospice nurse may also ask the community paramedic to administer pain medications to the patient that the hospice has provided in a "comfort care" pack. ***No hospice patient who requests transport to an ED is denied transportation.***

Findings

Ventura's community paramedics responded to 363 calls made on behalf of patients of participating hospice agencies since the pilot project began in August 2015. Hospice patients, family members, or staff of residential or skilled nursing facilities in which hospice patients resided initiated most 911 calls, but hospice nurses made some 911 calls during visits with patients. The reasons for 911 calls to which Ventura's community paramedics responded varied and included altered level of consciousness, cardiac arrest, choking, constipation, fall, seizure, shortness of breath, syncope, and family concern about hospice care.

Safety

The evaluation found no evidence that the Hospice project harmed patients. After an assessment to determine that the patient could remain at home under hospice care, the community paramedics' work consisted primarily of providing emotional support to hospice patients and their families and administering medications in patients' "comfort care" packs as directed by a hospice nurse until the hospice nurse could arrive and further evaluate the patient.

The Hospice project reduced harm by honoring patients' wishes and reducing the likelihood that they would experience an undesired and uncomfortable trip to the ED and potentially lose hospice benefits. Community paramedics worked with patients, families, and hospice nurses to avoid ED transports, unless a patient requested transport or had a medical need that could not be met in the patient's home, such as a fracture. No patient was denied ED care when it was indicated and consistent with his or her wishes.

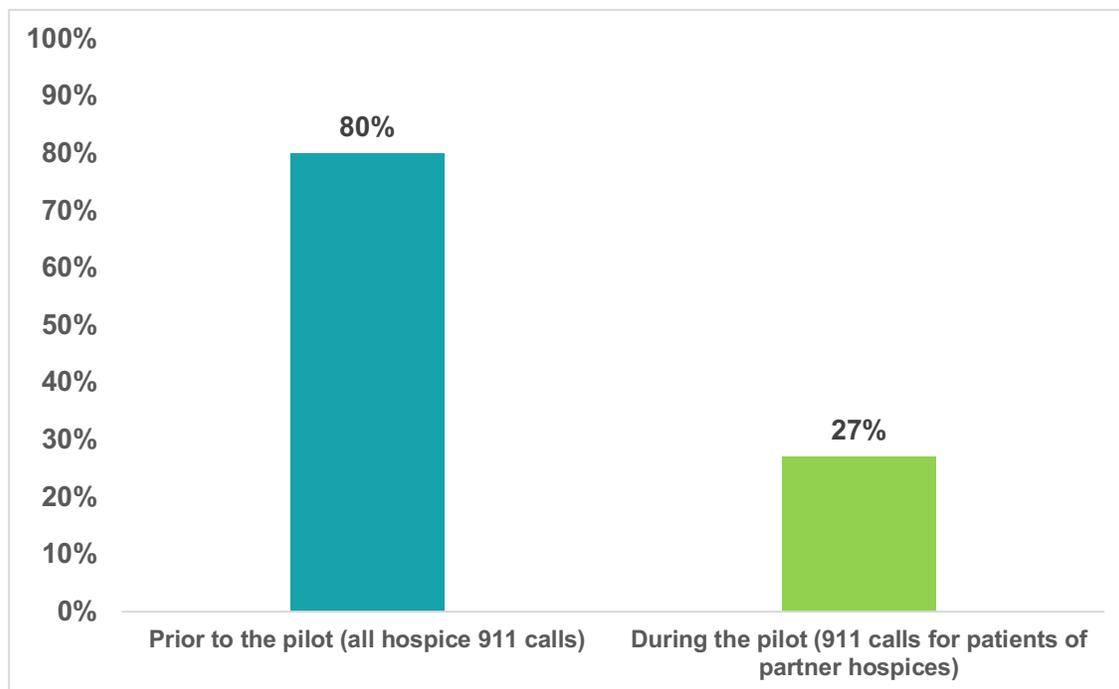
Effectiveness

The project achieved its goal of honoring patients' wishes to remain in their homes by integrating EMS and hospice protocols. Figure 4 shows the impact of the pilot project on the percentage of 911 calls for hospice patients that resulted in transport of the patient to an ED. Prior to the launch of the pilot project, 80% of 911 calls for hospice patients resulted in the transport of a patient to an ED.[†] Among patients of partner hospices, the percentage of patients transported decreased to 27% after the pilot project was implemented. Although data on hospice revocation rates prior to the pilot project are not available, it is very likely that the large reduction in ED transports also led to a reduction in the percentage of patients of partner hospices whose benefits were revoked.

Community paramedics also alerted hospices and family members to patients' unmet needs for additional assistance. For example, the project's very first hospice call involved a patient who had fallen during the night while walking to the bathroom. With the patient's permission, the community paramedic who responded to the call contacted a family member, who arranged for the patient to have a caregiver at night as well as during the day to assist her with toileting and other needs.⁹

[†]The 80% rate of transport to an ED prior to the launch of the pilot project differs from the rate that AMR Ventura reported in its proposal to participate in the pilot project (42%). The 42% rate was based on a manual search of electronic records for 911 calls on which a specific box had been checked. The 80% estimate is derived from an electronic search of AMR Ventura's records to identify all records in which the term "hospice transport" appeared. The evaluation uses the latter rate because it reflects the results of a more thorough search of AMR Ventura's records.

Figure 4. Percentage of 911 Calls for Hospice Patients That Result in Transport to an ED (Cumulative through First Quarter 2019)



Potential Savings

As indicated in Table 7, the Hospice project avoided potential costs of \$289,728 (\$798 per patient enrolled). These estimates are based on reductions in ambulance transports to an ED and ED visits. Potential savings could be higher than these estimates because some hospice patients who were transported to an ED were probably admitted to a hospital for inpatient care. However, cost avoidance associated with inpatient admissions could not be estimated because the pilot project was unable to obtain data from hospitals in Ventura County on the number of enrolled hospice patients transported to their EDs who were subsequently admitted to their hospitals.

Table 7. Potential Savings Associated with the Hospice Community Paramedicine Project

Variable	Amount
Total Number of Patients Enrolled	363
Total Number of Transports and ED Visits Avoided (# of ED visits if baseline rate persisted – # during pilot project)	192
Average Cost of ED Transport Avoided	\$520
Average Cost of ED Visit Avoided	\$989
Potential Savings from ED Transports Avoided	\$99,840
Potential Savings from ED Visits Avoided	\$189,888
Total Potential Savings	\$289,728
Potential Savings per Patient Enrolled	\$798

Conclusion

The Hospice project demonstrates that community paramedics can partner with hospice nurses to safely reduce the number of hospice patients unnecessarily transported to an ED. Reducing ED transports increases the health care system's ability to honor the wishes of hospice patients, reduces the risk that they will lose their hospice benefits, and potentially reduces health care costs.

Alternate Destination – Mental Health

Highlights

- The Alternate Destination – Mental Health projects enrolled 2,045 persons between September 2015 and March 2019.
- The projects have enabled persons with mental health needs to obtain mental health services more quickly.
- 98% of patients transported to the mental health crisis center were treated safely and effectively, and no patients experienced adverse outcomes. Forty-seven (2%) were transferred to an ED within six hours of transport to the mental health crisis center.
- The projects have potentially avoided \$2.2 million in costs by reducing ED visits for medical clearance and subsequent ambulance transports to a mental health facility. In Stanislaus County, additional costs potentially could have been avoided if the county's mental health facility had more inpatient beds.
- The City of Los Angeles Fire Department launched an Alternate Destination – Mental Health project in June 2019. Information about this project will be included in the next update to the public report on the Community Paramedicine Pilot Program.

Description

Many EDs in California are overcrowded. Some of the people they serve can be treated safely and effectively in other settings, including some who arrive at EDs via ambulance. Alternate destination pilot projects focus on transporting such patients to settings in which they can obtain appropriate care more efficiently. In California, the need for alternatives is particularly critical for people with mental health needs. Since 1995, the number of beds in inpatient psychiatric facilities in California has decreased by nearly 30%.¹⁰ Patients with mental health needs routinely spend hours in an ED waiting for medical clearance. In some cases, they spend days in an ED waiting for a bed to become available in an inpatient psychiatric facility, without getting definitive mental health care.¹¹ Nationwide, the mean length of ED visits is longer for psychiatric patients than medical patients (194 minutes vs. 138 minutes), and psychiatric patients are more likely to have stays in an ED lasting greater than 24 hours.¹²

Alternate Destination – Mental Health projects provide an alternative to the ED for persons with mental health needs for whom 911 is called. Paramedics use standardized protocols to screen people with mental health needs to determine whether or not they also have emergent medical needs or are acutely intoxicated. Patients who only have mental health needs are transported to a mental health crisis center. After a patient arrives at the crisis center, mental health professionals on the crisis center staff evaluate the patient further to determine what mental health services he or she needs.

The Stanislaus County Alternate Destination – Mental Health project, the oldest of the three projects, began enrolling patients in September 2015. Two more Alternate Destination – Mental Health projects were established in 2018. The Santa Clara County's Emergency Services Agency initiated a pilot project in June 2018 in partnership with the Gilroy Fire Department. In late July 2018, the Central California Emergency Medical Services Agency launched a pilot project in partnership with American Ambulance. The City of Los Angeles Fire Department launched the fourth Alternate Destination – Sobering Center in late June 2019. Findings about this project will be reported in the next update to the public report on the Community Paramedicine Pilot Program.

Stanislaus' project utilizes community paramedics who have completed training in assessment and treatment of persons with mental health needs beyond the standard training provided to all paramedics. Community paramedics are dispatched in response to 911 calls that a dispatcher believes involve a mental health problem, or

when another paramedic or a law enforcement officer identifies a patient as having mental health needs. The community paramedics respond to these calls as needed in addition to responding to traditional 911 calls.

The projects operated by the Santa Clara County Agency/Gilroy Fire Department and Central California EMS Agency/American Ambulance use a different staffing model. Both of these projects have trained all paramedics to assess patients' medical, mental health, and substance use status. This model enables all paramedic crews that respond to 911 calls to assess patients for mental health needs and transport patients who meet eligibility criteria to a mental health crisis center.

Eligibility criteria vary across the three Alternate Destination – Mental Health projects. Santa Clara enrolls only people with mental health needs who have been placed on an involuntary psychiatric hold, known in California as a 5150, by a law enforcement officer. These persons are required by law to obtain treatment. In addition to persons placed on a 5150 hold, Stanislaus and Fresno enroll persons who have acute mental health needs who voluntarily consent to receive mental health services. In Fresno eligible patients on 5150 holds are transported to the mental health crisis center unless they need to be transported to an ED for medical care. In Stanislaus and Gilroy, eligible patients on a 5150 hold are given the choice of transport to the county's mental health crisis center or an ED. In Stanislaus and Fresno, other patients (not on a 5150 hold) who are eligible for transport to the mental health crisis center are offered the option to be transported there instead of to an ED.

In Stanislaus, eligibility for the pilot project is limited to adults who are uninsured or enrolled in Medi-Cal because the county inpatient psychiatric facility does not accept patients with other types of health insurance. A private psychiatric facility is available to persons in Stanislaus County who have Medicare or commercial health insurance. The projects in Gilroy and Fresno accept all patients who meet criteria for transport to their counties' mental health crisis centers regardless of their health insurance status.

In addition to responding to 911 calls, community paramedics in Stanislaus are sometimes asked by mental health crisis center staff to provide medical screening to "walk-in" clients (i.e., persons not transported by ambulance). In the past, the crisis center had relatively few walk-in clients, and these clients were sent to a nearby ED for medical clearance. As the volume of walk-in clients has increased, the mental health crisis center staff has requested that the community paramedics come to the crisis center to screen clients. This has enabled clients to obtain medical screening more quickly and begin mental health treatment more quickly, if they do not have any acute medical needs.

Findings

The three Alternate Destination – Mental Health projects enrolled a total of 2,045 persons. Stanislaus' project has enrolled 367 persons. Since June 2018, the project in Gilroy has enrolled 58 people. The project in Fresno has enrolled 1,620 people since August 2018.

Safety

The evaluation team found no evidence of patient harm caused by the Alternate Destination – Mental Health projects. The community paramedics accurately screened patients to determine which of them could be safely transported directly to the mental health crisis center. Only 47 of the 2,045 patients enrolled in the project (2%) were transferred to an ED within six hours of arrival at the crisis center. These findings are consistent with the findings of a peer-reviewed publication regarding the first 1,000 people served by Stanislaus' project.¹³

Table 8 lists the reasons why the 47 patients were transferred to an ED. None of the transfers to an ED involved life-threatening conditions, and only four of the patients transferred were admitted for inpatient medical care.

Twenty-five patients were discharged from an ED without transfer. Eighteen were subsequently transferred back to the mental health crisis center or to an inpatient psychiatric facility.

Table 8. Reasons for Transfer to an ED within Six Hours of Admission to a Mental Health Crisis Center through First Quarter 2019 (47 of 2,045 Patients)

Reason for Transfer to an ED	# of Patients – Stanislaus	# of Patients – Gilroy	# of Patients – Fresno
Elevated blood pressure	3	0	3
Abdominal pain	0	0	3
Chest pain	0	0	3
Seizure	0	0	3
Agitation	2	0	0
Urinary incontinence	2	0	0
Abdominal pain with blood in stool	0	0	1
Bed bug bites	0	0	1
Blisters	0	0	1
Bloody nose	0	0	1
Body pain	0	0	1
Chest pain with nausea and vomiting	0	0	1
Confusion and inability to provide medical history	0	0	1
Elevated blood sugar	0	0	1
Elevated blood pressure and blood sugar	0	0	1
Heroin withdrawal	0	0	1
Neck and back pain	0	0	1
Patient came close to fainting	0	0	1
Patient reported ingestion of anti-psychotic medication with alcohol	0	0	1
Patient reported she had been raped	0	0	1
Possible alcohol withdrawal	0	0	1
Possible seizures secondary to alcohol withdrawal	0	0	1
Problem with nephrostomy tube	0	0	1
Shortness of breath with cough and green sputum	0	0	1
Tachycardia and spider bite	0	0	1
Urinary incontinence and elevated heart rate	0	0	1
Urinary incontinence and unable to stand for more than 5 minutes	0	0	1
Vaginal and back pain	0	0	1
Patient had sleep apnea, and the county inpatient psychiatric facility did not have a continuous positive airway pressure (CPAP) machine	1	0	0

Blood work needed secondary to mental health crisis center security guard getting a needle stick while going through patient's belongings	0	0	1
Change in patient condition	1	0	1
Unable to accommodate patient due to size/weight	0	0	0
No capacity at psychiatric hospital	1	0	0
Law enforcement error – patient sent to mental health crisis center despite being on a 5150 hold for grave physical disability	0	1	0
Total Number Transferred to an ED	10	1	36
Total Number of Patients	367	58	1,620
Percentage of Patients	3%	2%	2%

The Alternate Destination – Mental Health projects have also improved public safety. Law enforcement officers in Stanislaus County and Gilroy who were interviewed by the evaluation team stated that having community paramedics available enhanced their ability to respond effectively to persons with mental health needs because community paramedics are better prepared to address mental health needs and can arrange ambulance transports for mental health patients. This allows law enforcement officers to return to other law enforcement duties instead of transporting patients to an ED in their squad cars and waiting in the ED to transfer responsibility for the patient to a clinician.

Effectiveness

Stanislaus' pilot project substantially reduced the rate at which 911 calls involving patients with mental health needs resulted in a transport to an ED for medical screening. After Stanislaus' pilot project was implemented, 367 of 1,330 mental health patients for whom 911 was called (28%) were transported to the mental health crisis center instead of an ED. An additional 27% (n = 365) met the eligibility criteria and could have been transported to the crisis center if additional beds were available in the county's inpatient psychiatric facility or if the crisis center accepted patients who have a form of health insurance other than Medi-Cal. The community paramedics also determined that 505 people (38% of people assessed) were not eligible for transport to the mental health crisis center because they had a medical need, had vital signs outside parameters for admission to the crisis center, were intoxicated, violent, agitated, or over age 65 years. Five percent (n = 64) met the medical criteria for admission to the mental health crisis center but were not admitted due to a history of disruptive behavior during previous admissions to the crisis center. Only two percent of eligible patients (n = 29) did not consent to be transported to the mental health crisis center.

Gilroy's and Fresno's pilot projects have also substantially reduced the rate at which patients with mental health needs are transported to an ED for medical screening. Since Gilroy's project began in June 2018, paramedics have screened a total of 133 persons on 5150 holds due to mental health concerns. Fifty-eight of these patients (44%) were transported to Santa Clara County's mental health crisis center or another mental health facility. Seventy-five patients (56%) were transported to an ED because they needed medical care or had vital signs outside parameters for admission to the crisis center. The crisis center did not turn away any eligible patients.

In Fresno paramedics have screened 3,620 people for whom 911 was called and transported 45% (n = 1,620) to Fresno County's mental health crisis center.

Potential Savings

As indicated in Table 9, the Alternate Destination – Mental Health projects potentially avoided an estimated \$2,197,800 in costs (\$1,075 per patient) because transporting a mental health patient to the crisis center avoids an ED visit and a secondary transport of a patient from an ED to an inpatient mental health facility. Nearly half of these potential savings would have accrued to the Medi-Cal program because 36% of patients enrolled in the project (65% of those whose insurance status is known) were Medi-Cal beneficiaries.

Table 9. Potential Savings Associated with the Alternate Destination – Mental Health Projects

Variable	Amount
Total Number of Patients Enrolled	2,045
Total Number of ED Visits Avoided	1,998
Average Cost of ED Transport Avoided	\$554
Average Cost of ED Visit Avoided	\$546
Potential Savings from ED Transports Avoided	\$1,106,892
Potential Savings from ED Visits Avoided	\$1,090,908
Total Potential Savings	\$2,197,800
Potential Savings per Patient Enrolled	\$1,075

Conclusion

The Alternate Destination – Mental Health projects demonstrate that community paramedics can perform medical screening examinations for persons with mental health needs and determine which of them can be transported directly to a mental health crisis center. Transporting these persons directly to a crisis center enables them to obtain mental health services more quickly, which is likely to improve their well-being. The projects also potentially avoid health care costs by reducing the number of persons transported to and assessed in an ED. A larger proportion of these potential savings would accrue to Medi-Cal. For uninsured persons, the amount of uncompensated care provided by EDs also decreased.

Alternate Destination – Urgent Care

Highlights

- The three Alternate Destination – Urgent Care projects enrolled 48 patients between September 2015 and November 2017.
- All three of the Alternate Destination – Urgent Care projects closed in 2017 due to low enrollment.
- Most patients enrolled had a laceration or an isolated closed extremity injury.
- Patients did not experience any adverse outcomes. Two patients (4%) were transferred to an ED within six hours of admission to an urgent care center; nine (19%) were rerouted to an ED because the urgent care center declined to treat them.
- The projects potentially avoided costs of \$3,640 because insurers pay urgent care centers less than EDs for treatment of eligible conditions.

Description

Three pilot projects offered patients who have minor injuries or minor medical conditions the option of transportation to an urgent care center instead of to an ED for evaluation by a physician. Urgent care centers are walk-in clinics that treat persons with illnesses or injuries that can be evaluated and treated safely without the full range of resources available in an ED. California does not license urgent care centers as a distinct category of health care provider; they operate under the licenses of hospitals or of the physicians who operate them.¹⁴ This means that there are no requirements regarding operating hours, equipment, or the types of medical services provided.

All three Alternate Destination – Urgent Care projects enrolled patients who had any of the following five conditions: isolated closed extremity injury, laceration with controlled bleeding, soft tissue injury, isolated fever or cough, and other minor injury. One site, Carlsbad, also enrolled patients who had generalized weakness. Patients were screened by paramedics on 911 response crews who had been trained to use a protocol that was developed by emergency physicians to determine whether transporting a patient to an urgent care center was an appropriate option. The protocols excluded patients with medical conditions

that were emergent, complex, or inappropriate for transport to an urgent care center.

If paramedics concluded that a patient could be treated safely at an urgent care center, the paramedics offered transport to an urgent care center approved by the jurisdiction's local emergency medical services agency (LEMSA). Urgent care centers approved by the LEMSAs were required to provide respiratory therapy treatments, x-rays, and point-of-care laboratory testing for blood and urine and to have an automated external defibrillator. After transporting a patient to an urgent care center, paramedics were available to reroute the patient to an ED if a clinician at the urgent care center determined that the urgent care center could not treat the patient safely and appropriately. ***Patients who declined to be transported to an urgent care center were transported to an ED. These projects did not involve evaluation and release of patients by paramedics. All patients were transported to a facility where they were evaluated by a physician.***

Findings

Forty-eight persons were enrolled in the three Alternate Destination – Urgent Care projects through November 2017. Orange County’s project had the largest enrollment (34 patients), and Carlsbad’s project had the smallest enrollment (two patients). UCLA’s Alternate Destination – Urgent Care project closed in May 2017, and Carlsbad’s and Orange County’s projects closed in November 2017. All closures of Alternate Destination – Urgent Care projects were due to low enrollment.

There are multiple reasons why enrollment in the Alternate Destination – Urgent Care projects was substantially lower than anticipated. All three sites had fewer patients than expected who met all of the criteria for inclusion in the pilot project. In addition, many 911 calls occurred at times of the day during which urgent care centers were closed. In the case of Carlsbad’s project, enrollment was limited to non-elderly adults who had insurance coverage through a single health plan.

Most of the patients enrolled had a laceration or an isolated closed extremity injury, such as a dislocation, sprain, or fracture (see Table 10).

Table 10. Number of Enrollees in Alternate Destination – Urgent Care Projects by Condition (Cumulative)

Lead Agency	Total Enrollees	Closed Extremity	Laceration	Soft Tissue	Fever or Cough	Other Minor Injury	Generalized Weakness
UCLA – Glendale and Santa Monica	12	5	0	0	0	7	0
Orange	34	17	15	0	1	1	0
Carlsbad	2	0	0	0	0	0	2
Total	48	22	15	0	1	8	2

Safety

The Alternate Destination – Urgent Care projects did not harm patients. Among the 48 patients enrolled in the Alternate Destination – Urgent Care projects, two patients (4%) were subsequently transferred to an ED within six hours of arrival at an urgent care center. In addition, nine patients (19%) were transported to an urgent care center but then rerouted to an ED because clinicians at the urgent care center declined to treat the patient. None of these patients had life-threatening conditions, and there were no adverse outcomes. The reasons for transport from an urgent care center to an ED are listed in Table 11. Additional detail about the two transfers to an ED within six hours of arrival at an urgent care center can be found in the initial public report on the community paramedicine pilot projects.²⁴

Table 11. Reasons for Transfer or Rerouting to an ED from an Urgent Care Center (11 of 48 Patients)

Reason for Transfer to an ED	Number of Patients
<i>Secondary Transfers to an ED within Six Hours of Admission</i>	
Patient experienced shortness of breath and heart rate slowed after transport to an urgent care center for treatment of nausea without abdominal pain	1
Patient required surgery for injury	1
<i>Rerouted Transfers (aka Continuous Transfers)</i>	
Patient requested opioid pain medication	3
Diagnostic equipment was broken or unavailable	2
Urgent care center physician believed shoulder injury needed further evaluation	2
Urgent care center physician believed patient needed to be examined by an orthopedist	2
Total	11

Effectiveness

While paramedics participating in the pilot projects were able to triage patients according to the protocol effectively, it was challenging for the paramedics and project leaders to determine which patients the urgent care centers would accept. Urgent care centers sometimes rejected patients who had conditions that can be safely treated outside an ED, such as a dislocated shoulder. Interviews with project managers and paramedics suggest that urgent care centers may have been hesitant to accept patients transported by an ambulance since that is a new practice for them. In addition, the range of services offered by urgent care centers varies substantially. For example, some urgent care centers do not have the capacity to administer intravenous fluids, which limits their ability to treat persons with dehydration and other conditions that can be treated safely outside of an ED.

Potential Savings

Table 12 displays estimates of the potential savings associated with two of the three Alternate Destination – Urgent Care projects. Data for the third site are not included because it had enrolled only two patients before it closed in November 2017. These projects potentially avoided costs of \$3,640. The estimates of potential savings are based on estimates of the difference between the amounts insurers pay for treatment of the same condition in an ED and an urgent care center. Costs for ambulance transports were not reduced because no transports were avoided.

Table 12. Potential Savings Associated with the Alternate Destination – Urgent Care Projects

Variable	Amount	
	UCLA – Glendale and Santa Monica	Orange
Total Enrollment	12	34
Total Patients Treated in an Urgent Care Center and Released	6	29
Estimated Difference between the Cost of an ED Visit and an Urgent Care Visit	\$104	\$104
Total Potential Savings	\$624	\$3,016
Potential Savings per Patient Enrolled	\$52	\$89

Conclusion

More data are needed to draw firm conclusions about the Alternate Destination – Urgent Care concept. Paramedics participating in the Alternate Destination – Urgent Care projects have demonstrated capacity to evaluate patients according to triage protocols to determine whether they are candidates for treatment at an urgent care center. No patients experienced adverse outcomes. However, only 48 patients were enrolled across the three sites over 26 months, in large part because many people with eligible conditions called 911 at times at which urgent care centers were not open. In addition, two of the 48 patients enrolled were transferred to an ED following admission to an urgent care center, and nine were rerouted to an ED because the urgent care center declined to accept them. These findings suggest that for Alternate Destination – Urgent Care projects to offer a viable alternative to EDs, screening protocols will need to be more closely aligned with the capabilities of urgent care centers and the illnesses and injuries they are willing to treat. The savings generated were modest due to the low enrollment and the design of the projects, which changed only the destination to which patients were transported and did not reduce the number of transports.

Alternate Destination – Sobering Center

Highlights

- San Francisco's Alternate Destination – Sobering Center project enrolled 1,627 patients from February 2017 through March 2019.
- 97.9% of patients (n = 1,593) were treated safely and effectively at the sobering center. Only 2% (n = 32) were transferred to an ED within six hours of admission. Only two patients (0.1%) were rerouted to an ED because the sobering center's registered nurses did not accept the patient.
- Persons treated in the sobering center have better access to social workers, who can help them obtain detoxification, supportive housing, and other services.
- The project potentially avoided costs of \$551,257 because the cost of treating intoxicated persons in the sobering center is less than the cost of treating them in an ED.
- The Gilroy Fire Department and the Santa Clara County Emergency Medical Services System launched an Alternate Destination – Sobering Center project in June 2018, but as of March 2019 the project had not enrolled any patients.
- The City of Los Angeles Fire Department launched an Alternate Destination – Sobering Center project in June 2019. Information about this project will be included in the next update to the public report on the Community Paramedicine Pilot Program.

Description

Acutely intoxicated persons are another population for whom alternatives to routine transport to an ED are needed. Nationwide, an estimated 9.7% of ED visits are due to inebriation.¹⁵ In busy EDs, clinicians have little time to assist intoxicated patients unless they also have an acute medical need. They may not have time to counsel patients about their drinking or give them information about detoxification programs, case management, or other resources.

Cities around the US have established sobering centers to care for these patients.¹⁶ Sobering centers are less expensive to operate than EDs, and their staff are able to focus on the needs of intoxicated persons.¹⁷ In February 2017, the City and County of San Francisco began a pilot project under which paramedics transport eligible persons directly to its sobering center. The sobering center has cared for over 50,000 persons since it opened in 2003. It serves people who are acutely intoxicated but do not have other urgent health care needs. The sobering center is open 24 hours per day, 7 days per week and staffed by registered nurses, who monitor patients throughout their stay. The registered nurses follow standardized procedures for treatment of a variety of medical and mental health conditions. The sobering center's staff also includes social workers who help patients obtain treatment for alcohol use disorders and mental health conditions, housing, Medi-Cal, Supplemental Social Security, and General Assistance. Most patients stay for 4 to 12 hours. Approximately 33% of patients are treated at the sobering center multiple times per year, and approximately 90% of patients are homeless at the time that services are provided.¹⁸

San Francisco has trained all paramedics on 911 response crews to screen intoxicated patients to

determine if they are eligible to enroll in the pilot project. Patients are deemed eligible for transport to the sobering center if they have acute alcohol intoxication but do not have any acute medical or mental health needs. If a patient meets all eligibility criteria, the paramedics offer the patient a choice of transport to the sobering center or an ED. Patients who do not meet all eligibility criteria are transported directly to an ED, as are patients who express a preference for transport to an ED.

Ten experienced paramedics have completed the full community paramedic training. The community paramedics work with 911 response crews and the sobering center's staff to perform quality assurance reviews for patients transported to the sobering center. They are available to paramedics by telephone or in person for consultation if paramedics in the field are unsure whether a patient is eligible for transport to the sobering center. In addition, the community paramedics collaborate with San Francisco Homeless Outreach Team (SFHOT) outreach workers to engage sobering center patients who are high utilizers of county health care services.

A second Alternate Destination – Sobering Center project began operating in June 2018. This project is a partnership between the Gilroy Fire Department and the Santa Clara County Emergency Medical Services System. All paramedics employed by the Gilroy Fire Department have completed training similar to the training completed by paramedics in San Francisco and use a similar protocol to determine whether a patient is eligible for transport to Santa Clara County's sobering center. If paramedics determine that a patient is eligible, the patient is offered transported to the county's sobering center instead of an ED.

The City of Los Angeles Fire Department launched the third Alternate Destination – Sobering Center in late June 2019. Findings about this project will be reported in the next update to the public report on the Community Paramedicine Pilot Program.

Findings

San Francisco's Alternate Destination – Sobering Center project enrolled 1,627 patients from February 2017 through March 2019. Of the 1,627 patients enrolled in the project, 233 (14%) have visited the sobering center more than once. As of March 2019, Gilroy and Santa Clara's new Alternate Destination – Sobering Center pilot project had not enrolled any patients.

Safety

The community paramedics in San Francisco and the staff of the San Francisco sobering center review the records of all patients transported to the sobering center by ambulance. Cases that involve a secondary transport of a patient to an ED are also reviewed by a committee comprising the sobering center's deputy director, the sobering center's nurse coordinator, the San Francisco Emergency Medical Services Agency's medical director, and the San Francisco Fire Department's medical director.

The most common risk to sobering center patients is an unforeseen need for medical detoxification, which is difficult to predict initially among people with chronic alcohol consumption. A patient may also have taken another drug that paramedics cannot detect when they examine the patient in the field. Clients are monitored via comprehensive nursing protocols that assess for potential effects of other drugs, including the impact of sedating medications on orientation and respiratory status.

Among the 1,627 patients enrolled in San Francisco's Alternate Destination – Sobering Center project, 32 patients (2%) were transferred to an ED within six hours of admission to the sobering center. These secondary transfers were due to abdominal pain, agitation, alcohol withdrawal, chest pain, confusion, falls, hallucinations, seizures, suicidal ideation, and tachypnea (i.e., rapid shallow breathing). (See Table 13). In 31 cases, the transfer to the ED could not have been avoided because the need for transfer was not evident when the paramedics assessed the patient in the field. One transfer was potentially preventable. When the community paramedics reviewed records for the patient with tachypnea, they concluded that the patient's respiration rate in the field had been outside the range for admission to the sobering center and that the paramedics on the 911 crew that transported this patient to the sobering center had not relayed this information to the registered nurse on duty. The community paramedics coached the 911 response crew and their

supervisor on how to use a patient's respiration rate in the field to determine if a patient is eligible for transport to the sobering center.

Table 13. Reasons for Transfer to an ED within Six Hours of Admission to a Sobering Center or Rerouting from the Sobering Center through Third Quarter 2018 (34 of 1,627 Patients)

Reason for Transfer to an ED	Number of Patients
Secondary Transfers	
Fall	8
Alcohol withdrawal	4
Altered mental state	4
Seizures/history of seizures	2
Suspected suicide attempt/suicidal intentions	2
Agitation	1
Agitation with chest pain	1
Anxiety	1
Arm pain	1
Chest/abdominal pain	1
Chest pain with history of heart attack	1
Client requested oxygen despite lack of respiratory distress	1
Low level of oxygen in the blood	1
Pleuritic chest pain	1
Suspected urinary retention	1
Tachypnea/increasing temperature	1
Vomiting	1
Rerouted Transfers (aka Continuous Transfers)	
Hypothermia/bradycardia	1
Small raised mass above left eyebrow with enlarged left pupil	1
Total	34

Two patients (0.2%) were rerouted from the sobering center to an ED per instructions issued by the registered nurse on duty at the sobering center. When one patient arrived at the sobering center, he had hypothermia and bradycardia, with a body temperature below the protocol threshold for admission to the sobering center. The registered nurse and paramedics attempted to rewarm the patient for 15 minutes. When their efforts were unsuccessful, the registered nurse directed the paramedics to reroute the patient to an ED. The patient with the swelling above the left eyebrow also had one pupil larger than the other. The registered nurse on duty directed the paramedics to reroute the patient to an ED because the patient was unable to indicate whether this symptom had been evaluated in a medical facility.

Of the 34 patients who were either transferred or rerouted to an ED, 23 were treated in an ED and released. Four patients were medically cleared in the ED and transferred to a psychiatric ED. Two patients were admitted to a hospital for inpatient medical care. One inpatient admission was due to acute alcohol withdrawal symptoms that could not be controlled in the ED and the other was due to a low level of oxygen in the blood. Four left an ED's waiting room without being seen. The disposition of one patient is unknown.

Effectiveness

San Francisco's Alternate Destination – Sobering Center project has reduced the number of intoxicated persons transported to an ED. Interviews with project leaders indicate that one of the greatest benefits of treating these clients in the sobering center is that the sobering center social workers are better able to connect clients with medical detoxification, social services, case management services, and permanent housing. EDs have social workers, but they are not able to focus exclusively on intoxicated patients. In addition, the sobering center is equipped to provide withdrawal management for patients if a bed is available in a medical detoxification center, which helps patients cope with withdrawal and increases their willingness to complete detoxification.

Another strength of San Francisco's Alternate Destination – Sobering Center project is the use of paramedics in two complementary roles. Paramedics on 911 response crews can contact community paramedics for guidance if they are uncertain whether a patient meets the criteria for transport to the sobering center. Community paramedics review transports of patients to the sobering center and give 911 crews feedback on their use of the protocol for screening patients.

In addition, the community paramedics' partnership with the SFHOT outreach workers extends the project beyond transport to the sobering center to encompass outreach to high utilizers, to encourage them to seek treatment for their alcohol use disorder. This outreach is important because San Francisco has substantial services for homeless people with alcohol use disorders, but people may not know how to access these services or will not seek help on their own. Pairing community paramedics with homeless outreach workers leverages the strengths of both groups. Community paramedics contribute medical knowledge, the ability to access medical records, and relationships with ambulance crews. Homeless outreach workers, many of whom are formerly homeless and/or in recovery from substance use disorders, can form closer relationships with clients due to their shared experience.

Potential Savings

Table 14 displays estimates of potential savings associated with San Francisco's Alternate Destination – Sobering Center project. For this project, savings were due to the difference in the cost of caring for intoxicated persons in the sobering center versus an ED. For patients who were treated in the sobering center and released, savings were estimated by multiplying the number of patients by the difference between the cost of treating them in an ED and the cost of treating them in the sobering center (\$385). These savings were offset by the cost of a sobering center visit and the cost of a second ambulance transport for the 32 patients who were transferred to an ED. Since San Francisco launched its project, the project has generated \$551,257 in potential savings (\$339 per enrollee) due to the reduction in ED visits. Actual savings realized by insurers may have differed because the data used to estimate costs are not used for billing purposes.¹⁶ The majority of potential savings accrued to Medi-Cal because sobering center staff estimate that 68% of the patients enrolled in the project are Medi-Cal beneficiaries. Costs for ambulance transports were not reduced because no transports were avoided.

Table 14. Potential Savings Associated with the Alternate Destination – Sobering Center Project

Variable	Amount
Total Number of Patients Enrolled	1,627
Total Number of ED Visits Avoided	1,593
Average Cost of Ambulance Transport	\$1,675
Average Cost of ED Visit	\$649
Average Cost of Sobering Center Visit	\$264
Potential Savings Associated with Sobering Center Visits	\$613,305
Number of Secondary Transfers to ED	32
Potential Cost Associated with Sobering Center Visit for Secondary Transfers to an ED	\$8,448
Potential Cost Associated with Ambulance Transport for Secondary Transfers to an ED	\$53,600
Total Potential Savings (Net of Cost)	\$551,257
Potential Savings per Patient Enrolled	\$339

Conclusion

Preliminary findings suggest that paramedics participating in the Alternate Destination – Sobering Center project can accurately screen intoxicated patients to identify those who can be treated safely and effectively in a sobering center. To date the project has resulted in the transport of 1,593 fewer persons to an ED. Only three patients (0.26% of all patients enrolled) were transported to the sobering center who did not meet the eligibility criteria (i.e., the two patients rerouted from the sobering center to the ED and the patient accepted by the sobering center who had tachypnea). Only 32 patients (2%) were transferred to an ED subsequent to admission to the sobering center. There were no adverse outcomes from secondary transfers to an ED. The project potentially reduced costs because providing care to intoxicated persons in the sobering center is less expensive than caring for them in an ED. In addition, the community paramedics participating in the project provide valuable feedback to paramedics on 911 response crews and are collaborating effectively with homeless outreach workers to encourage people with chronic alcoholism to seek treatment.

Summary and Conclusion

The community paramedicine pilot projects have demonstrated that specially trained paramedics can provide services beyond their traditional and current statutory scope of practice in California. No adverse outcome is attributable to any of these pilot projects. These projects are enhancing patients' well-being, improving the integration and efficiency of health services in the community, and reducing ambulance transports, ED visits, and hospital readmissions. The majority of potential savings associated with these pilots would accrue to Medicare and Medi-Cal and to hospitals serving Medicare and Medi-Cal patients.

Specifically, the sites testing the seven concepts have demonstrated the following.

Post-Discharge – Short-Term Follow-Up

- The Post-Discharge - Short-Term Follow-Up projects improved patients' knowledge of their medications and their ability to take medications as prescribed by their physicians, and ensured that they understood discharge instructions and had scheduled follow-up visits.
- All five Post-Discharge - Short-Term Follow-Up projects decreased hospital readmissions within 30 days of discharge for at least one of the diagnoses targeted. Butte's heart failure patients were the only group of patients whose 30-day readmission rate exceeded the partner hospital's historical all-cause readmission rate.
- The Post-Discharge - Short-Term Follow-Up projects avoided \$1.3 million in potential costs for payers (primarily Medicare and Medi-Cal) and hospitals due to reductions in readmissions within 30 days of discharge. Participating hospitals also reduced their risk of incurring Medicare penalties for excessive readmissions.

Frequent EMS User

- Community paramedics assisted patients in obtaining mental health service, substance use disorder treatment, housing and other nonemergency services that address the physical, psychological, and social needs that led to their frequent EMS use.
- All three projects have projects achieved substantial reductions in the number of 911 calls, ambulance transports, and ED visits among enrolled patients.
- San Diego's and Alameda's projects avoided an estimated \$1 million in potential costs for payers by reducing 911 calls, ambulance transports, and ED visits. San Diego and San Francisco's projects also potentially decreased the amount of uncompensated care furnished by ambulance providers and EDs because large percentages of the patients enrolled in these projects were uninsured.

Directly Observed Therapy for Tuberculosis

- Community paramedics dispensed appropriate doses of TB medications and monitored side effects and symptoms that could necessitate a change in the treatment regimen.
- Persons with TB who received DOT from community paramedics were more likely to receive all doses of TB medication prescribed by the TB clinic physician than patients who received DOT from the TB clinic's community health workers. Receiving all doses prescribed by the TB clinic physician increased the likelihood that a patient will be treated successfully and will not spread TB to others or develop a drug-resistant strain of TB that would be much harder to treat and to control in the community.

Hospice

- Community paramedics assessed hospice patients, provided psychosocial support, and administered medications from the hospice patients' "comfort care" packs when necessary, in consultation with a hospice nurse.
- The Hospice project enhanced hospices' ability to honor patients' wishes to receive hospice services at home by markedly reducing rates of ambulance transports to an ED and ED visits.
- The reduction in unnecessary transports and ED visits potentially avoided costs for Medicare and other insurers. Expenditures for inpatient care were also potentially reduced because some ED visits for hospice patients result in an inpatient admission.

Alternate Destination – Mental Health

- Across the three Alternate Destination – Mental Health projects, 28% to 45% of patients screened were transported to the mental health crisis center rather than an ED. In Stanislaus County, an additional 27% could have been transported to the crisis center if the county had more inpatient psychiatric beds or if the crisis center accepted people with private insurance or Medicare.
- Ninety-eight percent of patients who participated in the projects (1,998 of 2,045 patients) were treated safely and effectively at the mental health crisis center without the delay of a preliminary emergency department visit for medical screening. Only 2% of patients (n = 47) required subsequent transfer to the ED, and none experienced adverse outcomes.
- The projects also improved public safety because community paramedics could take responsibility for a person with mental health needs, which allowed law enforcement officers to return to law enforcement duties instead of transporting the person to an ED and waiting to transfer responsibility for the person to clinicians in the ED.
- The project avoided potential costs for Medi-Cal and other payers by reducing ED visits and transfers of patients from EDs to psychiatric facilities. For uninsured persons, the amount of uncompensated care provided by EDs also decreased.

Alternate Destination – Urgent Care

- Conclusions cannot be drawn about the impact of the Alternate Destination – Urgent Care projects due to low enrollment.
- Among patients who were enrolled, paramedics were able to screen patients according to protocol and identify those for whom transport to an urgent care center was an appropriate option.
- No patients experienced an adverse outcome, although two patients (4%) were transferred to an ED following admission to an urgent care center, and nine patients (19%) were rerouted to an ED because the urgent care center declined to accept them.
- To operate safely and efficiently, these projects need to closely match field screening protocols with the capabilities of urgent care centers and the illnesses and injuries they are willing to treat.
- The projects potentially yielded modest savings for payers because they pay less for treatment provided in urgent care centers than in EDs for the same illnesses and injuries.

Alternate Destination – Sobering Center

- 97.8% percent of patients enrolled in the Alternate Destination – Sobering Center project (1,593 of 1,627 patients) were treated safely and effectively at the sobering center. Only 32 patients (2%) were transferred to an ED within six hours of admission to the sobering center, and only two (0.2%) were rerouted from the sobering center to an ED because the sobering center registered nurses declined to accept them. None of these patients were admitted to a hospital for inpatient medical care.
- In addition, community paramedics participating in the project provided feedback to paramedics on 911 crews on how to screen intoxicated persons to determine if they are candidates for transfer to the sobering center. They also partnered effectively with homeless outreach workers to encourage people who use the sobering center frequently to seek treatment for chronic alcoholism, housing, and other services.
- San Francisco's project has avoided potential costs of \$551,257 by substituting sobering center visits for ED visits. The majority of potential savings accrued to Medi-Cal because the majority of patients enrolled in the project were Medi-Cal beneficiaries.

Conclusion

The California community paramedicine pilot projects were designed to integrate with existing health care resources and utilize the unique skills of paramedics and their round-the-clock availability. Findings from the evaluation indicate that Californians benefit from these innovative models of health care that leverage an existing workforce operating at all times under medical control – either directly or by protocols developed by physicians experienced in EMS and emergency care. No other health professionals were displaced. Instead, these pilot projects have demonstrated that community paramedics can partner with physicians, nurses, behavioral health professionals, and social services workers to fill gaps in the health and social services safety net. No adverse patient outcome is attributable to any of these pilot projects.

At least 34 states are operating community paramedicine programs,² and research conducted to date indicates that they are improving the efficiency and effectiveness of the health care system.^{13,19-26} These findings suggest that the benefits of community paramedicine programs grow as they mature, solidify partnerships, and find their optimal structure and niche. The evaluation of HWPP #173 yields consistent findings for six of the seven community paramedicine concepts tested. The Post-Discharge – Short-Term Follow-Up, Frequent EMS User, Directly Observed Therapy for Tuberculosis, Hospice, Alternate Destination – Mental Health, and Alternate Destination – Sobering Center projects have improved patients' well-being and, in most cases, have yielded savings for payers and other parts of the health care system. The seventh concept, Alternate Destination – Urgent Care, shows potential, but the projects that tested this concept did not enroll sufficient numbers of persons to draw conclusions about effectiveness. These projects were closed in 2017. Further research involving a larger volume of patients transported to urgent care centers with wider ranges of services and expanded hours would be needed to determine whether this concept is effective.

If community paramedicine is implemented on a broader scale, the current EMS system design is well suited to utilize the results of these pilot programs to optimize the design and implementation of proposed programs and to ensure effectiveness and patient safety. The two-tiered system enables cities and counties to design and administer community paramedicine programs to meet local needs, while both local and state oversight and regulation ensure patient safety.

Appendix A. Map of California Community Paramedicine Pilot Projects Currently Enrolling Patients and Projects Expected to Begin Enrolling Patients in 2019

Community Paramedicine Pilot Projects - 2019

16 Projects • 11 Sites • 6 Concepts



Appendix B. Methods for Estimating Savings

This appendix describes the methods used to estimate savings associated with each of the seven community paramedicine concepts that are being tested as part of HWPP #173. Estimates of savings associated with the seven community paramedicine concepts reflect savings that accrue to parts of the health care system other than EMS transport providers, such as health insurers and hospitals. None of the projects has achieved savings for the EMS transport provider because they operate on a fee-for-service basis and are reimbursed only for transport. These agencies have had to provide in-kind contributions of supplies and labor to operate the pilot projects.

Different methods were used to estimate the savings associated with each concept due to the differences in the services provided and the types of outcomes each concept seeks to improve. For concepts that strive to reduce unnecessary ambulance transports, ED visits, and hospitalizations, the analysis focused on estimating the impact of these reductions on health insurers' expenditures because insurers typically pay for these services. Effects on hospitals' ability to manage "full risk" contracts with health insurers and avoid Medicare readmission penalties for excessive readmissions were addressed but could not be estimated quantitatively.

Post-Discharge – Short-Term Follow-Up

To generate estimates of savings, the differences between (1) the rates of readmission within 30 days of discharge among persons enrolled in the post-discharge projects and (2) historical 30-day readmission rates for partner hospitals were calculated. Historical readmission rates were obtained from Medicare Hospital Compare,²⁶ a system for reporting and publicly releasing data on the quality of care provided by Medicare-certified hospitals. Medicare Hospital Compare collects data on readmissions for persons with four of the six conditions targeted by the post-discharge projects: heart failure, acute myocardial infarction, chronic obstructive pulmonary disease, and pneumonia. A dataset containing data on readmission rates of partner hospitals between July 2012 and June 2015 was downloaded from Data.Medicare.gov.²⁷ These data were used to assess the projects' impact on 30-day readmission rates because all partner hospitals used similar methods to report the data to Medicare and because there was minimal overlap between the time period for which Hospital Compare data were collected and the implementation of the post-discharge projects.

The difference in the rate of readmission was multiplied by the number of people enrolled in each pilot project to generate an estimate of the number of readmissions avoided for each of the targeted diagnoses. The number of readmissions avoided was multiplied by an estimate of the average cost of admissions for patients with the diagnoses targeted by the projects. Estimates of the cost of admissions for targeted diagnoses were derived from OSHPD's public hospital inpatient discharge dataset. Costs per admission were calculated by multiplying the hospital's average charges for a diagnosis by the hospital's cost-to-charge ratio. This is a widely used method for estimating the cost of inpatient care. Costs per admission varied substantially across diagnoses targeted by the pilot projects, ranging from \$11,562 for chronic obstructive pulmonary disease to \$26,621 for acute myocardial infarction. For each project, the average cost per readmission was calculated as a weighted average of the costs of admissions of persons with targeted diagnoses, with weights assigned based on the proportion of total readmissions that occurred among persons with each targeted diagnosis.

Frequent EMS User

Savings were estimated by multiplying the numbers of ambulance transports and ED visits avoided by (1) the average cost per transport to an ED and (2) the mean Medicare reimbursement for ED visits. Based on interviews with the manager of San Diego's Frequent EMS User project, we assumed that every 911 call prevented resulted in avoidance of an ambulance transport and an ED visit.

For Alameda's and San Diego's Frequent EMS User projects, the number of ambulance transports and ED visits avoided was estimated by comparing the number of 911 calls made by enrolled patients during the 12 months

prior to their enrollment to the number of 911 calls made during the 12 months following enrollment. Calls made during the month of enrollment were excluded in recognition that the month of enrollment is a time of transition for patients. Data on 911 calls pre- and post-enrollment were available for 37 of the 46 enrollees in San Diego's project and 57 of the 72 enrollees in Alameda's project. The reduction in 911 calls over the 12 months post-enrollment was divided by 12 to estimate the numbers of 911 calls, ambulance transports, and ED visits avoided per month.

Estimates of the cost of ambulance transports avoided were obtained from the sites. Data for ED cost estimates were obtained from the University of California Research Exchange (UC ReX) and reflect visits to EDs at UC medical centers in 2015. Hospitals bill insurers for ED visits at one of five levels based on the amount of equipment and supplies needed to care for a patient. Level 1 is the lowest level and level 5 is the highest. For the Frequent EMS User projects, we used the national average Medicare reimbursement rate for all five levels of ED visits because information was not available to enable us to determine the most common reasons why frequent EMS users visit EDs or the severity and complexity of their needs. Medicare reimbursement rates were used because Medicare is the payer whose reimbursement is widely considered to be closest to the cost of care. The analysis was not limited to ED visits for any particular diagnoses because diagnosis is not a criterion for enrolling in the Frequent EMS User projects. We could not use the cost-to-charge ratio method used to estimate the cost of ED revisits avoided, because OSHPD does not collect complete data on charges for ED visits.

Directly Observed Therapy for Tuberculosis

A quantitative analysis of savings associated with the project that provides directly observed therapy (DOT) for tuberculosis (TB) was not conducted due to challenges associated with estimating the impact of the project. As discussed in the body of the report, the project found that community paramedics missed a smaller percentage of prescribed DOT treatments than community health workers (0.06% vs. 6.7%). However, we found no research that addressed the impact of a difference in adherence in a US population that compared groups of people with adherence rates of over 90%. In the absence of such research, we concluded that the most we could do would be to make directional statements about the potential impact of the increase in adherence on public health expenditures associated with investigation of close contacts of persons with TB and treating people infected by a noncompliant patient. We also make a directional statement about the impact of the use of community paramedics on the TB clinic's use of community health workers.

Hospice

Savings for the Hospice project were estimated by multiplying the number of transports and ED visits avoided by (1) the average cost per ambulance transport to an ED and (2) the average Medicare reimbursement for an ED visit for a high-acuity patient. The estimate of costs per transport reflects data reported by the pilot site for June 2015 through September 2016. The estimates represented actual "cash collected" by the agency from insurers and other payers. The number of transports avoided equals the difference between the numbers of transports that would have occurred if the percentage of hospice 911 calls that resulted in a transport to an ED remained at the level observed prior to the pilot project (80%) and the number of transports that occurred among hospice patients enrolled in the pilot project.

As indicated above in the description of the estimates of savings for the Frequent EMS User projects, data for ED cost estimates were obtained from the University of California Research Exchange (UC ReX) and reflect visits to EDs at UC medical centers in 2015. To estimate the cost of ED visits that do not result in a hospital admission, we applied national average Medicare reimbursement rates for all care provided to patients. For the Hospice project, the median reimbursement for levels 4 and 5 visits was used because terminally ill patients are likely to have acute needs. Median reimbursement for levels 4 and 5 visits across all diagnoses was used in lieu of the costs

related to specific diagnoses because information was not available to determine the diagnoses for which hospice patients were transported to an ED.

Alternate Destination – Mental Health

Savings for the Alternate Destination – Mental Health project were estimated by multiplying the numbers of ambulance transports and ED visits avoided by (1) the average cost per transport and (2) the average Medicare reimbursement for an ED visit for persons who have only behavioral health diagnoses. Because patients enrolled in the project are transported directly to the mental health crisis center, an ED visit is avoided every time a patient is enrolled. A secondary transport from an ED to a behavioral health facility is also avoided.

The estimate of the average cost per ambulance transport was based on information provided by Stanislaus' EMS provider.

As indicated above in the description of the estimates of savings for the Frequent EMS User projects, data for estimates of the cost of ED visits were obtained from the University of California Research Exchange (UC ReX) and reflect visits to EDs at UC medical centers in 2015. To estimate the cost of ED visits that do not result in a hospital admission, we applied national average Medicare reimbursement rates for all care provided to patients for which the only diagnoses reported are mental health diagnoses. These diagnoses were chosen because the Alternate Destination – Mental Health project serves persons who have only acute mental health needs.

Alternate Destination – Urgent Care

Savings for the Alternate Destination – Urgent Care projects were calculated based on an estimate from the literature of the difference in the cost of treating minor illnesses and injuries in an ED versus an urgent care center. Estimates published in the literature suggest that insurers pay urgent care centers 45% of what they pay hospitals for ED visits for the same minor illnesses and injuries.²⁸ The difference between reimbursement for ED visits and urgent care center visits was multiplied by the number of persons enrolled in the Alternate Destination – Urgent Care projects to obtain an estimate of total savings.

No estimate of savings associated with reduction in ambulance transports is included because, unlike other community paramedicine concepts that reduce ED visits, the Alternate Destination – Urgent Care projects did not reduce ambulance transports. Transport costs do not change because all enrolled patients are transported to an urgent care center.

As indicated above in the description of the estimates of savings for the Frequent EMS User projects, data for estimates of ED costs were obtained from the University of California Research Exchange (UC ReX) and reflect visits to EDs at UC medical centers in 2015. To estimate the cost of ED visits that do not result in a hospital admission, we applied the national average Medicare reimbursement rate for level 1 and level 2 ED visits. These levels were used because these projects enrolled people with minor illnesses or injuries. This rate was multiplied by 45% to estimate the average cost of treating people with minor illnesses or injuries in an urgent care center.

Alternate Destination – Sobering Center

Savings for the Alternate Destination – Sobering Center project were estimated by multiplying the numbers of ambulance transports and ED visits avoided per month by the cost of treating an intoxicated person with no co-morbidities in an ED. Costs for ambulance transports were included in the calculation only for patients who were secondarily transferred from the sobering center to an ED. The cost of initial transport to the sobering center was not included because the San Francisco Fire Department would have incurred the cost of an ambulance transport regardless of whether a patient was transported to an ED or the sobering center.

The estimate of the average cost of treating an intoxicated person with no co-morbidities in an ED was based on an estimate generated by the San Francisco Department of Public Health.¹⁶ This estimate represents average total costs for a patient to be served at Zuckerberg San Francisco General Hospital, the county's public hospital, by dividing total operational and facility expenses by the number of patients served. These costs are not used for billing purposes and, thus, may not reflect what the hospital charges insurers for treating these patients.

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County of Santa Clara Emergency Medical Services System



Emergency Medical Services Agency
700 Empey Way
San Jose, CA 95128
408.794.0600
www.sccemsagency.org

Date: August 20, 2020
To: Santa Clara County Emergency Medical Care Committee
From: John Blain, EMS Specialist
Subject: County Service Area Response Time Performance Reports

History and Issue

The County has entered into agreements with private and public entities to provide emergency medical response and advanced life support ambulance transportation services. Periodic response time compliance reports have been provided to the Emergency Medical Care Committee for the purpose of providing public review of those entities' performance and compliance with contractual response time requirements. The County has performance-based contracts with the following entities:

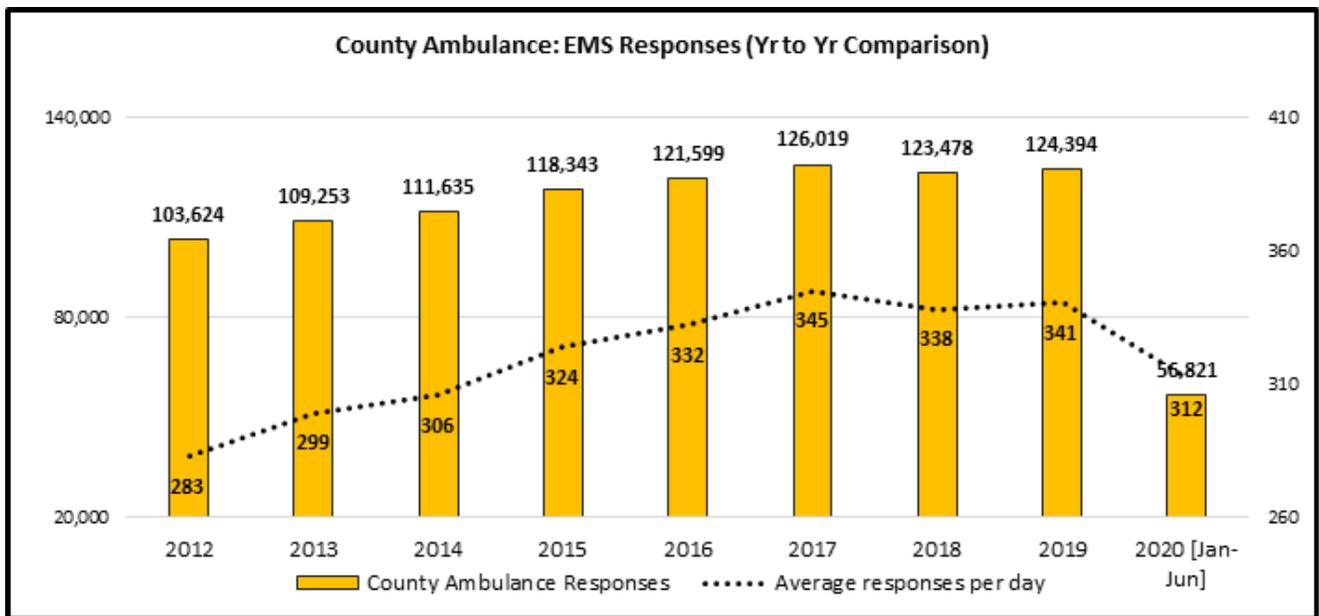
- County Contracted Ambulance Provider [Rural/Metro-AMR]
- Gilroy, *City of*
- Milpitas, *City of*
- Morgan Hill, *City of*
- Mountain View, *City of*
- San Jose, *City of*
- Santa Clara, *City of*
- Santa Clara County Central Fire Protection District
- South Santa Clara County Fire District
- Sunnyvale, *City of*

Context

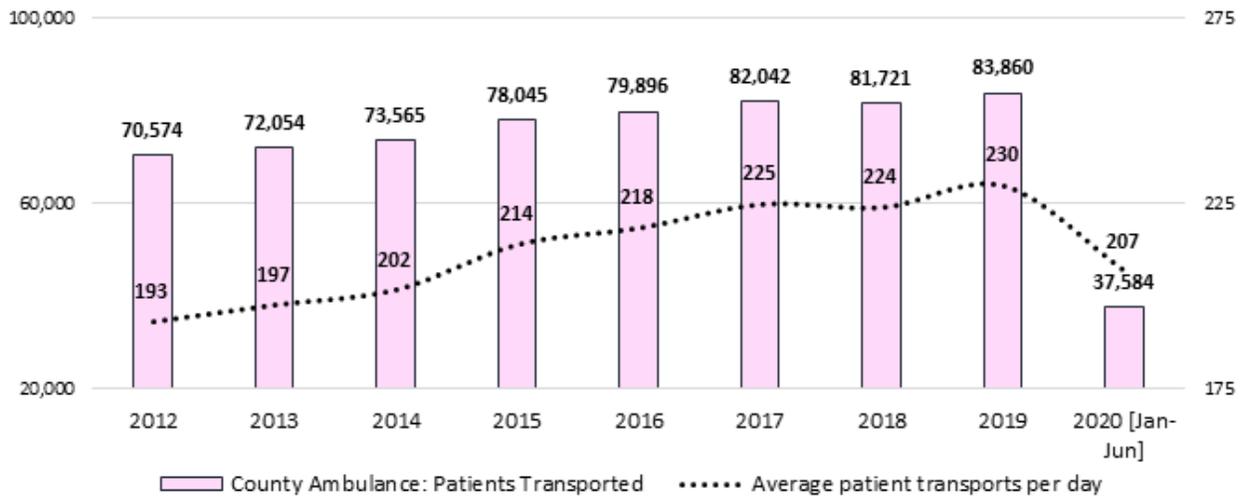
Compliance is measured by several key performance indicators that include; response time requirements based on population density; designated response areas; type of response priority (red lights & siren or non-red lights & siren); total number of responses; total number of late responses; and total number of responses exempted (removed) from compliance calculations. Compliance is achieved when ninety (90%) percent or more of the responses meet the specified response time requirement in each response priority within each designated response area.

County Ambulance Performance	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
Overall / Code 3	90.41%	91.50%	93.73%	94.84%	92.55%	93.13%
Zone 1 / Code 3	89.07%	91.07%	92.86%	94.71%	92.55%	91.66%
Zone 2 / Code 3	91.56%	92.14%	93.84%	94.07%	93.16%	94.31%
Zone 3 / Code 3	89.34%	91.73%	94.16%	95.83%	92.35%	93.31%
Zone 4 / Code 3	91.56%	91.30%	94.26%	94.58%	92.60%	92.35%
Zone 5 / Code 3	90.28%	90.73%	91.51%	94.05%	91.73%	95.47%

First Responder CODE 3 Response	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
Gilroy, City of	94.60%	95.83%	96.35%	94.10%	94.53%	93.20%
Milpitas, City of	98.05%	94.84%	96.25%	98.36%	93.86%	97.17%
Morgan Hill, City of	96.14%	96.00%	97.37%	95.19%	96.61%	97.64%
Mountain View, City of	98.02%	98.65%	98.66%	98.65%	98.31%	99.15%
San Jose, City of	91.77%	91.76%	90.96%	91.73%	93.33%	93.28%
Santa Clara, City of	99.72%	99.41%	99.69%	100.00%	100.00%	100.00%
Santa Clara County Central Fire District	95.99%	96.75%	97.08%	97.16%	96.29%	97.30%
South Santa Clara County Fire District	93.69%	96.70%	98.17%	95.24%	95.41%	97.53%
Sunnyvale, City of	97.87%	98.01%	96.63%	98.11%	96.52%	95.78%



County Ambulance: Patients Transported (Yr to Yr Comparison)



County of Santa Clara Emergency Medical Services System



Emergency Medical Services Agency
 700 Empey Way
 San Jose, CA 95128
 408.794.0600 voice | www.sccemsagency.org
www.facebook.com/SantaClaraCountyEMS

Date: August 20, 2020
To: Santa Clara County Emergency Medical Care Committee
From: David Sullivan, EMS Specialist, Vehicle Permit Officer
Subject: Ambulance Services and Permitted Vehicles

Current Ambulance Providers (as of 07/01/20):

Provider	Levels of Service
American Medical Response - Sutter	CCT, BLS
CALSTAR	Air
Falcon Critical Care Transport	CCT, BLS
Gilroy Fire Department	ALS
Milpitas Fire Department	ALS
NORCAL Ambulance	CCT, BLS
ProTransport-1	CCT, ALS, BLS
Royal Ambulance	CCT, BLS
Rural/Metro (County Ambulance)	ALS
San Jose Fire Department	ALS
Santa Clara City Fire Department	ALS
Silicon Valley Ambulance	ALS, BLS
Stanford Life Flight	Air
Westmed Ambulance	CCT, ALS, BLS

Number of Non-911 resources (as of 07/01/20):

Provider	Santa Clara County Resources
American Medical Response - Sutter	6
CALSTAR	3
Falcon Critical Care Transport	9
NORCAL Ambulance	10
ProTransport-1	30
Royal Ambulance	32
Silicon Valley Ambulance	9
Stanford Life Flight	1
Westmed Ambulance	22

Number of field inspections of ambulances and fire apparatus, so far, during CY2020:

Resource Type	Inspections
Ambulances (Fire, EOA, and Non-911)	14
Fire Apparatus (Non-Transport)	36
Quick Response Vehicle (EOA)	0

County of Santa Clara Emergency Medical Services System



Emergency Medical Services Agency

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Date: August 20, 2020

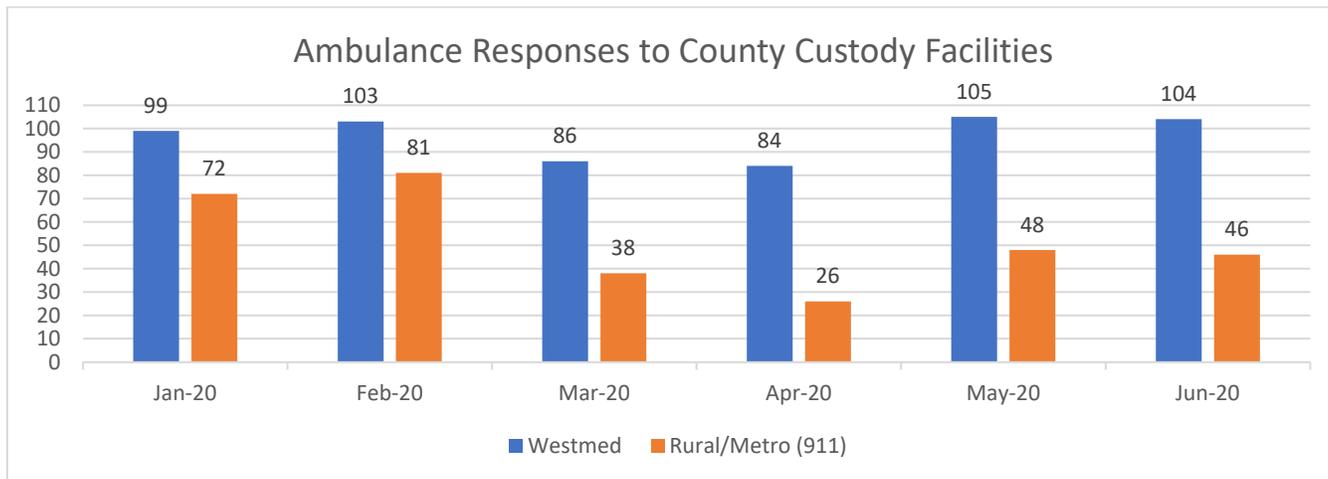
To: Santa Clara County Emergency Medical Care Committee

From: David Sullivan
EMS Specialist

Subject: Ambulance Responses to County Custody Facilities

History: Westmed Ambulance is the contracted ambulance provider for the Santa Clara County Custody Facilities. Occasionally, 911 ambulances are utilized due to patient condition or nature of the emergency.

Report: The following graph shows ambulance responses to the Main Jail and Elmwood Jail for calendar year 2020 through June. This report reflects responses to the following addresses: 701 S Abel & 945 Thompson in Milpitas, 150 W Hedding in San Jose





City of Palo Alto

City Council Staff Report

(ID # 11178)

Report Type: Informational Report

Meeting Date: 4/6/2020

Summary Title: PAFD Semi-Annual Performance Report FY20

Title: Palo Alto Fire Department Semi-Annual Performance Report for the First Half of Fiscal Year 2020

From: City Manager

Lead Department: Fire

Recommendation

Staff recommends the City Council review the First Palo Alto Fire Department Semi-Annual Performance Report for Fiscal Year 2020.

Background and Discussion

In Fiscal Year 2015 the Palo Alto Fire Department (PAFD) identified performance reporting as a key initiative, and began reporting on key performance measures quarterly. In Fiscal Year 2018 the Department began submitting reports twice each year.

The report provides overall calls for service information, as well as more detailed information on the key service areas, including Emergency Medical Services, Fire Suppression, Rescue and Hazardous Materials Response, and Fire Prevention. The report also provides information on mutual and automatic aid with our regional public safety partners and internal workforce planning efforts.

Performance measures include the following:

- **Calls for Service:** This data provides information on the final outcome of all **emergency response calls. The data is tracked in the Fire Department's Record Management System**, and uses standardized call type codes, which are defined by the National Fire Incident Reporting System (NFIRS). The report includes overall call volume by primary category, and a detailed listing of call type in the service type sections.
- **Response Times:** The time that an alert is received from the emergency dispatchers to the arrival of the fire resources at the scene of the emergency.

This information is tracked in the Computer Aided Dispatch (CAD) System, and the performance goals, or service levels, are set by Council in accordance with county and national standards.

- Ambulance Transports: The report provides the number of ambulatory transports to hospitals or other medical care facilities, and the proportion of Emergency Medical Calls that included transports. This information is tracked in the **Fire Department's Emergency Medical Record Management System**.
- Fire Containment: This measures the proportion of building and structure fires that are contained to the area or room of origin within Palo Alto and Stanford Campus.
- Mutual and Automatic Aid: This includes the number and proportion of all incidents that the PAFD provided aid to neighboring communities, as well as the aid received from neighboring Fire Departments. This information is tracked in the CAD System.
- Permits: This provides the total count of facility, electric vehicle, and solar permits issued by the Fire Prevention Bureau. This information is currently **tracked in the Development Center's Records Management System**.
- Inspections: A count of the total number of Hazardous Materials and State Mandated inspections is provided. In addition, an estimated number of inspections to be completed for the year is also provided to assess overall workload performance to date.
- Fire and Life Safety Plans Reviewed: This provides a total count of all plans reviewed, as well as the proportion of plans that were reviewed within the time guidelines.
- Vacancies and Off-Line Employees: This section provides the total number of budgeted full-time equivalent shift personnel, current vacancies, and employees that are off-line due to workers compensation or light duty. This information is **obtained from the Fire Department's Staffing and Scheduling System (TeleStaff), as well as the City's Personnel Management System**.
- Succession Planning Metrics: This provides the number and proportion of shift personnel that are eligible to retire, or will be eligible within the next five years. **This information is tracked in the City's Personnel Management System**. This report also provides the total number of hours that shift personnel spent in an acting capacity. Personnel serving in an acting capacity are a key component of **the Department's overall succession planning efforts. Acting capacity allows junior officers to learn the responsibilities of higher ranks with guidance from**

senior officers. This information is tracked in TeleStaff.

- Training hours: The total number of training hours completed by all shift personnel is provided, as well as the average number of hours per each shift personnel on staff. This information is **tracked in the Fire Department's Record Management System**. Local, State and Federal mandates require fire personnel to train a minimum of 20 hours per month.

Attachments:

- ATTACHMENT A_Coverletter FINAL
- ATTACHMENT B_Semi Annual Performance Report FY20.1 FINAL
- ATTACHMENT C_EMS Customer Report
- ATTACHMENT D_Letters of Appreciation

City of Palo Alto
Fire Department

Honorable Councilmembers,

I am pleased to provide the enclosed performance report for the first half of Fiscal Year 2020. This period saw a five percent (5%) increase in overall call volume. This is primarily from an increase in our Emergency Medical Services calls.

In 2018, the Department conducted a predictive analysis with subject matter expert consultants, Actionable Insights, that showed an expected increase to EMS call volume of 25-34% by 2030. This increase may be the beginning of this predicted growth. To strategically prepare for this expected surge in demand, the Department is convening a stakeholder group to work on a business plan for alternative service delivery models.

This February we graduated six new Palo Alto Firefighters from the Joint Fire Academy, and I am proud to welcome them to the Department. I have been impressed with their performance and appreciate the dedication of the Training Division with adequately preparing them. Although we over hired to reduce vacancies, we had a few retirements, and we are currently fully staffed for the first time.

Although we are fully staffed, we expect this to be temporary as forty-three percent (43%) of our line staff are eligible to retire in the next five years. To prepare for additional retirements, our Support Services division is working to conduct an entry-level hiring to establish a hiring list.

Sincerely,



Geo Blackshire
Fire Chief

P.O Box 10250
Palo Alto, CA 94303
650.329.2184
650.327.6951 fax



Palo Alto Fire Department First Semi-Annual Performance Report Fiscal Year 2020

Calls for Service

The Palo Alto Fire Department (PAFD) responded to a total of 4,499 calls for service in the first six-month period of Fiscal Year 2020. This includes responses within Palo Alto, Stanford, and neighboring cities to provide Auto and Mutual Aid. Approximately eighty-three percent (83%) of calls are generated from Palo Alto, sixteen percent (16%) from Stanford, and the remainder from neighboring cities or requests for regional fire deployment.

The majority of calls were for Rescue and Emergency Medical Services, making up sixty two percent (62%) of the responses. Table 1 below shows the main categories of the calls to which PAFD responded. Calls are classified based on the actual event occurred, rather than the initial call request.

Call Type	FY19 JUL-DEC	FY20 JUL-DEC
Rescue and Emergency Medical Services Incidents	2,632	2792
Good Intent	620	666
False Alarm and False Call	620	601
Service Call	231	312
Fire	85	57
Hazardous Condition, No Fire	76	71
Grand Total	4,264	4,499

Good Intent and False Alarm calls make up the second largest types of responses. Most calls for service that may be a true threat of fire, gas or other emergency hazard are actually found to be something else after Firefighters investigate the situation. These calls are coded as Good Intent calls. As well, many fire alarm activations are from causes other than fire or emergency hazard. These situations are categorized as False Alarm calls.

Emergency Medical Services and Rescue

Emergency Medical Service (EMS) is the primary service that the Palo Alto Fire Department provides to Palo Alto and Stanford. While this shift toward EMS is being seen across the region, the Palo Alto Fire Department is the only Fire Department in the County that provides ambulance and transport services.

Of the 2,792 Emergency Medical Service calls the PAFD responded to in the first period of Fiscal Year 2020, the overwhelming majority were for medical, trauma and cardiac calls that did not involve a vehicle accident.

Rescue and EMS Performance Measures	FY19 JUL-DEC	FY20 JUL-DEC
Emergency Medical Service Incident	2,577	2,729
Extrication, Rescue	41	54
Lock-In	10	4
Rescue or EMS Standby	2	4
Water and Ice-Related Rescue	1	1
Search for Lost Person	1	-
Total	2,632	2,792
Transports		
Number of Transports	1,774	1958
Percent of EMS Calls resulting in transport	67%	70%
Response Times		
Percent of first responder arriving on scene to EMS calls within 8 minutes	93%	91%
Percent of paramedic responder arriving on scene to EMS calls within 12 minutes	99%	99%
Average response time for first responder arriving on scene to EMS calls	5:06	5:14

This period reflects a slight increase to the number of Rescue and EMS Incident calls. The number of EMS calls that resulted in an ambulance transport to a local hospital or care facility, accounted for seventy percent (70%) of all EMS calls. This is the primary source of revenue generated from emergency medical services, and the Department has seen a small increase to revenue from the surge of EMS calls over the last period.

- ★ **Response Time Goal Met:** At least 90% of first responder arriving on scene to EMS calls within eight minutes.

This period the PAFD first responder arrived on scene to EMS calls within eight minutes ninety-one percent (91%) of the time.

- ★ **Response Time Goal Met:** At least 99% of paramedic responder arriving on scene to EMS calls within 12 minutes.

This period the PAFD paramedic responder arrived on scene to EMS calls within 12 minutes ninety-nine percent (99%) of the time.

Fire Suppression

Very few of the potential fire calls coming into dispatch turn out to be a real fire once PAFD investigates the scene and cause of the concerning elements. This period PAFD responded to fifty-seven (57) calls where fire was present, with forty-three in Palo Alto and thirteen occurring in Stanford. There were seven (7) building fires that the Department responded to where five of which were contained to the area of origin.

Here are the descriptions of the significant fires for this period:

7/5/19

Units responded to find light brown smoke showing from Charlie side of portable classroom structure at rear of Cubberly complex. A 10 foot by 20 foot enclosed wood shed with smoke pushing out door seam and roof lines. Units made entry to the shed and found heavy brown smoke. The fire was extinguished. Overhaul was performed while attempting to maintain evidence for fire investigation.

8/26/19

On arrival smoke was showing from a downstairs apartment unit at the rear of the complex. Personnel entered and extinguished the fire. The main fire damage was in a closet immediately to the left of the front door, the hallway, and some damage in the kitchen.

12/5/19

PAFD crews responded to a structure fire. Crews arrived on scene to a working fire in the center occupancy of a multi-unit structure. The fire was confined to the living room of the unit of origin. Units on scene got a quick knock down, completed a primary search, checked for fire extension and performed salvage and overhaul. Red cross was also dispatched for the displaced residents.

12/25/19

PD responded to a Christmas tree on fire in a home. At that time the smoke seemed to be dissipating, which was due to the sprinklers being activated and putting out the fire. The fire had been found to be contained to the tree, which we removed from the residence. There was significant water damage and crews performed salvage and overhaul before turning over the scene to the building owners.

Fire Suppression Measures	FY19 JUL-DEC	FY20 JUL-DEC
Structure Fire	32	18
Special outside fire	2	14
Outside rubbish fire	19	8
Mobile property (vehicle) fire	12	6
Natural vegetation on fire	10	6
Fire, Other	10	5
Fire in mobile property used as a fixed structure	0	-
Total	85	57
Response Times		
Percent of first responder arriving on scene to Fire calls within 8 minutes	88%	86%
Average response time for first responder arriving on scene to Fire calls	5:43	5:48
Fire Containment		
Percent of building and structure fires contained to the room or area of origin	71%	71%

- 
Response Time Not Goal Met: At least 90% of first responder arriving on scene to Fire calls within eight minutes.

This period the PAFD first responder arrived on scene to Fire calls within eight minutes eighty six percent (86%) of the time.

- 
Fire Containment Goal Not Met: At least 90% of building and structure fires contained to the room or area of origin.

This period there were seven building or structure fires within Palo Alto or Stanford, of which seventy one percent (71%) was contained to the room or area of origin.

Hazardous Materials

The Fire Department responded to a total of 71 calls related to hazardous material incidents. The most common Hazardous Material call is spills and leaks of either natural or liquid petroleum gas (LPG) which totaled 44. This number accounted for sixty-two (62%) percent of all Hazardous Material calls.

The second highest Hazardous Material calls were related to electrical wiring or equipment problems. fifteen (15) of these calls account for twenty (20%) percent of all Hazardous Material calls.

Hazardous Materials Response Measures	FY19 JUL-DEC	FY20 JUL-DEC
Combustible/Flammable spills and leaks	36	44
Electrical wiring/Equipment problem	15	15
Biological hazard	8	3
Chemical release, reaction, or toxic condition	4	5
Accident, potential accident	3	3
Attempted burning, illegal action	0	1
Hazardous Condition, Other	10	-
Total	76	71
Response Times		
Average response time for first responder arriving on scene to Rescue & Hazardous Materials calls	6:42	6:40

Mutual and Automatic Aid

The Fire Department previously held automatic aid agreements with five regional Fire Departments, including Mountain View, Menlo Park, and Santa Clara County Fire. At the request of the City of Mountain View, the automatic aid agreement was modified at the beginning of January 2018 resulting in a significant decrease in the number of calls compared to the prior fiscal year. The Palo Alto Fire Department continues to advocate for the closest unit response and collects objective data to support improved services to all of our communities under the previous automatic aid agreement.

Santa Clara County received the highest amount of aid from the department this period accounting for fifty-eight (58%) of all mutual and auto aid provided. The Department received the most aid from Mountain View with a total of 36 incidents.

Mutual Aid Performances		FY19 JUL-DEC	FY20 JUL-DEC
Mutual and Auto Aid Provided			
<u>Agency</u>			
Santa Clara County Fire		34	33
Mountain View Fire		21	15
Menlo Park Fire		5	4
San Mateo City		0	1
San Mateo County		1	2
Morgan Hill			1
Gilroy			1
	<i>All Mutual and Auto Aid Provided</i>	61	57
Mutual and Auto Aid Received			
<u>Agency</u>			
Mountain View Fire		28	36
Menlo Park Fire		16	16
Woodside Fire		-	10
Santa Clara County Fire		4	1
	<i>All Mutual and Auto Aid Received</i>	48	63

Fire Prevention

The Fire Prevention Bureau ensures compliance with the Fire Code for the safety of occupants and protection of property. Fire Inspectors perform fire sprinkler and fire alarm plan checks, permitting, and field inspections with the goal of ensuring all construction complies with local and national codes.

This period saw a significant increase in the number of plans reviewed compared the same period in the prior year. The reduction in the number of plans completed on-time is directly attributed to the increase in workload for the Bureau staff.

Prevention Bureau Performance Measures	FY19 JUL-DEC	FY20 JUL-DEC
Permits		
Fire Permits Issued	225	214
Sprinkler Permits Issued	136	157
Solar Permits Issued	46	93
Electric Vehicle Permits Issued	0	0
Inspections		
Fire Inspections	5,046	5,288
Hazardous Material Inspections Completed	241	139
Number of Hazardous Material Inspections for the year	565	700
Percent of Hazardous Material Facilities Inspections Complete	43%	20%
State Mandated Inspections Completed	228	332
Number of State Mandated Inspections for the year	574	517
Percent of State Mandated Facilities Inspections Complete	40%	62%
Fire and Life Safety Plan Review		
Plans Reviewed	860	1,000
Percent of Reviews Completed On-Time	95%	93%

Workforce Planning

The Department operates daily emergency response operations with a total of 86.00 FTE line personnel. This includes three battalions of crews that staff six stations in the City and Stanford 24 hours each day.

Over the last period, the department was fully staffed for the first time in over a decade. Six new firefighters were hired to complete a Joint Fire Academy and will graduate in February.

The Department continues to face massive turnover in the future with forty-three percent (43%) of all shift staff eligible to retire. To prepare for this, the Department is working on completing an entry-level hiring process to create a new list to hire from as more staff retire over the next two years.

The training division supported the Joint Fire Academy, conducting training and testing for Acting Captains, completed an Apparatus Operator handbook and hosted trainings on night drills and urban search and rescue this period.

Vacancies and Off-Line Employees FY20 JUL-DEC					
<u>Classification</u>	<u>Budgeted FTE</u>	<u>Vacancies</u>	<u>Off-Line Employees (Workers Comp/Light Duty)</u>	<u>Personnel On Line</u>	<u>Percent of Personnel On Line</u>
Battalion Chief	4	0	0	4	100%
Fire Captain	22	0	0	22	100%
Fire Apparatus Operator & Fire Fighters	60	0	2	58	97%
TOTAL	86	0	2	84	98%

Succession Planning		FY19 JUL-DEC	FY20 JUL-DEC
Personnel			
Number of Shift Staff Currently Eligible to Retire		25	22
Number of Shift Staff Eligible to Retire in Five Years		18	16
Percent of all Shift Staff Eligible to Retire within Five Years		51%	43%
Number of Acting Battalion Chief Hours		48	-
Number of Acting Captain Hours		1,681	2,278
Number of Acting Apparatus Operator Hours		8,107	8,162
Training			
Hours of Training Completed		17,464	23,917
Average Hours Per Line Personnel		253	310



PAFD VITAL SIGNS REPORT

SURVEYS RECEIVED 7-1-2019 THROUGH 12-31-2019

FILTERS: SURVEY: 1



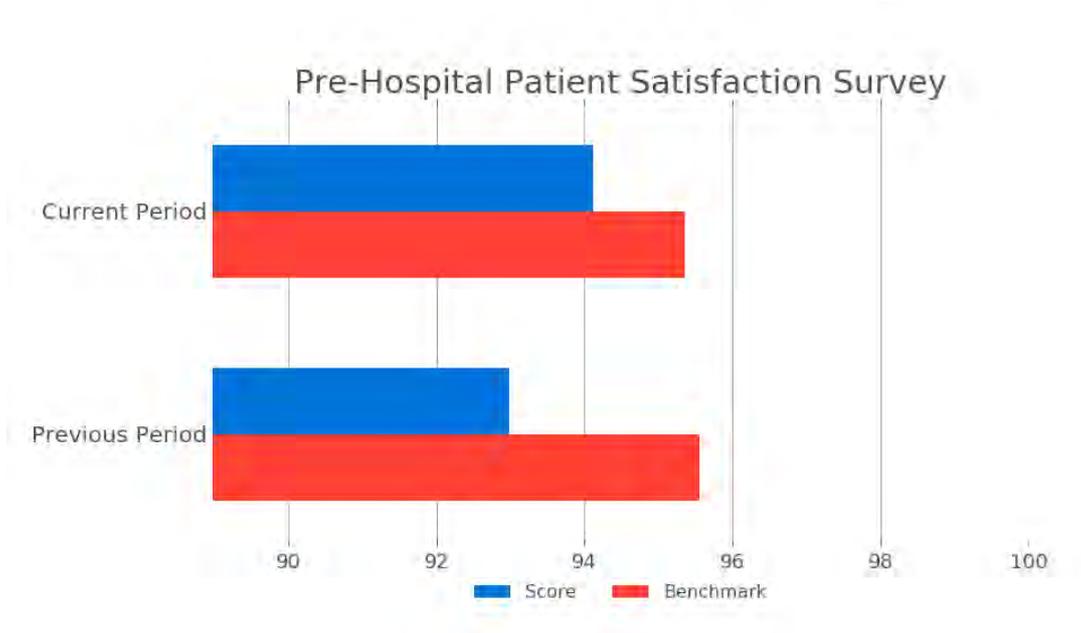
P.O. Box 100,
Andover MA 01810
(844) 340-6060
Feedback-Innovations.com

1.0 EXECUTIVE SUMMARY

PAFD received a total of 228 responses for this period. The highest rated section was *Communication*, with a total score of 96.05. The lowest rated section was *Billing*, with a total score of 88.73.

- The Communication section had a 1.2% increase in *Ambulance staff's concern for your privacy La preocupación del personal del ambulancia en cuanto a su privacidad*.
- The Billing section had a 1.8% increase in *Ability of billing personnel to meet your needs Capacidad del personal de facturación para satisfacer sus necesidades*. This may be a focus for further improvement.
- Percentile ranking this period is lower 31.91%.

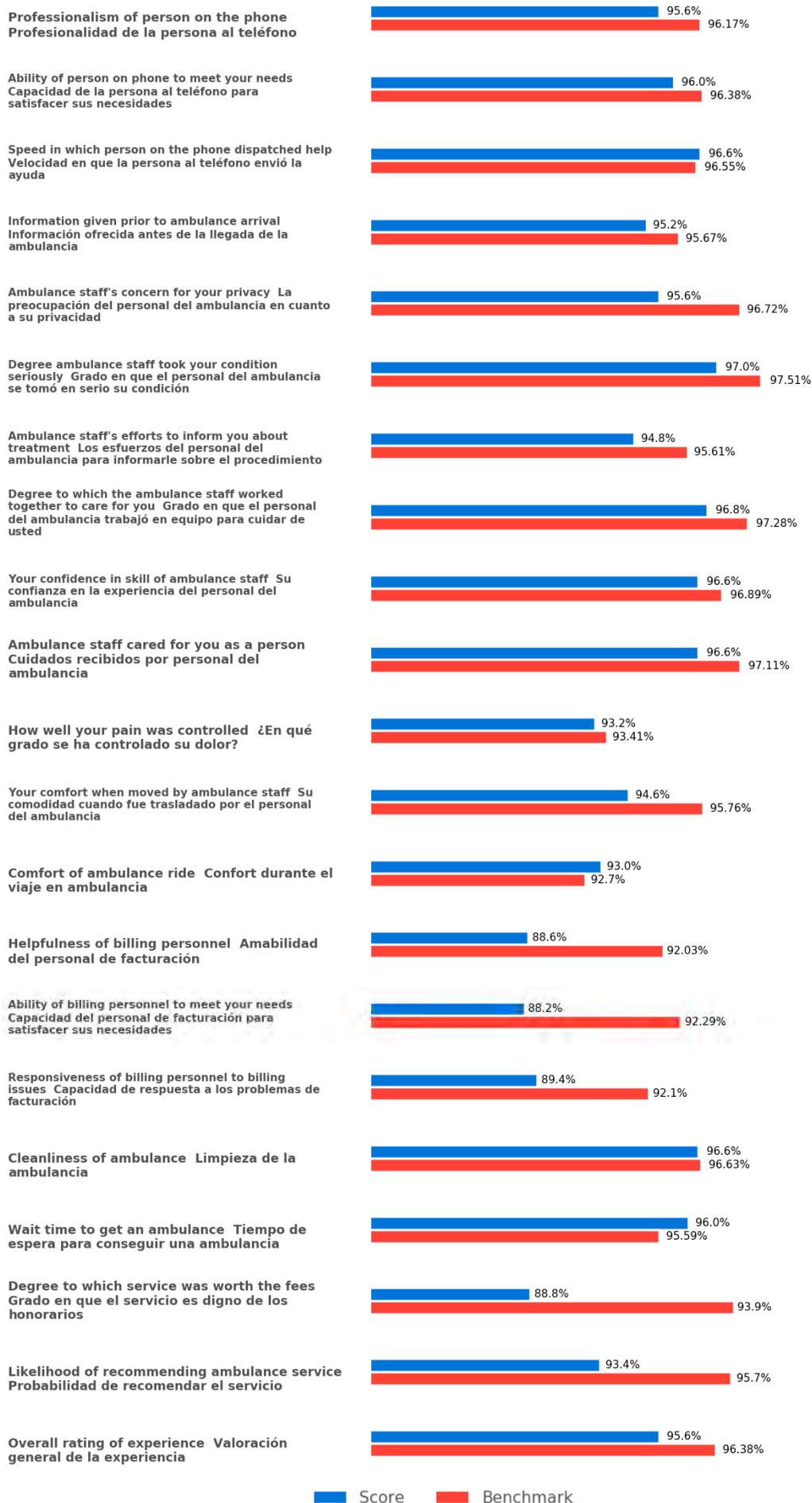
Cumulative Score: **94.12**



	Previous Period	Current Period
Score	92.98	94.12
Benchmark	95.56	95.35

The benchmark is the mean average of all responses for all services in the Feedback Innovations database.

VITAL SIGNS PATIENT SATISFACTION REPORT



2.0 IMPROVEMENT PRIORITY RANKING

Rank	Question
1	Professionalism of person on the phone Profesionalidad de la persona al teléfono
2	Ability of person on phone to meet your needs Capacidad de la persona al teléfono para satisfacer sus necesidades
3	Speed in which person on the phone dispatched help Velocidad en que la persona al teléfono envió la ayuda
4	Information given prior to ambulance arrival Información ofrecida antes de la llegada de la ambulancia
5	Helpfulness of billing personnel Amabilidad del personal de facturación
6	Ability of billing personnel to meet your needs Capacidad del personal de facturación para satisfacer sus necesidades
7	Responsiveness of billing personnel to billing issues Capacidad de respuesta a los problemas de facturación
8	Cleanliness of ambulance Limpieza de la ambulancia
9	Wait time to get an ambulance Tiempo de espera para conseguir una ambulancia
10	Degree to which service was worth the fees Grado en que el servicio es digno de los honorarios
11	Likelihood of recommending ambulance service Probabilidad de recomendar el servicio
12	Ambulance staff's concern for your privacy La preocupación del personal del ambulancia en cuanto a su privacidad
13	Degree ambulance staff took your condition seriously Grado en que el personal del ambulancia se tomó en serio su condición
14	Ambulance staff's efforts to inform you about treatment Los esfuerzos del personal del ambulancia para informarle sobre el procedimiento
15	Degree to which the ambulance staff worked together to care for you Grado en que el personal del ambulancia trabajó en equipo para cuidar de usted
16	Comfort of ambulance ride Confort durante el viaje en ambulancia
17	Your confidence in skill of ambulance staff Su confianza en la experiencia del personal del ambulancia
18	Ambulance staff cared for you as a person Cuidados recibidos por personal del ambulancia
19	How well your pain was controlled ¿En qué grado se ha controlado su dolor?
20	Your comfort when moved by ambulance staff Su comodidad cuando fue trasladado por el personal del ambulancia

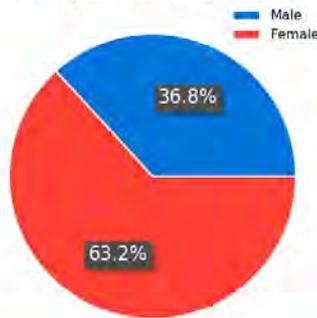
The Improvement Priority Ranking uses a combination of score and correlation to overall satisfaction to determine the most important areas for improvement. The closer to 1 the more important it is to your patients that this aspect of your service be improved upon.

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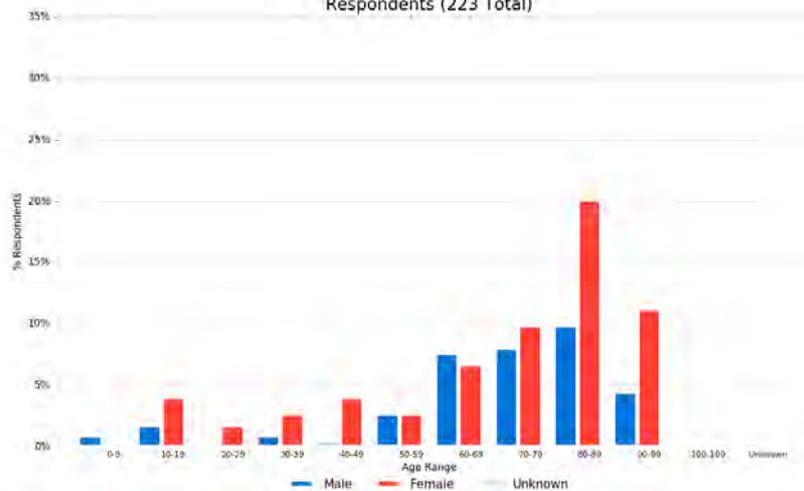
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 - 4.6 Overall 10

3.0 DEMOGRAPHIC INFORMATION

Respondents (223 Total)



Respondents (223 Total)



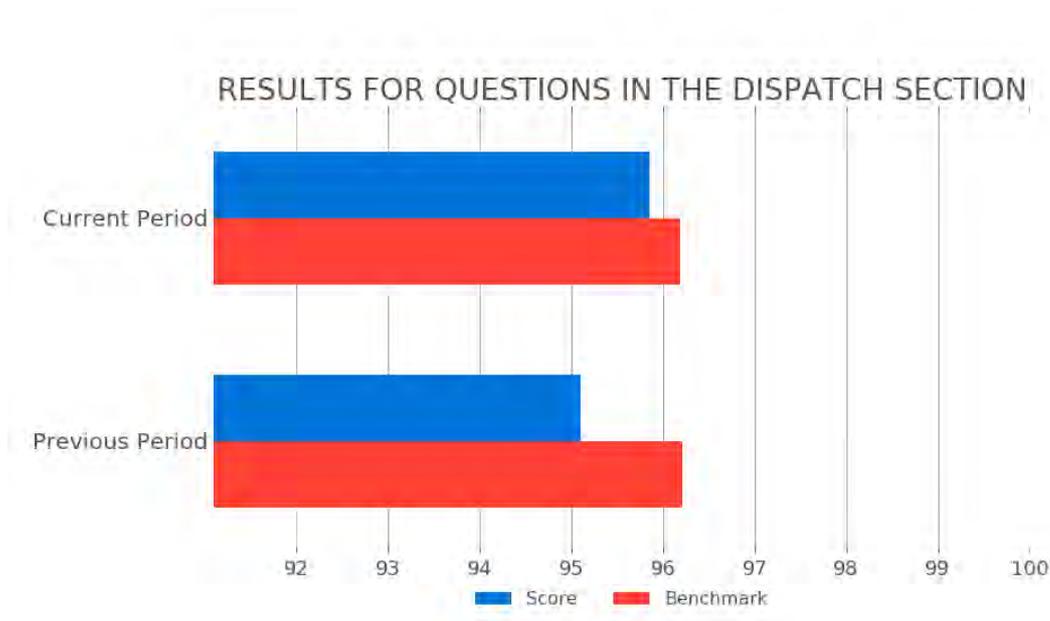
4.0 SECTIONS

4.1 Dispatch

Percentile ranking this period is lower 29.79%.

The Dispatch section showed a 0.75% increase overall from Previous Period to Current Period, with a total score of **95.85**. Drilling down by question for the Dispatch section:

- There was a 0.6% increase for *Professionalism of person on the phone Profesionalidad de la persona al teléfono*, with a score of 95.6.
- There was a 0.8% increase for *Ability of person on phone to meet your needs Capacidad de la persona al teléfono para satisfacer sus necesidades*, with a score of 96.0.
- There was a 0.6% increase for *Speed in which person on the phone dispatched help Velocidad en que la persona al teléfono envió la ayuda*, with a score of 96.6.
- There was a 1.0% increase for *Information given prior to ambulance arrival Información ofrecida antes de la llegada de la ambulancia*, with a score of 95.2.



	Previous Period	Current Period
Score	95.1	95.85
Benchmark	96.21	96.19

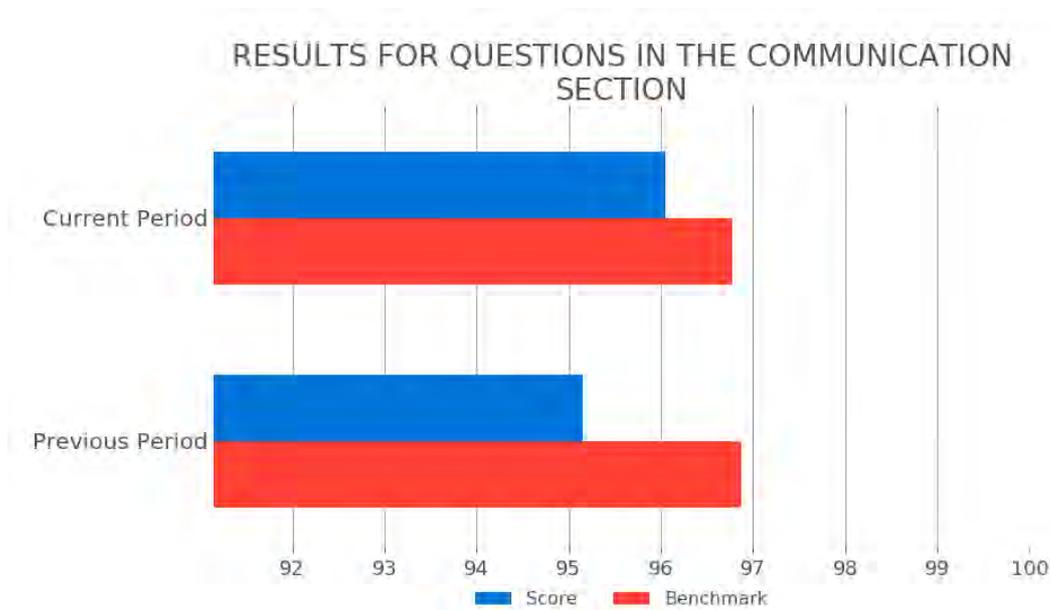
4.2 Communication

Percentile ranking this period is lower 32.98%.

The Communication section showed a 0.9% increase overall from Previous Period to Current Period, with a total score of **96.05**

. Drilling down by question for the Communication section:

- There was a 1.2% increase for *Ambulance staff's concern for your privacy La preocupación del personal del ambulancia en cuanto a su privacidad*, with a score of 95.6.
- There was a 1.0% increase for *Degree ambulance staff took your condition seriously Grado en que el personal del ambulancia se tomó en serio su condición*, with a score of 97.0.
- There was a 0.4% increase for *Ambulance staff's efforts to inform you about treatment Los esfuerzos del personal del ambulancia para informarle sobre el procedimiento*, with a score of 94.8.
- There was a 1.0% increase for *Degree to which the ambulance staff worked together to care for you Grado en que el personal del ambulancia trabajó en equipo para cuidar de usted*, with a score of 96.8.



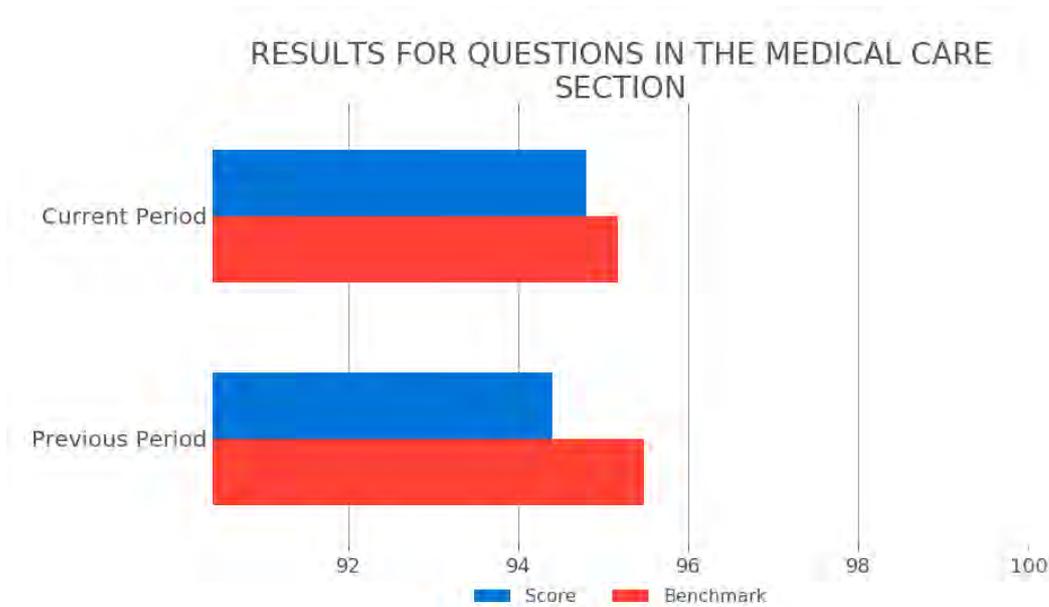
	Previous Period	Current Period
Score	95.15	96.05
Benchmark	96.87	96.78

4.3 Medical Care

Percentile ranking this period is lower 38.3%.

The Medical Care section showed a 0.4% increase overall from Previous Period to Current Period, with a total score of **94.8**. Drilling down by question for the Medical Care section:

- There was a 0.4% increase for *Your confidence in skill of ambulance staff Su confianza en la experiencia del personal del ambulancia*, with a score of 96.6.
- There was a 0.6% increase for *Ambulance staff cared for you as a person Cuidados recibidos por personal del ambulancia*, with a score of 96.6.
- There was a 1.8% increase for *How well your pain was controlled ¿En qué grado se ha controlado su dolor?*, with a score of 93.2.
- There was a 0.4% decrease for *Your comfort when moved by ambulance staff Su comodidad cuando fue trasladado por el personal del ambulancia*, with a score of 94.6.
- There was a 0.4% decrease for *Comfort of ambulance ride Confort durante el viaje en ambulancia*, with a score of 93.0.



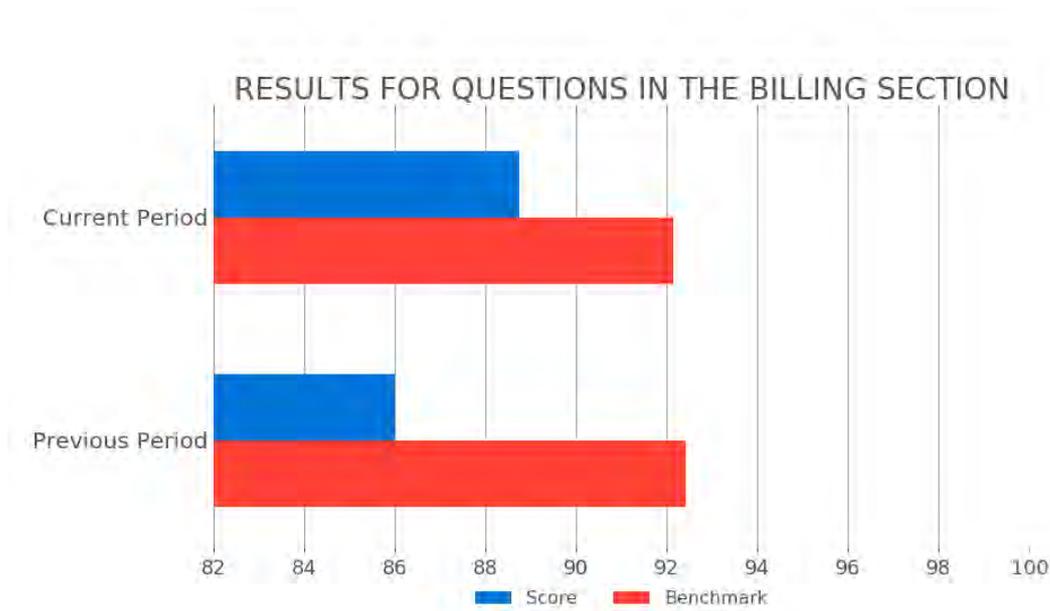
	Previous Period	Current Period
Score	94.4	94.8
Benchmark	95.47	95.17

4.4 Billing

Percentile ranking this period is lower 10.64%.

The Billing section showed a 2.73% increase overall from Previous Period to Current Period, with a total score of **88.73**. Drilling down by question for the Billing section:

- There was a 2.6% increase for *Helpfulness of billing personnel Amabilidad del personal de facturación*, with a score of 88.6.
- There was a 1.8% increase for *Ability of billing personnel to meet your needs Capacidad del personal de facturación para satisfacer sus necesidades*, with a score of 88.2.
- There was a 3.8% increase for *Responsiveness of billing personnel to billing issues Capacidad de respuesta a los problemas de facturación*, with a score of 89.4.



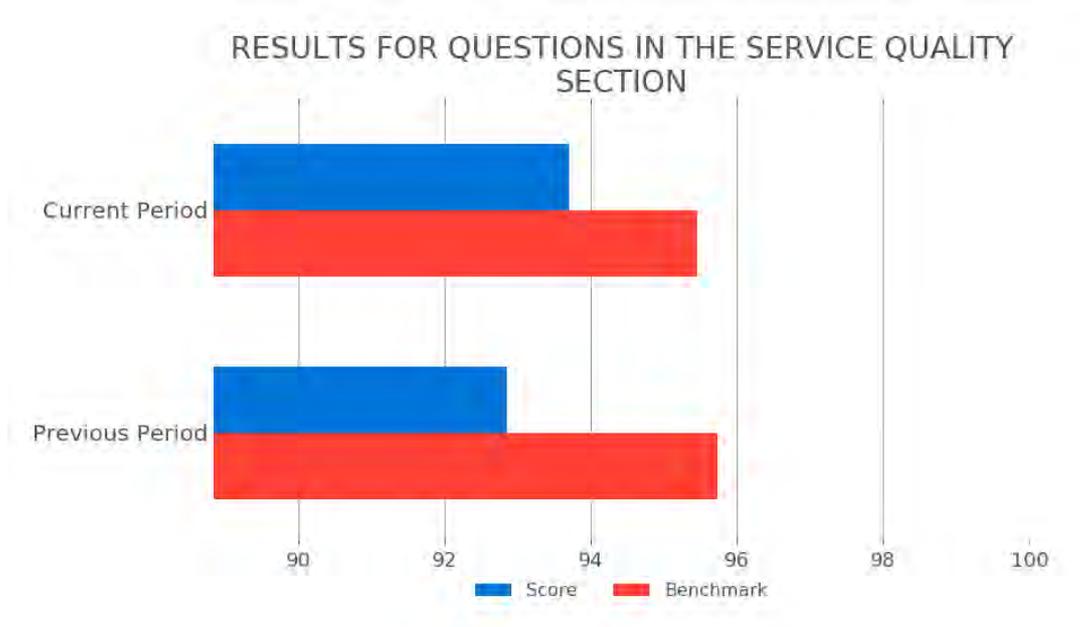
	Previous Period	Current Period
Score	86.0	88.73
Benchmark	92.42	92.14

4.5 Service Quality

Percentile ranking this period is lower 25.53%.

The Service Quality section showed a 0.85% increase overall from Previous Period to Current Period, with a total score of **93.7**. Drilling down by question for the Service Quality section:

- There was a 1.2% increase for *Cleanliness of ambulance Limpieza de la ambulancia*, with a score of 96.6.
- There was a 1.0% increase for *Wait time to get an ambulance Tiempo de espera para conseguir una ambulancia*, with a score of 96.0.
- There was a 1.0% increase for *Degree to which service was worth the fees Grado en que el servicio es digno de los honorarios*, with a score of 88.8.
- There was a 0.2% increase for *Likelihood of recommending ambulance service Probabilidad de recomendar el servicio*, with a score of 93.4.



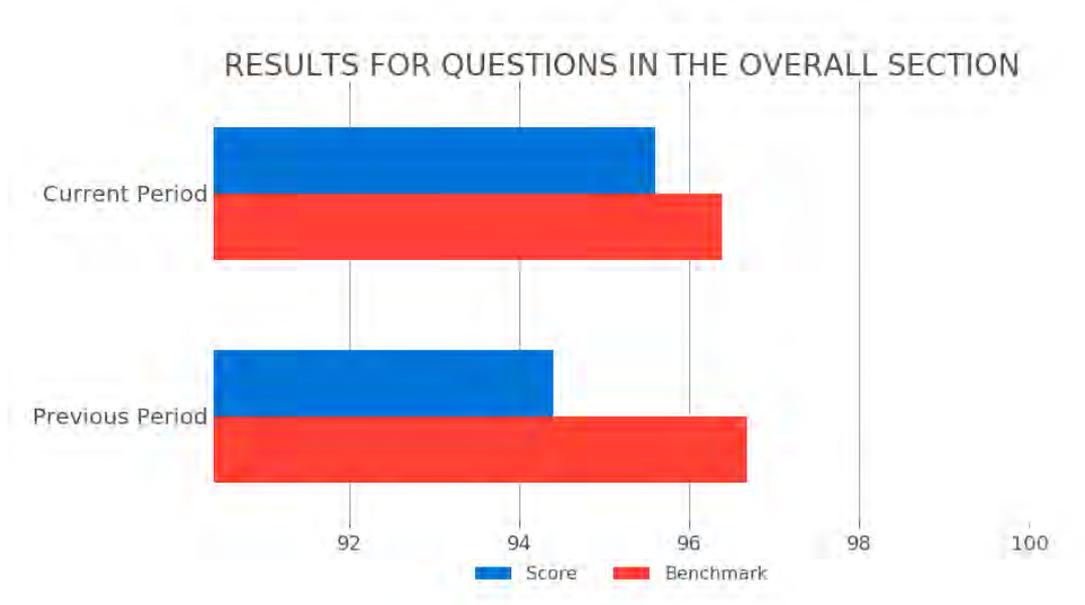
	Previous Period	Current Period
Score	92.85	93.7
Benchmark	95.73	95.46

4.6 Overall

Percentile ranking this period is lower 31.91%.

The Overall section showed a 1.2% increase overall from Previous Period to Current Period, with a total score of **95.6**. Drilling down by question for the Overall section:

- There was a 1.2% increase for *Overall rating of experience Valoración general de la experiencia*, with a score of 95.6.



	Previous Period	Current Period
Score	94.4	95.6
Benchmark	96.67	96.38

From: Mark [REDACTED]
Sent: Monday, July 15, 2019 9:10 AM
To: Blackshire, Geoffrey <Geoffrey.Blackshire@CityofPaloAlto.org>
[REDACTED]
Subject: staff recommendation/commendation

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Fire Chief Blackshire,

Recently one of your staff, Brent White, came to our campus to do our annual fire/life safety inspection. From the very beginning of meeting Brent White, his professionalism and knowledge was very evident. He was clear in his communicating what we needed to provide and helped us through the very lengthy inspection of over 850,000 square feet of space. Continually, through the process we were amazed at his knowledge and insight to buildings fire systems and life safety. His expertise and guidance helped us through a very thorough inspection. When we had questions, Brent responded quickly and concisely with remedies and ideas on how to go about solutions.

In all my years, working in facilities management and working for the City of Palo Alto, I have not come across someone so absolutely professional and adept at his work. This example of competency is truly a breath of fresh air. Please place our recommendation and commendation for a job well done in Brent's personnel file. We expect to see Brent in the coming years here at campus and look forward to working with him.

If you have any questions, please feel to contact us at any time.

Kind regards,

[REDACTED]

From: [REDACTED]
Sent: Sunday, August 04, 2019 4:17 PM
To: Blackshire, Geoffrey <Geoffrey.Blackshire@CityofPaloAlto.org>
Subject: Commendation

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Good Afternoon Fire Chief Blackshire -

On behalf of the San Jose Fire Department, I'd like to express my appreciation for the exemplary work performed by Palo Alto Firefighters Scott Woodfin and Tom Hamilton.

My office recently investigated a mobile home fire and it was determined that two juveniles were responsible for this fire. I reached out Scott Woodfin for assistance, knowing that he is our local expert on juvenile firesetter matters. Without hesitation, Scott scheduled a Youth Firesetter Intervention Program that catered to the specific needs of these two young boys.

I had an opportunity to speak with the parents of these two boys and they were both impressed by and thankful for the education and care that Scott and Tom provided to their children. I know that the training provided by your personnel will have a positive impact on these two boys.

Please pass along my congratulations and thanks for a job well done, to Scott Woodfin and Tom Hamilton.

Respectfully yours,

[REDACTED]

Captain/Supervisor
San Jose Fire Department
Arson Unit

County of Santa Clara Emergency Medical Services System



Emergency Medical Services Agency
700 Empey Way
San Jose, CA 95128
408.794.0600 voice | www.sccemsagency.org
www.facebook.com/SantaClaraCountyEMS

Date: August 20, 2020
To: Santa Clara County Emergency Medical Care Committee Members
From: Isaac Quevedo, EMS Specialist, Permitting/Licensure
Subject: Licensure Report from April 1, 2020 – June 1, 2020

History

The certification and credentialing process is a critical component of the Santa Clara County EMS Agency. The EMS Agency certifies Emergency Medical Technicians to function at the EMT-Basic level through out the state of California under any local Emergency Medical Services Agency. The EMS Agency also credentials Emergency Medical Technicians and Paramedics to function at their respective practicing level in the Santa Clara County EMS System.

Report

During the second quarter of 2020, the Santa Clara County EMS Agency approved 672 applications. This number reflects all EMT (initials, renewals, & reinstatements) certifications and EMT/paramedic EMS System ID badges.

California Emergency Medical Services Authority has extended all EMT and paramedic certifications and licenses through July 31, 2020 due to the COVID-19 pandemic.

Governor Gavin Newsom implemented an executive order to waive all EMT skills requirements for EMT certifications for the duration of the COVID-19 pandemic. Most private providers and city agencies are hosting EMT skills evaluations utilizing COVID-19 safety and PPE recommendations with no reported issues.

Governor Gavin Newsom implemented an executive order allowing out-of-state EMTs to work in the state of California for the duration of the COVID-19 pandemic. These individuals must have valid EMT certifications in their home state. Currently, our agency is sponsoring one EMT from Massachusetts working at Stanford Hospital under this executive order.

San Jose Fire Department hosted a fire recruit academy which consisted of twenty-two cadets during the COVID-19 pandemic. SJFD successfully implemented and used all COVID-19 safety and PPE recommendations to avoid any infections among the instructors and recruits.

The majority of San Jose Fire Department EMT certifications will be completed by the end of July 2020 and will not be due again until 2022.

We have noticed a surge in application submissions in the month of July.

County of Santa Clara Emergency Medical Services System



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Date: August 20, 2020
To: Santa Clara County EMCC Committee Members
From: Daniel Franklin
EMS Specialist
Subject: Investigations and Enforcement

EMS Designated Infection Control Officer

In April of 2020, the EMS Agency implementing the EMS Designated Infection Control Officer notification process. Existing law requires all health facilities to notify prehospital emergency medical care personnel who have provided emergency medical or rescue services and have been exposed to a person afflicted with a reportable disease or condition that they have been exposed and should contact the county health officer under specified conditions. The law also requires a county health officer to immediately notify prehospital emergency medical care personnel that they have been exposed to a reportable disease or condition that the county health officer determines can be transmitted through oral contact or bodily secretions. In efforts to ensure all first responders that were involved on a call are notified, a single point of contact for all required reporting to any emergency medical care personnel was established. All reports are made via email to EMSDICO@ems.sccgov.org. The EMS DICO will then investigate the event and ensure that any first responder that has been verified to be on scene and involved in patient care will be notified of the potential exposure. Since the implementation of the program the EMS DICO has processed 276 exposure notices through July 30th, 2020.

Investigations

Below is a graph representing the type of investigation cases that have been processed from March 1, 2020 to July 30, 2020.

Investigation Types	# of Cases	Open	Closed	Ave. # of days to close
Ambulance Accident	1	0	1	1
Care Concern	9	3	6	28
Complaint	3	2	1	1
Confidential	1	1	0	n/a
Confidential - DICO	276	3	273	1
EMS Policy or Protocol	12	8	4	15
Ordinance or Law Violation	7	6	1	2
Provider Recognition	1	0	1	1
Quality Assurance (QA)	6	4	2	35
Vehicle or Equipment Failure	5	1	4	13



MVDR MEMBERSHIP REPORT
AUGUST 2020

Current Membership:

MEMBERSHIP TYPE	ACTIVE	REQUESTED CLOSURE
Medical Volunteers for Disaster Response (MVDR)	85	0
Disaster Health Volunteers (DHV)	50	0
Total	135	0

Event Participation:

MONTH	MARCH	APRIL	MAY	JUNE	JULY
EVENT	County COVID-19 Activation				
	-	-	-	-	-
PARTICIPANTS	1	1	1	1	1
	-	-	-	-	-
TOTAL MONTHLY PARTICIPANTS	1	1	1	1	1

Event Summary:

Since the last membership report the MVDR Program Administrator has participated in several calls with the State regarding activations of MRC for COVID-19. The determination was made by the County Health Officer, EMS Director and Program Director not to activate MVDR for COVID-19 due to majority of members being in the “high risk” population.

Approximately 13 MVDR responded back to polling and were forwarded to the County for use by the Case Investigation/Contact Tracing Team in non-clinical roles. As of the completion of the report, none of these members have completed the registration process.

Membership Summary:

Please see table contained above.



Membership Level Definitions:

Level I: the program has little or no advanced knowledge of member or prior training. Level I members require emergency credentialing and are last to be utilized to fill resource needs. Level I members are ineligible to deploy unless sworn in as Disaster Service Workers (DSW)

Level II: Basic volunteers who have expressed some level of interest in the program prior to attendance. These members have registered with the DHV but have yet to participate in a new member orientation. These members are used to fill resource needs after Level III and Level IV volunteers. Level II members are ineligible to deploy unless sworn in as Disaster Service Workers (DSW).

Level III: Intermediate volunteers are primarily called into service in disaster events and will be attached to existing infrastructure. These individuals regularly participate in training and exercises. They have completed the core competencies and have been issued an MVDR ID.

Level IV: Level 4 members are first call for deployments and are deployable with little or no advanced notice. They have completed advanced training classes in addition to frequent participation in training and exercises.

County of Santa Clara Emergency Medical Services System



Emergency Medical Services Agency
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Date: July 24, 2020
To: Santa Clara County Emergency Medical Care Committee
From: Jason Weed, EMS Specialist, Communications/System Providers Unit
Subject: EMS System Initiatives: Equipment and Supplies

History

The Santa Clara County EMS Agency is providing an update related to Silicon Valley Regional Communications System (SVRCS) and the EMS radios. Update related to the stop the bleed kits purchased through the EMS Trust Fund.

Report

The EMS Agency has 313 radios in the EMS system, these radios are distributed to all the non-911 ambulance providers, air providers, hospitals safety officers and the EMS agency staff. These radios are being programmed for the new 700 MHz digital system at the end of July 2020 and returned to all the above listed providers. The EMS agency along with county communications, is planning a full and complete rollout of the new system and training by mid-September 2020.

The stop the bleed kits purchased with EMS trust fund money, have arrived and are to be distributed the out to the fire departments over the month of July 2020.

The EMS agency received all the EMS Ballistic Protection from the vendor and has completed the log-in process of the inventory and placed control tags on the equipment. The EMS agency is currently working with American Medical Response (AMR) on a deployment plan for the equipment.

County of Santa Clara Emergency Medical Services System



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Date: August 10, 2020
To: Santa Clara County EMCC Committee Members
From: Michael Clark
EMS Specialist
Subject: EMS Data Systems Update

911 ePCR System Update

This year has proven to be a challenging one as the EMS Agency. With the introduction of the COVID-19 virus into our County, the EMS Agency had to utilize staff in areas of emergency management for the County's response to this pandemic. Being such, many EMS projects had to be placed on pause. The good news is that our EMS providers have been able to pivot and step up to the plate. The 911 EMS Program managers have been able to take on many of the minor data system issues that they would have normally passed on to the Agency to help solve. This act has relieved some of the burden normally carried by the Agency data team. Items such as account lock outs, incomplete PCRs, and PCR quality assurance have been taken on in a larger capacity by the providers.

One good revelation that has come up over the past 7 months is that the new Elite PCR templates and tools that were introduced at the beginning of the year have been a success. The new PCR template has proven to be more efficient and with an easier documentation flow. Less errors in the transfer of data between providers while at the patient's side have been noted. The new powertools have also proven to be a success. These time saving steps have allowed for more accurate documentation of medications delivered and better timestamping of the procedures given.

The EMS Agency has also seen a win with the launching of two of our local fire departments on the associated records management system (RMS) for fire incidents. Sunnyvale Department of Public Safety and the Mountain View Fire Department both launched using this new RMS solution within the last two months. This new RMS allows for both departments to link up related PCRs and fire records from the same incident. A lot of time was put into the development of this system as it is very much tailored to the specific needs of the individual fire department. The RMS solution has the ability to, in addition to incident records, track equipment, track training hours, track certifications and qualifications, provide electronic checklists, and track inspections.

On the CEMISIS/NEMSIS front, we have been successful in the submission of 95% of all combined ePCRs for the 911 system. This is an acceptable number as we have 2% of PCRs that are still in the early phases of being completed, 1% in the ambulance billing process, 1% pending submission to CEMISIS, leaving 1% not passing the CEMISIS submission screening. These are much better numbers than what we have had in prior years. Again, the belief is that the new PCR template combined with the powertools are allowing for better documentation.

Next Steps

The EMS Agency's next steps for the EMS Data System is to continue to re-evaluate the time on task related to the creation of a PCR in the field as well as the time to first post. We will also be looking at ways to provide job aids such as the new powertools, worksheets, and improved PCR templates over the next several months.

The Agency will also be working with our 911 providers to determine common data entry issues that are causing the 1% of our PCRs to not pass the CEMSIS screening process. Once common issues are discovered, then the Agency will work with our providers to resolve these issues through means such as training bulletins, training videos, and other forms of outreach to the field providers.

County of Santa Clara Emergency Medical Services System

Emergency Medical Services Agency

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Date: 20 August 2020
To: Santa Clara County EMCC Committee Members
From: Ken Miller MD PhD
Medical Director
Subject: EMCC Medical Director's Report

Report

Item #14: A. Medical Director's Report and B. EMD CQI Report

Item 14A: EMS Medical Director's Report

- 2020 EMS Update
- COVID-19
 - EMS Response Volume
 - Respiratory Distress
 - Cardiovascular Primary impressions
 - Non-Cardiovascular Primary impressions
 - Non-Transported Primary Impressions
 - Contingency and Crisis Framework

Item 14B: EMD CQI Report

- COVID-19
 - PPE Advisories
 - MPDS Pandemic Protocol 36
 - Ambulance Matrix

Medical Director's Report (Item 14A) and EMD Report (Item 14B)

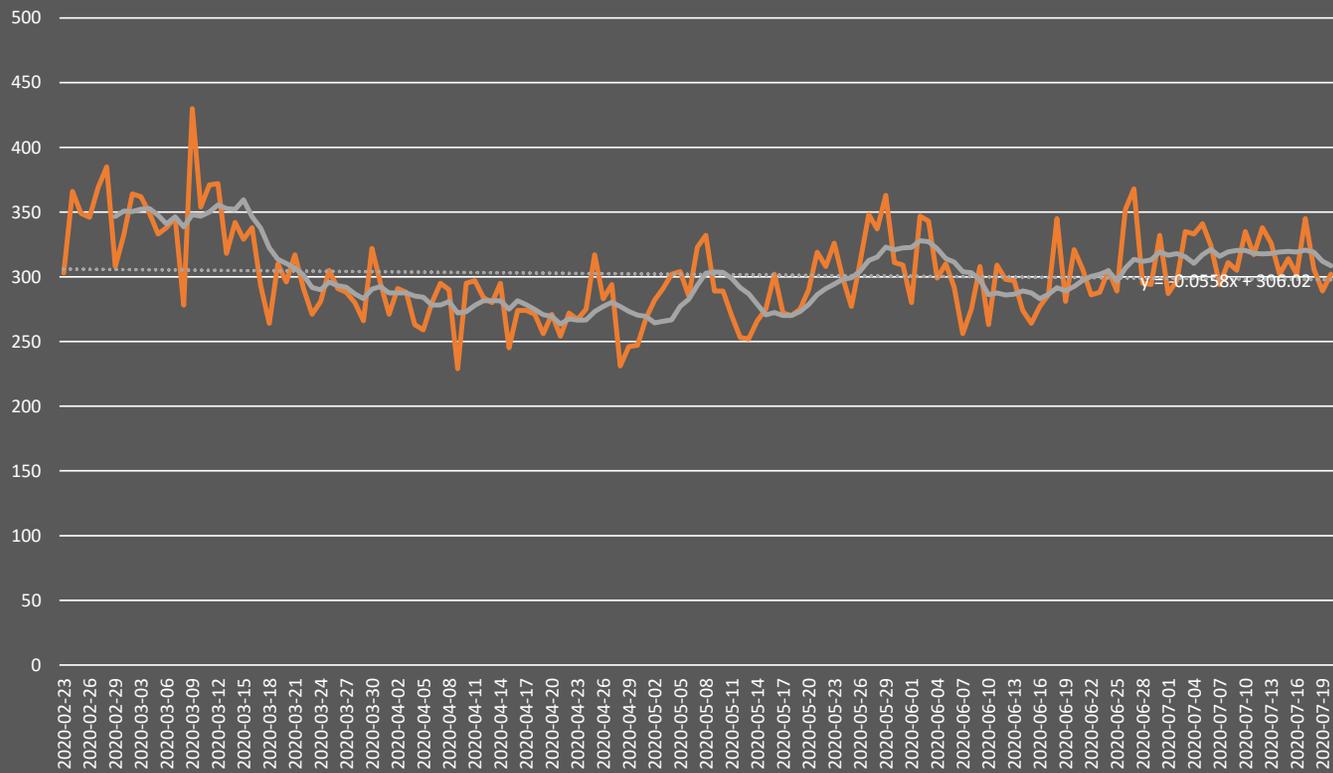
EMCC

20 August 2020

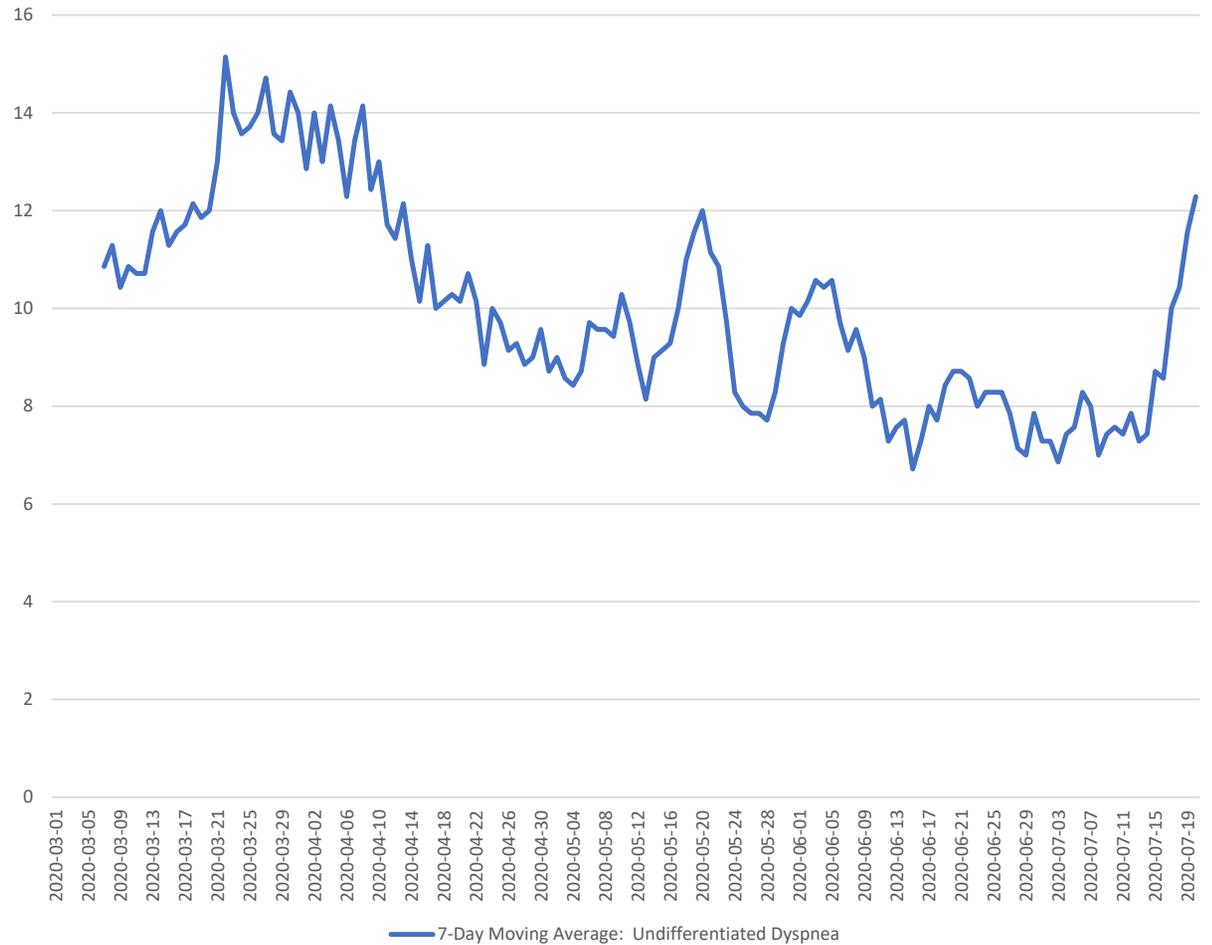
2020 EMS Update

- All Online Instruction
 - Train-the-trainer video teleconference
- Multiple Clinical Protocol Updates
 - Seizure: clarification of midazolam routes of administration
 - Acetaminophen: added to required inventory (currently is optional)
 - Morphine maximum dose 20 mg before making BH contact
 - Pediatric age defined as < 15 years (ACS-COT, EMSC)
 - Behavioral Emergencies (new)
 - Combines existing excited delirium protocol (clarification on criteria) with protocol for behavioral sedation
- Paramedic 12-Lead ECG Interpretation
 - 12-lead ECG quality
 - Interpretation of infarction
 - Confounding factors of the interpretive algorithm
- EMT LMA (adult)-Optional EMT Scope of Practice
 - Can be implemented by EMS providers with a letter of intent to the EMS Agency
 - 5-hour didactic requirement in EMSA regulations (online)
 - Practical skills over time to allow small frequent classes with masks, distancing and disinfection

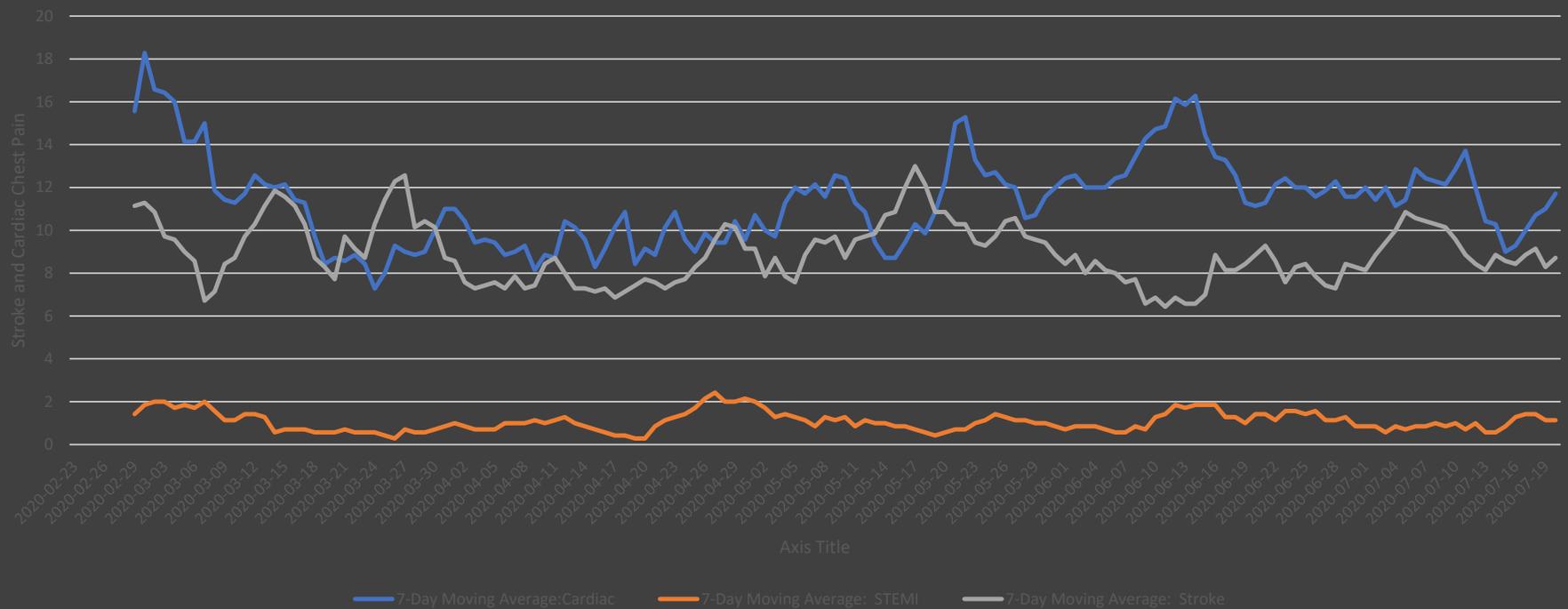
COVID-19: EMS Response Volume



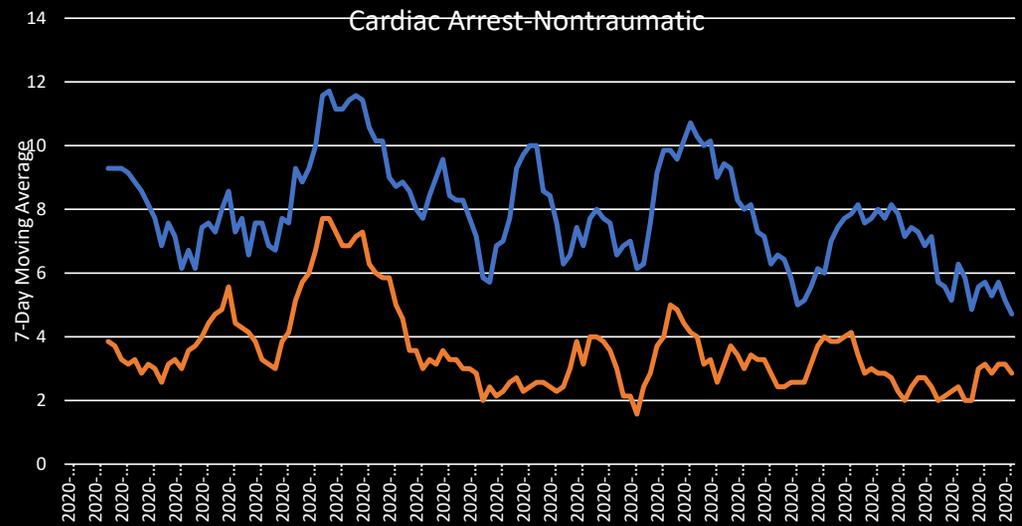
COVID-19: Respiratory Distress



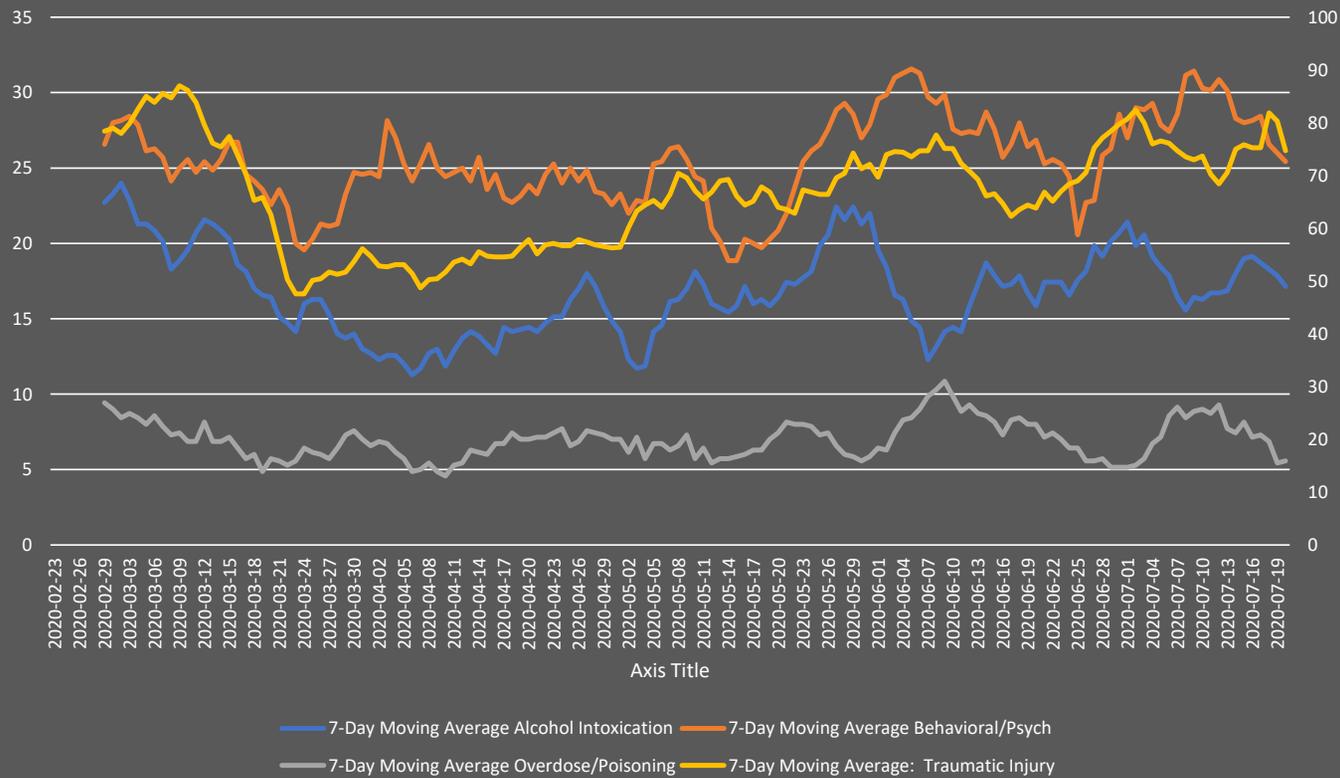
COVID-19: Cardiovascular Primary Impressions



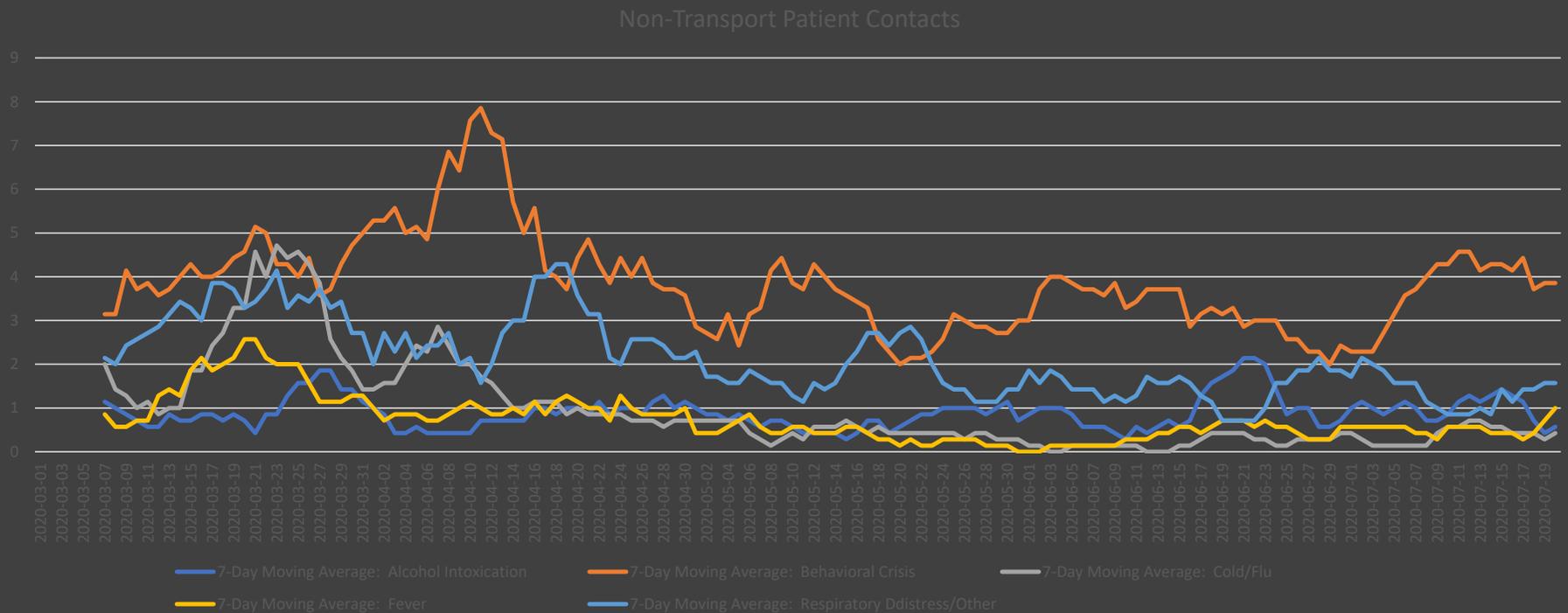
Cardiopulmonary Arrest--
 Non-Traumatic:
 60-69-Year-Old &
 Field Death/TOR

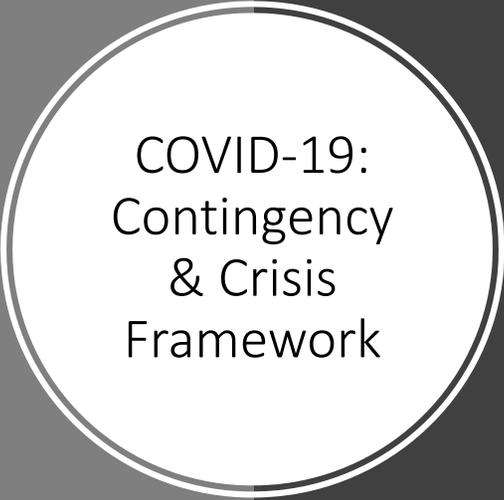


COVID-19: Non-Cardiovascular Primary Impressions



COVID-19: Non-Transported Primary Impressions





COVID-19:
Contingency
& Crisis
Framework

- Conventional Operations/Patient Care
 - No change in standards of care
 - SDO-1, -10 & -11 for temporary increases in EMS responses
- Contingency Operations/Patient Care
 - Modification in airway management, nebulized drug & CPAP use
 - Assess & Refer Protocol introduced
 - Additional SDOs
 - Consider County Routing (SDO-21) & MPDS Protocol 36
- Crisis Operations/Patient Care
 - Assess & Refer Protocol proactively used
 - Consider working cardiac arrest to ROSC only
 - EMS Agency at County Communications
 - Additional SDOs
 - County Routing
 - Dynamic hospital status, patient acuity
 - MPDS Protocol 36
 - Ambulance availability and utilization (Ambulance Matrix)

EMD

COVID-19: PPE Advisory

- January 31: 911 EMS caller travel history screening
 - January 26: CDC Quarantine Station at SFO quarantining flights
 - January 31: first laboratory-confirmed case of COVID-19 in SCC
- February 28: 911 EMS caller expanded travel history screening
- March 4: 911 EMS caller symptom screening (selected MPDS protocols)
- March 11: 911 EMS caller symptom screening (selected MPDS protocols) & acknowledgement of voluntarily reported PCR-positive testing
- March 25: 911 EMS caller active symptom screening (across all MPDS protocols)

COVID-19: MPDS Protocol 36

- MPDS Pandemic Protocol
 - Syndromic 911 EMS caller questioning
 - 36A, C and D determinants
 - 4 Levels of Surveillance and Triage: determine whether and what type of ambulance to dispatch
 - Level 0 and 1 = conventional operations for SCC EMS
 - Level 2 = contingency operations
 - Level 3 = crisis operations
 - Patient acuity (protocol determinants) and EMS system activity (triage levels) together determine whether & what type of ambulance is dispatched (the ambulance matrix)

MPDS Protocol 36 Ambulance Matrix

Levels	#	Determinant Descriptor	Code:Level 0 (S) (X)	Code:Level 1 (A) (L)	Code:Level 2 (B) (M)	Code:Level 3 (C) (H)
DELTA	1	INEFFECTIVE BREATHING with symptoms	C3 ALS Ambulance	C3 ALS Ambulance	C3 ALS Ambulance	C3 ALS Ambulance
D	2	DIFFICULTY SPEAKING B/T BREATHS with symptoms	C3 ALS Ambulance	C3 ALS Ambulance	C3 ALS Ambulance	C3 ALS Ambulance
D	3	Not alert with symptoms	C3 ALS Ambulance	C3 ALS Ambulance	C3 ALS Ambulance	C3 ALS Ambulance
D	4	CHANGING COLOR with symptoms	C3 ALS Ambulance	C3 ALS Ambulance	C3 ALS Ambulance	C3 ALS Ambulance
CHARLIE	1	Abnormal breathing w/single symptom or Asthma/COPD	C3 ALS Ambulance	C3 ALS Ambulance	C3 BLS Ambulance	C3 BLS or ALS Ambulance as available
C	2	Abnormal breathing w/multiple symptoms	C3 ALS Ambulance	C3 ALS Ambulance	C3 BLS Ambulance	C3 BLS or ALS Ambulance as available
C	3	Chest Pain \geq 35 with single symptom	C3 ALS Ambulance	C3 ALS Ambulance	C3 BLS Ambulance	C3 BLS or ALS Ambulance as available
C	4	Chest Pain \geq 35 with multiple symptoms	C3 ALS Ambulance	C3 ALS Ambulance	C3 BLS Ambulance	C3 BLS or ALS Ambulance as available
C	5	HIGH RISK conditions	C3 ALS Ambulance	C3 ALS Ambulance	C3 BLS Ambulance	C3 BLS or ALS Ambulance as available
ALPHA	1	Chest Pain < 35 with single symptom	C2 ALS Ambulance	C2 ALS Ambulance	C2 BLS Ambulance	C2 BLS or ALS Ambulance as available
A	2	Chest Pain < 35 with multiple symptom	C2 ALS Ambulance	C2 ALS Ambulance	C2 BLS Ambulance	C2 BLS or ALS Ambulance as available
A	3	Symptoms only(cough, fever, chills, sweats, sore throat, vomiting, diarrhea, unusual total body aches, headache, etc.)	C2 ALS Ambulance	C2 ALS Ambulance	C2 BLS Ambulance	C2 BLS or ALS Ambulance as available

County of Santa Clara Emergency Medical Services System

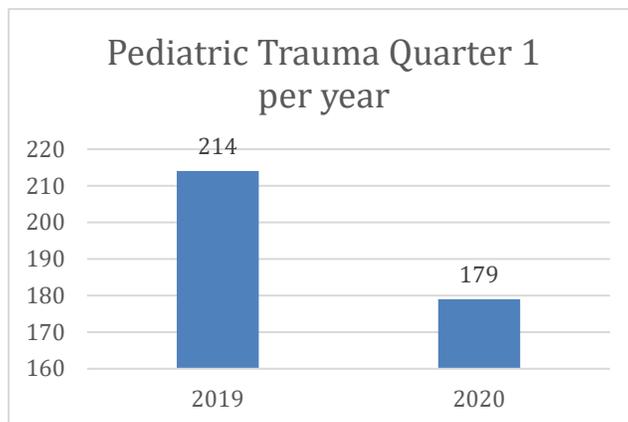
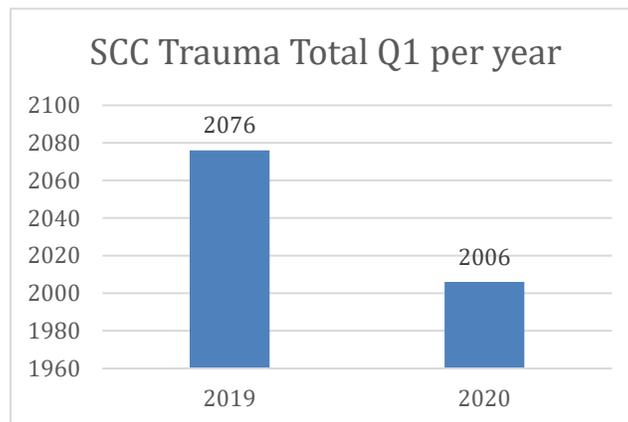


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Date: August 20, 2020
To: Santa Clara County EMCC Committee Members
From: Falko Schoeneweiss, MSN, RN
Nurse Coordinator-Specialty Programs
Subject: Specialty Centers Improvement Committee

Trauma

Newly hired EMS Agency staff underwent training for the Trauma Data Registry. All Trauma centers have submitted data up to March 2020. The analysis of the data is ongoing and comprises of (but is not limited to) mechanical falls by age group and location, bicycle injuries, incidence of pediatric trauma, cardiac arrest, etc.



ST Elevation Myocardial Infarction (STEMI)

Early activation of response teams at STEMI receiving facilities has been demonstrated to result in improved patient outcomes and survival. Unreliable electrocardiogram (ECG) transmission from EMS to receiving hospitals has been identified as a contributing factor impeding timely care. One county hospital utilizes the LifeNet platform as a solution. Policies have been updated to align with state regulations and have been sent out to stakeholders for comments. The application process for STEMI Receiving Centers (Src) will begin October 2020, with site surveys being planned for 2021.

Stroke

EMS Agency staff training for the Get with the Guidelines (GTWG) registry began in July 2020. Contract resolution with 3 facilities in the County is pending. Utilizing a uniform platform within the County will present excellent Quality Assurance (QA) and Quality Improvement (QI) opportunities. QI committee has been re-established. Policies have been updated to align with state regulations and are pending stakeholder feedback and comments. Application process for Stroke Centers will begin in October 2020 and site surveys are being planned for 2021.

EMS for Children

Preliminary system assessment is undergoing. The Agency is in the process of survey creation to assess current situation of EMS Providers regarding pediatric equipment and training.

**County of Santa Clara
Emergency Medical Services System**



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Date: July 29, 2020
To: Santa Clara County Emergency Medical Care Committee
From: John Sampson, Prehospital CQI Unit

A handwritten signature in black ink, appearing to read "John Sampson". The signature is fluid and cursive, with the first name "John" and last name "Sampson" clearly distinguishable.

Subject: IV Acetaminophen Study

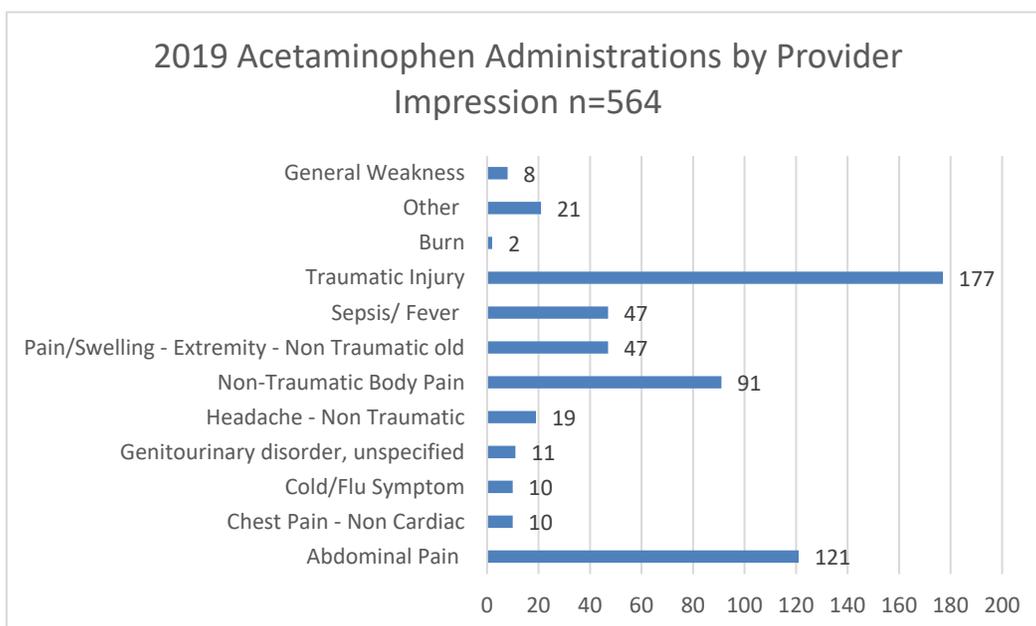
History: In February 2019 the Santa Clara County Emergency Medical Services Agency in partnership with the EMS system's Ambulance and Fire providers became one of the first EMS systems in California to the utilization of intravenous acetaminophen (Ofirmev) for the treatment of mild to moderate pain management. This decision to enter this study was based on numerous contributing factors, both logistical and medical. The initial logistical factor was combating continuous national shortages of morphine sulfate. From the medical perspective, EMS providers in Santa Clara County only had morphine at their disposal for pain management. This often resulted in the over treatment of moderate acuity pain patients or patients with lower acuity pain to not receive pain management at all. In addition to providing a more appropriate medication for these patients, the use of intravenous acetaminophen may lower the usage of opiates during the country's opiate epidemic, especially for a demographic of patients that did not require their use.

Parameters: The study focused on comparing pain reduction between intravenous acetaminophen and morphine sulfate in patients. Initial and last assessed vital signs including analog pain scale assessments were compared in patients with the same primary provider impressions. Any provider impression that was not specific or showed a low populous was placed in the "other" category with the exception of "Burns".

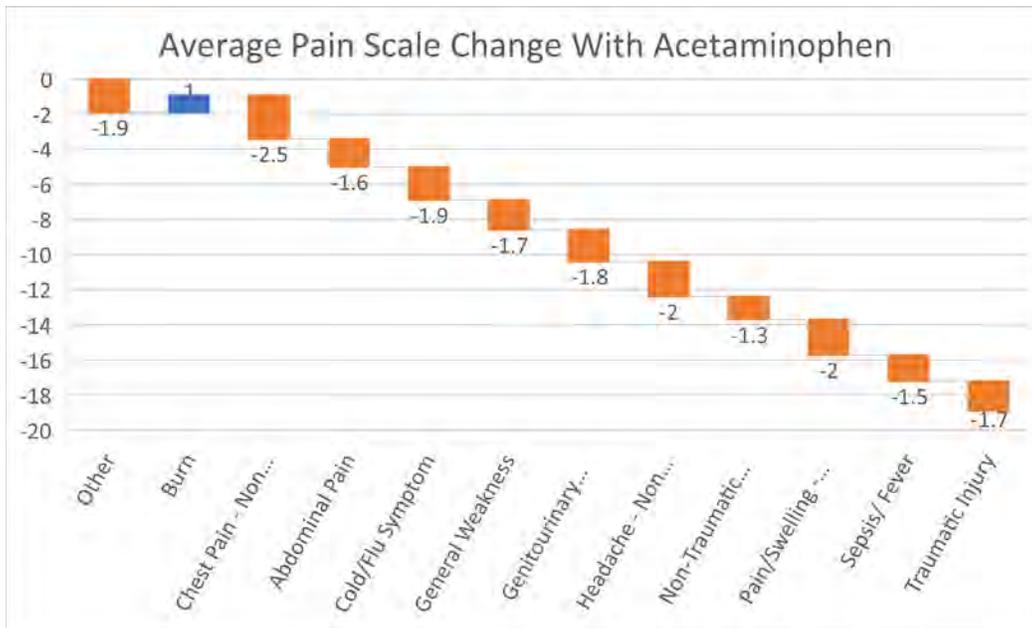
Inclusion/Exclusion Criteria: Patients were deemed eligible for intravenous acetaminophen if they complained of pain rated six or less on the analog pain scale (1 through 10) and had no past medical history of hepatic disease, chronic alcoholism, malnutrition, or history of tuberculosis treatment with the medication Isoniazid. Additional exclusionary criteria of patients weighing less than fifty kilograms, prior acetaminophen use that exceeds 3,000 mg in a twenty-four-hour period and known allergy to acetaminophen. Patients that had any of the above medical history or exclusionary criteria were not eligible for the use of intravenous

Acetaminophen. These patients were, however, treated with morphine sulfate. Intravenous acetaminophen was not used in patients experiencing suspected cardiac chest pain.

Findings:

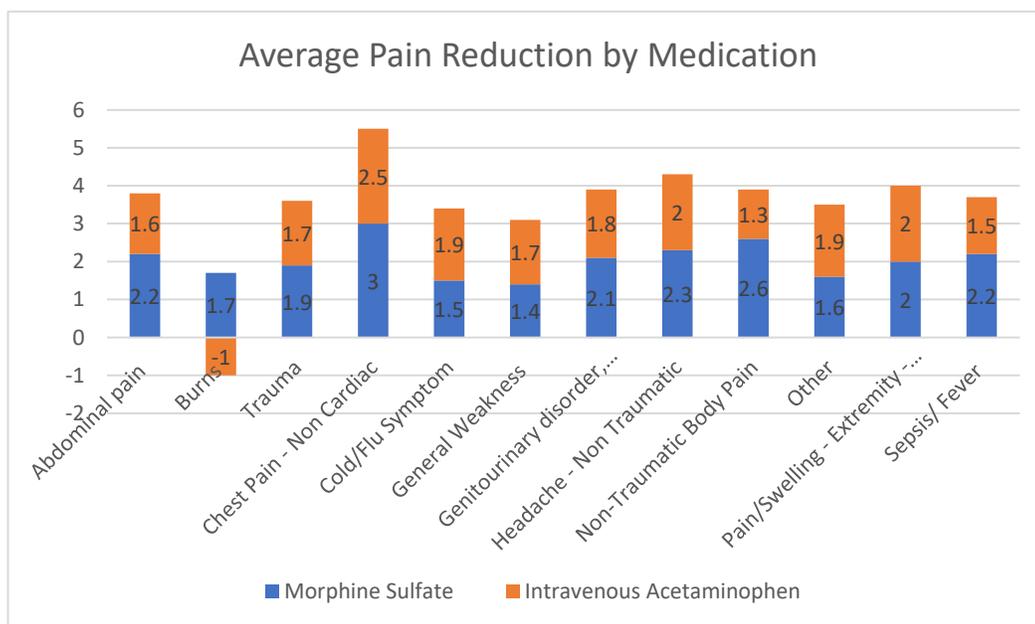


In 2019, 564 patients received intravenous acetaminophen for management of pain. Traumatic injury was the most frequent provider impression that received treatment. (Note: traumatic injury does not always result in major trauma designation and/or treatment at a Trauma Center.)



Intravenous Acetaminophen treatment reduced the patient's pain in all categories except for burns, which showed a pain scale increase. Intravenous acetaminophen reduced pain an average of 1.3 points on the analog pain scale. Intravenous Acetaminophen had the greatest impact on non-cardiac chest pain while having the lowest positive impact on non-traumatic body pain (excluding burns).

*Both burn patients initial pain scale assessment should have excluded them from receiving intravenous acetaminophen.



When comparing intravenous acetaminophen’s pain reduction performance against morphine sulfate, intravenous acetaminophen outperformed morphine sulfate in pain reduction for the following primary impressions; Cold/Flu Symptoms, General Weakness and Other and had equal performance in pain reduction with Pain/Swelling-Extremity. Morphine Sulfate significantly outperformed intravenous acetaminophen with Burns and Non-Traumatic Body Pain. The remaining primary impressions only showed a marked performance improvement with morphine sulfate. In total morphine sulfate reduced pain an average of 2 points on the analog pain scale vs intravenous acetaminophen’s reduction of 1.3.

Conclusion: Over the past year intravenous acetaminophen has demonstrated to be nearly as effective as morphine sulfate in treating mild to moderate pain under most circumstances. Intravenous acetaminophen outperformed morphine sulfate when the patient’s pain was result of cold or flu like symptom or a symptom that resulted from cold or flu like symptoms like general weakness. The commonality seen in both the categories of cold or flu like symptoms and general weakness was a febrile patient. The average initial recorded temperature in both demographics was 100.1 degrees Fahrenheit. Intravenous acetaminophens performance more than likely can be attributed to the medication’s antipyretic properties. Intravenous acetaminophen however did show that is was a viable treatment option for the management of severe pain. Morphine sulfate still maintains a therapeutic advantage in that demographic. In conclusion based upon the performance of intravenous acetaminophen, there is a justified role for the medication in the emergency medical services system. The Santa Clara County Emergency Medical Services System will be adopting the medication for the treatment of mild to moderate pain management under the inclusion criteria studied in this pilot program, starting in 2021.

**County of Santa Clara
Emergency Medical Services System**



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Date: August 20, 2020
To: Santa Clara County Emergency Medical Care Committee
From: David Sullivan
EMS Specialist
Subject: Policy Development Report

History:
Consistent with Santa Clara County Emergency Medical Services Prehospital Care Policy #109: Policy Development and Implementation, the EMS Agency regularly updates policies and protocols.

Report:
The following policies and protocols were released or updated by the County of Santa Clara EMS Agency in Q2 of calendar year 2020.

Policy #	Policy Name	Effective Date	Change
700-S14	Respiratory Viral Syndrome Transport Decision	4/13/2020	New Policy
614A	Fire Department Emergency Ambulance Use	4/15/2020	Replaced 902
700-S12	Medical Priority Dispatch System (MPDS) Card Approval	5/4/2020	Updated
602	911 EMS Patient Destination	5/31/2020	Updated
507	Provider Codes	6/3/2020	Replaced 101
615	Operational Area Medical-Health Mutual Aid	6/3/2020	Updated
620A	Interfacility Transfer - Ground Ambulance	6/3/2020	Updated
623	911 Emergency Ambulance Use	6/3/2020	Replaced 310
623A	Medical Priority Dispatch System (MPDS) Protocol 36 – Ambulance Dispatch Criteria	6/3/2020	New Policy

A minimum of 30 policies and protocols will also be updated as part of the annual EMS Update process and will be effective January 1, 2021. Many of them had a public comment period from June 30, 2020 to July 29, 2020.

County of Santa Clara Emergency Medical Services System



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Date: July 23, 2020
To: Santa Clara County EMCC Committee Members
From: Daniel Peck
EMS Specialist
Subject: **Skills Maintenance/Competency**

Ambulance Strike Team Leader Course

In February the EMS Agency hosted an Ambulance Strike Team Leader course that was attended by 37 EMT's and paramedics. Providers from throughout northern California were represented. The instructors for the class were compiled of staff from the CA Emergency Medical Services Authority, the Alameda County EMS Agency and the Santa Clara County EMS Agency.

Skills

Due to the COVID-19 pandemic, focus for the EMS Agency was moved from skills maintenance and competency to response and system stability.

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Date: July 23, 2020
To: Santa Clara County EMCC Committee Members
From: Daniel Peck
 EMS Specialist
Subject: **Education and Training Summary 2020**

Public Education

The EMS Agency continues to support the County of Santa Clara in efforts to educate the public regarding COVID-19. Messages on the EMS Agency Facebook page are in coordination with both HHS and Public Health.

Plans for EMS Update 2020

EMS Update Train the Trainer is tentatively scheduled for September 15, 2020 and will be held via virtual delivery. Materials will be distributed to program managers with virtual delivery to providers in mind. Policies and protocols will be effective January 1, 2021.

EMS Local System Orientation Exam

The EMS exam is designed to assess an individual’s knowledge of Santa Clara County policies and procedures, treatment protocols, radio communications, hospital/facility destination policies, and other unique system features to ensure providers are prepared to enter into service within our EMS System. From January to June 2020 there were 463 attempts of the exam with 29 offerings.

Beginning in March 2020 the EMS Agency changed the exam method to accommodate for COVID-19 protocols. The EMS Exam is now offered in significantly smaller sessions of only 6 applicants over three sessions on Wednesday mornings. Additional testing sessions are added as needed.

Test 1	Pass	Fail	Pass %
EMT	184	145	56%
Medic	46	25	65%
Test 2	Pass	Fail	Pass %
EMT	104	27	79%
Medic	17	1	94%
Test 3	Pass	Fail	Pass %
EMT	22	1	96%
Medic	3	1	N/A
Test 4	Pass	Fail	Pass %
EMT	2	0	100%
Medic	0	0	N/A

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Date: August 20,2020
To: Santa Clara County EMCC Committee Members
From: Jackie Lowther, RN, MSN, MBA
EMS Director
Subject: Hospital Destination, Bypass and Advisory Status Reports

History

Bypass is a management process that diverts ambulances to the next closest facility. This may be used temporarily by local hospitals when the patient load exceeds emergency department or specialty center resources.

Facility bypass should be a last resort and utilized only when emergency department/specialty center resources continue to be overwhelmed after internal procedures to manage the situation have been implemented.

Report

The Santa Clara County EMS system saw a steady decline in transport volume in March (6,556) and April (5,166) with slow increases in May (6,167) and June (6,215). EMS Policy #603 states that each hospital shall request no more than thirty-six hours of 911 system bypass within a calendar month. The only time diversion was recorded was by one hospital in the months of January and February. The lowest bypass documented occurred in the month of April at 7.18 hours, and there were only 167 transports per day. Specialty services bypass for the last six months was variable. Stroke bypass was high during the months of March and April 91.70 and 144.05, respectively. The average number of patients transported from January to June 2019 was 235; from January to June 2020 was 210. The EMS Agency monitors the use of Hospital Bypass on a continuous basis and works closely with each hospitals Emergency Department management as well as Hospital Administrations to address surge times. All hospitals have utilized their Emergency Department surg plans due to the COVID 19 pandemic.



**County of Santa Clara
Emergency Medical Services System**

Monthly Hospital Destination & Bypass Status Report

Report for Time Period: June 2020

Table 1: Number of Patients Transported to Hospital ED from 9-1-1 System*

Hospital (Diversion Zone)	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Total
Stanford (North)	535	458	407	284	379	411	2,474
El Camino - Mt. View (North)	765	758	651	487	622	623	3,906
Kaiser - Santa Clara (North)	727	762	626	504	591	556	3,766
VMC (Central)	1,340	1,277	1,179	1,098	1,311	1,283	7,488
O'Connor (Central)	719	660	613	420	502	559	3,473
Good Samaritan (Central)	780	733	703	516	640	596	3,968
Regional - San Jose (South)	1,344	1,300	1,207	980	1,031	1,057	6,919
Kaiser - San Jose (South)	711	692	635	460	622	594	3,714
Saint Louise (South)	395	359	338	292	302	349	2,035
El Camino - Los Gatos (N/A)	116	113	130	80	106	126	671
VA - Palo Alto (N/A)	86	72	67	45	61	61	392
Total	7,518	7,184	6,556	5,166	6,167	6,215	38,806

Source: Santa Clara County Communications & Palo Alto Fire Department

Hospital (Diversion Zone)	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	6 Mth Avg
Stanford (North)	18	15	13	9	12	13	13
El Camino - Mt. View (North)	26	24	21	16	20	20	21
Kaiser - Santa Clara (North)	24	25	20	16	19	18	20
VMC (Central)	45	41	38	35	42	41	40
O'Connor (Central)	24	21	20	14	16	18	19
Good Samaritan (Central)	26	24	23	17	21	19	21
Regional - San Jose (South)	45	42	39	32	33	34	37
Kaiser - San Jose (South)	24	22	20	15	20	19	20
Saint Louise (South)	13	12	11	9	10	11	11
El Camino - Los Gatos (N/A)	4	4	4	3	3	4	4
VA - Palo Alto (N/A)	3	2	2	1	2	2	2
Total Daily Average	251	232	211	167	199	200	

Source: Santa Clara County Communications & Palo Alto Fire Department

*Notes for Tables 1 and 2: These numbers only reflect patients that originated in Santa Clara County and were transported by the County's EOA Ambulance Provider and Palo Alto Fire Department. Data for Stanford does not include patients from San Mateo

County. The data includes but, does not differentiate specialty center status (TRAUMA, STROKE, STEMI, BURN)

Table 3: Total Monthly Hours of Emergency Department on "AMBULANCE" Bypass

Hospital (Diversion Zone)	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Total
Stanford (North)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
El Camino - Mt. View (North)	13.02	17.03	10.02	0.00	3.00	5.39	48.46
Kaiser - Santa Clara (North)	28.05	13.02	6.02	0.00	2.00	1.00	50.09
VMC (Central)	44.30	37.91	26.05	4.01	7.02	18.04	137.33
O'Connor (Central)	8.02	2.01	1.00	0.00	0.00	0.00	11.03
Good Samaritan (Central)	9.03	5.33	0.51	2.00	3.39	0.00	20.26
Regional - San Jose (South)	7.48	0.00	1.00	1.17	0.00	0.00	9.65
Kaiser - San Jose (South)	2.00	2.00	8.04	0.00	8.09	0.00	20.13
Saint Louise (South)	6.30	3.01	2.20	0.00	0.00	1.00	12.51
El Camino - Los Gatos (N/A)	0.00	0.00	2.01	0.00	0.00	0.00	2.01
Total	118.20	80.31	56.85	7.18	23.50	25.43	311.47

Color Legend for ED Ambulance Bypass Only

Above 37hrs	Above 30hrs	Below 30hrs
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Table 4: Total Monthly Hours of Stroke Center on "STROKE" Bypass*

Hospital (Diversion Zone)	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Total
Stanford (North)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
El Camino - Mt. View (North)	0.00	0.00	1.07	0.32	0.00	1.60	2.99
Kaiser - Santa Clara (North)	0.00	0.00	1.88	0.00	0.00	0.00	1.88
Regional - San Jose (Central)	4.27	0.00	0.00	0.13	0.00	0.00	4.40
O'Connor (Central)	0.00	7.93	3.63	44.24	3.52	14.36	73.68
VMC (Central)	0.00	0.00	2.26	0.00	8.27	0.00	10.53
Good Samaritan (South)	2.46	0.00	0.00	1.07	3.76	0.00	7.29
Kaiser - San Jose (South)	1.97	0.00	54.88	72.68	1.42	4.73	135.68
Saint Louise (South)	4.38	0.00	25.77	0.00	0.00	4.90	35.05
El Camino - Los Gatos (N/A)	0.00	1.64	2.21	25.61	0.21	1.98	31.65
Total	13.08	9.57	91.70	144.05	17.18	27.57	303.15

Table 5: Total Monthly Hours of STEMI Center on "STEMI" Bypass*

Hospital (Diversion Zone)	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Total
Stanford (North)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
El Camino - Mt. View (North)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kaiser - Santa Clara (North)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VMC (Central)	0.00	0.00	2.27	0.00	0.00	0.00	2.27
O'Connor (Central)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Good Samaritan (Central)	7.51	0.00	0.00	1.07	3.77	0.00	12.35
Regional - San Jose (South)	4.27	0.00	0.00	0.11	0.00	0.00	4.38
Kaiser - San Jose (South)	0.00	0.00	0.00	0.00	1.42	0.00	1.42
Total	11.78	0.00	2.27	1.18	5.19	0.00	20.42

Table 6: Total Monthly Hours of Trauma Center on "TRAUMA" Bypass

Hospital (Diversion Zone)	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Total
Stanford (North)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VMC (Central)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Regional - San Jose (South)	1.58	0.00	0.00	0.00	0.00	3.74	5.32
Total	1.58	0.00	0.00	0.00	0.00	3.74	5.32

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Date: August 20, 2020

To: Santa Clara County Emergency Medical Care Committee Members

From: Jackie Lowther, RN, MSN, MBA
EMS Director

Subject: Ambulance Patient Offload Times (APOT)

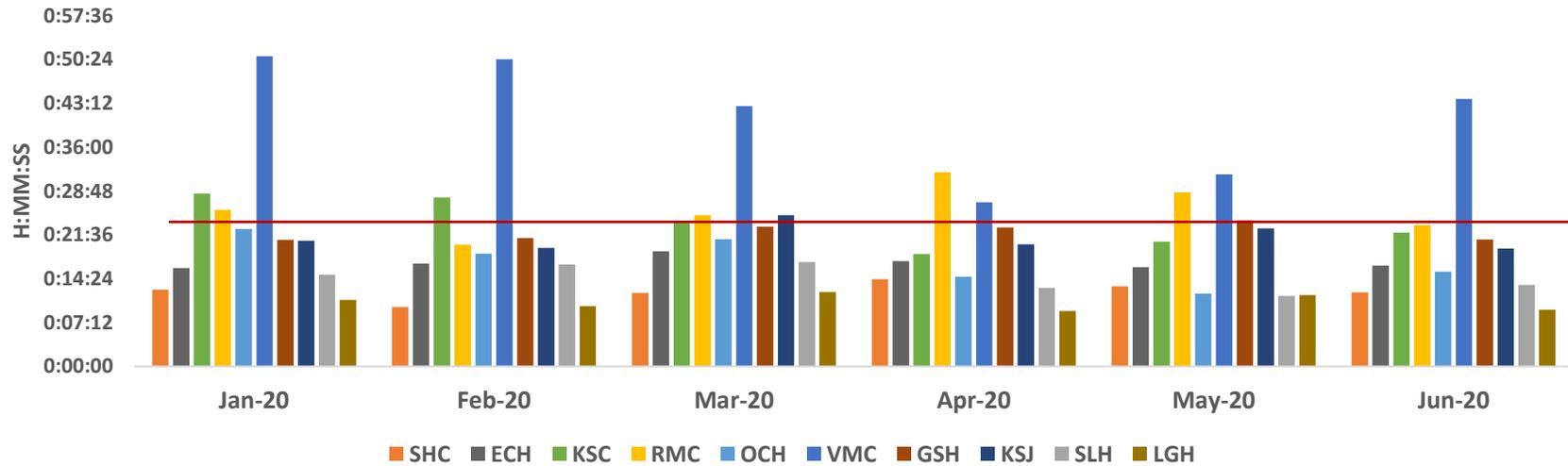
History

The role hospitals play in assuring that 9-1-1 ambulances are available for the next 9-1-1 call is critical. Ambulance offload delay, the time it takes to transfer a patient to an Emergency Department stretcher for the Emergency Department staff to assume responsibility for the care of the patient, may have more impact on ambulance turnaround time than ambulance bypass. Ambulance patient offload times (APOT) are calculated for all hospitals who receive patients in Santa Clara County. In 2015, the Health and Safety Code 1797.120 required the California Emergency Medical Services Authority to develop a standard methodology for calculation of, and reporting by, a Local EMS Agency of ambulance patient offload time. The EMS Agency has placed significant effort into working with hospital administrators focusing on the time it takes to get ambulances back into service once they have arrived in their Emergency Departments. Decreases in offload delays will improve the time patients receive definitive care, better pain control and antibiotics when needed.

Report

The expectation is that 9 out of 10 patients are transferred to the care of hospital staff within 25 minutes of ambulance arrival. We have seen considerable improvement throughout the County in ambulance patient offload time over the last year. Current data demonstrates that three hospitals may have had difficulty in January, however only two struggled in April and May with only one missing the 25-minute target in June. The county's aggregate 90th percentile time was 0:21:36 minutes with 92.5.9% of EMS transports being offloaded within 25 minutes. Comparatively, 89.3% of EMS transports were offloaded within the state's benchmark of 20 minutes. Sentinel events totaled 100, which are patients held greater than 60 minutes. We have been working on this project for the last 5 years and have made great progress, the EMS Agency will be aligning our benchmark times with state benchmark sometime in 2021 to 20 minutes.

Ambulance Patient Offload Time (APOT) - 90th Percentile



	SHC	ECH	KSC	RMC	OCH	VMC	GSH	KSJ	SLH	LGH
Jan-20	0:12:37	0:16:11	0:28:25	0:25:43	0:22:34	0:50:57	0:20:49	0:20:38	0:15:04	0:10:56
Feb-20	0:09:44	0:16:55	0:27:46	0:20:01	0:18:32	0:50:27	0:21:07	0:19:28	0:16:45	0:09:55
Mar-20	0:12:03	0:18:55	0:23:52	0:24:51	0:20:54	0:42:46	0:22:59	0:24:51	0:17:09	0:12:14
Apr-20	0:14:21	0:17:18	0:18:29	0:31:55	0:14:45	0:26:57	0:22:50	0:20:02	0:12:53	0:09:06
May-20	0:13:10	0:16:18	0:20:31	0:28:36	0:11:59	0:31:32	0:24:01	0:22:41	0:11:35	0:11:43
Jun-20	0:12:11	0:16:34	0:22:00	0:23:14	0:15:33	0:43:55	0:20:50	0:19:23	0:13:25	0:09:18

APOT 2 - JUNE 20

	≤ 20 minutes	21-60 minutes	61-120 minutes	121-180 minutes	>180 minutes	Total Patients
SHC	406 99.0%	4 1.0%	0 0.0%	0 0.0%	0 0.0%	410
ECH	599 96.1%	23 3.7%	1 0.2%	0 0.0%	0 0.0%	623
KSC	492 88.5%	63 11.3%	1 0.2%	0 0.0%	0 0.0%	556
RMC	934 88.1%	109 10.3%	16 1.5%	1 0.1%	0 0.0%	1060
OCH	544 96.1%	22 3.9%	0 0.0%	0 0.0%	0 0.0%	566
VMC	983 76.3%	229 17.8%	72 5.6%	4 0.3%	1 0.1%	1289
GSH	537 90.3%	57 9.6%	1 0.2%	0 0.0%	0 0.0%	595
KSJ	545 92.1%	44 7.4%	3 0.5%	0 0.0%	0 0.0%	592
SLH	337 97.4%	9 2.6%	0 0.0%	0 0.0%	0 0.0%	346
LGH	127 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	127
TOTAL	5504 89.3%	560 9.1%	94 1.5%	5 0.1%	1 0.0%	6164

	≤25 minutes
SHC	408 99.5%
ECH	612 98.2%
KSC	523 94.1%
RMC	968 91.3%
OCH	555 98.1%
VMC	1048 81.3%
GSH	558 93.8%
KSJ	562 94.9%
SLH	340 98.3%
LGH	127 100.0%
TOTAL	5701 92.5%

County of Santa Clara Emergency Medical Services System



Emergency Medical Services Agency

700 Empey Way
San Jose, CA 95126
408.794.0600 voice | www.sccemsagency.org
www.facebook.com/SantaClaraCountyEMS

Date: July 25, 2020
To: Santa Clara County Emergency Medical Care Committee
From: Michael Cabano, EMS Specialist, Special Operations Unit
Subject: EMS System Initiatives: Preparedness and Significant Events

History and Issue

The purpose of this report is to identify actions or initiatives that have been implemented to increase preparedness within the EMS System and to report on any significant events that have occurred within the EMS System during reporting period.

Report

Since the last reporting period there are currently no updates regarding the Public Safety Narcan Program.

Since the last reporting period the following significant events have occurred that were mitigated without significant impact to the EMS System:

February 19, 2020 to Present- County's COVID-19 Response
May 29th – May 31, 2020- San Jose Civil Unrest Incidents

**County of Santa Clara
Emergency Medical Services System**



Emergency Medical Services Agency
700 Empey Way
San Jose, CA 95128
408.885.4250 voice 408.885.3538 fax
www.sccemsagency.org

Date: July 29, 2020
To: Santa Clara County EMS Committee Members
From: Patricia Natividad
Senior Management Analyst
Subject: EMS Trust Fund – Liquidated Damages for Fiscal Year 20

Monthly Liquidated Damages for Response Time

July 1, 2019 – June 30, 2020

Month / Year	Amount	
July-19	\$0	<i>pending</i>
August-19	\$47,775	<i>pending</i>
September-19	\$74,820	<i>pending</i>
October-19	\$67,640	<i>pending</i>
November-19	\$55,485	<i>pending</i>
December-19	\$106,520	<i>pending</i>
January-20	\$57,280	<i>pending</i>
February-20	\$18,000	<i>pending</i>
March-20	\$3,000	<i>pending</i>
April-20	\$5,000	<i>pending</i>
May-20	\$8,000	<i>pending</i>
June-20	\$5,000	<i>pending</i>
Total for FY20	<i>pending</i>	
Average Monthly Total In Period	<i>pending</i>	